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August 5, 2003

Alameda County
AUG 07 2003
Environmental Health

Mr. Amir Gholami
Alameda County
Department of Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **StID#3337** E.14th
Site Address: 3609 International Blvd., Oakland, California

Dear Mr. Gholami:

Enclosed for your review is a copy of SOMA's "Third Quarter 2003 Groundwater Monitoring and Remediation System Operation Report" for the subject property.

Thank you for your time in reviewing our report. If you have any questions or comments, please call me at (925) 244-6600.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist

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

Enclosure

cc: Mr. Abolghassem Razi w/enclosure
Tony's Express Auto Service

Mr. Vince Tong w/enclosure
Traction International

Certification

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Abolghassem Razi, the property owner of 3609 International Boulevard, Oakland, California, to comply with the Alameda County Department of Environmental Health Service's requirements for the Third Quarter 2003 groundwater monitoring event.

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) on behalf of Mr. Abolghassem Razi, the owner of Tony's Express Auto Service, which is located at 3609 International Boulevard at the intersection of 36th Avenue in Oakland, California (the "Site"), as shown in Figure 1.

The Site is located in an area where the surrounding properties are primarily commercial businesses and residential housing. The Site currently houses a gasoline service station and convenience store. During the Third Quarter 2002, the station was remodeled and several hydraulic hoists were removed. The station no longer has an auto repair facility. Figure 2 shows the location of the main service station, dispenser islands, underground storage tanks (USTs), the on-site and off-site groundwater monitoring wells, and neighboring properties.

This report summarizes the results of the Third Quarter 2003 groundwater monitoring event conducted on July 24, 2003 at the Site. Included in this report are the bioattenuation parameters measured in the field for each groundwater sample. Also, included in this report are the results of the laboratory analysis of the groundwater samples, which were analyzed for:

- Total petroleum hydrocarbons as gasoline (TPH-g)
- Benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX)
- Methyl tertiary Butyl Ether (MtBE)

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 report also describes the operation of the groundwater extraction system

installed by SOMA in December 1999, as well as the operation of the vapor extraction system, which was installed by SOMA in July 2000. The locations of the groundwater extraction system and the vapor extraction system are displayed in Figure 2.

1.1 Background

The environmental investigation at the subject property began in 1992, when Mr. Razi, the property owner, retained Soil Tech Engineering, Inc. (STE) of San Jose to conduct a limited subsurface investigation. The purpose of STE's investigation was to determine whether or not the soil near the product lines and USTs had been impacted with petroleum hydrocarbons.

In July 1993, STE removed one single-walled 10,000-gallon gasoline tank and one single-walled 6,000-gallon gasoline tank along with a 550-gallon waste oil tank from the Site. Three double-walled USTs replaced these tanks. Currently, there is one 10,000-gallon double-walled gasoline tank and two 6,000-gallon double-walled gasoline tanks beneath the Site. The locations of the USTs are shown in Figure 2.

In December 1997, Mr. Razi retained Western Geo-Engineers (WEGE) to conduct additional investigations and perform groundwater monitoring on a quarterly basis. The results of the WEGE groundwater monitoring events indicated elevated levels of petroleum hydrocarbons and MtBE in the groundwater.

In April 1999, Mr. Razi retained SOMA to conduct groundwater monitoring, risk-based corrective action (RBCA), a corrective action plan (CAP), as well as soil and groundwater remediation at the Site. The results of the RBCA study indicated that the Site is a high-risk groundwater site; therefore, the soil and groundwater in on and off-site areas warranted remedial actions. The source of

the petroleum hydrocarbons in the groundwater was believed to have been the former USTs, which were used to store gasoline at the Site. The results of the CAP study indicated that the installation of a French drain combined with a vapor extraction system would be the most cost effective alternative for the Site's remediation.

In late August 1999, SOMA installed a French drain and groundwater treatment system to prevent further migration of the chemically impacted groundwater. This treatment system has been in operation since early December 1999.

In July 2000, following approval from the ACEHS, SOMA installed a vapor extraction system as recommended in our CAP document, dated July 1, 1999.

In January 2002, Environmental Fabric removed old product dispensers and installed new ones in the fuel islands.

On July 25, 2003, an additional on-site extraction pump was installed by SOMA, in the western French drain riser. The extraction pump was installed to create a capture zone in the region around the USTs and to contain off-site migration in the southwestern corner of the Site.

1.2 Site Hydrogeology

Previous investigations have shown that groundwater is encountered at depths of approximately 10 to 11 feet beneath the Site. Figure 2 shows the location of the on-site and off-site groundwater monitoring wells. Prior to the operation of the French drain, groundwater was found to flow from the north to the south with an average gradient of 0.014 feet/feet. When the groundwater extraction system is in operation, the groundwater flows towards the French drain. The capture zone of the drain has extended down-gradient past well MW-10.

Based on the results of a pumping test conducted by SOMA, the hydraulic conductivity of the saturated sediments ranges from 1.5 to 18.3 feet per day. Assuming that the effective porosity of the saturated sediments is 0.35, the groundwater flow velocity ranges from 22 to 267 feet per year.

2.0 Field Activities

On July 24, 2003, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the RWQCB, San Francisco Bay Region. During this groundwater monitoring event, a total of eight on-site monitoring wells (MW-1 to MW-8), three off-site monitoring wells (MW-10 and MW-12), and three on-site French drain risers were measured for depth to groundwater.

The depth to groundwater at each monitoring well and riser was measured from the top of the casing to the nearest 0.01 foot using an electric sounder. The top of the casing elevation data and the depth to groundwater at each monitoring well and riser were used to calculate the groundwater elevation. Kier Wright Civil Engineers Surveyors, Inc. surveyed the wells and risers on August 9, 2002. At the time of the survey, monitoring well MW-11 could not be accessed due to obstacles preventing the proper use of surveying equipment, therefore, this well was not surveyed. The top of casing elevations were based on the survey data measured at this time. The elevation data was based on an assumed datum of 14.20 NAVD88. The top of casing elevations data are shown in Table 1.

Prior to the collection of samples, each well was purged using a battery operated 2-inch diameter pump (Model ES-60 DC). During the purging activities, in order to obtain accurate measurements of groundwater parameters and especially to avoid the intrusion of oxygen from ambient air into the groundwater samples, field measurements were conducted in-situ (i.e., down-hole inside each monitoring well). The pH, temperature, electric conductivity (EC), dissolved

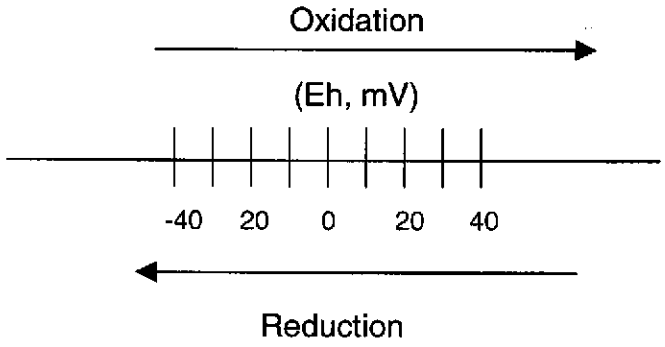
oxygen (DO), turbidity, and Oxygen Reduction Potential (ORP) were measured in-situ using a Horiba, Model U-22 multi-parameter instrument. The Horiba, Model U-22 was calibrated at the Site using standard solutions and procedures provided by the manufacturer. Detailed field measurements are shown in Appendix A.

The Horiba U-22 portable microprocessor-based turbidity probe provides lab-grade accuracy, even in the field. The unit of measurement adopted by the ISO Standard is the Formazine Turbidity Unit (FTU), which is identical to the Nephelometric Turbidity Unit (NTU). It has been found that there is a strong correlation between the turbidity level and the biological oxygen demand of natural water bodies. Turbidity is an indicator and, as such, does not reveal the presence or quantity of specific pollutants in the groundwater. It does, however, provide general information on the extent of the suspended solids in the groundwater.

The Horiba U-22's ORP electrode was used to measure the ORP of the groundwater samples. Oxidation is a process in which a molecule or ion loses one or several electrons. Reduction is a process by which a molecule or ion gains one or several electrons. The ORP, or Eh, is a measure of the potential for these processes to occur. The unit of Eh, which is commonly referred to as the redox potential, is the Volt or m-Volt. The most important redox reaction in petroleum contaminated groundwater is the oxidation of petroleum hydrocarbons in the presence of bacteria and free molecular oxygen. Because the solubility of O_2 in water is low (9 mg/L at 25 °C and 11 mg/L at 5 °C), and because the rate of O_2 replenishment in subsurface environments is limited, oxidation of only a small amount of petroleum hydrocarbons can result in the consumption of all the DO.

When DO in groundwater is consumed, oxidation of petroleum hydrocarbons can still occur, but the oxidizing agents (i.e., the constituents that undergo reduction) are then $Fe(OH)_3$, NO^-_3, SO_4^{2-}, MnO_2, and others (Freeze and Cherry, 1979). As

these oxidizing agents are consumed, the groundwater environment becomes more and more reduced. If the process proceeds far enough, the environment may become so strongly reduced that the petroleum hydrocarbons may undergo anaerobic degradation, resulting in the production of methane and carbon dioxide. The concept of oxidation and reduction in terms of changes in oxidation states is illustrated below:



The purging continued until the parameters for pH, temperature, EC, DO, turbidity, and redox stabilized, or three casing volumes were purged. The groundwater samples were also tested on-site for ferrous iron (Fe^{+2}), and nitrate (NO_3^-), and sulfate (SO_4^{-2}) concentrations once stabilization occurred.

Ferrous iron, nitrate, and sulfate were measured colorimetrically using the Hach Colorimeter Model 890. The Hach Model 890 Colorimeter is a microprocessor-controlled photometer suitable for colorimetric testing in the laboratory or the field. The required reagents for each specific test are provided in AccuVac ampuls.

Ferrous iron was measured colorimetrically using Method 8146 (1,10-phenanthroline Method). The 1,10-phenathroline indicator in 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.

Nitrate was measured colorimetrically using Method 8039: the Cadmium Reduction Method. Cadmium metal in the Nitra Ver 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 nitrate-N concentration in the sample.

Sulfate was measured colorimetrically using Method 8051 of Sulfa Ver 4 Method. Sulfate ions in the sample react with barium in the Sulfa Ver 4 Sulfate Reagent to form insoluble barium sulfate. The amount of turbidity formed is proportional to the sulfate concentration. The Sulfa Ver 4 also contains a stabilizing agent to hold the barium sulfate in suspension.

For sampling purposes, after purging, a disposable polyethylene bailer was used to collect sufficient samples from each monitoring well for laboratory analyses. The groundwater sample was transferred into three 40-mL VOA vials and preserved with hydrochloric acid. The vials were then sealed to prevent development of air bubbles within the headspace. After the groundwater samples were collected, they were placed on ice and maintained at 4°C in a cooler. A chain of custody (COC) form was written and placed along with the samples in the cooler. SOMA's field crew delivered the groundwater samples to Curtis & Tompkins, Ltd. Laboratory in Berkeley, California on July 24, 2003.

3.0 Laboratory Analysis

Curtis & Tompkins, Ltd., a state certified laboratory, analyzed the groundwater samples for TPH-g, BTEX and MtBE. TPH-g was prepared using EPA Method 5030B and measured using EPA Method 8015B. EPA Method 8021B was used to measure BTEX and MtBE concentrations. Detections of MtBE were confirmed using EPA Method 8260B.

4.0 Results

The following sections provide the results of field measurements and laboratory analyses for the July 24, 2003 groundwater monitoring event.

4.1 Field Measurements

Table 1 presents the calculated groundwater elevations at each groundwater monitoring well and riser. The calculated groundwater elevation data was used to evaluate the impact of the French drain and determine the extent of the groundwater extraction capture zone. The groundwater elevation data presented in Table 1 is based on the survey data measured by Kier Wright Civil Engineers Surveyors, Inc. on August 9, 2002. Due to obstacles around monitoring well MW-11, the surveying equipment could not be set-up; therefore, no survey was conducted for this well. The new survey was conducted to comply with an Electronically Deliverable Format (EDF) request made by the State Water Resources Control Board (SWRCB) Database.

As shown in Table 1, depths to groundwater in the monitoring wells ranged from 10.76 feet in monitoring well MW-10 to 12.98 feet in monitoring well MW-6. The corresponding groundwater elevations ranged from 25.40 feet in monitoring well MW-12 to 28.71 feet in monitoring well MW-5. Depths to groundwater in the center, east and west risers were 16.45 feet, 13.10 feet and 12.12 feet, respectively. In the French drain risers the corresponding elevations for the center, east and west risers were 22.90 feet, 26.96 feet and 27.04 feet, respectively.

Table 2 shows the historical groundwater elevations at different groundwater monitoring wells and the French drain risers, as well as, annual and quarterly deviations in groundwater elevations. In general, groundwater elevations in all of the monitoring wells decreased since the previous quarter. The range in

deviation of the quarterly groundwater elevation decrease was between 2.20 feet to 4.03 feet. Variations in groundwater elevations are typically due to seasonal fluctuations. The decrease in elevations noted during this event is most likely caused by the onset of a drier season.

Figure 3 displays the groundwater elevation contour map, depicted in feet, as measured on July 24, 2003. Groundwater flows towards the French drain, throughout the Site, at an approximate gradient of 0.050 feet/feet. The lowest groundwater elevation was measured in the center French drain riser. The calculated groundwater elevation data was also used to evaluate the impact of the French drain operation. Based on the groundwater elevation contour map shown in Figure 3, it appears that the French drain is providing excellent hydraulic control to prevent the off-site migration of contaminants.

Table 3 summarizes the field measurements of physical and chemical properties of groundwater samples collected from the groundwater monitoring wells at the time of sampling. The pH measurements ranged from 7.08 in monitoring well MW-6 to 7.57 in monitoring well MW-7. In general, groundwater pH stayed fairly consistent throughout the Site. Temperature measurements of groundwater ranged from 18.80 °C in monitoring well MW-11 to 21.60 °C in monitoring well MW-7. EC ranged from 443 µS/cm in monitoring well MW-7 to 924 µS/cm in monitoring well MW-3.

The groundwater biodegradation parameters for this monitoring event, as well as the previous monitoring events, are shown in Table 4.

As shown in Table 4, DO concentrations were below the minimum allowable equipment (Horiba U-22) tolerance range in monitoring wells MW-2 to MW-5, MW-8 to MW-12. The concentration contour map for DO during the Third Quarter 2003 is displayed in Figure 4. As displayed in Figure 4, the highest DO concentration was detected in monitoring well MW-7 at a level of 2.83 mg/L. In

general, DO was consumed in the majority of the wells with the exception of very low concentrations in MW-1, south of the USTs, in MW-6, near the SVE system, and in MW-7, west of the USTs.

DO concentrations detected during this monitoring event were well below the solubility standard of O_2 in water at 18°C to 22°C, which is approximately 8.7 mg/L to 9.4 mg/L. The Site groundwater temperature at the time of sampling was approximately 18.80°C to 21.60°C. Therefore, oxidation of petroleum hydrocarbons could still have occurred in these monitoring wells at these DO readings.

As shown in Table 4, turbidity of groundwater samples ranged from 19 NTU in monitoring well MW-12 to 610 NTU in monitoring well MW-8. The oxidation-reduction potential in groundwater samples ranged from –129 mV in monitoring well MW-8 to +128 mV in monitoring well MW-4. All monitoring wells showed strongly reduced conditions, with the exception of MW-2, MW-4, and MW-10. Oxygen-depleted environments with strongly reduced conditions depict anaerobic processes utilizing alternate electron acceptors, such as nitrate, iron (III) and sulfate, for oxidation of petroleum hydrocarbons (Lovley *et. al.*, 1994). Under strongly reduced conditions and a lack of other terminal electron acceptors, the occurrence of methanogenesis may be possible.

Ferrous iron concentrations were below the allowable equipment (Hach Colorimeter Model 890) tolerance range in the groundwater samples collected from MW-2, MW-4, MW-10, and MW-11. The maximum ferrous iron concentrations were detected in MW-1, MW-3, and MW-6. The presence of ferrous iron in groundwater indicates the occurrence of biological activities beneath the Site.

Figure 5 shows a contour map of ferrous iron concentrations in the groundwater

as measured during the Third Quarter 2003. As shown in Figure 5, the highest ferrous iron concentrations were detected in the vicinity of the USTs in monitoring wells MW-1 and MW-3, and the eastern section of the Site in MW-6. Ferrous iron concentrations were not detected in wells MW-2, MW-4, MW-10 and MW-11, and at a low concentration of .61 mg/L in MW-7.

During this monitoring event, nitrate was below the allowable equipment (Hach Colorimeter Model 890) tolerance range in all monitoring wells. Non-existent levels of nitrate suggest that microorganisms have consumed nitrate and that biodegradation is occurring in the subsurface. A map of the nitrate concentrations in the groundwater is displayed in Figure 6. The non-detectable values displayed in Figure 6 further illustrate that nitrate concentrations have been consumed throughout the Site.

Sulfate concentrations were below the allowable equipment (Hach Colorimeter Model 890) tolerance range in the groundwater samples collected from MW-1, MW-3, MW-6, MW-8, and MW-12. The highest sulfate concentration was detected in monitoring well MW-5 at 30 mg/L. Sulfate-depleted subsurface contaminated environments may reveal a strong demand by microorganisms for a source of terminal electron acceptors for oxidizing contaminant hydrocarbons (Lovley *et. al.*, 1994).

The contour map of sulfate concentrations in the groundwater as measured during the Third Quarter 2003 monitoring event is presented in Figure 7. As shown in Figure 7, sulfate concentrations were below the measurable specifications of the equipment in monitoring wells MW-1, MW-3, and MW-8, which are in the vicinity of the USTs and French drain. Sulfate concentrations were also not observed in MW-6, or off-site monitoring well MW-12. The highest sulfate concentration was observed in the northwest corner of the Site in MW-5.

The field notes for the physical, chemical and biodegradation parameters are shown in Appendix A.

4.2 Laboratory Analysis

Table 5 presents the results of the laboratory analyses on the groundwater samples collected during the Third Quarter 2003 monitoring event. The most impacted monitoring wells, based on the analytical results, for this quarter were MW-1 and MW-3, which are in the vicinity of the USTs.

As shown in Table 5, TPH-g was detected in all of the groundwater samples, with the exception of MW-4. Detectable TPH-g levels ranged from 220 µg/L in monitoring well MW-2 to 36,000 µg/L in monitoring well MW-1. High TPH-g concentrations were also detected in MW-3 and MW-6 at 31,000 µg/L and 29,000 µg/L, respectively.

Figure 8 shows a contour map of TPH-g concentrations at the Site as analyzed during the Third Quarter 2003. As shown in Figure 8, the highest TPH-g concentrations were detected in the vicinity of the USTs in wells MW-1 and MW-3. Based on the analytical results TPH-g has migrated to all off-site wells.

As shown in Table 5, all BTEX analytes, with the exception of benzene, were below the laboratory reporting limit in monitoring well MW-4. Both benzene and total xylenes were below the laboratory reporting limit in MW-5. Toluene and ethylbenzene were at low levels in MW-5. Benzene and ethylbenzene were below the laboratory reporting limit in MW-7. Toluene and total xylenes were at low levels in MW-7. Low levels of BTEX analytes were detected in all off-site wells, with the exception of ethylbenzene in MW-12, which was below the laboratory reporting limit.

As shown in Table 5, the maximum BTEX concentrations, with the exception of ethylbenzene in MW-6 at 1,500 µg/L, were detected in MW-1. Benzene, toluene, and total xylenes were detected in MW-1 at 4,800 µg/L, 1,800 µg/L, and 5,600 µg/L, respectively. Benzene was also detected at a high concentration in MW-3 of 4,700 µg/L. Toluene and ethylbenzene were detected in MW-3 at high concentrations of 990 µg/L and 1,400 µg/L, respectively. Total xylenes were detected in high concentrations in MW-3 and MW-6 of 5,200 µg/L and 4,400 µg/L, respectively.

Figure 9 displays the contour map of benzene concentrations in the groundwater collected during the Third Quarter 2003. As shown in Figure 9, the highest benzene concentrations were found in MW-1 and MW-3, in the vicinity of the USTs. Benzene has migrated to all off-site monitoring wells. The highest off-site concentration of benzene was detected in monitoring well MW-10 at 160 µg/L.

EPA Method 8260B is a more accurate analytical method than EPA Method 8021B. Therefore, to properly determine the MtBE plume and on-site concentrations, the MtBE iso-concentration figure is contoured using EPA Method 8260B. However, as shown in Table 5, MtBE is presented using both EPA methods 8021B and 8260B.

MtBE, using EPA Method 8260B, was below the laboratory reporting limit in monitoring wells MW-2, MW-4, MW-5, MW-6, and MW-11. The highest MtBE concentration was detected in monitoring well MW-1 at 25,000 µg/L. A high MtBE concentration was also detected in MW-3 at 16,000 µg/L.

Figure 10 displays the contour map of MtBE concentrations in the groundwater during the Third Quarter 2003, as analyzed using EPA Method 8260B. The elevated level of MtBE found in MW-1 may be attributed to the proximity and down-gradient location of MW-1 to the USTs. In general, with the exception of

wells MW-1, MW-3, and MW-8, MtBE was either at low concentrations or below the laboratory reporting limit in the remaining site wells.

The laboratory report and COC form for the Third Quarter 2003 monitoring event are included in Appendix B.

Table 6 shows the historical groundwater analytical data. The following concentration trends were observed since the previous monitoring event.

- TPH-g increased slightly in MW-5 and MW-11. TPH-g decreased in the remaining wells, with the exception of MW-12, which remained constant. TPH-g decreased significantly in MW-1, MW-3, MW-6.
- The only BTEX analyte to increase in MW-1 and MW-6 was benzene. All BTEX analytes decreased in MW-2, MW-3, MW-4, MW-10. Only toluene increased in MW-5. Total xylenes decreased significantly in MW-6. Both toluene and total xylenes increased slightly in MW-7. Both benzene and toluene increased slightly in MW-8 and MW-11. Both ethylbenzene and total xylenes decreased in MW-8 and MW-11. Both benzene and ethylbenzene decreased slightly in MW-12. Both toluene and total xylenes increased in MW-12.
- MtBE, using EPA Method 8260B, increased in MW-1, MW-3, MW-8. MtBE decreased in MW-5, MW-7, MW-10, and MW-12. MtBE has remained below the laboratory reporting limit in MW-2, MW-4, MW-6, and MW-11.

5.0 Groundwater Treatment System Operation

The treatment system began operation on December 9, 1999. Since that time, 1,995,240 gallons of groundwater has been treated and discharged into the East Bay Municipal Utility District (EBMUD) sewer system under the existing discharge permit (as of July 21, 2003).

As required by the discharge permit and the ACEHS, sampling of the groundwater treatment system has been performed on a routine basis. The effluent sampling and maintenance of the system were performed on a weekly basis from the start of the system's operation to the end of July 2000. In August 2000, maintenance of the system continued weekly, but sampling was performed on a monthly basis. The results from the first effluent testing were used to acquire a discharge permit from EBMUD.

A total of 112,800 gallons of chemically impacted groundwater has been treated since the Second Quarter 2003 monitoring event, (as of July 21, 2003, which was the last sampling date at the time of this Third Quarter 2003 monitoring event). The effluent passing both Granulated Active Carbon (GAC) units is regularly sampled for chemical analysis. The schedule for refurbishing the GAC units is based on the analytical results of the samples. The first GAC unit was refurbished as soon as traces of chemicals broke through the unit. The second GAC unit is serving as a polishing unit and is always kept highly active. This procedure ensures that the effluent discharging into the EBMUD sewer are in compliance with our permit discharge requirements. A schematic diagram of the groundwater remediation system is displayed in Figure 11.

Table 7 presents the total volume and chemical composition of GAC-1 and effluent treated at the Site. Table 7 shows that all the effluent samples have maintained in compliance with the permit, with the exception of the October 2002 sampling event. The analytical data for the October 2002 sampling period was erroneous. The high non-detectable concentration levels are due to a high dilution factor caused by the presence of 2-Butanone. During the laboratory testing 2-Butanone was detected at a high concentration of 200,000 µg/L in only the effluent sample. The influent sample concentration for 2-Butanone was only 20 µg/L. Based on the fact that 2-Butanone has never been detected since December 1999 in any of the effluent samples and had a very low influent

concentration, the sample results shown are erroneous and are only used to depict that sampling was conducted in October 2002. The high TPH-g concentration for this sample may not be representative due to the sample exhibiting unknown peaks, and the sample also exhibiting a fuel pattern, which did not resemble the standard. The laboratory designated these items by "Y" and "Z" flags. However, the system was turned off upon detection of these concentrations and a carbon change-out was performed. During this carbon change-out both the carbon in the 2,000-pound carbon vessel and the carbon in the 55-gallon vessel (GAC-2) were removed and replaced. In future carbon change-out cycles, both GAC-1 and GAC-2 will be replaced with fresh carbon. The laboratory reports for the treatment system are included as Appendix C of this report.

The cumulative weight of TPH-g and MtBE extracted from the groundwater since the installation of the treatment system is displayed in Figure 12. As Figure 12 shows, an approximate total of 133.5 pounds of TPH-g and 74.5 pounds of MtBE have been removed during the operation of the treatment system, from start-up to July 21, 2003.

6.0 Vapor Extraction System Operation

The Vapor Extraction System (VES) consists of 6 vapor extraction wells, a de-moisturizing unit, a blower and four drums of GAC filters. The VES began operation on July 24, 2000. Since then, during its working days, the system has extracted and treated more than 3,000,000 liters per day of soil gas. When the system first began to operate, the influent had a concentration of 394 parts per million on volumetric basis (ppmv) of petroleum hydrocarbons. However, it gradually decreased to 68 ppmv after 31 days of operation. On January 4, 2001, due to extremely low influent concentrations (i.e., less than 10 ppm of hydrocarbons), the soil vapor extraction (SVE) system was turned off.

The following services were performed on the SVE system during 2001. On October 23, 2001, the system was inspected for operation and it was determined that all four GACs were not in good enough condition to re-start the system. On October 25, 2001, one of the four GACs was replaced with a new one, and on October 29, 2001 the three remaining GAC units were replaced. The system was then under continuous operation and extracted over 80 cubic feet per minute (CFM) of contaminated air from the vadose zone. On November 21, 2001 due to the low concentration of contaminants in the influent (i.e., less than 10 ppmv of hydrocarbons) the system was turned off.

The following services were performed on the SVE system during 2002. In February 2002, the system was inspected for operation and it was determined that the blower was not functioning. The blower was repaired and installed on February 15, 2002. On the same day, the four old GACs were replaced with four new ones and the system was turned on. The system was shut down on March 7, 2002, due to low influent readings caused by the saturated soil conditions on-site. The system was turned back on June 12, 2002 and has been operational, with the exception of the time period from August 15 to August 23, 2002 due to low influent readings.

On November 6, 2002, SOMA met a representative of the Bay Area Air Quality Management District (BAAQMD) on-site. During this time the 2002 yearly maintenance record was shown to BAAQMD representative. The SVE system was determined to be in compliance with the BAAQMD operating permit. At the request of BAAQMD, an air sample was collected from the influent and effluent of the system on November 7, 2002 and sent to Curtis & Tompkins, Ltd. Laboratory in Berkeley, California for analysis. The sample results are in the Fourth Quarter 2002 monitoring report. The system was turned off November 22, 2002, due to the onset a wetter season. The system became operational again on May 9, 2003.

The total mass of petroleum hydrocarbons removed by the SVE system is shown in Table 8. As of July 28, 2003, the SVE system had removed 410.22 pounds of petroleum hydrocarbons from the vadose zone beneath the Site. The operation of the SVE will help reduce the increasing hydrocarbon concentrations found in the vicinity of MW-6.

7.0 Conclusions and Recommendations

The findings of the Third Quarter 2003 groundwater monitoring event can be summarized as follows:

1. The groundwater remediation system is providing excellent hydraulic control to prevent further migration of contaminants. The lowest groundwater elevation was measured in the center French drain riser at 22.90 feet. The groundwater gradient is approximately 0.050 feet/feet towards the center riser.

2. Biodegradation parameters were collected during the Third Quarter 2003 monitoring event. In general, DO was consumed in the majority of the wells, with the exception of very low concentrations observed in MW-1, south of the USTs, and in MW-6, near the SVE system. The highest DO concentrations were observed in MW-7, west of the USTs at 2.83 mg/L.

3. The presence of ferrous iron in the groundwater is indicative of biological activities beneath the Site. The highest ferrous iron concentrations were detected in the vicinity of the USTs in monitoring wells MW-1 and MW-3, and the eastern section of the Site in MW-6. Ferrous iron concentrations were not detected in wells MW-10 and MW-11, and at a low concentration of 1.13 mg/L in MW-12.

4. The presence of high ferrous iron concentrations in combination with low concentrations of other electron receptors, such as DO and nitrate is indicative of anaerobic biodegradation beneath the Site.

5. During this monitoring event, nitrate was below the allowable equipment (Hach Model 890 Colorimeter) tolerance level in all monitoring wells.

6. Sulfate depletion occurred in MW-1 and MW-3, which are located in the vicinity of the USTs. Sulfate was also not detected in MW-6, which is located near the SVE system, and MW-8, which is located near the French drain. Sulfate was below the allowable equipment tolerance level in off-site well MW-12. The presence of ferrous iron in combination with low sulfate levels in the subsurface strongly suggests that biodegradation is occurring beneath the Site.

7. The highest TPH-g, benzene, and MtBE concentrations were detected in the vicinity of the USTs in MW-1 at 36,000 µg/L, 4,800 µg/L, and 25,000 µg/L, respectively. High TPH-g concentrations were also detected in MW-3 and MW-6 at 31,000 µg/L, and 29,000 µg/L, respectively. Benzene was detected at a high concentration of 4,700 µg/L in MW-3. MtBE was detected at a high concentration of 16,000 µg/L in MW-3.

8. Since the previous monitoring event, TPH-g significantly decreased in monitoring wells MW-1, MW-3, and MW-6. Benzene was the only BTEX analyte to increase in MW-1 and MW-6. All BTEX analytes decreased in MW-3. MtBE increased in wells MW-1 and MW-3. However, the MtBE concentration detected in MW-1 and MW-3, during this monitoring event, is well below the historical high MtBE concentration.

9. The treatment system began operation on December 9, 1999. Since that time approximately 1,995,240 gallons of groundwater has been treated and discharged into the East Bay Municipal Utility District (EBMUD) sewer system under the existing discharge permit (as of July 21, 2003).

10. All effluent samples of the groundwater treatment system have maintained in compliance with the permit, with all contaminant concentrations remaining below the allowable discharge requirements, with the exception of the October 2002, sampling event. However, the laboratory results for TPH-g were misrepresentative due to the "Y" and "Z" flags, see the lab report for these designations.

11. From December 9, 1999 to July 21, 2003, approximately 133.5 pounds of TPH-g and 74.5 pounds of MtBE have been removed during the operation of the treatment system.

12. To more effectively remediate the area in the vicinity of MW-1, on July 25, 2003 SOMA installed an additional on-site extraction pump in the western French drain riser on July 25, 2003. Further monitoring events should determine the effectiveness of this additional on-site extraction pump.

13. As of July 28, the SVE system has removed 410.22 pounds of petroleum hydrocarbons from the vadose zone beneath the Site. The operation of the SVE system is based on seasonal fluctuations occurring at the Site. The system is turned off during wetter periods of the year and operational during drier periods. The system was temporary off-line from November 22, 2002 to May 9, 2003.

8.0 Report Limitations

This report is the summary of work done by SOMA including observations and descriptions of the Site's conditions. It includes the analytical results produced by Curtis & Tompkins Laboratories as well as the summaries of data produced by previous environmental consultants. The number and location of the wells were selected to provide the required information, but may not be completely representative of the entire site's conditions. All conclusions and recommendations are based on the results of the laboratory analysis. Conclusions beyond those specifically stated in this document should not be inferred from this report.

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

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TABLES

Table 1
Groundwater Elevation Data
July 24, 2003
3609 International Boulevard, Oakland, California

Monitoring Well	Top of Casing Elevation [1] (feet)	Depth of Well (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-1	40.11	30.00	12.44	27.67
MW-2	40.71	31.00	12.23	28.48
MW-3	40.91	31.50	12.94	27.97
MW-4	40.01	26.00	12.44	27.57
MW-5	41.16	26.50	12.45	28.71
MW-6	40.92	25.00	12.98	27.94
MW-7	39.94	26.00	11.72	28.22
MW-8	39.38	27.00	11.92	27.46
MW-10	36.71	23.40	10.76	25.95
MW-11	NS	25.40	12.30	NC
MW-12	36.84	30.00	11.44	25.40
French Drain Risers				
F.D. Center	39.35		16.45	22.90
F.D. East	40.06		13.10	26.96
F.D. West	39.16		12.12	27.04

Notes:
NC: Not calculated because top of casing elevation data was not available.
NS: Not surveyed. MW-11 was not surveyed due to obstacles in vicinity of the well.
F.D. Center : French drain center riser.
F.D. East : French drain east riser.
F.D. West : French drain west riser.
1 Top of casing elevations were re-surveyed to comply with the EDF requirements for electronic reporting of data to the State Water Resources Control Board Database on

Table 2
Historical Groundwater Elevation Data
3609 International Boulevard, Oakland, California

	Monitoring Wells											French Drain		
Date	**MW-1**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**MW-6**	**MW-7**	**MW-8**	**MW-10**	**MW-11**	**MW-12**	**FDC**	**FDE**	**FDW**
Jul-03	**27.67**	**28.48**	**27.97**	**27.57**	**28.71**	**27.94**	**28.22**	**27.46**	**25.95**	**NC**	**25.40**	**22.90**	**26.96**	**27.04**
May-03	30.40	31.54	30.90	30.23	31.92	31.00	32.25	29.90	28.41	NC	27.60	23.15	28.27	28.32
Jan-03	30.38	32.05	31.12	30.22	32.43	31.14	31.49	29.90	28.48	NC	27.61	24.17	26.93	27.03
Oct-02	24.61	26.48	25.93	25.67	26.65	25.99	26.20	25.58	24.17	NM	23.71	25.61	25.53	25.66
Jul-02 [1]	27.31	28.01	27.66	27.39	28.22	27.64	27.79	27.59	25.78	NM	25.91	27.42	27.25	27.37
May-02	87.13	87.99	86.50	87.04	88.35	87.44	87.70	86.93	85.05	84.95	84.58	86.74	86.72	86.76
Feb-02	87.88	89.59	87.77	87.88	90.00	88.85	88.92	87.37	86.26	86.25	86.06	80.36	84.72	84.12
Nov-01	83.98	85.15	83.46	84.17	85.32	NM	85.00	84.06	82.48	82.46	82.08	79.28	83.98	82.59
Aug-01	84.48	85.05	83.68	84.05	85.25	NM	84.81	84.28	82.90	82.90	82.60	83.80	84.21	83.82
May-01	86.49	87.58	85.97	86.35	87.92	86.95	87.23	86.10	84.74	84.79	84.32	81.25	84.85	83.40
Mar-01	89.03	90.03	88.35	88.61	90.37	89.28	89.79	88.50	86.47	86.33	85.80	87.71	88.76	86.78
Nov-00	84.79	85.98	84.38	84.80	85.49	85.37	85.88	84.70	83.19	83.39	82.79	80.25	85.15	81.40
Aug-00	84.63	85.55	84.05	84.5	85.82	84.99	85.2	84.38	83.02	81.07	82.77	81.40	NM	NM
May-00	86.50	87.70	86.10	86.39	88.01	87.07	87.31	86.10	85.09	82.14	84.36	84.69	84.68	84.70
Feb-00	86.79	88.73	86.83	86.60	89.19	87.82	88.33	86.40	85.29	82.34	84.64	81.70	NM	NM
Nov-99	83.54	84.48	83.08	83.75	84.74	84.02	84.58	83.60	82.04	82.09	81.64	NA	NA	NA
Aug.99	84.64	85.08	83.93	84.65	85.49	84.87	85.03	84.50	82.94	83.19	NA	NA	NA	NA
Jun.99	86.89	87.34	85.98	86.55	87.54	86.87	87.13	86.45	84.59	84.44	NA	NA	NA	NA
Mar.99	88.08	90.98	89.34	89.39	91.31	90.37	90.83	89.67	87.24	87.13	NA	NA	NA	NA
Dec.98	86.89	87.64	86.23	86.72	87.84	87.17	87.31	86.50	84.35	84.36	NA	NA	NA	NA
Sep.98	84.41	85.00	83.10	84.21	85.22	84.67	84.74	84.23	82.61	82.70	NA	NA	NA	NA
Dec.97	88.69	89.54	NM	88.42	89.89	89.47	89.18	88.30	85.76	85.54	NA	NA	NA	NA
Apr.97	86.85	87.18	86.05	86.62	87.69	87.01	84.88	84.30	84.47	84.47	NA	NA	NA	NA
Dec.96	86.32	86.91	85.76	86.27	87.56	86.73	86.86	86.12	84.10	83.95	NA	NA	NA	NA
Apr.96	89.70	90.45	89.02	89.50	90.80	90.01	90.08	89.27	NA	NA	NA	NA	NA	NA
Jan.96	87.92	88.65	87.23	87.74	89.01	88.22	88.26	87.46	NA	NA	NA	NA	NA	NA
Oct.95	84.70	85.16	84.87	NA	85.47	84.83	84.88	84.39	NA	NA	NA	NA	NA	NA
Jun.95	88.46	88.99	87.53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar.95	89.92	90.90	89.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec.94	88.67	89.98	87.99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct.94	82.60	83.22	81.99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Change in GW elevation														
Annual	-2.71	-3.57	-3.15	-2.65	-3.72	-3.20	-3.27	-2.44	-2.53		-2.21	-1.27	0.03	0.01
Quarter	-2.73	-3.06	-2.93	-2.66	-3.21	-3.06	-4.03	-2.44	-2.46		-2.20	-0.25	-1.31	-1.28

Notes:
[1]Top of casing elevations were re-surveyed to comply with the EDF requirements for electronic reporting of data to the State Water Resources Control Board
NA: Not Applicable, Well/Drain did not exist at time of sampling
NC: Not calculated. No top of casing elevation was available for MW-11.
NM: Not Measured
FDC: French drain center riser.
FDE: French drain east riser.
FDW: French drain west riser.

Table 3
Field Measurements of Physical and Chemical Properties of Groundwater at Time of Sampling
July 24, 2003
3609 International Blvd., Oakland, CA

Monitoring Well	pH	Temp (°C)	EC (uS/cm)
MW-1	7.16	20.30	791
MW-2	7.24	20.20	615
MW-3	7.09	20.20	924
MW-4	7.24	19.20	569
MW-5	7.26	20.70	700
MW-6	7.08	19.70	703
MW-7	7.57	21.60	443
MW-8	7.20	19.80	675
MW-10	7.35	19.80	658
MW-11	7.42	18.80	621
MW-12	7.29	19.70	659

Table 4
Groundwater Biodegradation Parameters
3609 International Boulevard, Oakland, California

Well	Date	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Redox Potential (mV)	Ferrous Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
MW-1	**July 24, 2003**	**0.43**	**217.0**	**-107**	**3.30**	**0.0**	**0**
	May 1, 2003	0.42	257.0	-78	2.26	0.0	0
	January 16, 2003	7.64	87.5	-76	3.30	3.2	0
	October 30, 2002	0.00	87.2	-97	3.30	0.9	0
	July 30, 2002	2.37	24.8	-102	2.13	0.0	0
	May 7, 2002	0.00	287	-81	3.09	0.0	0
	February 21, 2002	0.00	153	-16	3.06	0.0	0
	November 19, 2001	0.36	17.2	-54	1.89	0.6	41
	August 8, 2001	1.71	200	-35	2.18	0.0	23
	May 22, 2001	1.36	40.9	32.5	0.34	0.0	21
	March 13, 2001	0.53	66	-4.7	0.50	4.4	80
	November 2, 2000	0.56	18	-39.4	1.14	0.0	33
	August 9, 2000	0.32	219	-40	1.70	0.0	0
	May 31, 2000	0.30	30	-37	0.57	2.8	0
	February 7, 2000	0.77	NM	-74	3.30	0.0	1
	November 9, 1999	0.20	NM	NM	5.10	0.0	26
	August 23, 1999	1.40	NM	NM	2.67	0.0	8
	June 10, 1999	0.14	NM	NM	3.17	0	1
	December 30, 1997	0.50	NM	NM	3.04	<0.1	<1
MW-2	**July 24, 2003**	**0.00**	**56.2**	**122**	**0.00**	**0.0**	**23.0**
	May 1, 2003	0.67	83.3	117	0.15	2.1	32.0
	January 16, 2003	3.39	76.1	174	0.56	0.0	39.0
	October 30, 2002	0.87	15.9	85	0.80	10.6	31.0
	July 30, 2002	0.37	111.0	57	0.43	0.0	50.0
	May 7, 2002	0.00	65.1	-46	0.64	0.6	35.0
	February 21, 2002	1.46	41	131	0.36	0.8	45.0
	November 19, 2001	0.78	105	13	1.18	0.0	33.0
	August 8, 2001	2.03	0	160	0.09	7.4	51.0
	May 22, 2001	0.80	160	274	0.71	0.0	25.0
	March 13, 2001	0.89	24.15	117.9	0.10	6.8	80.0
	November 2, 2000	1.35	ND	111	0.69	0.0	7.9
	August 9, 2000	0.76	1,000	-74	0.72	5.4	0.0
	May 31, 2000	0.80	30.9	-55	0.18	2.5	54.0
	February 7, 2000	1.12	NM	-20	0.15	6.2	55.0
	November 9, 1999	0.80	NM	NM	1.00	0.9	55.0
	August 23, 1999	0.70	NM	NM	0.62	1.0	60.0
	June 10, 1999	0.44	NM	NM	0.55	0.7	40.0
	June 30, 1998	3.20	NM	NM	0.50	<0.1	14.0
	December 30, 1997	<0.1	NM	NM	3.35	<0.1	<1

Table 4
Groundwater Biodegradation Parameters
3609 International Boulevard, Oakland, California

Well	Date	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Redox Potential (mV)	Ferrous Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
MW-3	**July 24, 2003**	**0.00**	**52.3**	**-128**	**3.30**	**0.0**	**0**
	May 1, 2003	0.38	40.0	-108	3.30	1.7	0
	January 16, 2003	3.56	82.9	-129	3.30	1.4	0
	October 30, 2002	0.00	0.2	-116	3.30	0.0	0
	July 30, 2002	0.31	40.1	-125	3.30	0.0	0
	May 7, 2002	0.00	218	-148	50	0	0
	February 21, 2002	0	0.3	-61	6.80	0	0
	November 19, 2001	NA	NA	NA	NA	NA	NA
	August 8, 2001	1.17	28	-54	7.00	0.7	11
	May 22, 2001	0.08	98	-32	6.72	0.2	16
	March 13, 2001	0.62	26.91	-60	2.66	0.0	0
	November 2, 2000	0.83	4,816	-94	4.10	0.0	28
	August 9, 2000	0.40	123	-72	6.10	0.0	0
	May 31, 2000	0.45	188	-117	7.80	0.0	4
	February 7, 2000	0.70	NM	-82	3.60	0.0	140
	November 9, 1999	0.61	NM	NM	3.50	0.0	0
	August 23, 1999	0.80	NM	NM	3.90	0.0	0
	June 10, 1999	0.42	NM	NM	3.10	0.0	0
	June 30, 1998	2.00	NM	NM	0.37	0.1	77
MW-4	**July 24, 2003**	**0.00**	**183.0**	**128**	**0.00**	**0.0**	**8**
	May 1, 2003	0.51	40.0	89	0.08	5.3	26
	January 16, 2003	3.83	15.4	113	0.04	5.9	26
	October 30, 2002	0.63	0.0	-43	1.15	4.3	19
	July 30, 2002	4.47	6.3	-34	0.16	0.7	38
	May 7, 2002	0.00	9.7	-26	1.05	0.0	30
	February 21, 2002	1.12	707	-26	3.90	0.0	4
	November 19, 2001	0.56	58.7	-108	3.20	0.0	37
	August 8, 2001	1.54	320	320	0.09	6.0	30
	May 22, 2001	1.27	50	193.9	0.47	0.1	31
	March 13, 2001	0.72	190	9.4	0.51	3.2	48
	November 2, 2000	0.60	ND	-39	0.00	4.5	45
	August 9, 2000	0.46	83	-50	0.32	1.0	14
	May 31, 2000	0.50	26.8	-40	0.25	0.5	40
	February 7, 2000	1.30	NM	-31	1.56	0.0	1
	November 9, 1999	0.12	NM	NM	0.99	0.5	23
	August 23, 1999	0.15	NM	NM	0.67	0.5	28
	June 10, 1999	0.15	NM	NM	0.81	0.4	10
	June 30, 1998	1.30	NM	NM	0.93	0.9	7
	December 30, 1997	<0.1	NM	NM	0.39	4.5	42
MW-5	**July 24, 2003**	**0.00**	**27.4**	**-39**	**0.25**	**0.0**	**30**
	May 1, 2003	0.09	16.3	2	0.47	56.0	1
	January 16, 2003	4.58	8.9	-16	0.74	4.5	51
	October 30, 2002	0.00	0.0	-54	0.85	7.9	27
	July 30, 2002	0.37	27.5	-43	0.28	0.8	38
	May 7, 2002	0.00	45	-23	0.64	7.2	54
	February 21, 2002	2.65	34.2	104	0.69	0.0	67
	November 19, 2001	1.10	8.5	-33	1.05	3.5	27
	August 8, 2001	1.35	300	103	0.73	0.2	37
	May 22, 2001	1.20	593	167	1.10	14.8	13
	March 13, 2001	1.01	35.36	34.2	0.33	1.0	45
	November 2, 2000	0.56	ND	49	1.02	6.5	31
	August 9, 2000	1.97	490	80	0.00	0.0	26
	May 31, 2000	0.48	27.2	-25	0.35	0.0	50
	February 7, 2000	0.90	NM	18	0.64	0.0	47
	November 9, 1999	0.27	NM	NM	0.72	2.0	32
	August 23, 1999	0.75	NM	NM	1.19	2.4	45
	June 10, 1999	0.25	NM	NM	0.34	2.5	33
	June 30, 1998	0.60	NM	NM	0.50	1.6	6
	December 30, 1997	<0.1	NM	NM	0.94	0.3	18

Table 4
Groundwater Biodegradation Parameters
3609 International Boulevard, Oakland, California

Well	Date	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Redox Potential (mV)	Ferrous Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
MW-6	**July 24, 2003**	**0.03**	**260.0**	**-69**	**3.30**	**0.0**	**0**
	May 1, 2003	0.58	470.0	-66	2.29	0.0	13
	January 16, 2003	3.71	99.7	-70	2.78	0.0	25
	October 30, 2002	NM	NM	NM	0.95	0.0	0
	July 30, 2002	1.39	127.0	-58	3.30	11.0	36
	May 7, 2002	0.00	263	-110	2.25	0.0	23
	February 21, 2002	0.54	149	-40	6.20	0.0	41
	November 19, 2001	NA	NA	NA	NA	NA	NA
	August 8, 2001	NA	NA	NA	NA	NA	NA
	May 22, 2001	0.12	413	-9.5	1.30	0.0	17
	March 13, 2001	0.75	83	-42.1	2.63	1.3	79
	November 2, 2000	0.80	618	-34	2.65	0.0	16
	August 9, 2000	0.65	1,000	-33	4.10	2.5	0
	May 31, 2000	0.72	111	-62	3.27	0.0	0
	February 7, 2000	1.25	NM	-51	3.02	0.0	0
	November 9, 1999	0.22	NM	NM	7.00	0.0	0
	August 23, 1999	0.55	NM	NM	3.30	0.0	9
	June 10, 1999	0.61	NM	NM	2.52	0.0	23
	June 30, 1998	2.50	NM	NM	0.40	0.7	4
	December 30, 1997	<0.1	NM	NM	0.30	<0.1	5
MW-7	**July 24, 2003**	**2.83**	**91.8**	**-77**	**0.61**	**0.0**	**2**
	May 1, 2003	0.69	36.0	-34	1.06	0.7	9
	January 16, 2003	3.79	110.0	-33	0.35	0.0	17
	October 30, 2002	7.90	23.5	-86	0.97	0.7	0
	July 30, 2002	1.15	16.6	-64	0.68	0.0	28
	May 7, 2002	0.00	531	-62	1.79	0.0	20
	February 21, 2002	0.26	118	-6	1.77	0.0	0
	November 19, 2001	0.98	8.9	-14	1.14	0.0	21
	August 8, 2001	1.62	140	-18	0.51	0.0	13
	May 22, 2001	1.71	49.8	56	0.79	0.0	12
	March 13, 2001	0.79	110	-10.4	3.30	0.0	40
	November 2, 2000	0.58	ND	-11.6	0.27	3.5	30
	August 9, 2000	0.26	131	-33	0.95	0.0	17
	May 31, 2000	0.30	34.9	-52	0.72	0.0	28
	February 7, 2000	0.91	NM	-19	0.53	0.0	41
	November 9, 1999	0.14	NM	NM	0.99	0.0	25
	August 23, 1999	0.65	NM	NM	1.40	0.0	20
	June 10, 1999	0.15	NM	NM	0.19	0.0	22
	June 30, 1998	1.00	NM	NM	0.78	0.5	4
	December 30, 1997	1.20	NM	NM	0.23	0.2	32

Table 4
Groundwater Biodegradation Parameters
3609 International Boulevard, Oakland, California

Well	Date	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Redox Potential (mV)	Ferrous Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
MW-8	**July 24, 2003**	**0.00**	**610.0**	**-129**	**1.88**	**0.0**	**0**
	May 1, 2003	0.73	193.0	-100	1.90	0.0	0
	January 16, 2003	3.21	145.0	-115	3.30	0.5	0
	October 30, 2002	0.00	<999	-132	3.30	2.6	40
	July 30, 2002	0.18	157.0	-124	1.38	0.0	1
	May 7, 2002	0.00	308	-113	0.80	0.0	2
	February 21, 2002	0.00	567	-64	3.08	0.0	0
	November 19, 2001	0.46	53.5	-142	>3.3	0.0	1
	August 8, 2001	1.24	990	-62	1.50	0.8	25
	May 22, 2001	1.16	179	-8.8	3.30	0.0	5
	March 13, 2001	0.48	110	-76	3.30	2.1	12
	November 2, 2000	-	350	-104.9	7.33	-	16
	August 9, 2000	0.50	94	-91	3.30	0.0	7
	May 31, 2000	0.45	13	-95	3.30	0.0	0
	February 7, 2000	0.65	NM	-90	3.46	0.0	0
	November 9, 1999	0.38	NM	NM	8.90	0.0	0
	August 23, 1999	0.20	NM	NM	8.20	0.0	13
	June 10, 1999	0.10	NM	NM	4.70	0.0	0
	June 30, 1998	1.30	NM	NM	2.82	<0.1	3
	December 30, 1997	2.50	NM	NM	3.35	0.1	<1
MW-10	**July 24, 2003**	**0.00**	**40.4**	**1**	**0.00**	**0.0**	**1**
	May 1, 2003	1.74	11.2	16	0.00	1.3	10
	January 16, 2003	4.83	23.0	-8	0.25	3.1	1
	October 30, 2002	0.47	0.0	-19	0.66	3.7	14
	July 30, 2002	0.09	12.7	34	0.18	0.0	25
	May 7, 2002	0.00	123	19	0.00	0.0	18
	February 21, 2002	0.15	12.6	85	0.49	0.0	4
	November 19, 2001	0.89	3	45	0.99	2.7	12
	August 8, 2001	1.56	19.6	52	0.00	0.0	11
	May 22, 2001	1.76	19.56	105	0.10	1.7	13
	March 13, 2001	0.65	32.11	28	0.23	0.0	0
	November 2, 2000	0.53	ND	26.7	0.42	1.3	13
	August 9, 2000	0.45	116	19	0.40	0.0	0
	May 31, 2000	0.40	22.4	17	0.29	0.0	0
	February 7, 2000	0.82	NM	55	0.00	0.0	0
	November 9, 1999	0.44	NM	NM	0.37	0.0	12
	August 23, 1999	0.50	NM	NM	0.52	0.0	9
	June 10, 1999	0.20	NM	NM	0.25	0.0	0
	June 30, 1998	0.90	NM	NM	0.38	<0.1	<1
	December 30, 1997	<0.1	NM	NM	2.21	0.3	<1

Table 4
Groundwater Biodegradation Parameters
3609 International Boulevard, Oakland, California

Well	Date	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Redox Potential (mV)	Ferrous Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
MW-11	**July 24, 2003**	**0.00**	**26.1**	**-35**	**0.00**	**0.0**	**3**
	May 1, 2003	4.08	138.0	55	0.22	3.3	47
	January 16, 2003	9.49	4.0	9	0.25	2.6	32
	October 30, 2002	NM	NM	NM	NM	NM	NM
	July 30, 2002	0.21	6.8	-22	0.18	6.7	31
	May 7, 2002	0.00	155	-29	0.49	4.6	28
	February 21, 2002	2.52	168	31	0.00	0.0	40
	November 19, 2001	0.72	8.4	-18	2.30	1.0	30
	August 8, 2001	NA	NA	NA	NA	NA	NA
	May 22, 2001	2.13	32.3	40.5	0.53	0.0	20
	March 13, 2001	0.79	111	114.7	0.34	0.0	78
	November 2, 2000	0.60	ND	17	0.44	1.5	21
	August 9, 2000	0.48	42	10	0.80	1.5	0
	May 31, 2000	0.50	12	-15	0.69	5.2	10
	February 7, 2000	1.10	NM	-14	0.75	0.0	24
	November 9, 1999	0.22	NM	NM	0.06	0.0	21
	August 23, 1999	0.60	NM	NM	0.92	0.0	52
	June 10, 1999	0.19	NM	NM	0.28	0.0	0
	June 30, 1998	2.20	NM	NM	0.15	1.2	6
	December 30, 1997	<0.1	NM	NM	0.32	3.5	35
MW-12	**July 24, 2003**	**0.00**	**19.0**	**-98**	**1.13**	**0.0**	**0**
	May 1, 2003	1.41	15.0	-89	1.97	0.0	0
	January 16, 2003	4.55	210.0	-79	2.00	1.0	0
	October 30, 2002	0.30	0.0	-84	2.24	0.0	0
	July 30, 2002	0.29	1.7	-60	2.37	3.3	0
	May 7, 2002	0.00	53.1	-67	2.00	0.0	13
	February 21, 2002	0.56	4.9	-6	1.43	0.0	0
	November 19, 2001	0.92	20	-72	2.29	0.0	2
	August 8, 2001	1.66	72	3	2.46	0.0	0
	May 22, 2001	1.76	6.28	-18.9	2.38	1.9	0
	March 13, 2001	0.64	8.42	-5.6	1.44	0.0	0
	November 2, 2000	0.60	19	12	1.93	0.0	6
	August 9, 2000	0.31	56	-48	2.84	0.0	0
	May 31, 2000	0.29	7.7	-54	2.11	0.0	0
	February 7, 2000	0.62	NM	-42	1.53	0.0	0
	November 9, 1999	0.34	NM	NM	2.21	3.1	9

Notes:
NA: Not analyzed, MW-3 not analyzed on November 19, 2001 due to free product,
ND: Not Detected
NM: Not Measured
The turbidity reading for MW-8 was above the allowable equipment tolerance of the equipment
MW-6 not analyzed on November 19, 2001, well was inaccessible due to property obstacles.

Table 5
Groundwater Analytical Data
July 24, 2003
3609 International Boulevard, Oakland, California

Monitoring Well	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE [1] (µg/L) 8021B/8260B
MW-1	36,000	4,800	1,800	1,300	5,600	23000/ 25000
MW-2	220	3.9	4.3	7	14.5	<2.0
MW-3	31,000	4,700	990	1,400	5,200	15000/ 16000
MW-4	<50	1	<0.5	<0.5	<0.5	2.3/ <0.5
MW-5	300	<0.5	1.9 C	0.76	<0.5	<2.0
MW-6	29,000	1,600	520	1,500	4,400	<200
MW-7	230	<0.5	1.3 C	<0.5	0.63	8.2/ 5.9
MW-8	12,000	460	54 C	910	435	830/ 890
MW-10	750	160	4	58	6.66 C	110/ 79
MW-11	340	19 C	3.2	0.58	0.89	<2.0
MW-12	2,200	32 C	16 C	<0.5	9.2	80/ 66

Notes:
< : Not detected above laboratory reporting limits.
[C] Presence confirmed, but the results percent difference exceed 40%.
[H] Heavier hydrocarbons may have contributed to the quantitation.
[1] MtBE was analyzed using the EPA Method 8021B and confirmed using 8260B.

Table 6
Historical Groundwater Analytical Data
3609 International Boulevard, Oakland, California

Monitoring Well	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE EPA 8260B (µg/L)
MW-1	**7/24/03**	**36,000**	**4,800**	**1,800**	**1300**	**5,600**	**25,000**
	5/1/03	59,000	3,100	2,700	1500	7,000	14,000
	1/16/03	62,000	3,500	6,000	1600	9,700	48,000
	10/30/02	27,000	2,200	2,400	950	4,500	34,000
	7/30/2002	29,000	2,400	2,500	920	4,400	13,000
	5/7/2002	53,000	4,400	5,100	1300	7,000	32,000
	2/21/2002	260,000	3,700	12,000	3,700	19,200	23,000
	11/19/2001	41,000	2,700	5,100	1,000	4,570	74,000
	8/8/2001	14,820	852	342	568	1,606	2,000
	5/22/2001	4,900	310	81	82	388	150
	3/13/2001	14,570	1,005	440	108	2,030	16
	11/2/2000	7,050	435	52	ND	689	10
	8/9/2000	11,000	638	<5	<5	<5	17.1
	5/31/2000	15,610	610	350	310	1,400	<5
	2/7/2000	40,000	2,280	1,380	8	6,130	47
	11/9/1999	10,000	693	15	<5	3,471	50
	8/23/1999	19,750	678	463	893	2,938	38
	6/10/1999	25,000	1,110	1,460	1,330	5,265	77
	3/16/1999	17,000	480	860	850	3,000	190
	12/16/1998	65,000	2,500	2,400	2,300	9,500	160
	12/30/1997	27,000	2,300	2,100	1,400	5,100	NA
	4/10/1997	NA	NA	NA	NA	NA	NA
	12/9/1996	NA	NA	NA	NA	NA	NA
	4/3/1996	31,000	98	120	63	170	NA
	1/3/1996	30,000	71	73	50	120	NA
	10/2/1995	59,000	140	130	140	390	NA
	6/5/1995	21,000	950	650	570	150	NA
	3/6/1995	32,000	190	160	150	490	NA
	12/2/1994	80,000	3,800	6,600	2,300	11,000	NA
	10/5/1994	320,000	24,000	21,000	2,600	15,000	NA

Table 6
Historical Groundwater Analytical Data
3609 International Boulevard, Oakland, California

Monitoring Well	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE EPA 8260B (µg/L)
MW-2	**7/24/03**	**220**	**3.9**	**4.3**	**7**	**14.5**	**<2.0**
	5/1/03	1,300	14.0	88	78	271	<2.0
	1/16/03	510	5.1	30	24	92	<2.0
	10/30/02	<50	<0.5	<0.5	<0.5	0.64	<2.0
	7/30/2002	180	11	6.3	9.4	27	<2.0
	5/7/2002	1,800	31	140	110	348	<2
	2/21/2002	1,700	26	180	95	360	<2
	11/19/2001	470	13	64	22	83	14
	8/8/2001	125	4	4	3	11	ND
	5/22/2001	870	37	75	55	179	2.7
	3/13/2001	932	18	34	1.3	225	ND
	11/2/2000	ND	ND	ND	ND	ND	ND
	8/9/2000	<50	<5	<5	<5	<5	<5
	5/31/2000	2,930	130	330	130	570	<5
	2/7/2000	6,400	372	639	46	134	8
	11/9/1999	<50	<5	<5	<5	<5	<5
	8/23/1999	60	6	9	4	11	ND
	6/10/1999	3,500	290	428	211	744	ND
	3/16/1999	7,600	730	830	610	1,900	55
	12/16/1998	26,000	1,400	1,600	880	9,500	<5
	9/29/1998	29,000	290	180	160	360	<0.5
	6/30/1998	25,000	2,000	2,000	1,300	4,300	NA
	12/30/1997	35,000	4,900	4,900	1,600	7,000	NA
	4/10/1997	53,000	150	110	37	0	ND
	12/9/1996	6,200	11	7	2	14	ND
	4/3/1996	27,000	0	92	44	13	NA
	1/3/1996	46,000	160	130	93	240	NA
	10/2/1995	46,000	160	130	93	240	NA
	6/5/1995	8,000	220	330	350	660	NA
	3/6/1995	490	3	3	3	1	NA
MW-3	**7/24/03**	**31,000**	**4,700**	**990**	**1,400**	**5,200**	**16,000**
	5/1/03	48,000	5,800	1,400	1,600	7,400	5,900
	1/16/03	35,000	2,900	1,300	860	5,200	13,000
	10/30/02	70,000	4,900	5,100	2,100	11,900	21,000
	7/30/2002	45,000	8,900	1,700	1,600	5,600	2,600
	5/7/2002	54,000	6,700	3,200	1,800	7,100	9,100
	2/21/2002	62,000	6,000	7,600	1,900	9,200	12,000
	11/19/2001	NA	NA	NA	NA	NA	NA
	8/8/2001	41,750	3,485	2,670	1,255	5,420	52
	5/22/2001	44,000	5,400	3,100	1,400	6,400	200
	3/13/2001	14,754	2,250	140	ND	1,284	110
	11/2/2000	48,000	6,789	4,816	676	7,258	83
	8/9/2000	76,000	8,900	5,636	883	7,356	176
	5/31/2000	68,000	15,000	8,900	1,500	7,400	<5
	2/7/2000	44,000	6,090	3,360	<5	5,780	276
	11/9/1999	26,000	3,218	1,319	<5	6,697	126
	8/23/1999	64,000	7,484	8,052	1,744	9,749	141
	6/10/1999	46,000	8,245	6,425	1,015	7,173	274
	3/16/1999	45,000	4,100	6,400	1,000	6,100	470
	12/16/1998	51,000	5,700	3,900	1,200	6,300	410
	1/3/1996	150,000	510	410	210	650	NA
	10/2/1995	150,000	510	410	210	65	NA
	6/5/1995	350,000	20,000	42,000	5,800	36,000	NA
	3/6/1995	350,000	20,000	42,000	5,800	36,000	NA
	12/2/1994	250,000	19,000	22,000	4,400	28,000	NA
	10/5/1994	3,000,000	190,000	740,000	310,000	130,000	NA

Table 6
Historical Groundwater Analytical Data
3609 International Boulevard, Oakland, California

Monitoring Well	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE EPA 8260B (µg/L)
MW-4	**7/24/03**	**<50**	**1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
	5/1/03	120	27	1.8	9	14.6	<2.0
	1/16/03	310	49	2.5	13	26.7	<2.0
	10/30/02	320	69	0.99	8.8	5.49	<2.0
	7/30/2002	450	20	24	19	74	<2.0
	5/7/2002	570	72	29	27	74	<2
	2/21/2002	450	63	4.1	22	28.7	<2
	11/19/2001	670	180	5	17	53	ND
	8/8/2001	133	12	2.2	3.9	9	ND
	5/22/2001	80	12	1.9	4.1	9.8	ND
	3/13/2001	62	ND	ND	3.2	8.7	ND
	11/2/2000	ND	5.30	ND	ND	8	ND
	8/9/2000	370	5.08	<5	<5	<5	<5
	5/31/2000	552	42	19	16	67	<5
	2/7/2000	7,800	1,200	61	<5	781	<5
	11/9/1999	<50	<5	<5	<5	<5	<5
	8/23/1999	660	497	41	54	145	6
	6/10/1999	1,000	298	44	19	64	13
	3/16/1999	600	200	35	19	56	11
	12/16/1998	1,400	590	33	28	94	24
	9/29/1998	6,200	910	77	68	200	18
	6/30/1998	1,700	780	160	54	200	NA
	12/30/1997	2,300	410	270	100	1,500	NA
	4/10/1997	ND	ND	ND	ND	ND	ND
	12/9/1996	4,000	14	6	4	12	ND
	4/3/1996	1,900	12	8	5	14	NA
	1/3/1996	9,300	230	110	10	29	NA
MW-5	**7/24/03**	**300**	**<0.5**	**1.9 C**	**0.76**	**<0.5**	**<2.0**
	5/1/03	130	<0.5	<0.5	1	<0.5	3.1
	1/16/03	450 Y	<0.5	<0.5	4	0.54	2.1
	10/20/2002	77	<0.5	<0.5	<0.5	<0.5	<2.0
	7/30/2002	110	<0.5	<0.5	0.77	<0.5	<0.5
	5/7/2002	160	<0.5	0.78 C	2	2.15	2.3
	2/21/2002	290	3.5	2	6.2	6.2	<0.5
	11/19/2002	920	17	160	26	135	40
	8/8/2001	258	1	1.1	3.4	7.3	1.4
	5/22/2001	180	ND	ND	2.1	0.57	4.4
	3/13/2001	382	6.1	1.9	6.6	5.9	ND
	11/2/2000	ND	ND	ND	ND	ND	ND
	8/9/2000	<50	<5	<5	<5	<5	<5
	5/31/2000	627.4	7.4	24	12	32.4	<5
	2/7/2000	70	<5	<5	<5	7	<5
	11/9/1999	<50	<5	<5	<5	<5	<5
	8/23/1999	120	ND	4	ND	4	ND
	6/10/1999	270	4	3	6	4	ND
	3/16/1999	650	3	1	16	2	10
	12/16/1998	1,400	1	1	ND	2	ND
	9/29/1998	270	2	1	3	3	<.5
	6/30/1998	400	<5	<5	15	<10	NA
	12/30/1997	790	82	66	59	160	NA
	4/10/1997	NA	NA	NA	NA	NA	NA
	12/9/1996	NA	NA	NA	NA	NA	NA
	4/3/1996	780	1	1	5	4	NA
	1/3/1996	1,500	1	1	4	5	NA
	10/2/1995	1,500	1	1	4	5	NA

Table 6
Historical Groundwater Analytical Data
3609 International Boulevard, Oakland, California

Monitoring Well	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE EPA 8260B (µg/L)
MW-6	**7/24/03**	**29,000**	**1,600**	**520**	**1,500**	**4,400**	**<200**
	5/1/03	150,000 H	1,400	780	2,500	8,700	<40
	1/16/03	12,000	730	230	740	1,690	<20
	10/30/02	22,000	1,200	620	1,300	2,800	<20
	7/30/2002	24,000	1,000	410	1,400	3,770	<20
	5/7/2002	10,000	400	160	470	970	<2
	2/21/2002	14,000	440	180	750	1,020	<10
	11/19/2001	NA	NA	NA	NA	NA	NA
	8/8/2001	NA	NA	NA	NA	NA	NA
	5/22/2001	27,000	760	450	1,600	4,270	ND
	3/13/2001	15,637	713	459	238	2,363	ND
	11/2/2000	19,000	1,387	618	ND	5,250	ND
	8/9/2000	24,000	1,306	870	<5	5,162	<5
	5/31/2000	21,700	1,700	1,200	17	3,600	<5
	2/7/2000	17,000	1,360	521	<5	4,150	6
	11/9/1999	40,000	1,084	130	<5	10,940	<5
	8/23/1999	42,000	3,806	3,649	1,554	7,996	10
	6/10/1999	18,500	2,060	1,650	735	3,170	ND
	3/16/1999	37,000	3,900	4,300	1,600	7,000	180
	1/3/1996	120,000	350	310	200	610	NA
MW-7	**7/24/03**	**230**	**<0.5**	**1.3 C**	**<0.5**	**0.63**	**5.9**
	5/1/03	280	<0.5	<0.5	<0.5	<0.5	11
	1/16/03	220 Y	<0.5	<0.5	0.78	0.55	19
	10/30/02	350	<0.5	2.1 C	<0.5	3.1 C	43
	7/30/2002	270	5.3	1.3 C	2.3	8.1	46
	5/7/2002	560	15	28.0	9.2	44.0	37
	2/21/2002	380	<0.5	2.5	2	3.8	78
	11/19/2001	1,700	24	220	41	205	69
	8/8/2001	610	3.7	3	6.2	18.9	10
	5/22/2001	370	ND	9.1	1.3	2.3	28
	3/13/2001	82	0.97	ND	0.76	ND	78
	11/2/2000	50	ND	ND	ND	ND	9.1
	8/9/2000	80	<5	<5	<5	<5	11.7
	5/31/2000	494.9	4.9	22	4.2	21.9	29
	2/7/2000	80	<5	<5	<5	<5	23
	11/9/1999	290	<5	9	<5	<5	12
	8/23/1999	570	5	10	ND	ND	ND
	6/10/1999	320	3	7	4	3	26
	3/16/1999	300	3	1	1	1	62
	12/16/1998	990	5	10	5	20	160
	9/29/1998	1,800	1	1	1	2	68
	6/30/1998	620	4	<5	9	<10	NA
	12/30/1997	1,400	130	98	75	200	NA
	4/10/1997	NA	NA	NA	NA	NA	NA
	12/9/1996	NA	NA	NA	NA	NA	NA
	4/3/1996	1,900	2	3	5	7	NA
	1/3/1996	3,300	9	12	17	45	NA
	10/2/1995	NA	10	12	17	NA	3,300

Table 6
Historical Groundwater Analytical Data
3609 International Boulevard, Oakland, California

Monitoring Well	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE EPA 8260B (µg/L)
MW-8	**7/24/03**	**12,000**	**460**	**54 C**	**910**	**435**	**890**
	5/1/03	18,000	380	33 C	1,000	516	540
	1/16/03	8,100	300	29	370	302	1,100
	10/30/02	18,000	950	75	1,400	1,269	700
	7/30/2002	8,400	340	78	530	517	1,200
	5/7/2002	9,000	360	56	560	622	2,100
	2/21/2002	240,000	1,400	<25	4,200	6,560	<100
	11/19/2001	13,000	600	270	750	1,200	400
	8/8/2001	5,620	153	46	373	345	174
	5/22/2001	3,100	110	28	140	194	410
	3/13/2001	2,360	81	16	71	270	221
	11/2/2000	3,000	278	350	209	980	21
	8/9/2000	22,000	632	5.38	<5	2,686	37.3
	5/31/2000	25,940	940	130	1,600	3,960	75
	2/7/2000	44,200	1,080	617	<5	4,160	240
	11/9/1999	10,500	92	<5	<5	3,414	769
	8/23/1999	58,000	5,379	2,438	3,001	6,960	639
	6/10/1999	39,500	3,610	1,635	2,175	5,913	988
	3/16/1999	22,000	1,800	470	2,000	2,000	820
	12/16/1998	61,000	6,300	1,700	2,200	4,400	1,300
	6/30/1998	54,000	4,600	2,800	3,500	7,300	NA
	12/30/1997	28,000	6,000	1,600	2,100	4,700	NA
	4/10/1997	24,000	86	55	50	100	ND
	12/9/1996	27,000	88	43	44	80	ND
	4/3/1996	58,000	250	170	140	330	NA
	1/3/1996	94,000	310	250	180	480	NA
MW-10	**7/24/03**	**750**	**160**	**4**	**58**	**6.66 C**	**79**
	5/1/03	2,500	650	10	190	15.81 C	180
	1/16/03	17,000	870	11	290	27	270
	10/30/02	550	130	3.00	31.0	2.7	70
	7/30/2002	160	26	0.55	8.1	1.0	72
	5/7/2002	3,400	660	13	260	48.0	270
	2/21/2002	4,700	1,100	20	370	63.7	500
	11/19/2001	3,500	900	260	310	258	410
	8/8/2001	242	35	1	11	2	64
	5/22/2001	2,900	630	11	200	31	270
	3/13/2001	4,935	969	18	41	72	630
	11/2/2000	ND	ND	ND	ND	ND	145
	8/9/2000	6,800	1,055	26	54	53.8	1,283
	5/31/2000	4,400	1,500	25	390	107.1	580
	2/7/2000	<50	<5	<5	<5	<5	448
	11/9/1999	2,950	1,134	20	<5	70	652
	8/23/1999	3,250	2,135	97	600	248	1,800
	6/10/1999	4,200	1,168	34	264	154	1,195
	3/16/1999	4,100	15	28	420	250	2,800
	12/16/1998	8,700	3,800	51	790	420	1,800
	9/29/1998	9,900	5,400	66	970	620	2,600
	12/30/1997	10,000	5,300	76	1,100	780	NA
	4/10/1997	1,000	21	9	3	3	ND

Table 6
Historical Groundwater Analytical Data
3609 International Boulevard, Oakland, California

Monitoring Well	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE [1] EPA 8260B (µg/L)
MW-11	**7/24/03**	**340**	**19 C**	**3.2**	**0.58**	**0.89**	**<2.0**
	5/1/03	280	17	1.5 C	8	4.10	<2.0
	1/16/03	700	32	5.7	25	14.10	<2.0
	10/30/02	NA	NA	NA	NA	NA	NA
	7/30/2002	120	5.6	<0.5	0.61	0.53	<2.0
	5/7/2002	280	16	3	7.6	7.6	<2
	2/21/2002	560	34	20	32	37.3	< 0.5
	11/19/2001	300	7.9	26	5.1	28.9	ND
	8/8/2001	NS	NS	NS	NS	NS	NS
	5/22/2001	280	12	8.3	3.3	9.8	12
	3/13/2001	273	8.6	2.1	10	14	ND
	11/2/2000	60	ND	ND	ND	ND	ND
	8/9/2000	590	10.5	5.94	<5	7.75	<5
	5/31/2000	477	27	13	9.5	29.0	<5
	2/7/2000	700	20	15	<5	35	<5
	11/9/1999	<50	<5	<5	<5	<5	<5
	8/23/1999	170	4	4	ND	6	ND
	6/10/1999	4,600	1,240	35	290	159	1,291
	3/16/1999	710	30	6	53	84	8
	12/16/1998	650	27	4	25	33	>0.5
	9/29/1998	170	7	1	4	9	22
	6/30/1998	1,100	45	24	71	100	NA
	12/30/1997	710	66	97	59	190	NA
MW-12	**7/24/03**	**2,200**	**32 C**	**16 C**	**<0.5**	**9.20**	**66**
	5/1/03	2,200	58	<0.5	4.2 C	4.1 C	96
	1/16/03	2,300	65	<0.5	1	4.00	86
	10/30/02	2,600	71	<0.5	<0.5	10.3	84
	7/30/2002	2,200	57	<0.5	11	2.6	100
	5/7/2002	2,700	74	<0.5	20	5.1	94
	2/21/2002	2,500	77	<0.5	5.7	7.4	95
	11/19/2001	3,000	81	69	13	73	120
	8/8/2001	2,090	71	1.8	3	4	142
	5/22/2001	31,000	1,200	ND	95	165	1,900
	3/13/2001	1,517	13	5.6	5.5	11	214
	11/2/2000	1,010	9.3	19.0	ND	7.40	215
	8/9/2000	1,730	15.4	12.4	<5	<5	185
	5/31/2000	3,930	230	10	34	12	200
	2/7/2000	4,000	351	37	<5	24	513
	11/9/1999	80	<5	<5	<5	<5	229

Notes:

[1] MtBE was analyzed using the EPA Method 8021B and confirmed using 8260B.

ND, < : Not Detected above laboratory reporting limits.

NA: Not Analyzed

[c] Presence confirmed, but confirmation concentration differed by more than a factor of two.

NS: Not Sampled

Y: Sample exhibits fuel pattern which does not resemble standard.

Table 7
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

		Meter	Lab Results For Effluent [1] and GAC-1					
		Reading	(concentrations in ug/L)					
Month	Date	(gallons)	MtBE [2]	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
				2003				
July	7/21/2003	1,995,240	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			40	< 50	< 5.0	< 5.0	< 5.0	< 5.0
	7/9/2003	1,990,260	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			36	< 50	< 5.0	< 5.0	< 5.0	< 5.0
June	6/18/2003	1,978,560	Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
	6/10/2003	1,972,780	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
May	5/21/2003	1,951,830	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
	5/1/2003	1,918,270	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
April	4/11/2003	1,882,440	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
March	3/19/2003	1,846,490	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
February	2/25/2003	1,804,960	replaced 55-gallon polishing vessel with new 55 gallon carbon drum					
	2/19/2003	1,791,720	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
January	1/27/2003	1,733,500	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
	1/2/2003	1,675,600	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
December	12/10/2002	1,672,870	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
November	11/22/2002	1,668,650	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
	11/13/2002	1,664,780	replaced gasket on top of 2000 lb GAC vessel, slight leak was detected					
	11/7/2002	1,663,880	Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
October	10/16/02 [3]	1,661,590	< 310	2,000 Y Z	< 310	< 310	< 310	< 310
			< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5
September	9/19/2002	1,653,600	< 5	< 50	< 5	< 5	< 5	< 5
			< 5	< 50	< 5	< 5	< 5	< 5
August	8/23/2002	1,641,650	1	< 50	< 0.5	< 0.5	< 0.5	< 0.5
			< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5
July	7/23/2002	1,632,834	<5.0	< 50	<5.0	<5.0	<5.0	<5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0

Table 7
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

		Meter	Lab Results For Effluent [1] and GAC-1					
		Reading	(concentrations in ug/L)					
Month	Date	(gallons)	MtBE [2]	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
June	6/24/2002	1,610,050	1.7	< 50	< 0.5	< 0.5	< 0.5	< 0.5
			< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5
May	5/30/2002	1,571,630	< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5
			< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5
	5/20/2002	1,548,000	removed newly installed compressor, installed another compressor					
	5/8/2002	1,538,850	installed new compressor					
	5/1/2002	1,529,650	installed new 55 gallon GAC Vessel					
April	4/24/2002	1,528,740	< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5
			< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5
	4/1/2002	1,478,500	repaired valve plate assembly on compressor					
March	3/25/2002	1,478,420	performed carbon change-out on treatment system					
	3/18/2002	NR	replaced piston on compressor					
	3/14/2002	1,478,330	compressor not building up pressure					
February	2/27/2002	1,449,830	< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5
			1.1	< 50	< 0.5	< 0.5	< 0.5	< 0.5
January	1/22/2002	1,381,370	< 2.0	< 50	< 0.5	< 0.5	< 0.5	< 0.5
			< 2.0	< 50	< 0.5	< 0.5	< 0.5	< 0.5
December	12/12/2001	1,311,340	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
November	11/2/2001	1,272,660	ND	ND	ND	ND	ND	ND
			0.6	ND	ND	ND	ND	ND
September	9/28/2001	NA	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
August	8/22/2001	1,243,100	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
July	7/26/2001	1,227,270	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
	7/11/2001	1,226,730	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA

Table 7
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

		Meter	Lab Results For Effluent [1] and GAC-1					
		Reading	(concentrations in ug/L)					
Month	Date	(gallons)	MtBE [2]	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
June	6/29/2001	1,224,600	NA	NA	NA	NA	NA	NA
			ND	ND	ND	ND	ND	ND
	6/26/2001	NR	installed new compressor					
	6/16/2001	1,216,580	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
			compressor not working, repaired compressor					
	6/7/2001	1,216,580	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
May	5/30/2001	1,205,198	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
	5/23/2001	1,194,390	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
	5/17/2001	1,182,360	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
	5/10/2001	1,166,850	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
	5/5/2001	1,151,600	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
April	4/28/2001	1,135,690	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
	4/21/2001	1,113,570	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
	4/11/2001	1,082,700	NA	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
	4/6/2001	1,065,540	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
March	3/29/2001	1,036,330	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
			system was re-started					
	3/21/2001	1,036,070	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
			belt replaced on compressor					
	3/17/2001	1,035,100	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
	3/13/2001	1,032,500	ND	ND	ND	ND	ND	ND
			NA	NA	NA	NA	NA	NA
	3/2/2001	996,520	NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA
	3/1/2002	NR	system re-started after carbon change-out					
February	2/28/2002	NR	Carbon Change-out was performed on GAC-1, washed algae from holding tank					
			cleaned 2000 lb GAC, re-started system					
	2/10/2001	975,490	System shut down for maintenance and cleaning.					
January	1/29/2001	957,880	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND

Table 7
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

		Meter	Lab Results For Effluent [1] and GAC-1					
		Reading	(concentrations in ug/L)					
Month	Date	(gallons)	MtBE [2]	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
December	12/5/2000	883,000	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
November	11/24/2000	NR	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
	11/1/2000	842,000	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
October	10/1/2000	809,000	ND	ND	ND	ND	ND	ND
			ND	ND	ND	ND	ND	ND
August	8/27/2000	781,000	ND	ND	ND	ND	ND	ND
	8/24/2000	778,000	Totalizer meter replaced at 775,000 gallons					
July	7/26/2000	726,000	ND	ND	ND	ND	ND	ND
	7/19/2000	718,000	ND	ND	ND	ND	ND	ND
	7/13/2000	712,000	ND	ND	ND	ND	ND	ND
	7/7/2000	706,000	ND	ND	ND	ND	ND	ND
June	6/29/2000	700,000	ND	ND	ND	ND	ND	ND
	6/21/2000	682,220	ND	ND	ND	ND	ND	ND
	6/16/2000	669,720	ND	ND	ND	ND	ND	ND
	6/10/2000	651,200	ND	ND	ND	ND	ND	ND
May	5/31/2000	629,000	ND	ND	ND	ND	ND	ND
	5/23/2000	603,700	ND	ND	ND	ND	ND	ND
	5/18/2000	570,000	ND	ND	ND	ND	ND	ND
	5/10/2000	530,400	ND	ND	ND	ND	ND	ND
April	4/30/2000	488,300	ND	ND	ND	ND	ND	ND
	4/18/2000	485,300	ND	ND	ND	ND	ND	0.51
			compressor stopped, system shut down until April 29, 2000					
	4/10/2000	440,200	ND	ND	ND	ND	ND	ND
	4/4/2000	390,100	ND	ND	ND	ND	ND	ND
	4/2/2000	NR	performed a carbon change-out on GAC-1					

Table 7
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

		Meter	Lab Results For Effluent [1] and GAC-1					
		Reading	(concentrations in ug/L)					
Month	Date	(gallons)	MtBE [2]	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
March	3/31/2000	NR	replaced GAC-2 with a special GAC designed for removal of MtBE					
	3/24/2000	388,000	ND	ND	ND	ND	ND	ND
	3/17/2000	357,100	ND	ND	ND	ND	ND	ND
	3/10/2000	329,000	ND	ND	ND	ND	ND	ND
	3/3/2000	300,000	transfer overheated, repaired pump, restarted system 3/6/00					
February	2/25/2000	274,000	ND	ND	ND	ND	ND	ND
	2/18/2000	233,000	ND	ND	ND	ND	ND	ND
	2/11/2000	190,000	ND	ND	ND	ND	ND	ND
	2/4/2000	160,800	ND	ND	ND	ND	ND	ND
January	1/28/2000	130,600	ND	ND	ND	ND	ND	ND
	1/21/2000	103,435	ND	ND	ND	ND	ND	ND
	1/17/2000	NR	GAC-1 was replaced with 2,000 lb GAC unit					
			second polishing GAC was replaced with 55 gallon GAC unit					
	1/14/2000	83,500	185	ND	ND	ND	ND	ND
December	12/23/1999	51,680	1486	NA	ND	ND	ND	ND
			ND	NA	ND	ND	ND	ND
	12/16/1999	30,450	963	NA	ND	ND	ND	ND
			ND	NA	ND	ND	ND	ND
	12/9/1999	9,000	230	ND	ND	ND	ND	ND
Pumping began on December 6, 1999								

Notes:
1 Effluent is equivalent to PSP#1
2 MTBE was detected using EPA Method 8260B
3 Lab data as shown for Oct. 2002 is erroneous data. During lab analysis a high detection of 2-Butanone was detected in only the effluent sample. The influent sample for 2-Butanone was at only 20 ppb. This caused a high dilution factor causing a high non-detectable value. The high TPH-g value was misrepresentative due to the Y and Z flags.
ND, < : Not Detected above laboratory reporting limits
NA: Not Analyzed
NR: Not recorded. Totalizer reading not recorded.
Y: Sample exhibits fuel pattern which does not resemble standard
Z: Sample exhibits unknown single peak or peaks

Table 8
Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System
3609 International Boulevard, Oakland, California

Date	Time	PID (ppmv)		Flow Rate	Time Elapsed	Air Flow	Mass Removed [1]
		Influent	Effluent	(ft^3/min)	(Hours)	(Liters)	(Pounds)
7/24/2000	5:00	394	0	85	0	0	0.00
7/25/2000	5:15	38	2	95	24	3,914,096	1.01
7/26/2000	5:05	207	1	80	48	3,228,121	4.52
7/27/2000	9:00	160	5	92	64	2,500,944	2.71
7/28/2000	4:30	141	7	87	96	4,656,139	4.44
7/29/2000	1:30	225	8	85	117	3,032,734	4.62
7/30/2000	9:00	226	12	85	136	2,816,110	4.31
7/31/2000	3:00	141	5	85	166	4,332,478	4.13
8/1/2000	5:00	135	4	80	192	3,533,942	3.23
8/2/2000	4:00	80	4	80	215	3,126,180	1.69
8/3/2000	5:00	60	5	85	240	3,610,398	1.47
8/4/2000	3:00	57	4	85	262	3,177,150	1.23
8/5/2000	2:00	97	8	87	285	3,399,721	2.23
8/6/2000	12:00	114	8	80	307	2,990,259	2.31
8/7/2000	12:00	93	9	85	331	3,465,982	2.18
8/8/2000	4:30	152	10	85	360	4,115,854	4.23
8/10/2000	10:00	173	1	85	377	2,527,279	2.96
8/11/2000	7:00	78	4	70	410	3,924,715	2.07
8/12/2000	9:00	100	6	70	424	1,665,031	1.13
8/13/2000	5:00	107	9	70	456	3,805,784	2.75
8/14/2000	12:30	122	5	70	476	2,319,150	1.91
8/15/2000	6:00	103	12	70	505	3,508,457	2.44
8/16/2000	12:30	112	0	70	524	2,200,219	1.67
8/18/2000	9:00	90	0	75	568	5,670,449	3.45
8/21/2000	12:00	74	5	80	643	10,194,065	5.10
8/24/2000	12:00	68	13	80	712	9,378,540	4.31
8/27/2000	12:30	68.5	2	80	785	9,854,263	4.57
8/31/2000	1:30	52	6	80	882	13,184,324	4.64
9/4/2000	12:30	54	5	80	977	12,912,482	4.72
9/7/2000	12:00	55	3	80	1,048	9,718,342	3.62
9/11/2000	4:30[2]	141	0	80	1,149	13,660,047	13.03
9/14/2000	9:30	56	5	80	1,214	8,834,856	3.35
9/18/2000	2:00	46	9.5	80	1,314	13,660,047	4.25
9/18/2000	4:30[3]	34	0	80	1,317	339,802	0.08
9/21/2000	4:30	43	1	80	1,389	9,786,302	2.85
9/25/2000	5:30	55	6	80	1,486	13,184,324	4.91
9/28/2000	9:00	47.5	7.5	80	1,550	8,766,896	2.82

Table 8
Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System
3609 International Boulevard, Oakland, California

Date	Time	PID (ppmv)		Flow Rate	Time Elapsed	Air Flow	Mass Removed [1]
		Influent	Effluent	(ft^3/min)	(Hours)	(Liters)	(Pounds)
10/1/2000	1:00	38.5	6	80	1,626	10,329,986	2.69
10/5/2000	3:00[4]	28.5	3	80	1,724	13,320,245	2.57
10/5/2000	5:00	36	0	80	1,726	271,842	0.07
10/8/2000	3:00	28.5	3	80	1,796	9,514,460	1.83
10/14/2000	3:00	24.5	2.5	80	1,940	19,572,604	3.24
10/17/2000	2:00	36.5	3.5	80	2,011	9,650,381	2.38
10/20/2000	8:30	18.5	3.5	80	2,078	9,038,737	1.13
10/25/2000	2:00	38	3.7	80	2,203	17,058,068	4.39
10/29/2000	10:00	35	4	80	2,295	12,504,719	2.96
11/2/2000	4:00	30.5	4	80	2,397	13,863,928	2.86
11/7/2000	4:00	30	6	80	2,517	16,310,504	3.31
11/19/2000	12:00	92.7	5.5	80	2,801	38,601,525	24.20
11/24/2000	13:30	25	6.5	80	2,923	16,514,385	2.79
11/29/2000	15:00	14.5	3.5	80	3,044	16,514,385	1.62
12/4/2000	16:30	10.7	1	80	3,190	19,776,486	1.43
12/13/2000	15:30	24	3	80	3,405	29,222,986	4.74
12/28/2000	14:30	10	6	85	3,764	51,845,314	3.51
1/4/2001[5]	14:00	8.7	3.7	85	3,907	20,723,684	1.22
8/8/2001	15:00	217	0	85	3,907	0	0
9/6/2001	12:00	85	0	85	4,048	20,362,644	11.71
9/13/2001	16:00	186	8	85	4,220	24,839,538	31.26
9/18/2001	15:00	184	9	85	4,344	17,907,574	22.29
9/21/2001 [6]		--	--	--	4,344	0	0
10/12/01 [7]		--	--	--	4,344	0	0
10/23/2001	17:00	114	58	87	4,344	0	0
10/25/01 [4]	15:00	133	0	85	4,390	6,643,132	5.98
10/29/2001 [8]	13:20	569	0	85	4,485	13,647,304	52.53
11/7/2001	15:30	177	0	87	4,679	28,675,904	34.34
11/16/2001	15:00	117	0	87	4,894	31,853,904	25.21
11/21/01 [9]	12:00	85	72	87	5,011	17,294,231	9.94
2/15/02 [10]	16:30	49	0	80	5,011.5	67,960	0.02
2/16/2002	15:45	50	0	80	5,035	3,160,160	1.07
2/21/2002	16:00	37	4	80	5,155	16,344,484	4.09
2/27/2002	10:30	11	0	83	5,294	19,530,979	1.45
3/7/02 [11]	12:20	10		80	5,488	26,429,812	1.79
6/12/2002 [12]	16:15	53	2	75	NA	NA	NA
6/17/2002	11:00	28	2	80	114.75	15,593,148	0.96
6/24/2002	11:20	24	3.1	80	168.33	22,866,400	1.21
7/5/2002	13:25	20	5	80	264.09	35,873,552	1.58
7/11/2002	15:30	26	8.0	80	144.09	19,572,752	1.12
7/23/2002	10:10	28	7.5	83	287.78	40,557,673	2.50
8/9/2002	12:20	7.5	0	80	408.09	55,434,983	0.91

Table 8
Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System
3609 International Boulevard, Oakland, California

Date	Time	PID (ppmv)		Flow Rate	Time Elapsed	Air Flow	Mass Removed [1]
		Influent	Effluent	(ft^3/min)	(Hours)	(Liters)	(Pounds)
8/15/2002 [11]	15:00	7.0	1	80	144.11	19,575,902	0.30
8/23/2002 [13]	15:20	NA	NA	NA	NA	NA	NA
8/26/2002	11:15	14.0	2.0	80	71.83	9,757,387	0.30
9/11/2002	10:10	34.4	0	80	383.95	52,156,428	3.95
9/19/2002	10:55	8.8	1.1	80	192.75	26,183,160	0.51
9/25/2002	10:30	18.8	1.8	80	144.75	19,662,840	0.81
10/2/2002	8:10	17.1	2.5	80	168.75	22,923,000	0.86
10/9/2002		PID malfunction		80	168.75	22,923,000	NA
10/16/2002	13:45	17.0	4.0	80	168.75	22,923,000	0.86
10/24/2002		16.5	6.4	80	192.75	26,183,160	0.95
11/1/2002		21.1	0.0	85	192.75	27,819,608	1.29
11/6/2002	10:12	PID malfunction		87	120.75	17,837,915	NA
11/7/2002		17.5	0.0	85	24.75	3,572,168	0.14
11/13/2002	11:30	15.0	0.0	85	144.75	20,891,768	0.69
11/22/2002	14:30	6.6	0.0	80	219.00	29,748,960	0.43
11/22/2002	system shut-down due to rainy season and low influent readings						
5/9/2003	10:30	0.1	0.0	82	0	0	0
5/12/2003	10:30	0.4	0.3	85	72.00	10,391,760	0.01
5/21/2003	11:00	2.2	2.2	83	216.50	30,512,211	0.15
6/4/2003	10:30	2.5	0.1	82	335.50	46,713,678	0.26
6/10/2003	10:30	2.2	0.08	82	144.00	20,049,984	0.10
6/16/2003	12:15	2.1	0.07	82	146.25	20,363,265	0.09
6/24/2003	16:55	2.6	0.08	82	196.75	27,394,683	0.16
6/30/2003	11:30	2.2	0.1	82	138.50	19,284,186	0.09
7/16/2003	12:00	2.2	0.22	82	384.50	53,536,242	0.26
7/21/2003	10:50	2.1	0.21	82	119.00	16,569,084	0.08
7/28/2003	11:15	2.2	0.22	82	168.25	23,426,457	0.11
					Total Mass of Petroleum Hydrocarbons Removed =		**410.22**
					Average Daily Removal Rate (pounds / day)=		**0.37**

[1] The representative molecular weight of hydrocarbons was assumed to be 78 gram/mole and used

Table 8
Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System
3609 International Boulevard, Oakland, California

Date	Time	PID (ppmv)		Flow Rate	Time Elapsed	Air Flow	Mass Removed [1]
		Influent	Effluent	(ft^3/min)	(Hours)	(Liters)	(Pounds)

the measured temperature of Vapor (36 °C) in converting ppm-v to ppm on mass basis.

[2] System accidentally shut down from main box, readings taken 30 minutes after startup.

[3] GAC Replaced

[4] GAC-1 removed, new GAC installed at effluent end

[5] SVE System turned off for rainy season due to low influent concentrations

[6] system down, hoses disconnected and GAC moved for replacement

[7] system down for electrical repair

[8] Carbon change-out of three drums, moved new effluent drum on 10/25/01 to GAC-1

[9] system shut-down due to high effluent value

[10] System re-started (since November 21, 2001), installed new 4-55 gallon vapor phase carbon vessels, repaired blower

[11] System was shut-down due to low influent reading

[12] System was restarted on 6/12/02

[13] System was re-started but no readings were taken

FIGURES

Figure 1: Site vicinity map.

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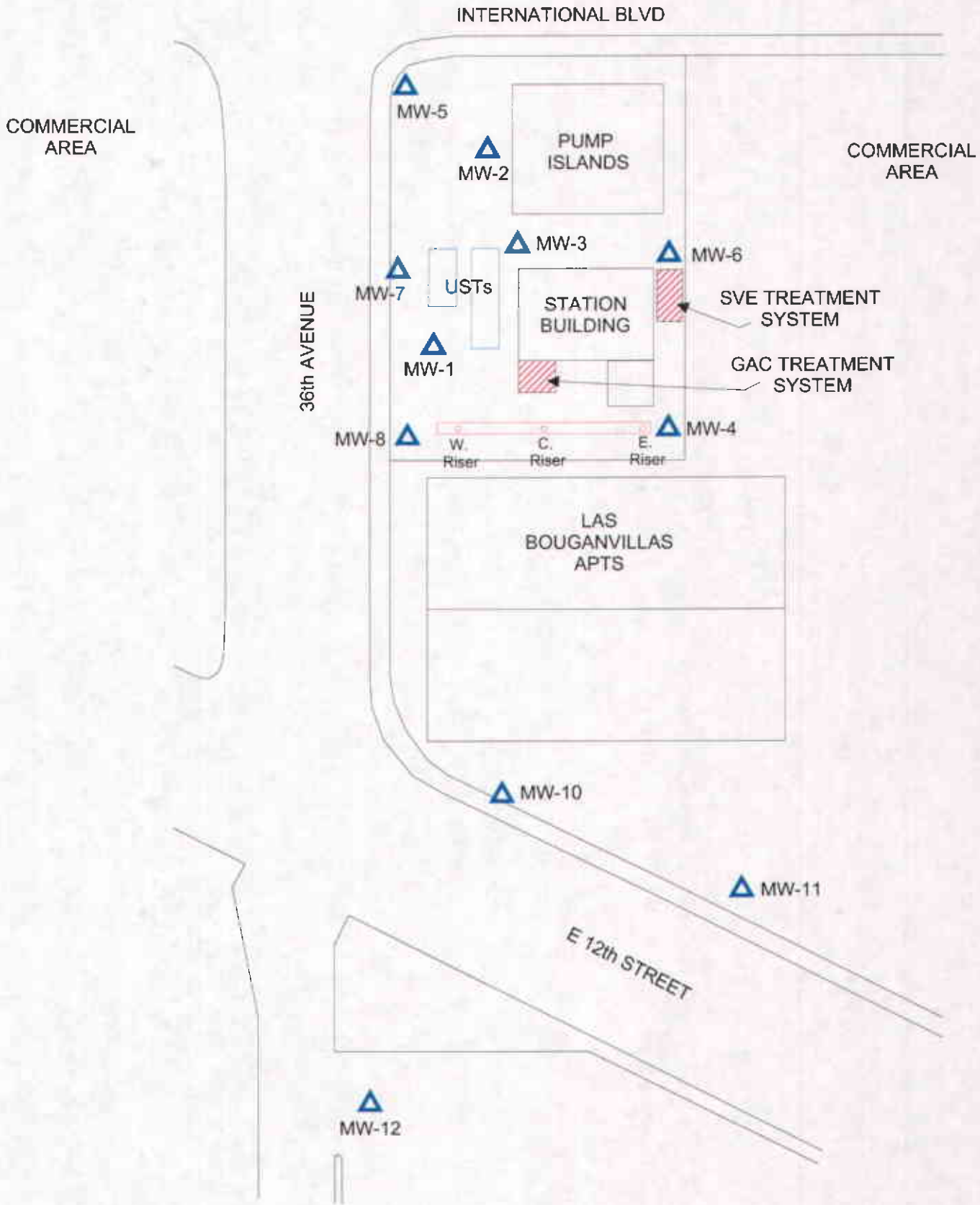
ENVIRONMENTAL ENGINEERING, INC.

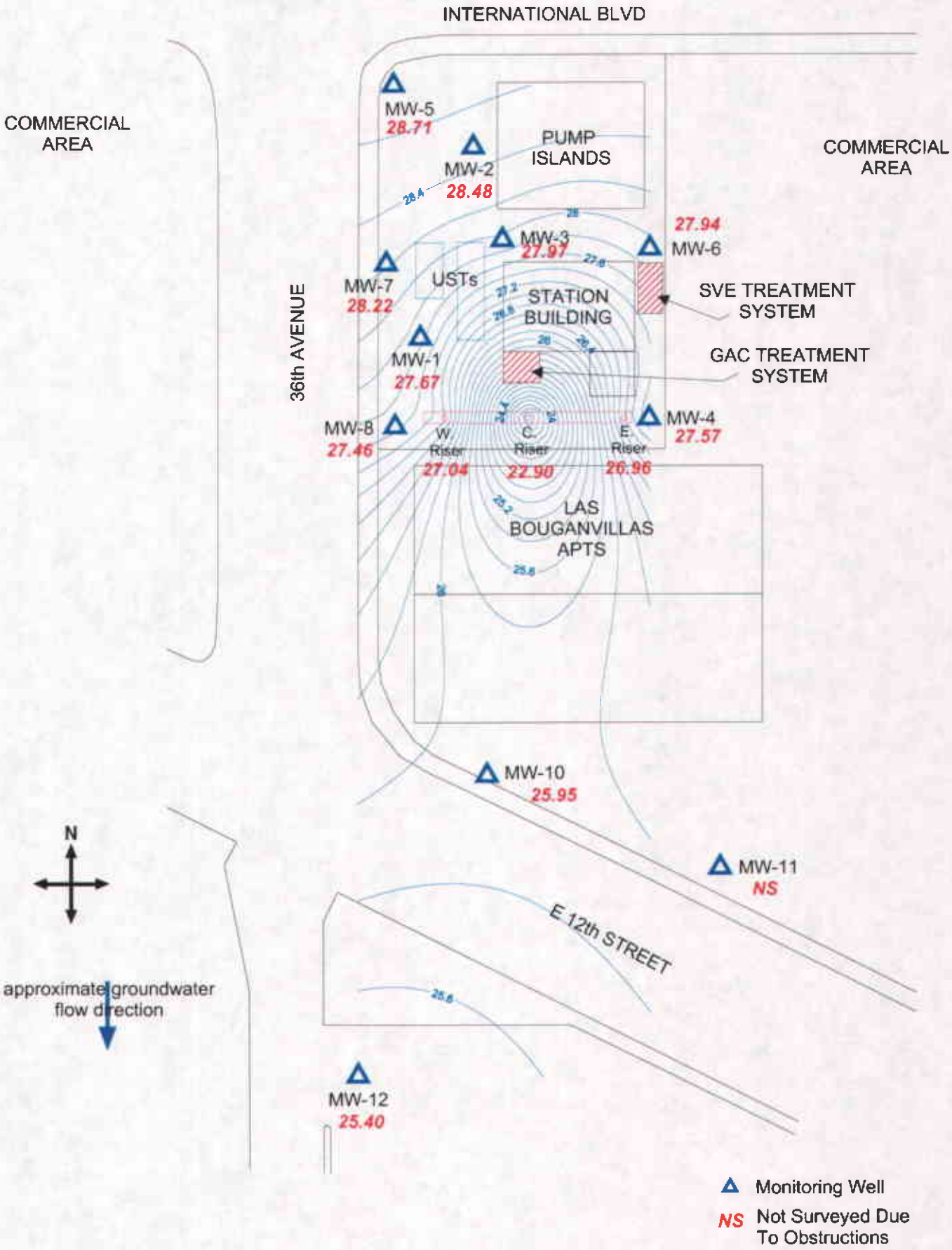


approximate scale in feet

0 25 50

Figure 2: Site map showing location of groundwater monitoring wells, French drain, SVE system, and GAC system.

SOMA ENVIRONMENTAL ENGINEERING, INC.

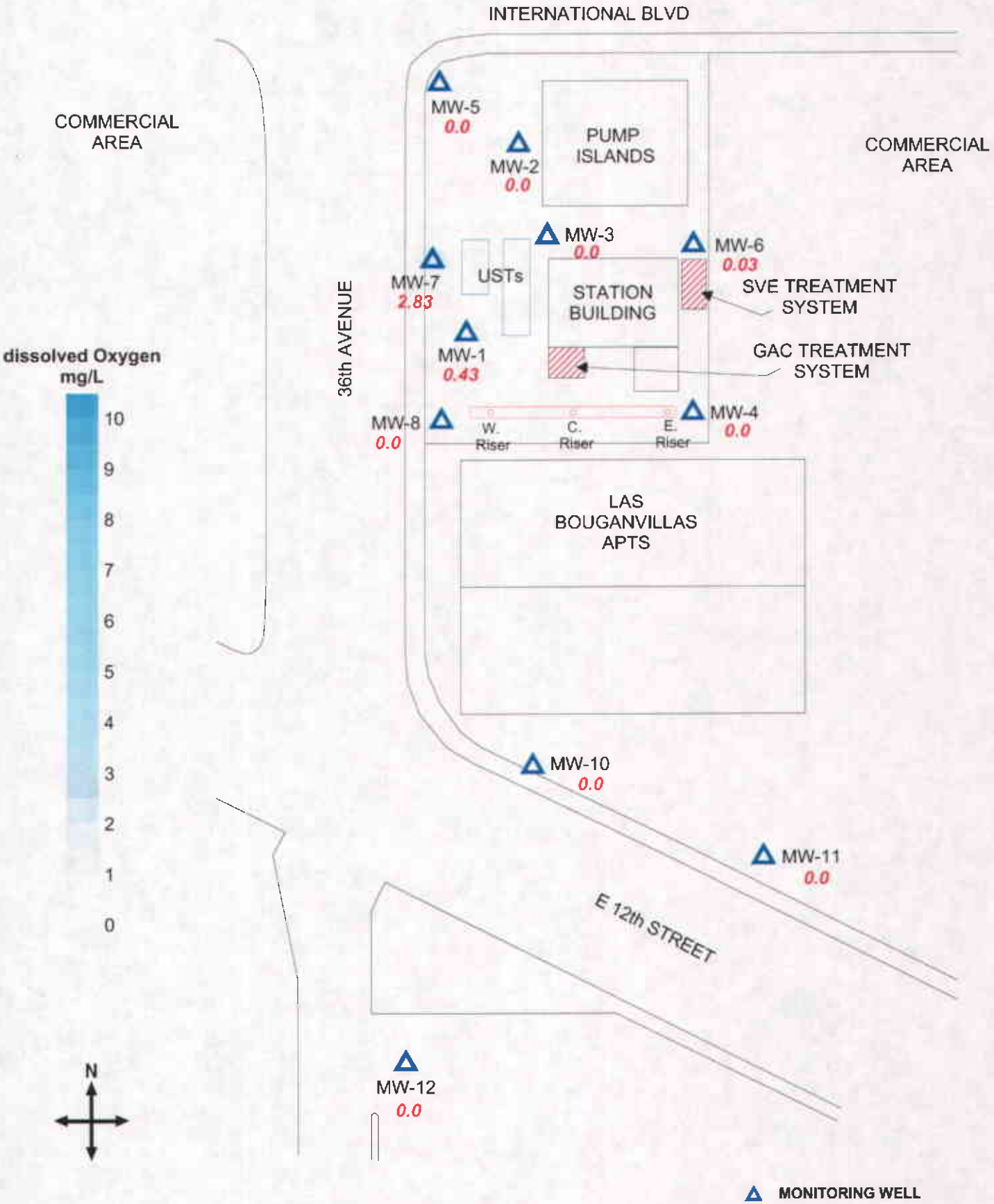


approximate scale in feet

0 25 50

Figure 3: Groundwater elevation contour map in feet.
July 24, 2003.

ENVIRONMENTAL ENGINEERING, INC.

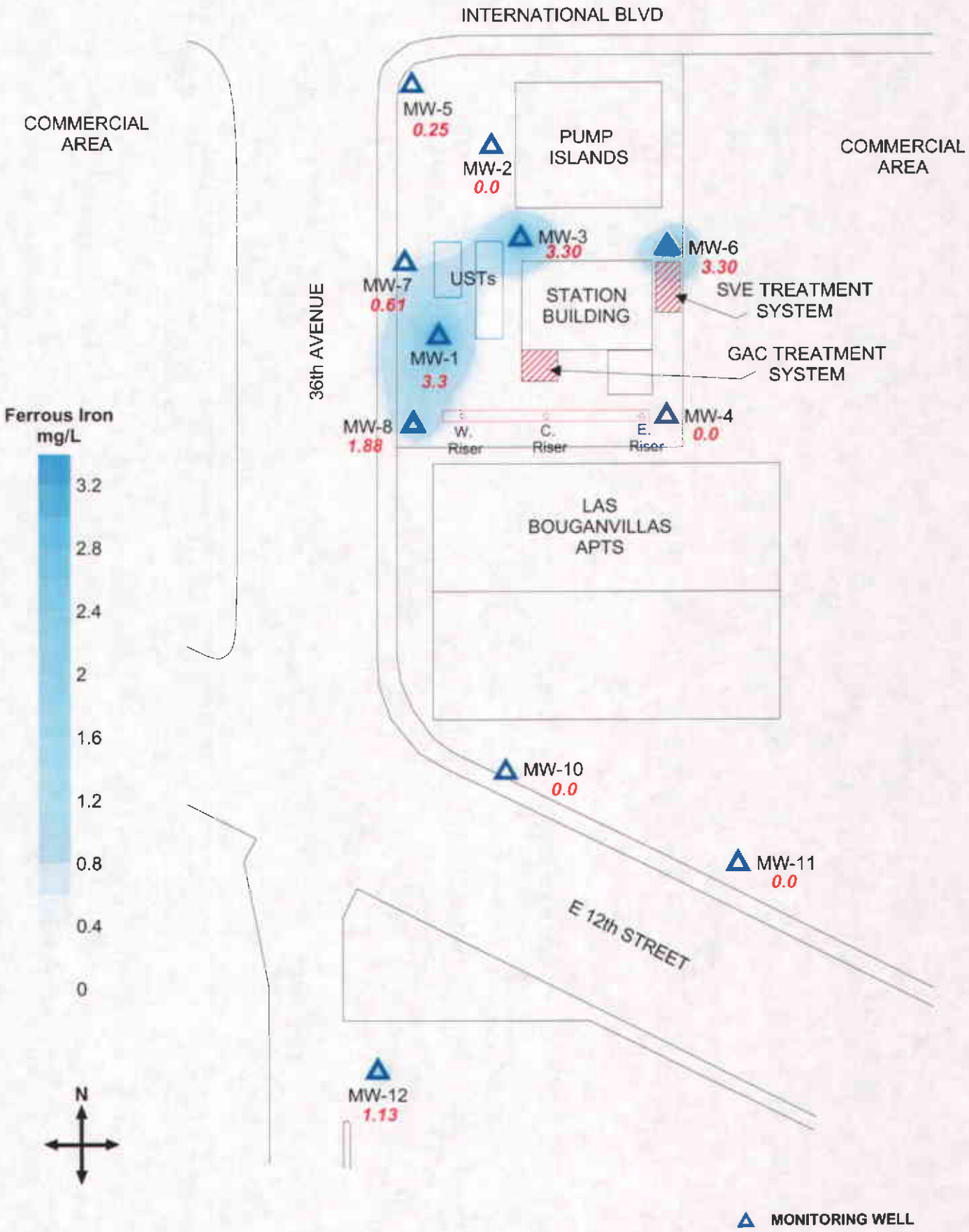


approximate scale in feet

0 25 50

Figure 4: Contour map of dissolved Oxygen concentrations in the groundwater. July 24, 2003.

SOMA ENVIRONMENTAL ENGINEERING, INC

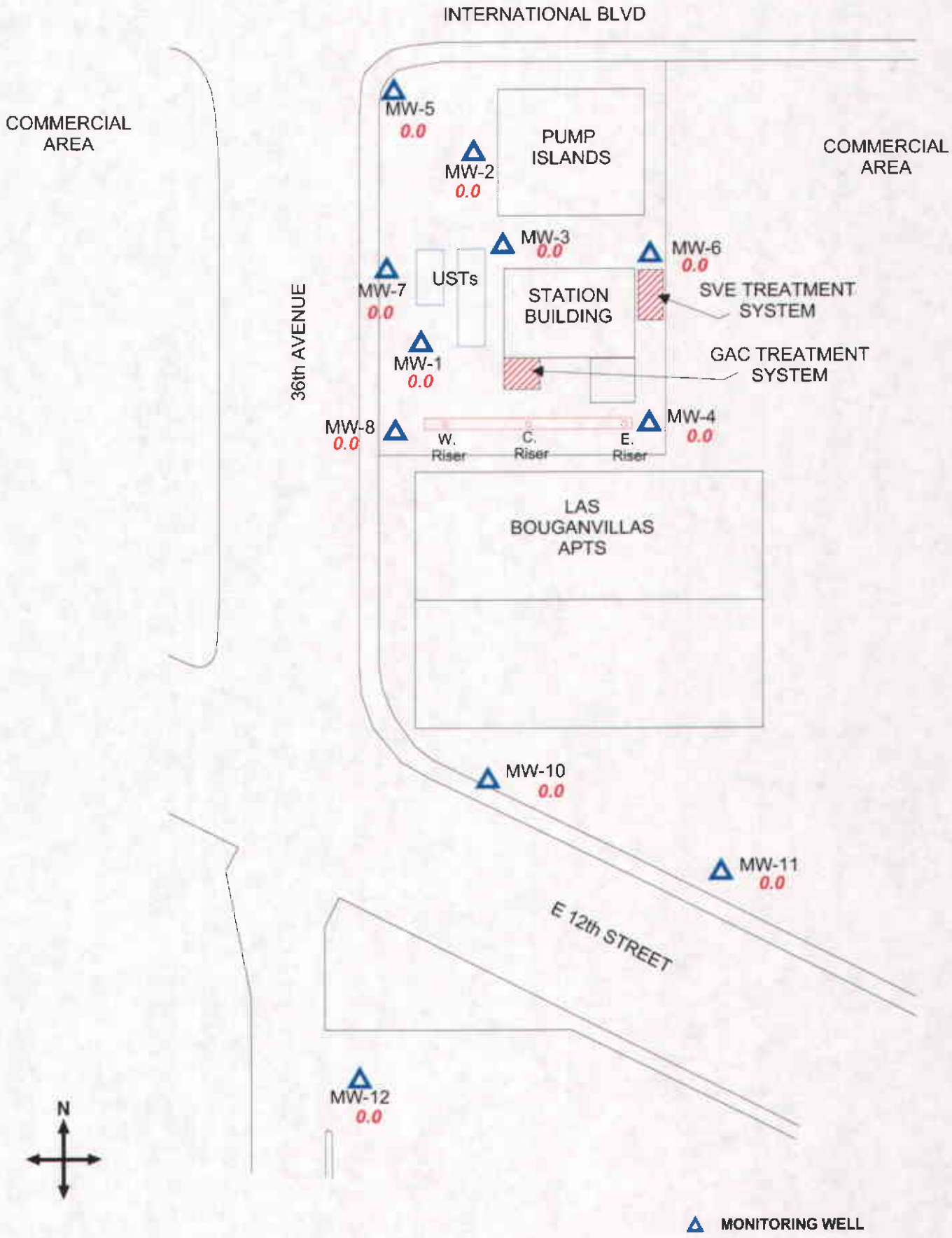


approximate scale in feet

0 25 50

Figure 5: Contour map of Ferrous Iron concentrations in the groundwater. July 24, 2003.

SOMA ENVIRONMENTAL ENGINEERING, INC

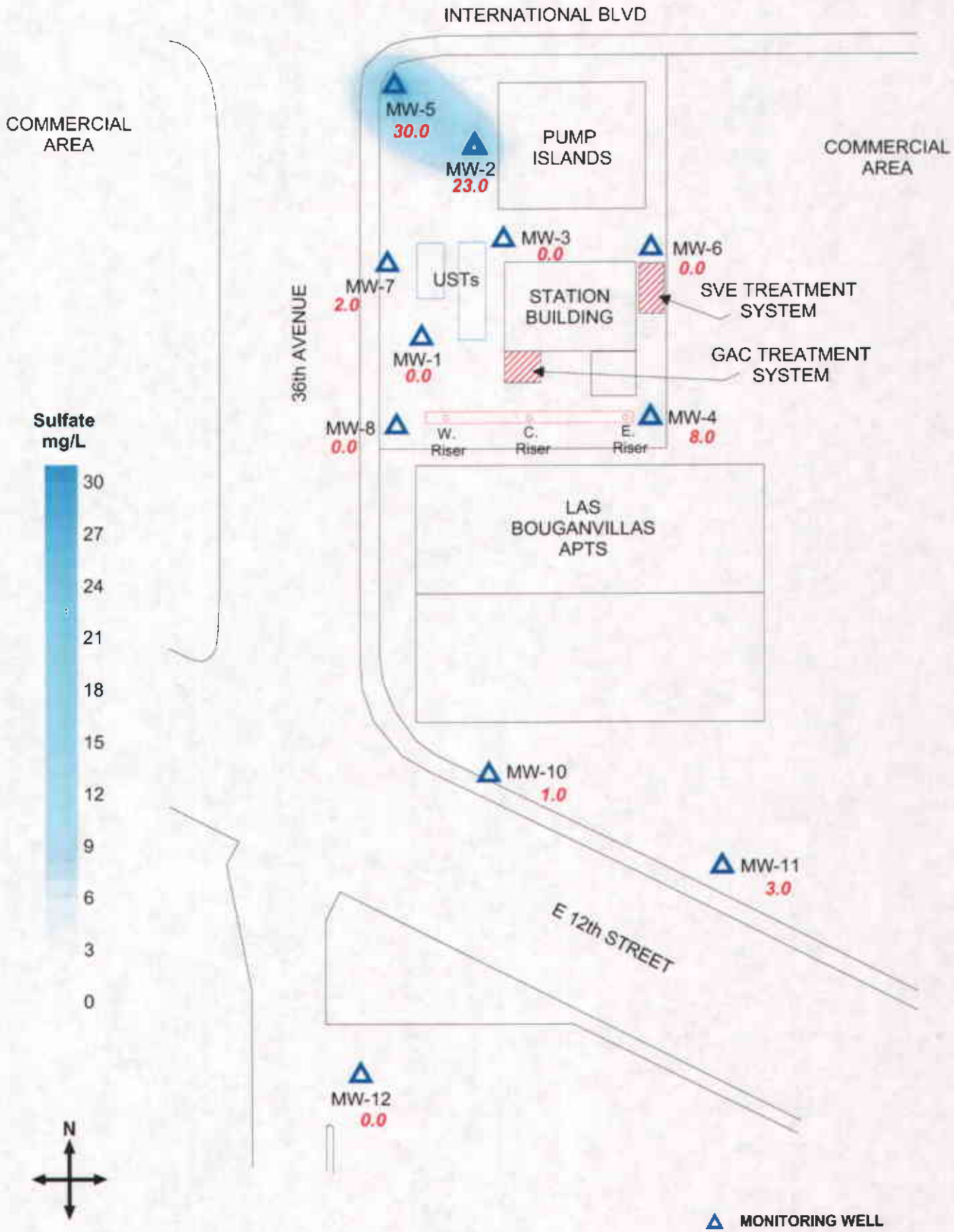


approximate scale in feet

0 25 50

Figure 6: Map of Nitrate concentrations in the groundwater.
July 24, 2003.

SOMA ENVIRONMENTAL ENGINEERING, INC.



approximate scale in feet

0 25 50

Figure 7: Contour map of Sulfate concentrations in the groundwater. July 24, 2003.

ENVIRONMENTAL ENGINEERING, INC.

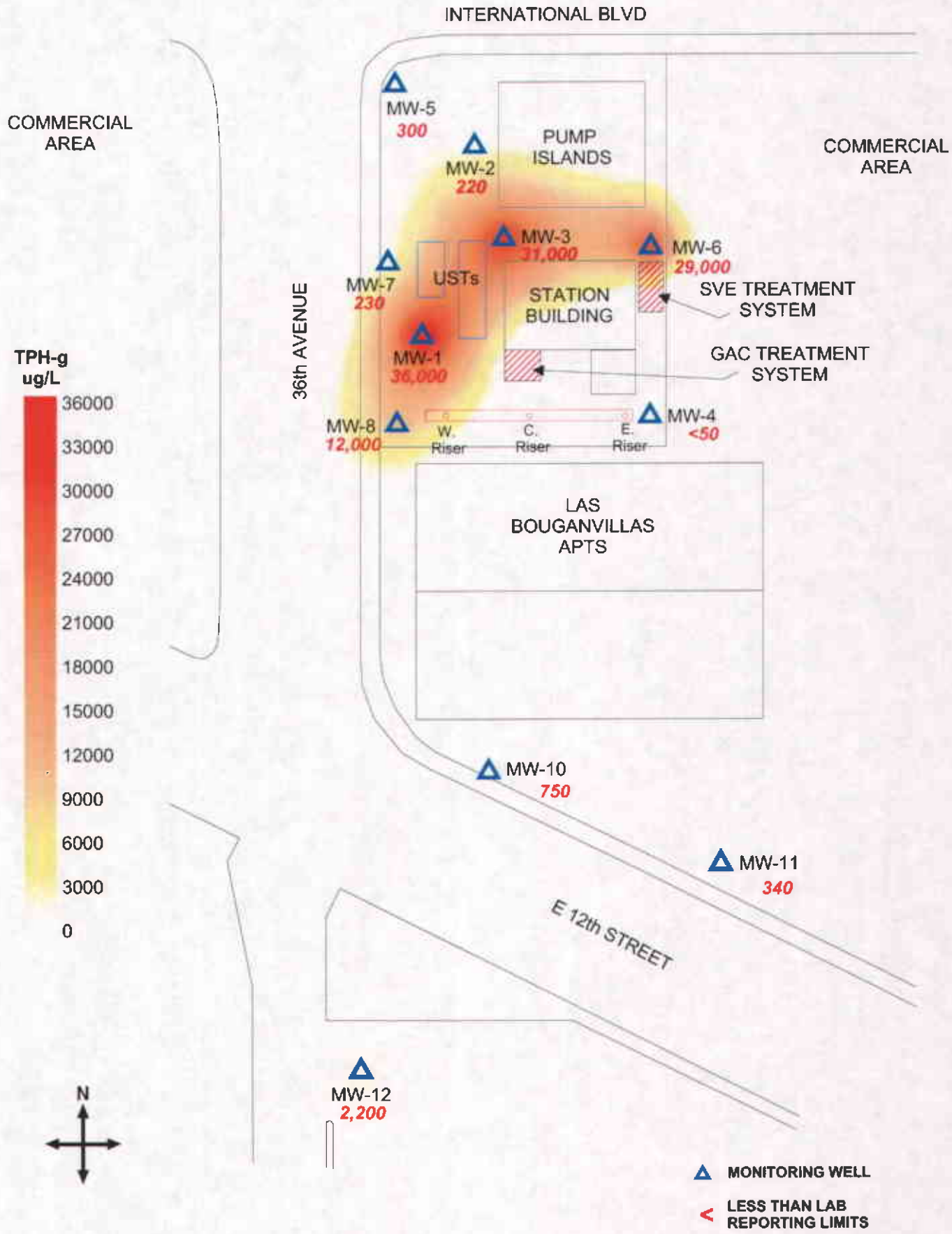
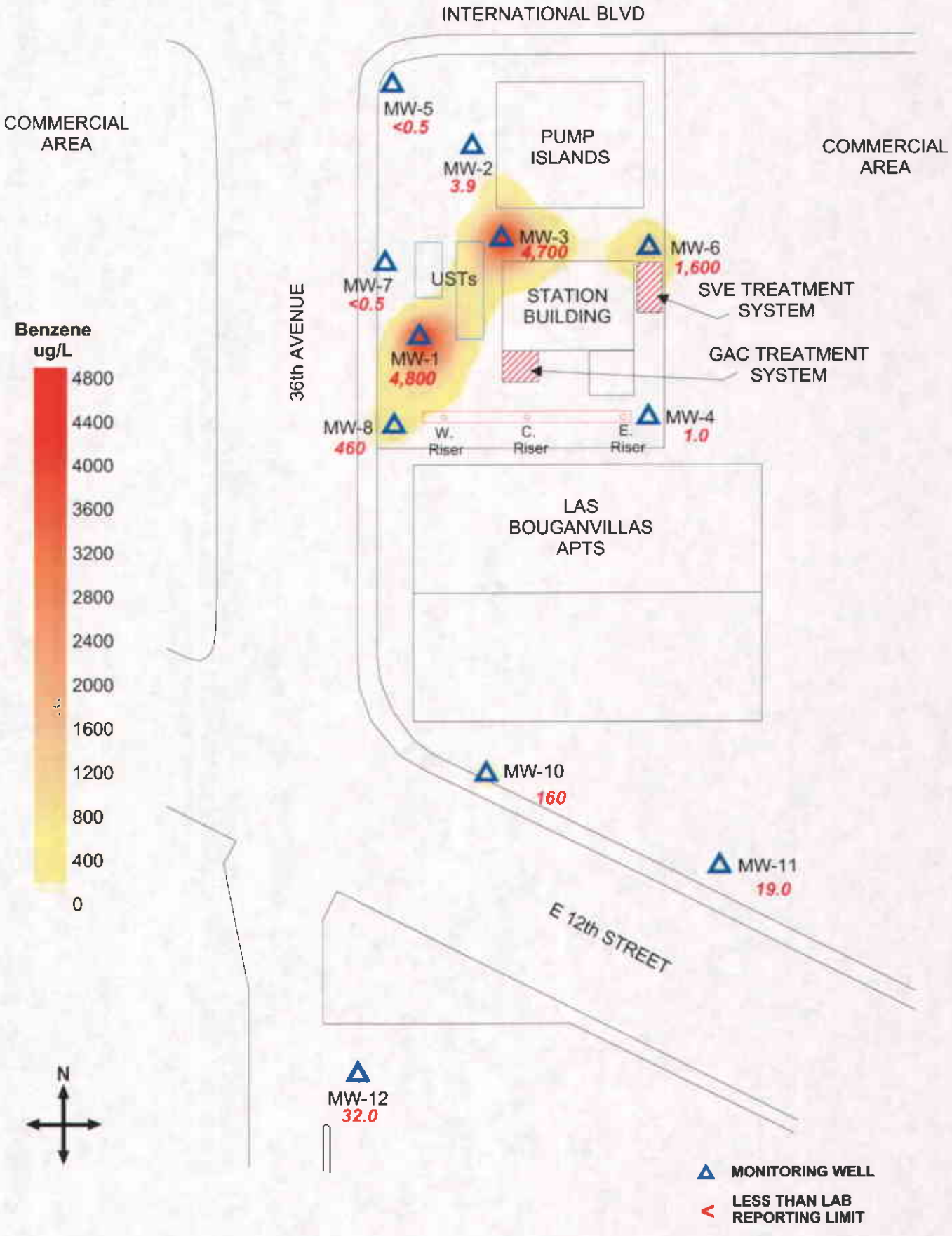


Figure 8: Contour map of TPH-g concentrations in the groundwater. July 24, 2003.

SOMA ENVIRONMENTAL ENGINEERING, INC.

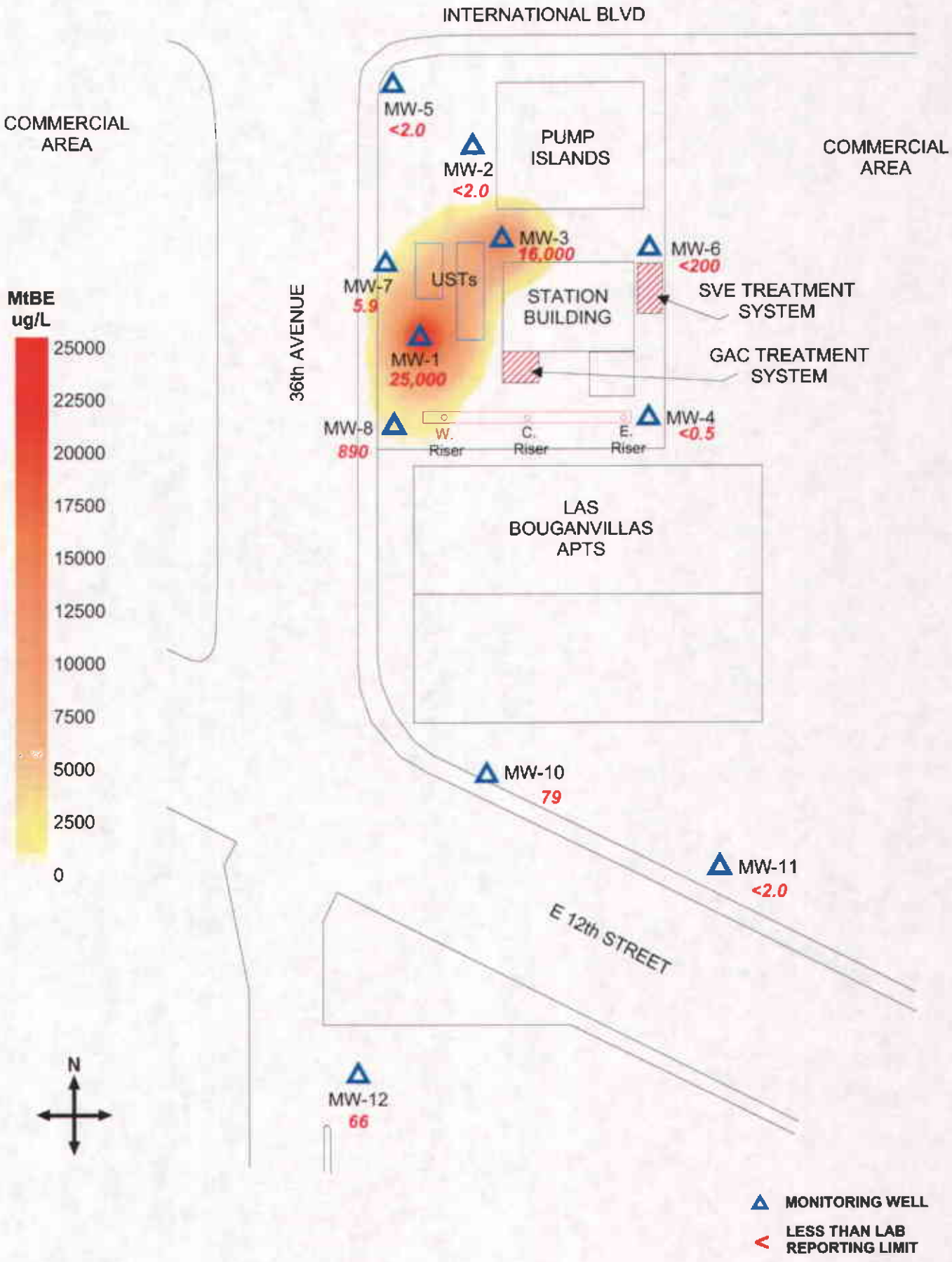


approximate scale in feet

0 25 50

Figure 9: Contour map of Benzene concentrations in the groundwater. July 24, 2003.

SOMA ENVIRONMENTAL ENGINEERING, INC.



approximate scale in feet

0 25 50

Figure 10: Contour map of MtBE (EPA Method 8260B) concentrations in the groundwater. July 24, 2003.

SOMA ENVIRONMENTAL ENGINEERING, INC.

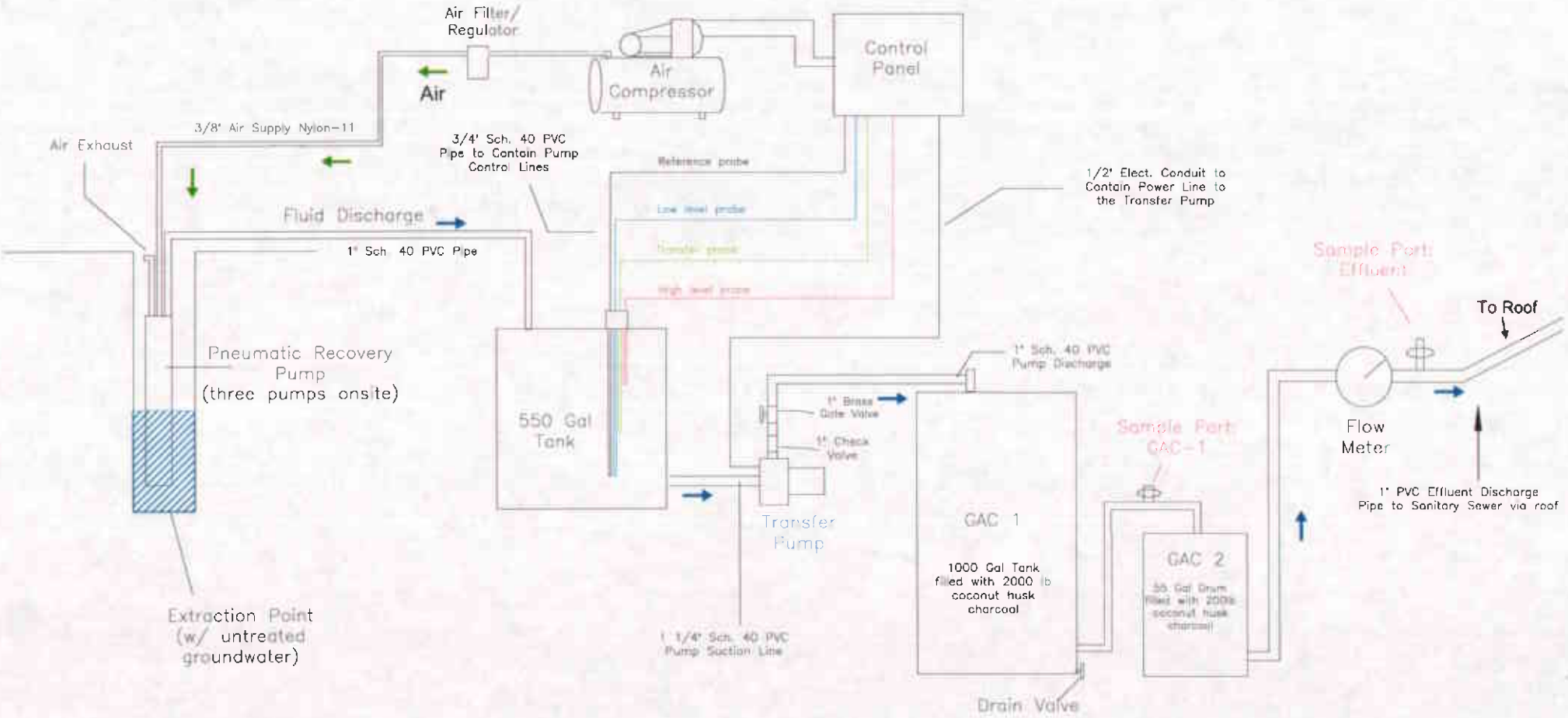


Figure 11: Schematic of the Groundwater Remediation System.

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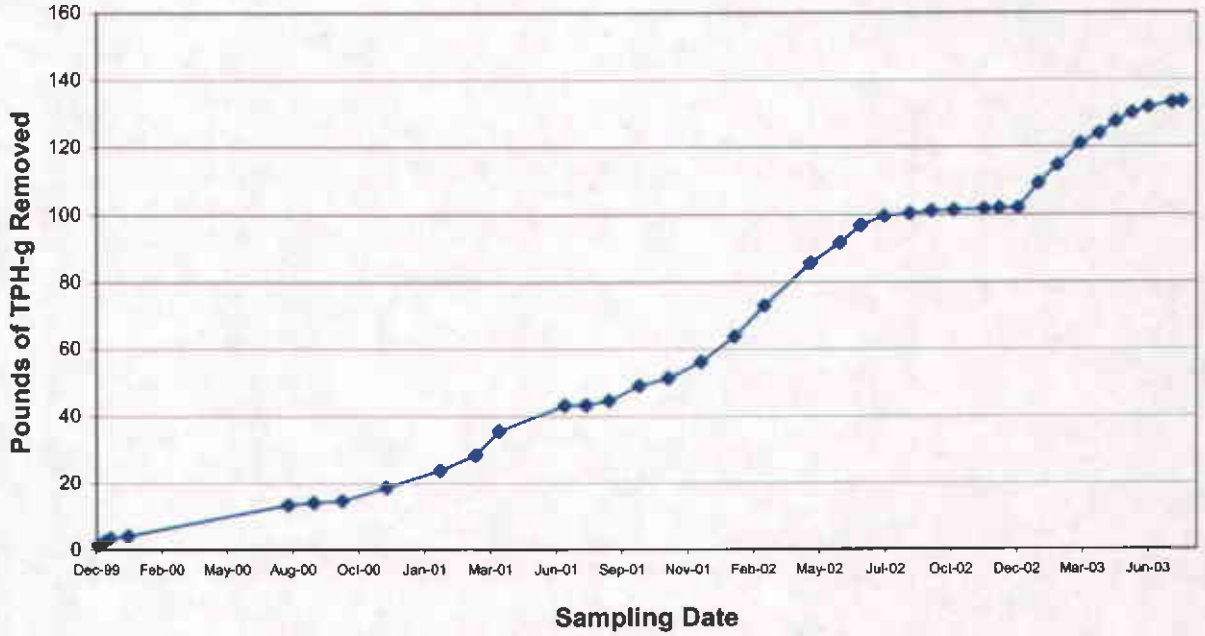
ENVIRONMENTAL ENGINEERING, INC.



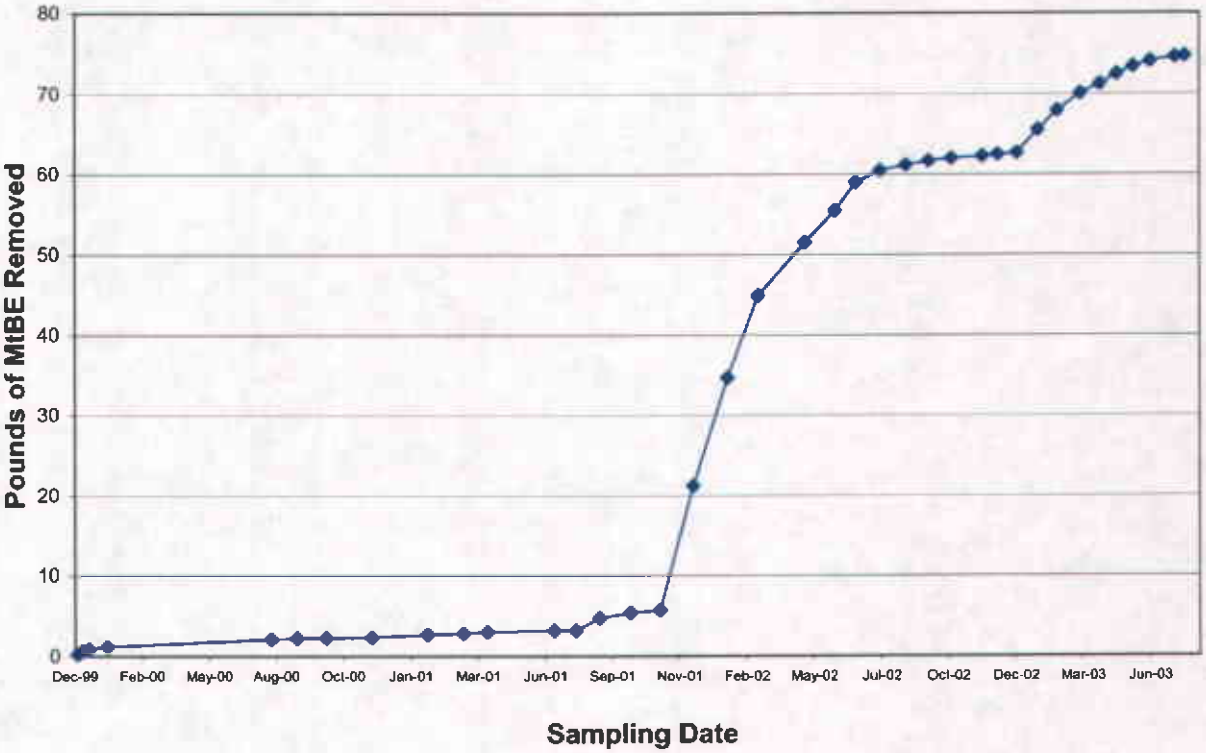


Figure 12. Cumulative mass of TPH-g and MtBE removed from groundwater since the installation of the treatment system.

APPENDIX A

Field Measurements of Physical, Chemical, and Biodegradation Parameters of Groundwater Samples

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-1	**Project No.:**	2331
Casing Diameter:	2 inches	**Address:**	3609 International Blvd.
Depth of Well:	30 feet		Oakland, CA
Top of Casing Elevation:	40.11 feet		
Depth to Groundwater:	12.44 feet	**Date:**	7/24/03
Groundwater Elevation:	27.67 feet	**Sampler:**	Tony Perini
Water Column Height:	17.56 feet		Roy Zarrin
Purged Volume:	11 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☐ Yes ☑ Describe: cloudy

Sheen: No ☑ Yes ☐ Describe:

Odor: No ☐ Yes ☑ Describe: petro odor

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
3:19 PM	1.0	20.4	8.23	905	4.05	-104	124			
3:21 PM	3.0	20.6	7.96	892	0.0	-104	83.6			
3:23 PM	5.5	20.5	7.45	899	0.40	-95	66.6			
3:25 PM	7.0	20.4	7.17	858	0.34	-101	60.9			
3:27 PM	9.0	20.3	7.14	820	0.26	-105	172			
3:28 PM	11	20.3	7.16	791	0.43	-107	217			
3:30 PM		Sampled						0	0	3.30

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-2	**Project No.:**	2331
Casing Diameter:	4 inches	**Address:**	3609 International Blvd.
Depth of Well:	31 feet		Oakland, CA
Top of Casing Elevation:	40.71 feet		
Depth to Groundwater:	12.23 feet	**Date:**	7/24/03
Groundwater Elevation:	28.48 feet	**Sampler:**	Tony Perini
Water Column Height:	18.77 feet		Roy Zarrin
Purged Volume:	12 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☐ Yes ☑ **Describe:** muddy

Sheen: No ☑ Yes ☐ **Describe:**

Odor: No ☑ Yes ☐ **Describe:**

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
2:22 PM	1.0	20.3	7.68	613	4.81	124	985			
2:24 PM	3.5	20.2	7.40	621	0.0	122	356			
2:26 PM	7.0	20.2	7.27	617	0.0	122	174			
2:28 PM	10	20.2	7.25	614	0.0	122	177			
2:30 PM	12	20.2	7.24	615	0.0	122	56.2			
2:35 PM	samples							0.0	23	0.0

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-3	**Project No.:**	2331
Casing Diameter:	4 inches	**Address:**	3609 International Blvd.
Depth of Well:	~~31.50~~ feet		Oakland, CA
Top of Casing Elevation:	40.91 feet		
Depth to Groundwater:	12.94 feet	**Date:**	7/24/03
Groundwater Elevation:	27.97 feet	**Sampler:**	Tony Perini
Water Column Height:	18.56 feet		Roy Zarrin
Purged Volume:	11 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color:	No ☐	Yes ☑	**Describe:**	Black
Sheen:	No ☐	Yes ☑	**Describe:**	rainbow sheen
Odor:	No ☐	Yes ☑	**Describe:**	petro

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
4:25 PM	1.0	20.2	7.18	918	3.48	-102	152			
4:27 PM	4.0	20.1	7.07	921	0.0	-114	76.0			
4:29 PM	6.0	20.1	7.07	919	0.0	-120	76.0			
4:31 PM	8.0	20.2	7.09	915	0.0	-125	43.5			
4:33PM	11	20.2	7.09	924	0.0	-128	52.3			~~3.3~~
4:35PM		Samples						0.0	0.0	3.3

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-4	**Project No.:**	2331
Casing Diameter:	2 inches	**Address:**	3609 International Blvd.
Depth of Well:	26 feet		Oakland, CA
Top of Casing Elevation:	40.01 feet		
Depth to Groundwater:	12.44 feet	**Date:**	7/24/03
Groundwater Elevation:	27.57 feet	**Sampler:**	Tony Perini
Water Column Height:	13.56 feet		Roy Zarrin
Purged Volume:	7.5 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☐ Yes ☑ **Describe:** dark

Sheen: No ☑ Yes ☐ **Describe:**

Odor: No ☑ Yes ☐ **Describe:**

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
1:25 PM	1.0	19.60	7.73	565	4.45	124	929			
1:26 PM	3.0	19.40	7.39	571	0.0	127	252			
1:28 PM	5.5	19.30	7.28	571	0.0	128	168			
1:29 PM	7.5	19.20	7.24	569	0.0	128	183			
1:35 PM			Sampled					~~0.0~~ 0.0	8	0.0

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-5	**Project No.:**	2331
Casing Diameter:	2 inches	**Address:**	3609 International Blvd.
Depth of Well:	26.50 feet		Oakland, CA
Top of Casing Elevation:	41.16 feet		
Depth to Groundwater:	12.45 feet	**Date:**	7/24/03
Groundwater Elevation:	28.71 feet	**Sampler:**	Tony Perini
Water Column Height:	14.05 feet		Roy Zarrin
Purged Volume:	7.5 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☐ Yes ☑ **Describe:** muddy

Sheen: No ☑ Yes ☐ **Describe:**

Odor: No ☑ Yes ☐ **Describe:**

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
11:54 AM	0.5	20.8	7.79	713	6.94	38	152			
11:56 AM	2.0	20.9	7.40	698	0.0	29	77			
11:58 AM	5.0	20.7	7.27	704	0.0	-20	27.3			
12 PM	7.5	20.7	7.26	700	0.0	-39	27.4			
12:05 PM	sampled							0.0	30	0.25

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-6	**Project No.:**	2331
Casing Diameter:	2 inches	**Address:**	3609 International Blvd.
Depth of Well:	25 feet		Oakland, CA
Top of Casing Elevation:	40.92 feet		
Depth to Groundwater:	12.98 feet	**Date:**	7/24/03
Groundwater Elevation:	27.94 feet	**Sampler:**	Tony Perini
Water Column Height:	12.02 feet		Roy Zarrin
Purged Volume:	8.5 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☐ Yes ☑ **Describe:** Black

Sheen: No ☐ Yes ☑ **Describe:**

Odor: No ☑ Yes ☐ **Describe:**

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
3:53 PM	1.0	20.0	7.24	835	3.25	-59	628			
3:55 PM	3.0	20.3	7.09	716	0.31	-62	214			
3:56 PM	5.0	19.9	7.07	711	0.10	-65	220			
3:58 PM	8.5	19.7	7.08	703	0.03	-69	260			
4 PM	Sampled							0.0	0.0	3.3

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-7	**Project No.:**	2331
Casing Diameter:	2 inches	**Address:**	3609 International Blvd.
Depth of Well:	26 feet		Oakland, CA
Top of Casing Elevation:	39.94 feet		
Depth to Groundwater:	11.72 feet	**Date:**	7/24/03
Groundwater Elevation:	28.22 feet	**Sampler:**	Tony Perini
Water Column Height:	14.28 feet		Roy Zarrin
Purged Volume:	3 gallons		

Purging Method: Bailer ■ Pump ☒

Sampling Method: Bailer ■ Pump □

Color: No ☑ Yes □ Describe: _____

Sheen: No ☑ Yes □ Describe: _____

Odor: No ☑ Yes □ Describe: _____

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
12:32	1	24.1	7.64	353	3.22	-35	28.8			
12:34	2	22.1	7.51	379	2.60	-38	422			
12:37	3	21.6	7.52	443	2.83	-77	91.8			
12:40		Sampled						0.0	2.0	0.61

Notes
obstruction in well, ~~Not Sampled~~
Well need to be replaced.

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-8	**Project No.:**	2331
Casing Diameter:	2 inches	**Address:**	3609 International Blvd.
Depth of Well:	27 feet		Oakland, CA
Top of Casing Elevation:	39.38 feet		
Depth to Groundwater:	11.92 feet	**Date:**	7/24/03
Groundwater Elevation:	27.46 feet	**Sampler:**	Tony Perini
Water Column Height:	15.08 feet		Roy Zarrin
Purged Volume:	5.5 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☐ Yes ☑ **Describe:** Black

Sheen: No ☐ Yes ☑ **Describe:**

Odor: No ☐ Yes ☑ **Describe:** slight odor

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
2:51	1	19.9	7.42	605	5.13	-88	631			
2:53	2	20.0	7.23	622	0.18	-108	641			
2:55	4	20.0	7.20	660	0.0	-124	636			
2:56	5.5	19.8	7.20	675	0.0	-129	610			
3:00		Sampled						0	0	1.88

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-10	**Project No.:**	2331
Casing Diameter:	2 inches	**Address:**	3609 International Blvd.
Depth of Well:	23.40 feet		Oakland, CA
Top of Casing Elevation:	36.71 feet		
Depth to Groundwater:	10.76 feet	**Date:**	7/24/03
Groundwater Elevation:	25.95 feet	**Sampler:**	Tony Perini
Water Column Height:	12.64 feet		Roy Zarrin
Purged Volume:	5.5 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

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

Sheen: No ☑ Yes ☐ **Describe:**

Odor: No ☑ Yes ☐ **Describe:**

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
10:39 AM	0.5	20.0	8.09	678	7.0	-35	320			
10:41 AM	2.0	19.9	7.52	662	0.10	-16	66.4			
10:42 AM	4.0	19.8	7.41	658	0.0	-4	41.9			
10:43 AM	5.5	19.8	7.35	658	0.0	1	40.4			
10:45 AM			Sampled					0.0		0.0
									1.0	

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-11	**Project No.:**	2331
Casing Diameter:	2 inches	**Address:**	3609 International Blvd.
Depth of Well:	25.40 feet		Oakland, CA
Top of Casing Elevation:	NS feet		
Depth to Groundwater:	12.30 feet	**Date:**	7/24/03
Groundwater Elevation:	— feet	**Sampler:**	Tony Perini
Water Column Height:	13.10 feet		Roy Zarrin
Purged Volume:	5.0 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☑ Yes ☐ **Describe:** _____

Sheen: No ☑ Yes ☐ **Describe:** _____

Odor: No ☑ Yes ☐ **Describe:** _____

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
10:09 AM	1.0	19.10	9.93	603	4.64	58	67.9			
10:10 AM	2.0	18.90	8.12	614	0.10	56	43.6			
10:12 AM	3.0	18.90	7.62	622	0.0	8	33.4			
10:14 AM	5.0	18.80	7.42	621	0.0	-35	26.1			
10:15 AM	sampled							0.0	3.0	0.0

well not surveyed due to obstruction in area surrounding well casing, unable to set up survey equipment

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-12	**Project No.:**	2331
Casing Diameter:	4 inches	**Address:**	3609 International Blvd.
Depth of Well:	30 feet		Oakland, CA
Top of Casing Elevation:	36.84 feet		
Depth to Groundwater:	11.44 feet	**Date:**	7/24/03
Groundwater Elevation:	25.40 feet	**Sampler:**	Tony Perini
Water Column Height:	18.56 feet		Roy Zarrin
Purged Volume:	10 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☑ Yes ☐ **Describe:** _____

Sheen: No ☑ Yes ☐ **Describe:** _____

Odor: No ☑ Yes ☐ **Describe:** _____

Field Measurements:

Time	Vol (gallons)	Temp (°C)	pH	E.C. (µS/cm)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	$NO3^{-1}$ (mg/L)	SO_4^{-2} (mg/L)	Fe^{+2} (mg/L)
11:09 AM	1.0	19.8	7.67	661	6.12	-108	81.6			
11:11 AM	4.0	19.6	7.36	665	0.0	-106	22.2			
11:13 AM	6.0	19.6	7.33	664	0.0	-106	20.8			
# 11:15 AM	8.0	19.9	7.32	658	1.51	-102	27.3			
11:30 AM	~~10~~ 11	19.7	7.29	659	0.0	-98	19			
11:35 AM	Sample							0.0	0.0	1.13

notes: # changed battery on U-22 meter

Appendix B

Chain of Custody Form and Laboratory Report of Third Quarter 2003 Monitoring Event

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

ANALYTICAL REPORT

Prepared for:

SOMA Environmental Engineering Inc.
2680 Bishop Dr.
Suite 203
San Ramon, CA 94583

Date: 04-AUG-03
Lab Job Number: 166533
Project ID: 2331
Location: 3609 Int'l Blvd., 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

CHAIN OF CUSTODY

Page 1 of 1

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

C&T LOGIN # 166533

Sampler: TONY PERINI / ROY ZAHARIA

Project No: 2331

Report To: Tony Perini

Project Name: 3609 International Blvd, Oakland

Company : SOMA Environmental

Turnaround Time: Standard

Telephone: 925-244-6600

Fax: 925-244-6601

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Analyses: TPHg 8015	Analyses: BTEX + MtBE 8021 GC	Analyses: MTBE Confirmation 8260 GCMS
-1	MW-1	7/24/03 3:30 PM		✓		3-VOAs	✓			✓	✓	✓	✓
-2	MW-2	2:35 PM		↓		↓	↓			↓	↓	↓	↓
-3	MW-3	4:35 PM		↓		↓	↓			↓	↓	↓	↓
-4	MW-4	1:35 PM		↓		↓	↓			↓	↓	↓	↓
-5	MW-5	12:05 PM		↓		↓	↓			↓	↓	↓	↓
-6	MW-6	4 PM		↓		↓	↓			↓	↓	↓	↓
-7	MW-7	12:40 PM		↓		↓	↓			↓	↓	↓	↓
-8	MW-8	3 PM		↓		↓	↓			↓	↓	↓	↓
N/A	~~MW-9~~												
-9	MW-10	10:45 PM		↓		↓	↓			↓	↓	↓	↓
-10	MW-11	10:15 PM		↓		↓	↓			↓	↓	↓	↓
-11	MW-12	11:35 PM		↓		↓	↓			↓	↓	↓	↓

Notes: EDF OUTPUT REQUIRED
Grab Sample

Received: ☒ On Ice ☒ Cold ☐ Ambient ☒ Intact

RELINQUISHED BY:

Tony Perini 7/24/03
Tony Perini 6 PM DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

7/24/03 6 PM DATE/TIME

DATE/TIME

DATE/TIME

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Sampled:	07/24/03
Units:	ug/L	Received:	07/24/03

Field ID:	MW-1	Diln Fac:	100.0
Type:	SAMPLE	Batch#:	83197
Lab ID:	166533-001	Analyzed:	07/28/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	36,000	5,000	8015B
MTBE	23,000	200	EPA 8021B
Benzene	4,800	50	EPA 8021B
Toluene	1,800	50	EPA 8021B
Ethylbenzene	1,300	50	EPA 8021B
m,p-Xylenes	4,200	50	EPA 8021B
o-Xylene	1,400	50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	114	57-150	8015B
Bromofluorobenzene (FID)	119	65-144	8015B
Trifluorotoluene (PID)	106	54-149	EPA 8021B
Bromofluorobenzene (PID)	118	58-143	EPA 8021B

Field ID:	MW-2	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83153
Lab ID:	166533-002	Analyzed:	07/25/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	220	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	3.9	0.50	EPA 8021B
Toluene	4.3	0.50	EPA 8021B
Ethylbenzene	7.0	0.50	EPA 8021B
m,p-Xylenes	11	0.50	EPA 8021B
o-Xylene	3.5	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	109	57-150	8015B
Bromofluorobenzene (FID)	111	65-144	8015B
Trifluorotoluene (PID)	102	54-149	EPA 8021B
Bromofluorobenzene (PID)	112	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Sampled:	07/24/03
Units:	ug/L	Received:	07/24/03

Field ID:	MW-3	Diln Fac:	100.0
Type:	SAMPLE	Batch#:	83197
Lab ID:	166533-003	Analyzed:	07/28/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	31,000	5,000	8015B
MTBE	15,000	200	EPA 8021B
Benzene	4,700	50	EPA 8021B
Toluene	990	50	EPA 8021B
Ethylbenzene	1,400	50	EPA 8021B
m,p-Xylenes	4,000	50	EPA 8021B
o-Xylene	1,200	50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	105	57-150	8015B
Bromofluorobenzene (FID)	116	65-144	8015B
Trifluorotoluene (PID)	105	54-149	EPA 8021B
Bromofluorobenzene (PID)	114	58-143	EPA 8021B

Field ID:	MW-4	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83153
Lab ID:	166533-004	Analyzed:	07/25/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	2.3	2.0	EPA 8021B
Benzene	1.0	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	104	57-150	8015B
Bromofluorobenzene (FID)	113	65-144	8015B
Trifluorotoluene (PID)	105	54-149	EPA 8021B
Bromofluorobenzene (PID)	115	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Sampled:	07/24/03
Units:	ug/L	Received:	07/24/03

Field ID:	MW-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83153
Lab ID:	166533-005	Analyzed:	07/25/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	300	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	1.9 C	0.50	EPA 8021B
Ethylbenzene	0.76	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	117	57-150	8015B
Bromofluorobenzene (FID)	114	65-144	8015B
Trifluorotoluene (PID)	114	54-149	EPA 8021B
Bromofluorobenzene (PID)	111	58-143	EPA 8021B

Field ID:	MW-6	Diln Fac:	100.0
Type:	SAMPLE	Batch#:	83197
Lab ID:	166533-006	Analyzed:	07/28/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	29,000	5,000	8015B
MTBE	ND	200	EPA 8021B
Benzene	1,600	50	EPA 8021B
Toluene	520	50	EPA 8021B
Ethylbenzene	1,500	50	EPA 8021B
m,p-Xylenes	3,400	50	EPA 8021B
o-Xylene	1,000	50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	104	57-150	8015B
Bromofluorobenzene (FID)	118	65-144	8015B
Trifluorotoluene (PID)	105	54-149	EPA 8021B
Bromofluorobenzene (PID)	116	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Sampled:	07/24/03
Units:	ug/L	Received:	07/24/03

Field ID:	MW-7	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83153
Lab ID:	166533-007	Analyzed:	07/25/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	230	50	8015B
MTBE	8.2	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	1.3 C	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	0.63	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	117	57-150	8015B
Bromofluorobenzene (FID)	119	65-144	8015B
Trifluorotoluene (PID)	115	54-149	EPA 8021B
Bromofluorobenzene (PID)	115	58-143	EPA 8021B

Field ID:	MW-8	Diln Fac:	10.00
Type:	SAMPLE	Batch#:	83197
Lab ID:	166533-008	Analyzed:	07/28/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	12,000	500	8015B
MTBE	830	20	EPA 8021B
Benzene	460	5.0	EPA 8021B
Toluene	54 C	5.0	EPA 8021B
Ethylbenzene	910	5.0	EPA 8021B
m,p-Xylenes	410	5.0	EPA 8021B
o-Xylene	25	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	134	57-150	8015B
Bromofluorobenzene (FID)	125	65-144	8015B
Trifluorotoluene (PID)	120	54-149	EPA 8021B
Bromofluorobenzene (PID)	121	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Sampled:	07/24/03
Units:	ug/L	Received:	07/24/03

Field ID:	MW-10	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83153
Lab ID:	166533-009	Analyzed:	07/25/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	750	50	8015B
MTBE	110	2.0	EPA 8021B
Benzene	160	0.50	EPA 8021B
Toluene	4.0	0.50	EPA 8021B
Ethylbenzene	58	0.50	EPA 8021B
m,p-Xylenes	6.1	0.50	EPA 8021B
o-Xylene	0.56 C	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	124	57-150	8015B
Bromofluorobenzene (FID)	108	65-144	8015B
Trifluorotoluene (PID)	114	54-149	EPA 8021B
Bromofluorobenzene (PID)	106	58-143	EPA 8021B

Field ID:	MW-11	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83153
Lab ID:	166533-010	Analyzed:	07/25/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	340	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	19 C	0.50	EPA 8021B
Toluene	3.2	0.50	EPA 8021B
Ethylbenzene	0.58	0.50	EPA 8021B
m,p-Xylenes	0.89	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	143	57-150	8015B
Bromofluorobenzene (FID)	118	65-144	8015B
Trifluorotoluene (PID)	130	54-149	EPA 8021B
Bromofluorobenzene (PID)	117	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Sampled:	07/24/03
Units:	ug/L	Received:	07/24/03

Field ID:	MW-12	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83153
Lab ID:	166533-011	Analyzed:	07/25/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,200	50	8015B
MTBE	80	2.0	EPA 8021B
Benzene	32 C	0.50	EPA 8021B
Toluene	16 C	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	4.1	0.50	EPA 8021B
o-Xylene	5.1	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	90	57-150	8015B
Bromofluorobenzene (FID)	139	65-144	8015B
Trifluorotoluene (PID)	148	54-149	EPA 8021B
Bromofluorobenzene (PID)	121	58-143	EPA 8021B

Type:	BLANK	Batch#:	83153
Lab ID:	QC220167	Analyzed:	07/25/03
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	98	57-150	8015B
Bromofluorobenzene (FID)	101	65-144	8015B
Trifluorotoluene (PID)	101	54-149	EPA 8021B
Bromofluorobenzene (PID)	103	58-143	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Sampled:	07/24/03
Units:	ug/L	Received:	07/24/03

Type:	BLANK	Batch#:	83197
Lab ID:	QC220381	Analyzed:	07/28/03
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	99	57-150	8015B
Bromofluorobenzene (FID)	111	65-144	8015B
Trifluorotoluene (PID)	97	54-149	EPA 8021B
Bromofluorobenzene (PID)	111	58-143	EPA 8021B

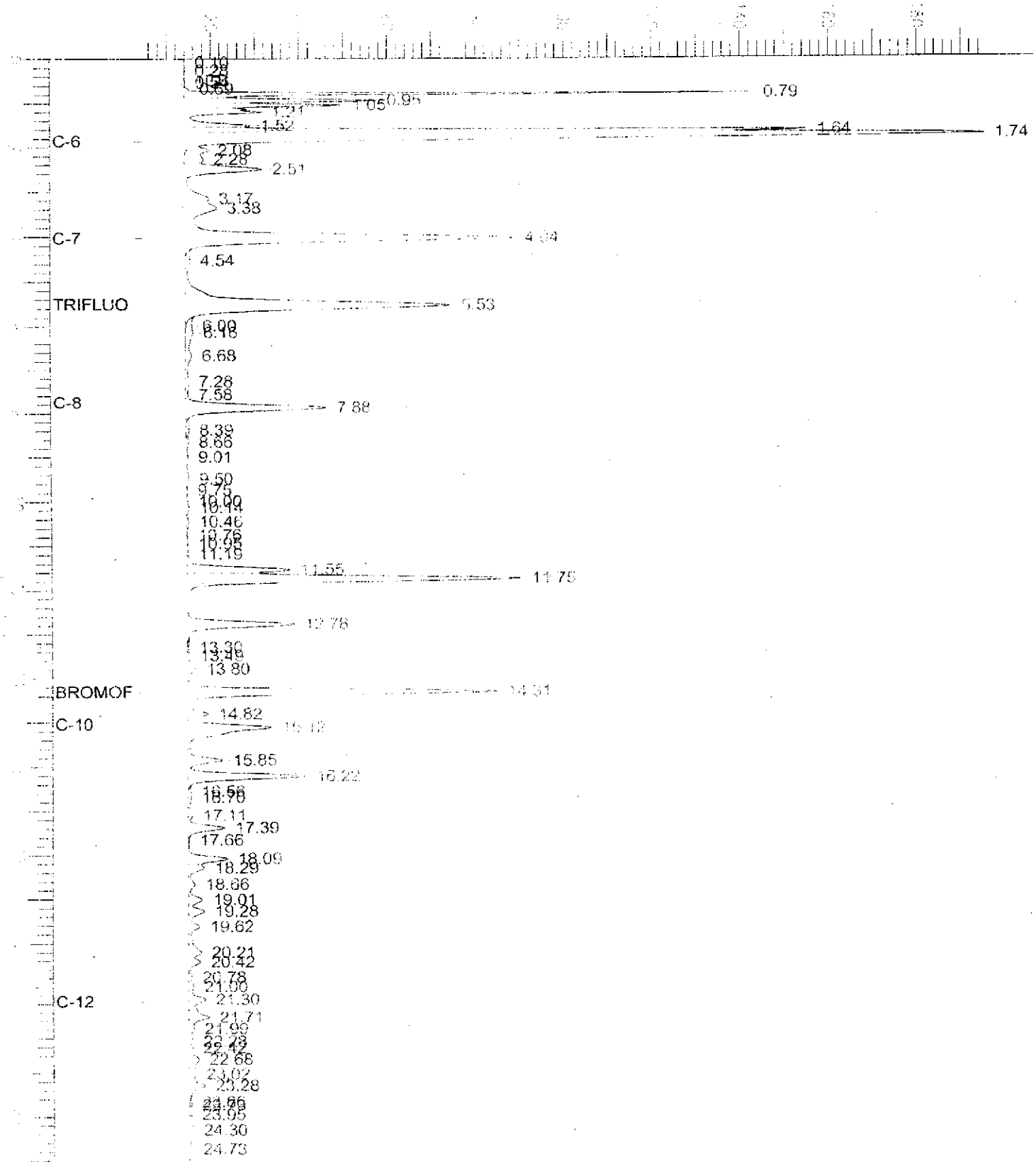
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 166533-001,83197
FileName : G:\GC05\DATA\209G005.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 5 mV

Sample #: b1 Page 1 of 1
Date : 7/28/03 03:49 PM
Time of Injection: 7/28/03 03:23 PM
Low Point : 4.96 mV High Point : 195.30 mV
Plot Scale: 190.3 mV

MW-1

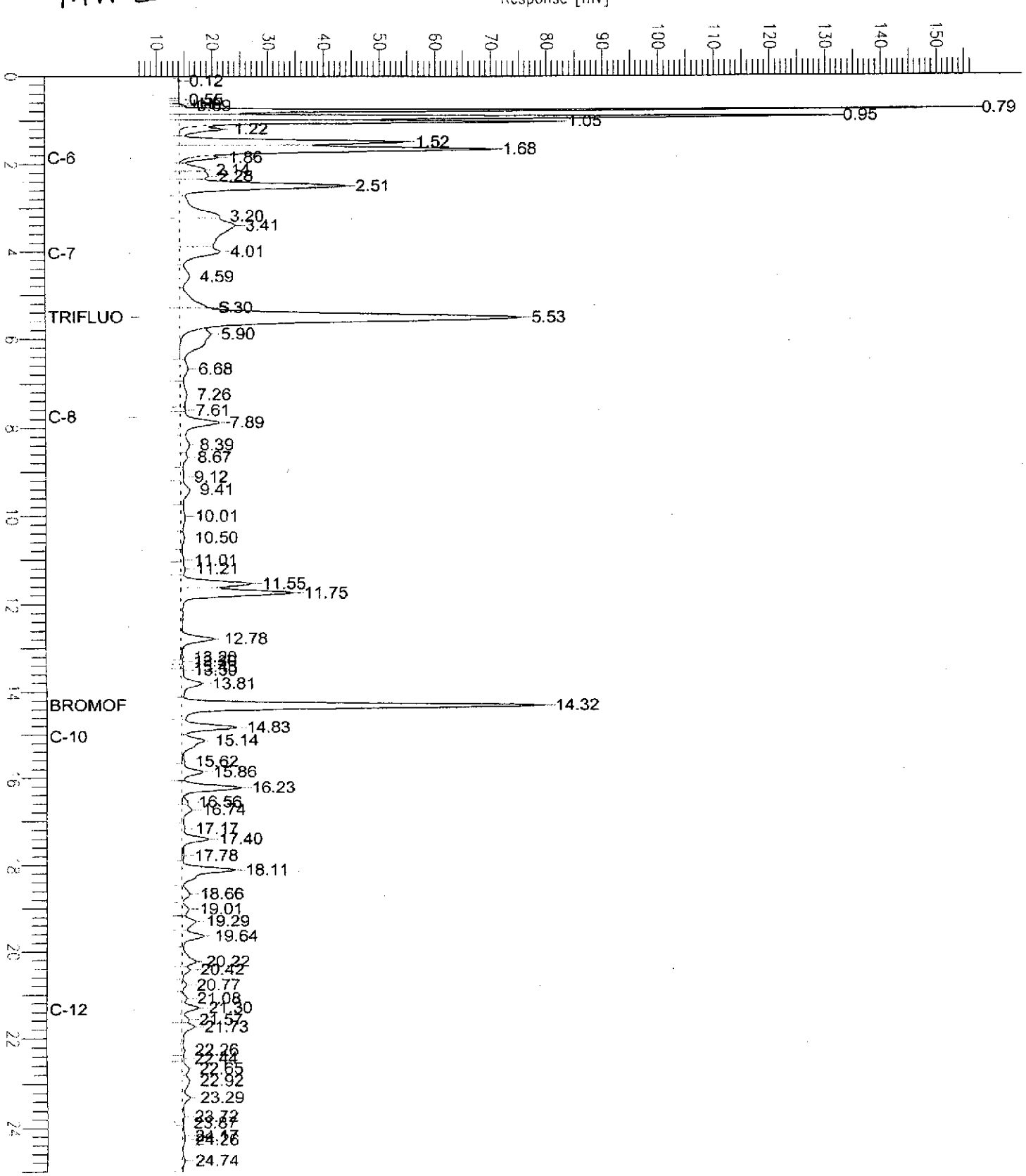


Chromatogram

Sample Name : 166533-002,83153
FileName : G:\GC05\DATA\206G008.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: a1 Page 1 of 1
Date : 7/28/03 09:52 AM
Time of Injection: 7/25/03 03:22 PM
Low Point : 6.86 mV High Point : 156.41 mV
Plot Scale: 149.6 mV

MW-2

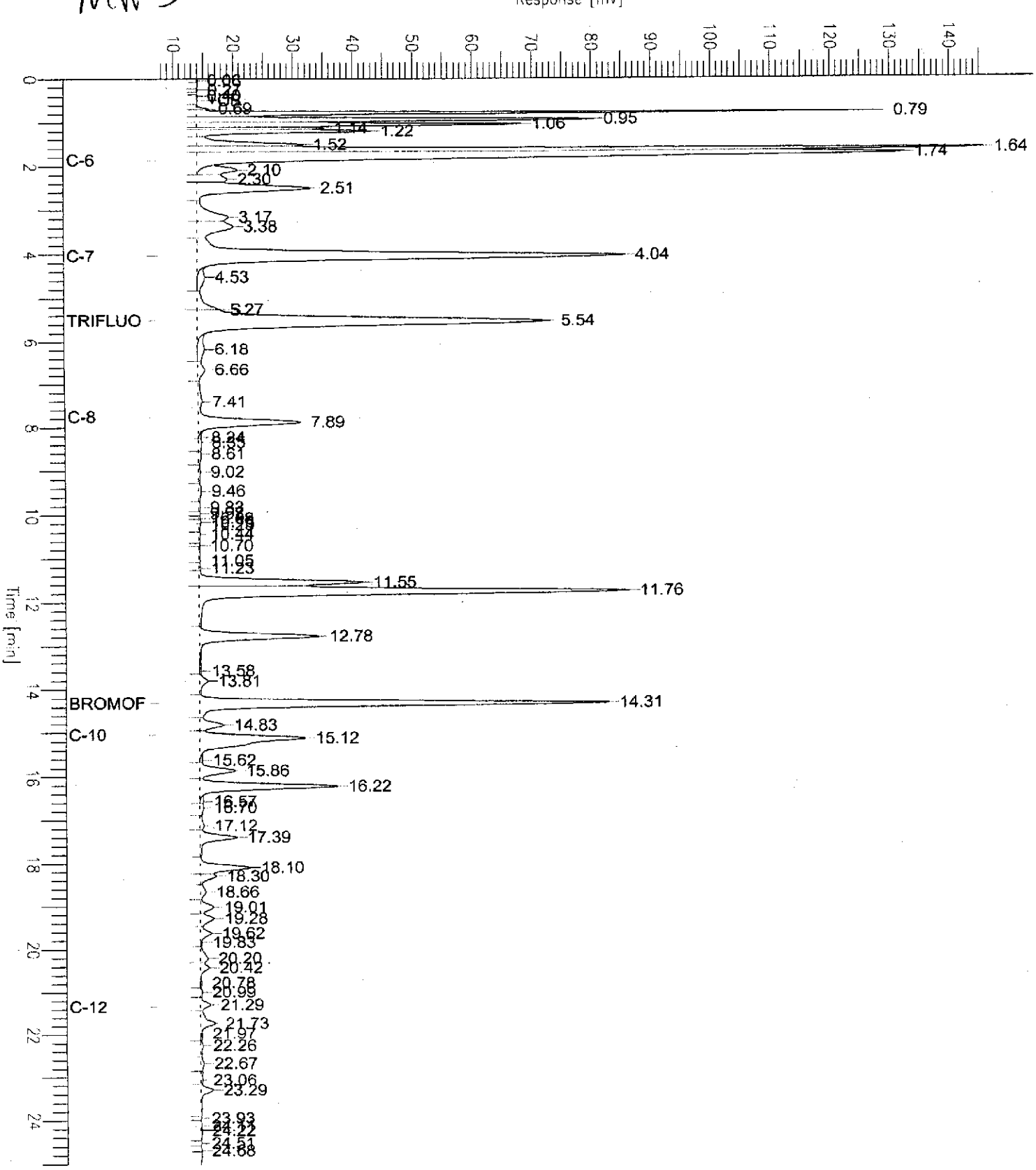


Chromatogram

Sample Name : 166533-003,83197
FileName : G:\GC05\DATA\209G006.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: b1 Page 1 of 1
Date : 7/29/03 09:52 AM
Time of Injection: 7/28/03 03:57 PM
Low Point : 7.37 mV High Point : 145.84 mV
Plot Scale: 138.5 mV

MW-3

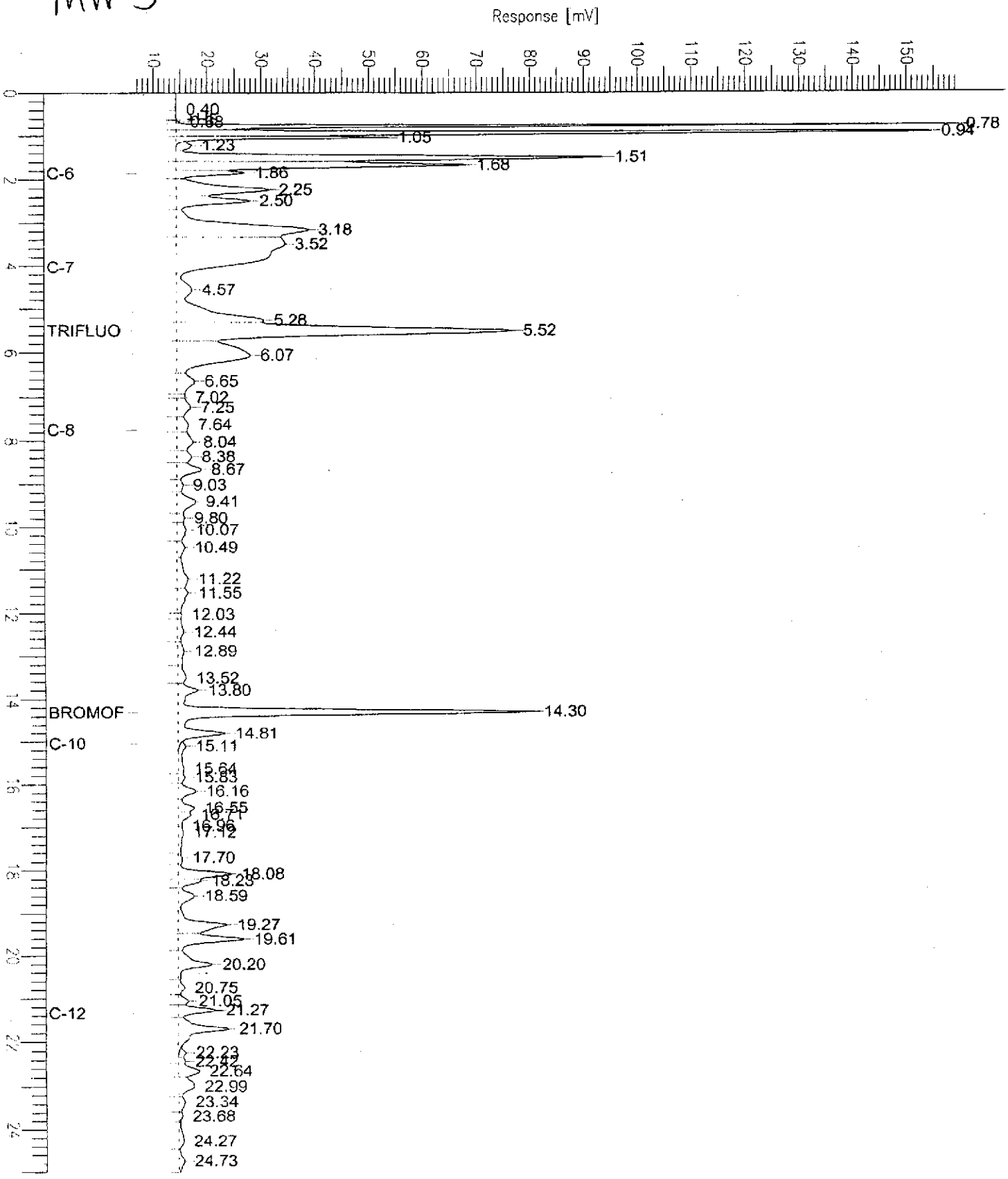


Chromatogram

Sample Name : 166533-005,83153
FileName : G:\GC05\DATA\206G018.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: a1 Page 1 of 1
Date : 7/28/03 09:52 AM
Time of Injection: 7/25/03 08:57 PM
Low Point : 6.89 mV High Point : 159.29 mV
Plot Scale: 152.4 mV

MW-5

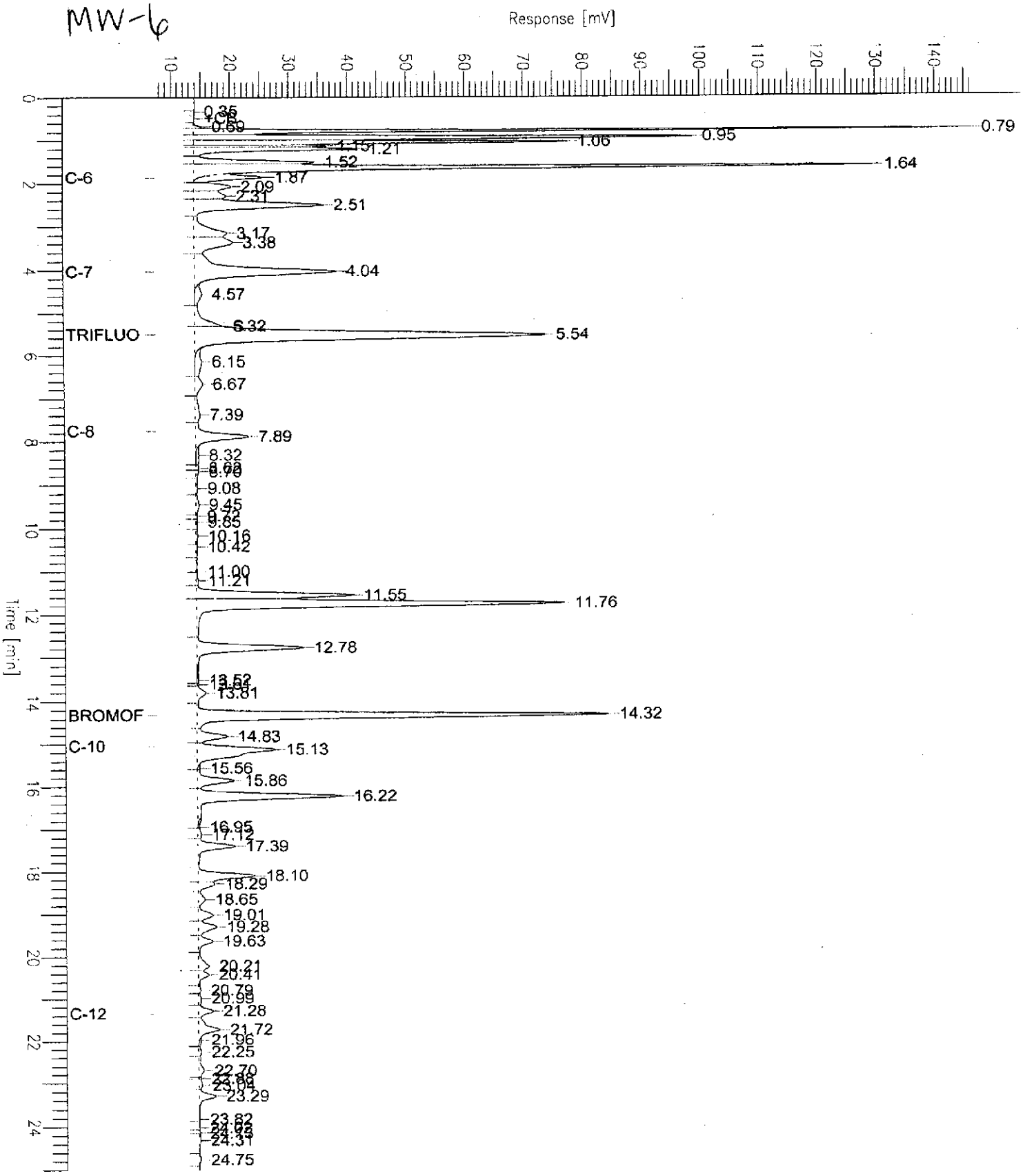


Chromatogram

Sample Name : 166533-006,83197
FileName : G:\GC05\DATA\209G007.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: bl
Date : 7/29/03 09:52 AM
Time of Injection: 7/28/03 04:30 PM
Low Point : 7.26 mV High Point : 146.45 mV
Plot Scale: 139.2 mV

MW-6

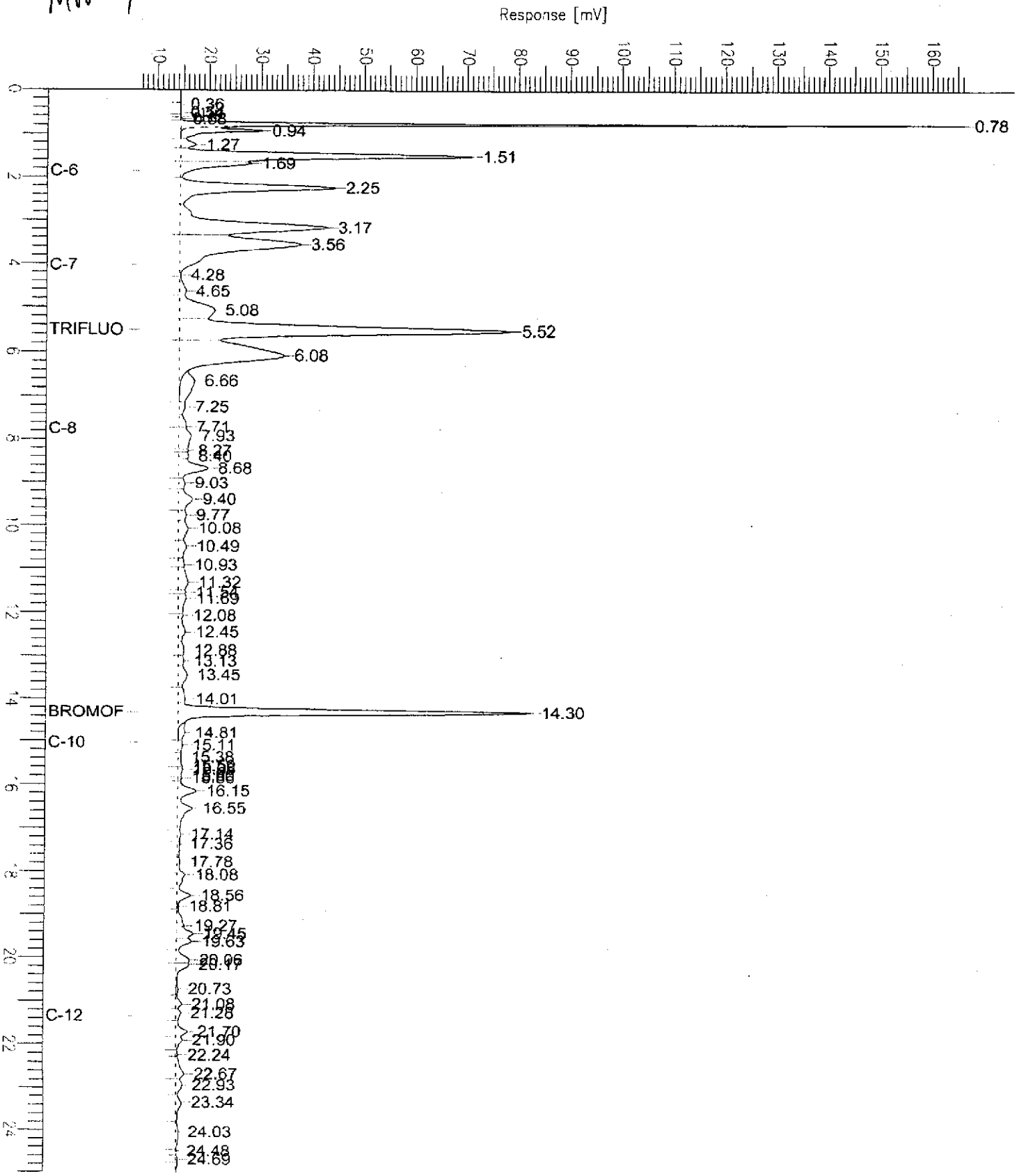


Chromatogram

Sample Name : 166533-007,83153
FileName : G:\GC05\DATA\206G019.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: a1 Page 1 of 1
Date : 7/28/03 09:52 AM
Time of Injection: 7/25/03 09:30 PM
Low Point : 6.62 mV High Point : 166.25 mV
Plot Scale: 159.6 mV

MW-7

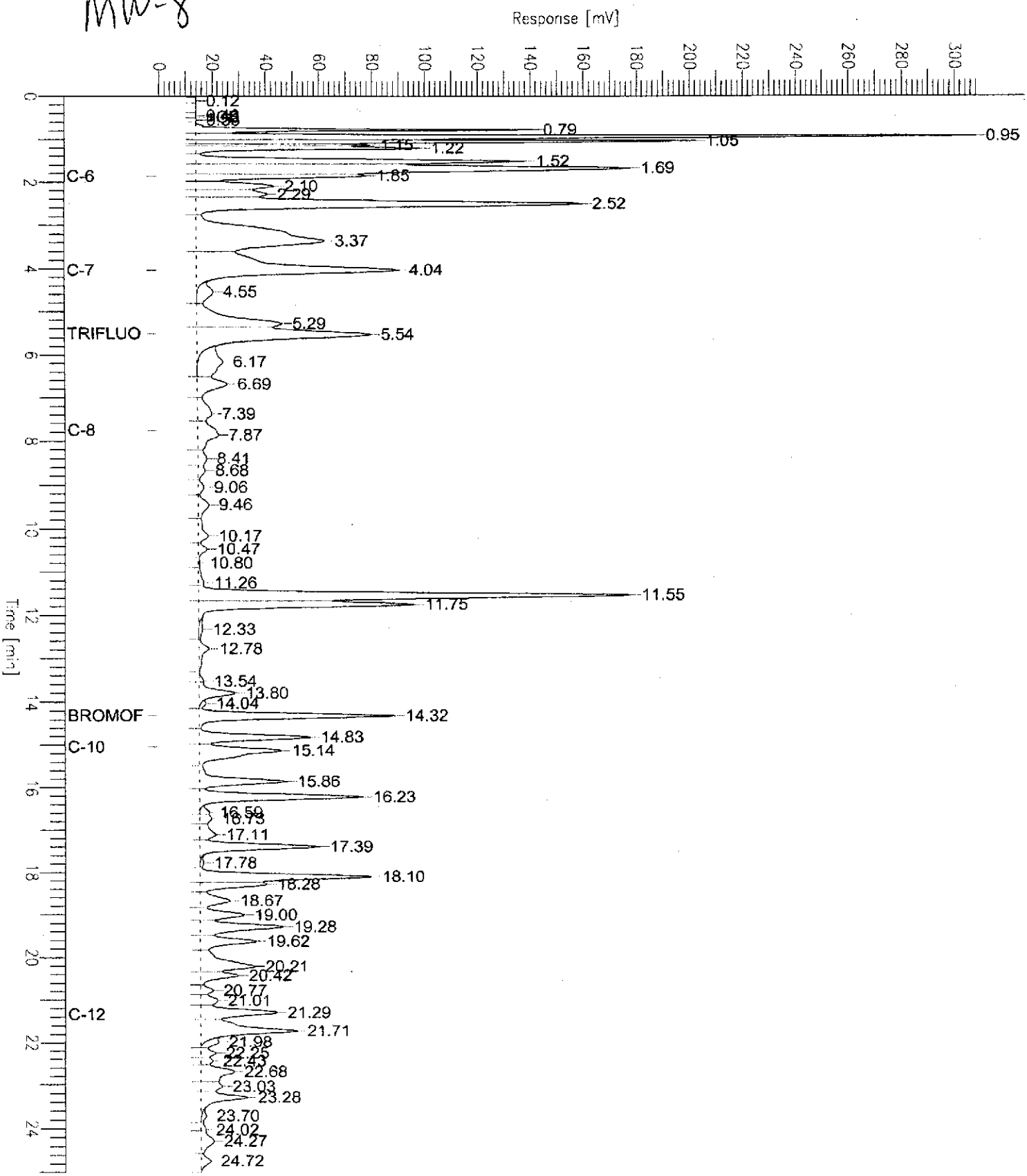


Chromatogram

Sample Name : 166533-008,83197
FileName : G:\GC05\DATA\209G011.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -1 mV

Sample #: bl Page 1 of 1
Date : 7/28/03 07:10 PM
Time of Injection: 7/28/03 06:45 PM
Low Point : -0.88 mV High Point : 308.11 mV
Plot Scale: 309.0 mV

MW-8

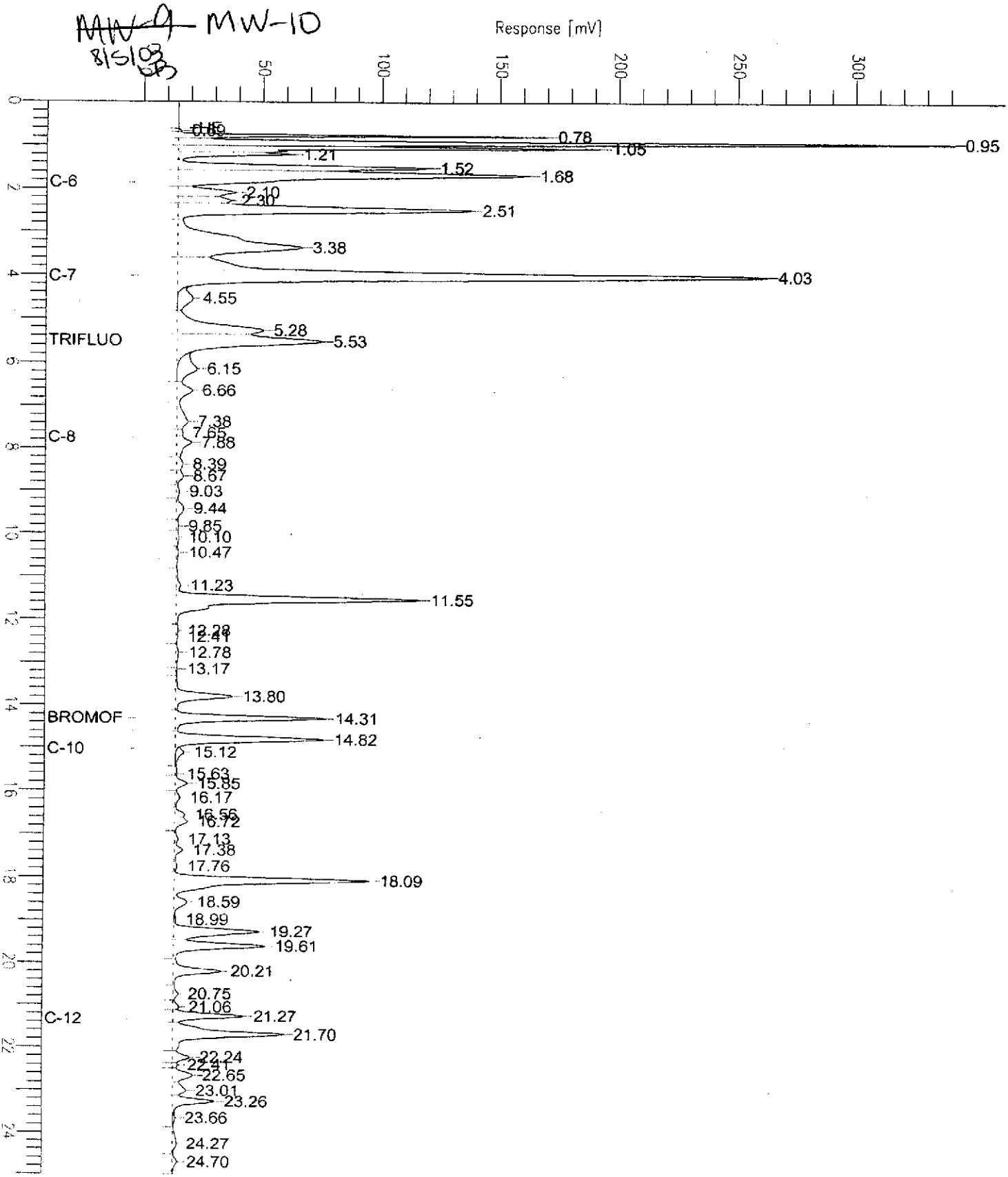


Chromatogram

Sample Name : 166533-009,83153
FileName : G:\GC05\DATA\206G020.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -2 mV

Sample #: a1 Page 1 of 1
Date : 7/28/03 09:52 AM
Time of Injection: 7/25/03 10:04 PM
Low Point : -2.12 mV High Point : 341.58 mV
Plot Scale: 343.7 mV

MW-9 MW-10
8/5/03
SB

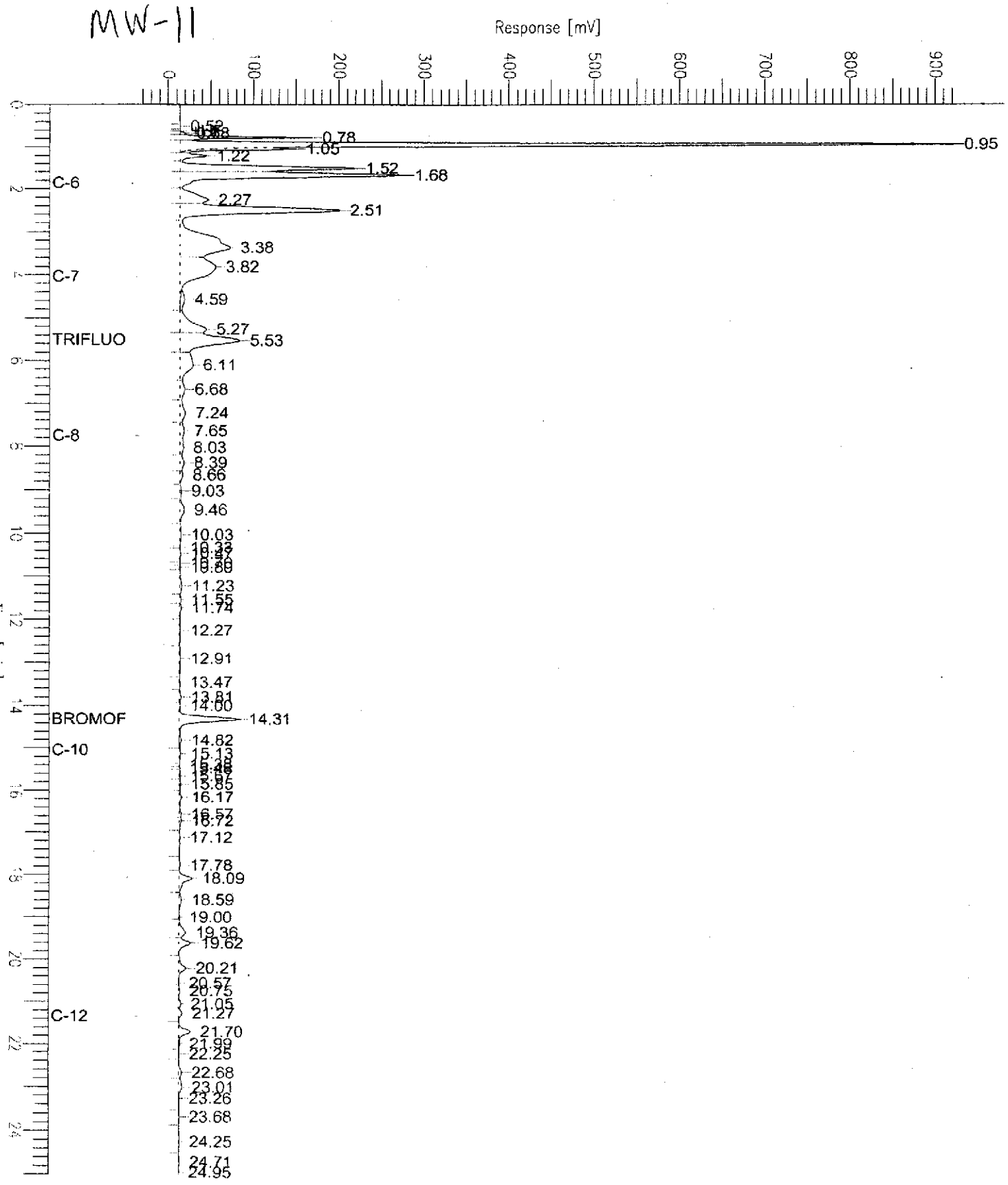


Chromatogram

Sample Name : 166533-010,83153
FileName : G:\GC05\DATA\206G021.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -31 mV

Sample #: a1 Page 1 of 1
Date : 7/28/03 09:58 AM
Time of Injection: 7/25/03 10:37 PM
Low Point : -31.20 mV High Point : 922.70 mV
Plot Scale: 953.9 mV

MW-11

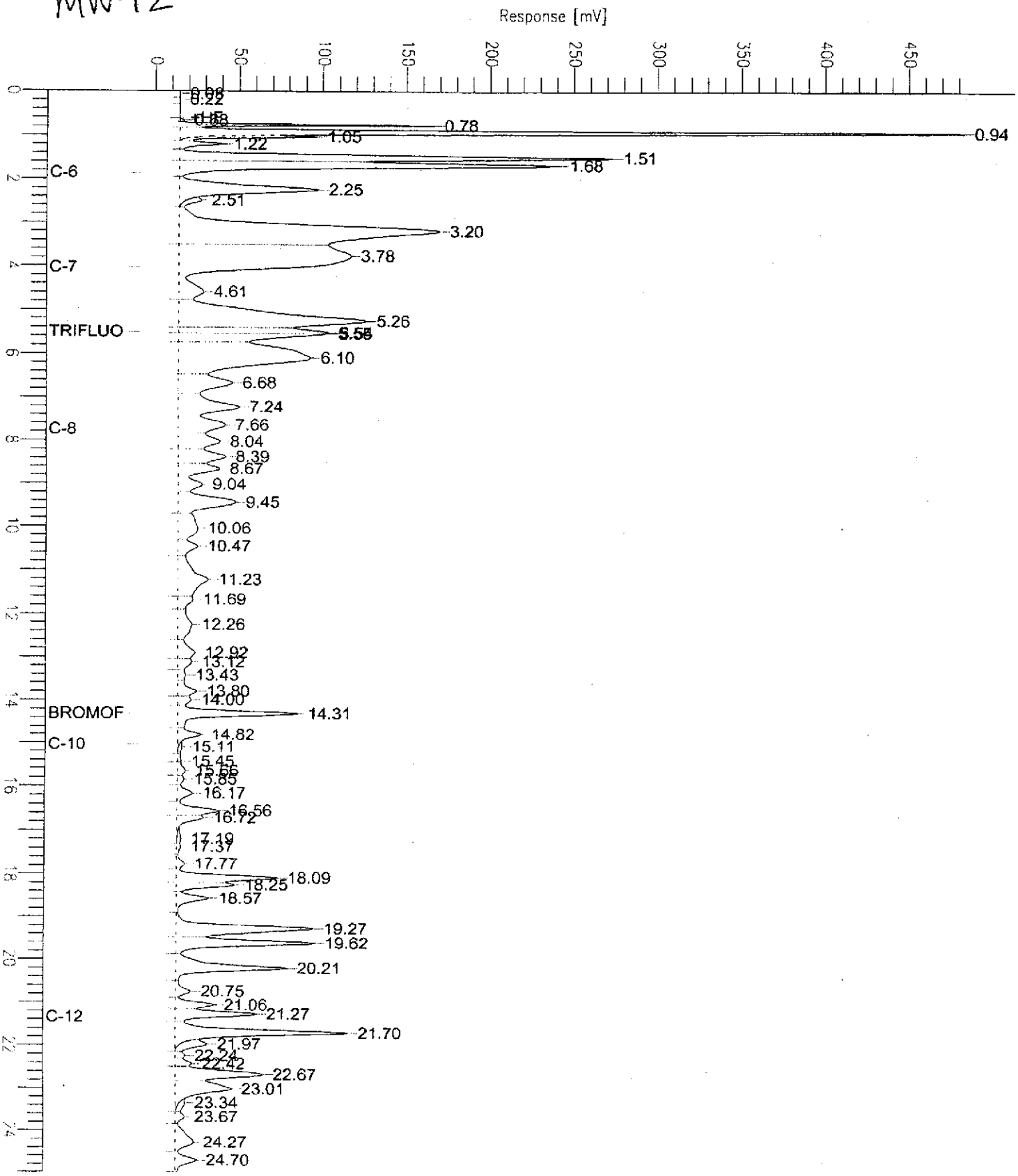


Chromatogram

Sample Name : 166533-011,83153
FileName : G:\GC05\DATA\206G022.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -9 mV

Sample #: a1
Date : 7/28/03 09:52 AM
Time of Injection: 7/25/03 11:11 PM
Low Point : -9.28 mV High Point : 483.22 mV
Plot Scale: 492.5 mV

MW-12

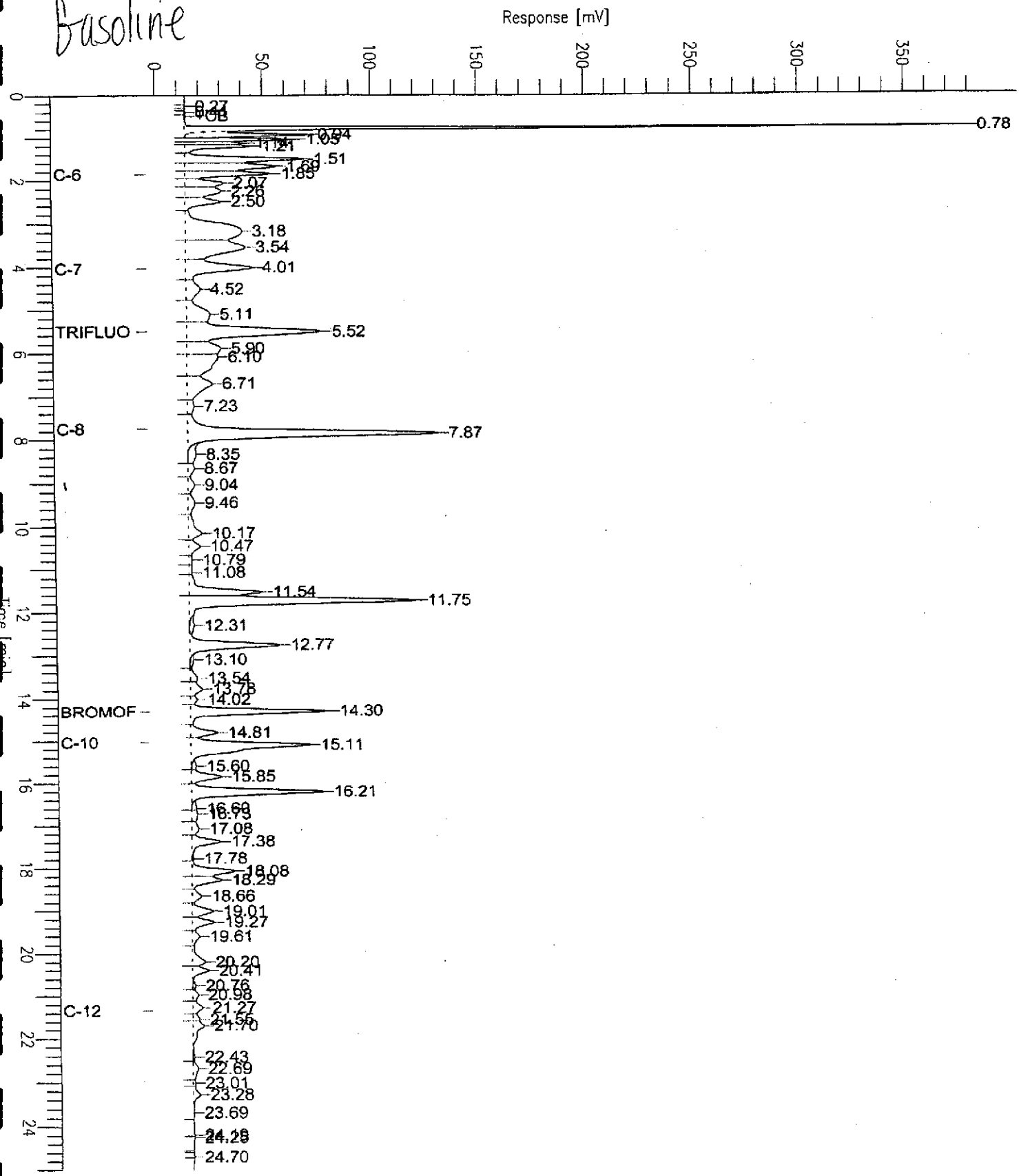


Chromatogram

mple Name : ccv/lcs,qc220169,83153,03ws1192,2.5/5000
leName : G:\GC05\DATA\206G002.raw
thod : TVHBTXE
art Time : 0.00 min End Time : 25.00 min
ale Factor: 1.0 Plot Offset: -4 mV

Sample #: Page 1 of 1
Date : 7/25/03 10:56 AM
Time of Injection: 7/25/03 10:31 AM
Low Point : -4.22 mV High Point : 380.20 mV
Plot Scale: 384.4 mV

Gasoline



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Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC220168	Batch#:	83153
Matrix:	Water	Analyzed:	07/25/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12		NA		
MTBE	10.00	11.05	111	63-133
Benzene	10.00	10.46	105	78-123
Toluene	10.00	10.14	101	79-120
Ethylbenzene	10.00	10.04	100	80-120
m,p-Xylenes	20.00	20.77	104	76-120
o-Xylene	10.00	10.32	103	80-121

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		102	54-149
Bromofluorobenzene (PID)		105	58-143

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC220169	Batch#:	83153
Matrix:	Water	Analyzed:	07/25/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	991.3	99	80-120
MTBE		NA		
Benzene		NA		
Toluene		NA		
Ethylbenzene		NA		
m,p-Xylenes		NA		
o-Xylene		NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		117	57-150
Bromofluorobenzene (FID)		111	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC220382	Batch#:	83197
Matrix:	Water	Analyzed:	07/28/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12		NA		
MTBE	10.00	10.03	100	63-133
Benzene	10.00	9.761	98	78-123
Toluene	10.00	9.298	93	79-120
Ethylbenzene	10.00	9.517	95	80-120
m,p-Xylenes	20.00	19.18	96	76-120
o-Xylene	10.00	9.716	97	80-121

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		89	54-149
Bromofluorobenzene (PID)		104	58-143

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC220383	Batch#:	83197
Matrix:	Water	Analyzed:	07/28/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,044	104	80-120
MTBE		NA		
Benzene		NA		
Toluene		NA		
Ethylbenzene		NA		
m,p-Xylenes		NA		
o-Xylene		NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		111	57-150
Bromofluorobenzene (FID)		117	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Batch#:	83153
MSS Lab ID:	166471-004	Sampled:	07/22/03
Matrix:	Water	Received:	07/22/03
Units:	ug/L	Analyzed:	07/25/03
Diln Fac:	1.000		

Type: MS Lab ID: QC220215

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	21.92	2,000	2,121	105	76-120
MTBE			NA		
Benzene			NA		
Toluene			NA		
Ethylbenzene			NA		
m,p-Xylenes			NA		
o-Xylene			NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		133	57-150
Bromofluorobenzene (FID)		129	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

Type: MSD Lab ID: QC220216

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,099	104	76-120	1	20
MTBE		NA				
Benzene		NA				
Toluene		NA				
Ethylbenzene		NA				
m,p-Xylenes		NA				
o-Xylene		NA				

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		132	57-150
Bromofluorobenzene (FID)		128	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed
RPD= Relative Percent Difference

4.0

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Batch#:	83197
MSS Lab ID:	166554-002	Sampled:	07/25/03
Matrix:	Water	Received:	07/25/03
Units:	ug/L	Analyzed:	07/28/03
Diln Fac:	1.000		

Type: MS Lab ID: QC220462

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	22.72	2,000	1,900	94	76-120
MTBE			NA		
Benzene			NA		
Toluene			NA		
Ethylbenzene			NA		
m,p-Xylenes			NA		
o-Xylene			NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		121	57-150
Bromofluorobenzene (FID)		135	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

Type: MSD Lab ID: QC220463

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,905	94	76-120	0	20
MTBE		NA				
Benzene		NA				
Toluene		NA				
Ethylbenzene		NA				
m,p-Xylenes		NA				
o-Xylene		NA				

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		110	57-150
Bromofluorobenzene (FID)		120	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed
RPD= Relative Percent Difference

7.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	83249
Lab ID:	166533-001	Sampled:	07/24/03
Matrix:	Water	Received:	07/24/03
Units:	ug/L	Analyzed:	07/29/03
Diln Fac:	166.7		

Analyte	Result	RL
MTBE	25,000	83

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	77-129
Toluene-d8	96	80-120
Bromofluorobenzene	98	80-123

RL= Reporting Limit

8.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	83249
Lab ID:	166533-003	Sampled:	07/24/03
Matrix:	Water	Received:	07/24/03
Units:	ug/L	Analyzed:	07/29/03
Diln Fac:	100.0		

Analyte	Result	RL
MTBE	16,000	50

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	77-129
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-123

RL= Reporting Limit

9.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	83249
Lab ID:	166533-004	Sampled:	07/24/03
Matrix:	Water	Received:	07/24/03
Units:	ug/L	Analyzed:	07/29/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	77-129
Toluene-d8	97	80-120
Bromofluorobenzene	103	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Field ID:	MW-7	Batch#:	83249
Lab ID:	166533-007	Sampled:	07/24/03
Matrix:	Water	Received:	07/24/03
Units:	ug/L	Analyzed:	07/29/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	5.9	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-123

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Field ID:	MW-8	Batch#:	83249
Lab ID:	166533-008	Sampled:	07/24/03
Matrix:	Water	Received:	07/24/03
Units:	ug/L	Analyzed:	07/29/03
Diln Fac:	6.250		

Analyte	Result	RL
MTBE	890	3.1

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-123

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Field ID:	MW-10	Batch#:	83249
Lab ID:	166533-009	Sampled:	07/24/03
Matrix:	Water	Received:	07/24/03
Units:	ug/L	Analyzed:	07/29/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	79	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	77-129
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-123

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Field ID:	MW-12	Batch#:	83249
Lab ID:	166533-011	Sampled:	07/24/03
Matrix:	Water	Received:	07/24/03
Units:	ug/L	Analyzed:	07/29/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	66	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	77-129
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-123

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC220587	Batch#:	83249
Matrix:	Water	Analyzed:	07/29/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	77-129
Toluene-d8	97	80-120
Bromofluorobenzene	109	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166533	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	83249
Units:	ug/L	Analyzed:	07/29/03
Diln Fac:	1.000		

Type: BS Lab ID: QC220585

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	53.56	107	69-124

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	77-129
Toluene-d8	97	80-120
Bromofluorobenzene	96	80-123

Type: BSD Lab ID: QC220586

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	54.84	110	69-124	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-123

RPD= Relative Percent Difference

Appendix C

Laboratory Reports and Chain of Custody Forms for

Groundwater Extraction Treatment System

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: 30-JUL-03
Lab Job Number: 166439
Project ID: 2333
Location: 3609 International Blvd

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

CHAIN OF CUSTODY

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

C&T LOGIN # 166439

Sampler: Mehran Nowroozi

Report To: Tony Perini

Company : SOMA Environmental

Telephone: 925-244-6600

Fax: 925-244-6601

Project No: 2333

Project Name: 3609 International Blvd., Oakland

Turnaround Time: Standard

Analyses

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	TPHg 8015	BTEX & MTBE 8021B
-1	Influent	7/21/03 12:01 PM		X		3-VOAs	X			X	X	X
-2	GAC-1	7/21/03 12:05 PM		X		3-VOAs	X			X	X	X
-3	PSP#1	7/21/03 12:10 PM		X		3-VOAs	X			X	X	X

Preservation Correct? ☐ Yes ☐ No ☐ N/A

Received ☐ On Ice ☐ Cold ☐ Ambient ☐ Intact

Notes:
EDF OUTPUT REQUIRED
Grab Sample
Confirm MtBE by EPA Method 8260B
Totalizer Reading:

RELINQUISHED BY:

M. Nowroozi 7/21/03 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

Trey Bla 7/21/03 3:10 DATE/TIME

DATE/TIME

DATE/TIME

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	07/21/03
Units:	ug/L	Received:	07/21/03
Batch#:	83036	Analyzed:	07/22/03

Field ID: INFLUENT
Type: SAMPLE
Lab ID: 166439-001

Analyte	Result	RL	Diln Fac	Analysis
Gasoline C7-C12	6,400	500	10.00	8015B
MTBE	3,100	50	10.00	EPA 8021B
Benzene	1,000	50	10.00	EPA 8021B
Toluene	190	5.0	1.000	EPA 8021B
Ethylbenzene	69	5.0	1.000	EPA 8021B
m,p-Xylenes	950	50	10.00	EPA 8021B
o-Xylene	320	5.0	1.000	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Analysis
Trifluorotoluene (FID)	117	57-150	10.00	8015B
Bromofluorobenzene (FID)	127	65-144	10.00	8015B
Trifluorotoluene (PID)	121	54-149	1.000	EPA 8021B
Bromofluorobenzene (PID)	111	58-143	1.000	EPA 8021B

Field ID: GAC-1
Type: SAMPLE
Lab ID: 166439-002
Diln Fac: 1.000

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	40	5.0	EPA 8021B
Benzene	ND	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	ND	5.0	EPA 8021B
m,p-Xylenes	ND	5.0	EPA 8021B
o-Xylene	ND	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	95	57-150	8015B
Bromofluorobenzene (FID)	113	65-144	8015B
Trifluorotoluene (PID)	96	54-149	EPA 8021B
Bromofluorobenzene (PID)	113	58-143	EPA 8021B

ND= Not Detected
RL= Reporting Limit

1.0

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	07/21/03
Units:	ug/L	Received:	07/21/03
Batch#:	83036	Analyzed:	07/22/03

Field ID:	PSP#1	Lab ID:	166439-003
Type:	SAMPLE	Diln Fac:	1.000

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	5.0	EPA 8021B
Benzene	ND	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	ND	5.0	EPA 8021B
m,p-Xylenes	ND	5.0	EPA 8021B
o-Xylene	ND	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	57-150	8015B
Bromofluorobenzene (FID)	121	65-144	8015B
Trifluorotoluene (PID)	95	54-149	EPA 8021B
Bromofluorobenzene (PID)	122	58-143	EPA 8021B

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC219800		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	5.0	EPA 8021B
Benzene	ND	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	ND	5.0	EPA 8021B
m,p-Xylenes	ND	5.0	EPA 8021B
o-Xylene	ND	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	95	57-150	8015B
Bromofluorobenzene (FID)	106	65-144	8015B
Trifluorotoluene (PID)	97	54-149	EPA 8021B
Bromofluorobenzene (PID)	109	58-143	EPA 8021B

ND= Not Detected
RL= Reporting Limit

1.0

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC219801	Batch#:	83036
Matrix:	Water	Analyzed:	07/22/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits	Analysis
Gasoline C7-C12		NA			
MTBE	20.00	19.68	98	63-133	EPA 8021B
Benzene	20.00	19.96	100	78-123	EPA 8021B
Toluene	20.00	19.07	95	79-120	EPA 8021B
Ethylbenzene	20.00	19.33	97	80-120	EPA 8021B
m,p-Xylenes	40.00	38.73	97	76-120	EPA 8021B
o-Xylene	20.00	19.38	97	80-121	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	98	57-150	8015B
Bromofluorobenzene (FID)	107	65-144	8015B
Trifluorotoluene (PID)	99	54-149	EPA 8021B
Bromofluorobenzene (PID)	108	58-143	EPA 8021B

NA= Not Analyzed

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Curtis & Tompkins Laboratories Analytical Report

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC219802	Batch#:	83036
Matrix:	Water	Analyzed:	07/22/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,012	101	80-120
MTBE		NA		
Benzene		NA		
Toluene		NA		
Ethylbenzene		NA		
m,p-Xylenes		NA		
o-Xylene		NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		117	57-150
Bromofluorobenzene (FID)		116	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed

3.0

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Batch#:	83036
MSS Lab ID:	166471-001	Sampled:	07/22/03
Matrix:	Water	Received:	07/22/03
Units:	ug/L	Analyzed:	07/23/03
Diln Fac:	1.000		

Type: MS Lab ID: QC219815

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	23.64	2,000	1,926	95	76-120
MTBE			NA		
Benzene			NA		
Toluene			NA		
Ethylbenzene			NA		
m,p-Xylenes			NA		
o-Xylene			NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		112	57-150
Bromofluorobenzene (FID)		118	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

Type: MSD Lab ID: QC219816

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,950	96	76-120	1	20
MTBE		NA				
Benzene		NA				
Toluene		NA				
Ethylbenzene		NA				
m,p-Xylenes		NA				
o-Xylene		NA				

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		106	57-150
Bromofluorobenzene (FID)		115	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	INFLUENT	Batch#:	83122
Lab ID:	166439-001	Sampled:	07/21/03
Matrix:	Water	Received:	07/21/03
Units:	ug/L	Analyzed:	07/25/03
Diln Fac:	20.00		

Analyte	Result	RL
MTBE	2,900	10

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	93	77-129
Toluene-d8	88	80-120
Bromofluorobenzene	101	80-123

RL= Reporting Limit

5.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	GAC-1	Batch#:	83122
Lab ID:	166439-002	Sampled:	07/21/03
Matrix:	Water	Received:	07/21/03
Units:	ug/L	Analyzed:	07/25/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	34	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	77-129
Toluene-d8	92	80-120
Bromofluorobenzene	104	80-123

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC220066	Batch#:	83122
Matrix:	Water	Analyzed:	07/24/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	77-129
Toluene-d8	90	80-120
Bromofluorobenzene	102	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166439	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	83122
Units:	ug/L	Analyzed:	07/24/03
Diln Fac:	1.000		

Type: BS Lab ID: QC220063

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	45.11	90	69-124

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	77-129
Toluene-d8	94	80-120
Bromofluorobenzene	93	80-123

Type: BSD Lab ID: QC220064

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	46.60	93	69-124	3	20

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

RPD= Relative Percent Difference

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: 22-JUL-03
Lab Job Number: 166254
Project ID: 2333
Location: 3609 International Blvd

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

CHAIN OF CUSTODY

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

C&T LOGIN # 166254

Sampler: Mehran Nowroozi

Project No: 2333

Report To: Tony Perini

Project Name: 3609 International Blvd., Oakland

Company : SOMA Environmental

Turnaround Time: Standard

Telephone: 925-244-6600

Fax: 925-244-6601

Analyses

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	TPHg 8015	BTEX & MTBE 8021B
-1	Influent	7/9/03 1:30 PM		X		3-VOAs	X			X	X	X
-2	GAC-1	7/9/03 1:40 PM		X		3-VOAs	X			X	X	X
-3	PSP#1	7/9/03 1:45 PM		X		3-VOAs	X			X	X	X

Received ☑ On Ice ☑ Cold ☐ Ambient ☑ Intact

Preservation Correct? ☑ Yes ☐ No ☐ N/A

Notes: **EDF OUTPUT REQUIRED**
Grab Sample
Confirm MtBE by EPA Method 8260B
Totalizer Reading:

RELINQUISHED BY:	RECEIVED BY:
M. Nowroozi 7/9/03 DATE/TIME	7/9/03 3:30 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	07/09/03
Units:	ug/L	Received:	07/09/03

ield ID: INFLUENT Lab ID: 166254-001
ype: SAMPLE

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	Analysis
Gasoline C7-C12	9,300	50	1.000	82810	07/11/03	8015B
MTBE	4,300	25	5.000	82840	07/13/03	EPA 8021B
Benzene	1,100	25	5.000	82840	07/13/03	EPA 8021B
Toluene	310	5.0	1.000	82810	07/11/03	EPA 8021B
Ethylbenzene	110	5.0	1.000	82810	07/11/03	EPA 8021B
m,p-Xylenes	970	25	5.000	82840	07/13/03	EPA 8021B
o-Xylene	370	25	5.000	82840	07/13/03	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	107	57-150	1.000	82810	07/11/03	8015B
Bromofluorobenzene (FID)	103	65-144	1.000	82810	07/11/03	8015B
Trifluorotoluene (PID)	133	54-149	5.000	82840	07/13/03	EPA 8021B
Bromofluorobenzene (PID)	116	58-143	5.000	82840	07/13/03	EPA 8021B

ield ID: GAC-1 Diln Fac: 1.000
ype: SAMPLE Batch#: 82840
Lab ID: 166254-002 Analyzed: 07/13/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	36	5.0	EPA 8021B
Benzene	ND	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	ND	5.0	EPA 8021B
m,p-Xylenes	ND	5.0	EPA 8021B
o-Xylene	ND	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	105	57-150	8015B
Bromofluorobenzene (FID)	107	65-144	8015B
Trifluorotoluene (PID)	109	54-149	EPA 8021B
Bromofluorobenzene (PID)	116	58-143	EPA 8021B

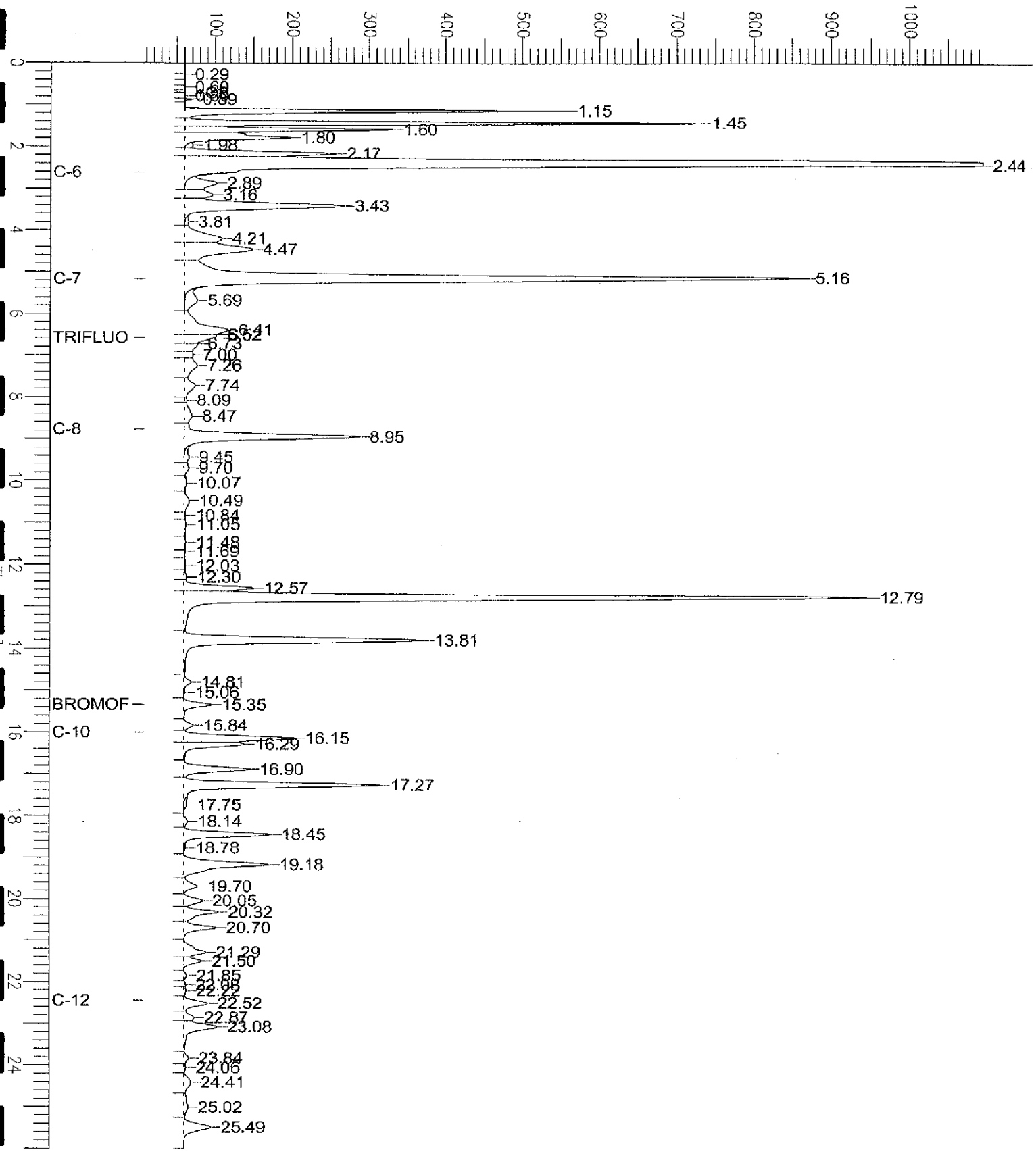
ND= Not Detected
L= Reporting Limit

GC04 TVH 'J' Data File FID

Sample Name : 166254-001,82810
FileName : G:\GC04\DATA\192J006.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 8 mV

Sample #: a1 Page 1 of 1
Date : 7/12/03 12:31 PM
Time of Injection: 7/11/03 12:52 PM
Low Point : 8.06 mV High Point : 1094.43 mV
Plot Scale: 1086.4 mV

INFLUENT



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	07/09/03
Units:	ug/L	Received:	07/09/03

ield ID:	PSP#1	Diln Fac:	1.000
ype:	SAMPLE	Batch#:	82810
Lab ID:	166254-003	Analyzed:	07/11/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	5.0	EPA 8021B
Benzene	ND	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	ND	5.0	EPA 8021B
m,p-Xylenes	ND	5.0	EPA 8021B
o-Xylene	ND	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	103	57-150	8015B
Bromofluorobenzene (FID)	102	65-144	8015B
Trifluorotoluene (PID)	108	54-149	EPA 8021B
Bromofluorobenzene (PID)	110	58-143	EPA 8021B

ype:	BLANK	Batch#:	82810
Lab ID:	QC218944	Analyzed:	07/11/03
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	5.0	EPA 8021B
Benzene	ND	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	ND	5.0	EPA 8021B
m,p-Xylenes	ND	5.0	EPA 8021B
o-Xylene	ND	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	101	57-150	8015B
Bromofluorobenzene (FID)	99	65-144	8015B
Trifluorotoluene (PID)	106	54-149	EPA 8021B
Bromofluorobenzene (PID)	104	58-143	EPA 8021B

ND= Not Detected
L= Reporting Limit

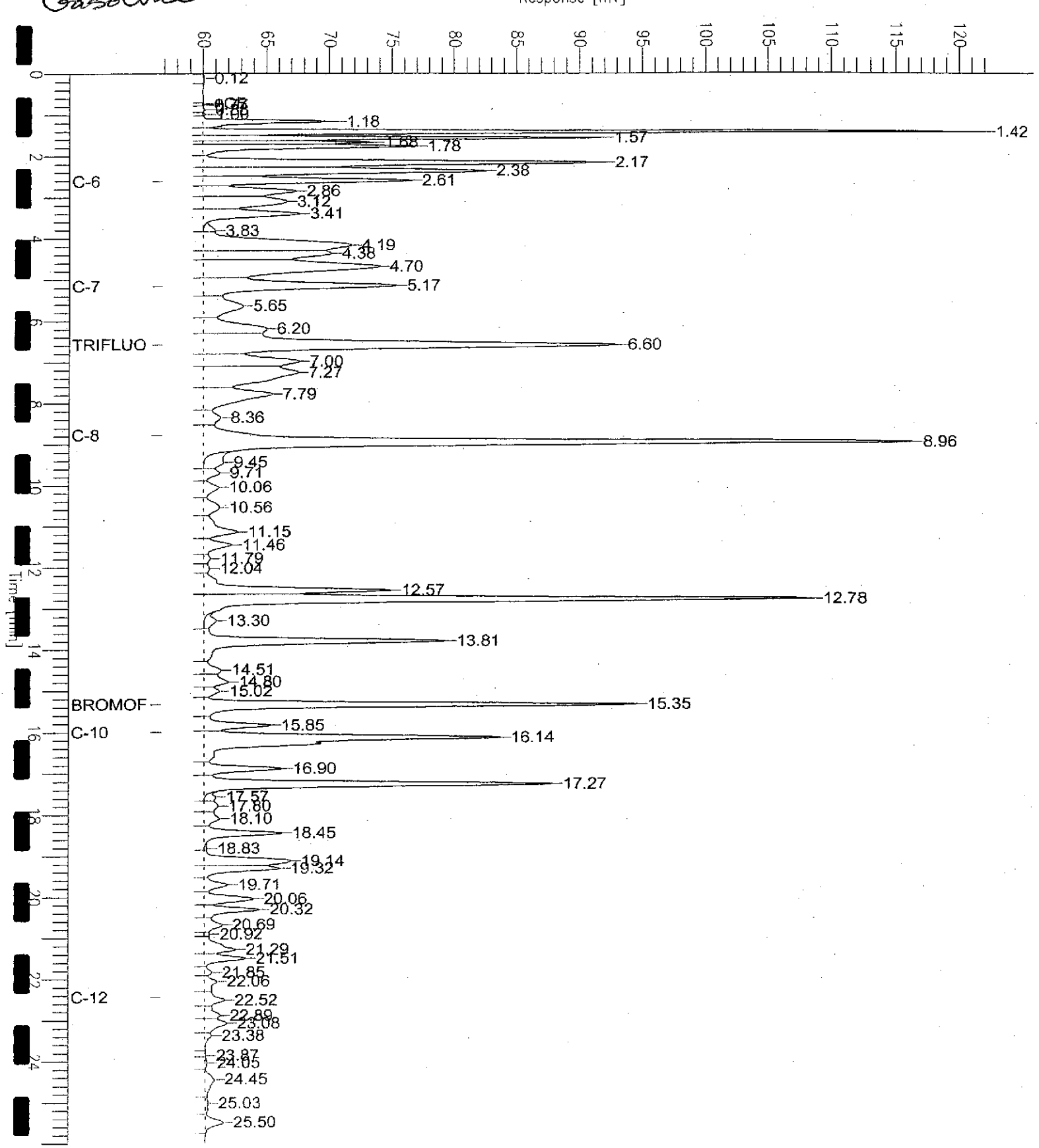
1.1

GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs,qc218946,82810,03ws1106,2.5/5000
FileName : G:\GC04\DATA\192J003.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 57 mV

Sample #: Page 1 of 1
Date : 7/11/03 10:18 AM
Time of Injection: 7/11/03 09:52 AM
Low Point : 56.83 mV High Point : 122.05 mV
Plot Scale: 65.2 mV

Gasoline



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	07/09/03
Units:	ug/L	Received:	07/09/03

ype:	BLANK	Batch#:	82840
ab ID:	QC219069	Analyzed:	07/12/03
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	5.0	EPA 8021B
Benzene	ND	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	ND	5.0	EPA 8021B
m,p-Xylenes	ND	5.0	EPA 8021B
o-Xylene	ND	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	96	57-150	8015B
Bromofluorobenzene (FID)	90	65-144	8015B
Trifluorotoluene (PID)	102	54-149	EPA 8021B
Bromofluorobenzene (PID)	99	58-143	EPA 8021B

ND= Not Detected
L= Reporting Limit

1.1

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC218946	Batch#:	82810
Matrix:	Water	Analyzed:	07/11/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	882.8	88	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	57-150
Bromofluorobenzene (FID)	96	65-144

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8021B
Type:	BS	Diln Fac:	1.000
Lab ID:	QC218945	Batch#:	82810
Matrix:	Water	Analyzed:	07/11/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	11.14	111	63-133
Benzene	10.00	10.43	104	78-123
Toluene	10.00	10.29	103	79-120
Ethylbenzene	10.00	9.610	96	80-120
m,p-Xylenes	20.00	19.53	98	76-120
o-Xylene	10.00	9.994	100	80-121

Surrogate	%REC	Limits
Trifluorotoluene (PID)	91	54-149
Bromofluorobenzene (PID)	89	58-143

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC219070	Batch#:	82840
Matrix:	Water	Analyzed:	07/12/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	3,000	2,651	88	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	57-150
Bromofluorobenzene (FID)	100	65-144

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC219071	Batch#:	82840
Matrix:	Water	Analyzed:	07/12/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	19.35	97	63-133
Benzene	20.00	20.67	103	78-123
Toluene	20.00	20.35	102	79-120
Ethylbenzene	20.00	18.70	93	80-120
m,p-Xylenes	40.00	37.44	94	76-120
o-Xylene	20.00	19.54	98	80-121

Surrogate	%REC	Limits
Trifluorotoluene (PID)	97	54-149
Bromofluorobenzene (PID)	99	58-143

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Field ID:	PSP#1	Batch#:	82810
MSS Lab ID:	166254-003	Sampled:	07/09/03
Matrix:	Water	Received:	07/09/03
Units:	ug/L	Analyzed:	07/11/03
Diln Fac:	1.000		

Type: MS Lab ID: QC218996

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	26.12	2,000	1,797	89	76-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	119	57-150
Bromofluorobenzene (FID)	99	65-144

Type: MSD Lab ID: QC218997

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,788	88	76-120	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	119	57-150
Bromofluorobenzene (FID)	99	65-144

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8021B
Field ID:	ZZZZZZZZZZ	Batch#:	82840
MSS Lab ID:	166274-003	Sampled:	07/09/03
Matrix:	Water	Received:	07/10/03
Units:	ug/L	Analyzed:	07/12/03
Diln Fac:	1.000		

Type: MS Lab ID: QC219078

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.4200	20.00	29.52	148	38-149
Benzene	<0.09400	20.00	23.82	119	75-128
Toluene	<0.1200	20.00	24.07	120	79-127
Ethylbenzene	<0.08300	20.00	21.66	108	78-124
m,p-Xylenes	<0.07100	40.00	45.44	114	67-121
o-Xylene	<0.1100	20.00	22.90	115	77-131

Surrogate	%REC	Limits
Trifluorotoluene (PID)	107	54-149
Bromofluorobenzene (PID)	113	58-143

Type: MSD Lab ID: QC219079

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	29.66	148	38-149	0	38
Benzene	20.00	22.83	114	75-128	4	20
Toluene	20.00	23.60	118	79-127	2	20
Ethylbenzene	20.00	21.69	108	78-124	0	20
m,p-Xylenes	40.00	44.11	110	67-121	3	20
o-Xylene	20.00	22.55	113	77-131	2	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	104	54-149
Bromofluorobenzene (PID)	104	58-143

RPD= Relative Percent Difference

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Purgeable Aromatics by GC/MS

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	INFLUENT	Batch#:	82849
Lab ID:	166254-001	Sampled:	07/09/03
Matrix:	Water	Received:	07/09/03
Units:	ug/L	Analyzed:	07/14/03
Dil'n Fac:	33.33		

Analyte	Result	RL
MTBE	3,400	17

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	77-129
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-123

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC219110	Batch#:	82849
Matrix:	Water	Analyzed:	07/14/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	77-129
Toluene-d8	97	80-120
Bromofluorobenzene	104	80-123

= Not Detected
= Reporting Limit

16.0

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

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: 23-JUN-03
Lab Job Number: 165746
Project ID: 2333
Location: 3609 International Blvd

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

CHAIN OF CUSTODY

Page _____ of _____

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

C&T LOGIN # 165746

Project No: 2333

Project Name: 3609 International Blvd., Oaklanc

Turnaround Time: Standard

Sampler: Mehran Nowroozi

Report To: Tony Perini

Company : SOMA Environmental

Telephone: 925-244-6600

Fax: 925-244-6601

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Analyses: TPHg 8015	Analyses: BTEX & MTBE 8260 GCMS
-1	Influent	6/10/03 10:30 AM		X		3 VoAs	X			X	X	X
-2	GAC-1	6/10/03 10:40 AM		X		3 VoAs	X			X	X	X
-3	PSP#1	6/10/03 10:50 AM		X		3 VoAs	X			X	X	X

Received: ☒ On Ice ☒ Cold ☐ Ambient ☒ Intact

Preservation Correct? ☐ Yes ☐ No ☐ N/A

Notes: EDF OUTPUT REQUIRED

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
M. Nowroozi	6/10/03		6-10-03 2:45
	DATE/TIME		DATE/TIME
	DATE/TIME		DATE/TIME

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Total Volatile Hydrocarbons

Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Matrix:	Water	Batch#:	82102
Units:	ug/L	Sampled:	06/10/03
Diln Fac:	1.000	Received:	06/10/03

Field ID:	INFLUENT	Lab ID:	165746-001
Type:	SAMPLE	Analyzed:	06/12/03

Analyte	Result	RL
Gasoline C7-C12	9,500	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	134	57-150
Bromofluorobenzene (FID)	90	65-144

Field ID:	GAC-1	Lab ID:	165746-002
Type:	SAMPLE	Analyzed:	06/12/03

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	87	57-150
Bromofluorobenzene (FID)	89	65-144

Field ID:	PSP#1	Lab ID:	165746-003
Type:	SAMPLE	Analyzed:	06/11/03

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	89	57-150
Bromofluorobenzene (FID)	88	65-144

Type:	BLANK	Analyzed:	06/11/03
Lab ID:	QC216164		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	87	57-150
Bromofluorobenzene (FID)	88	65-144

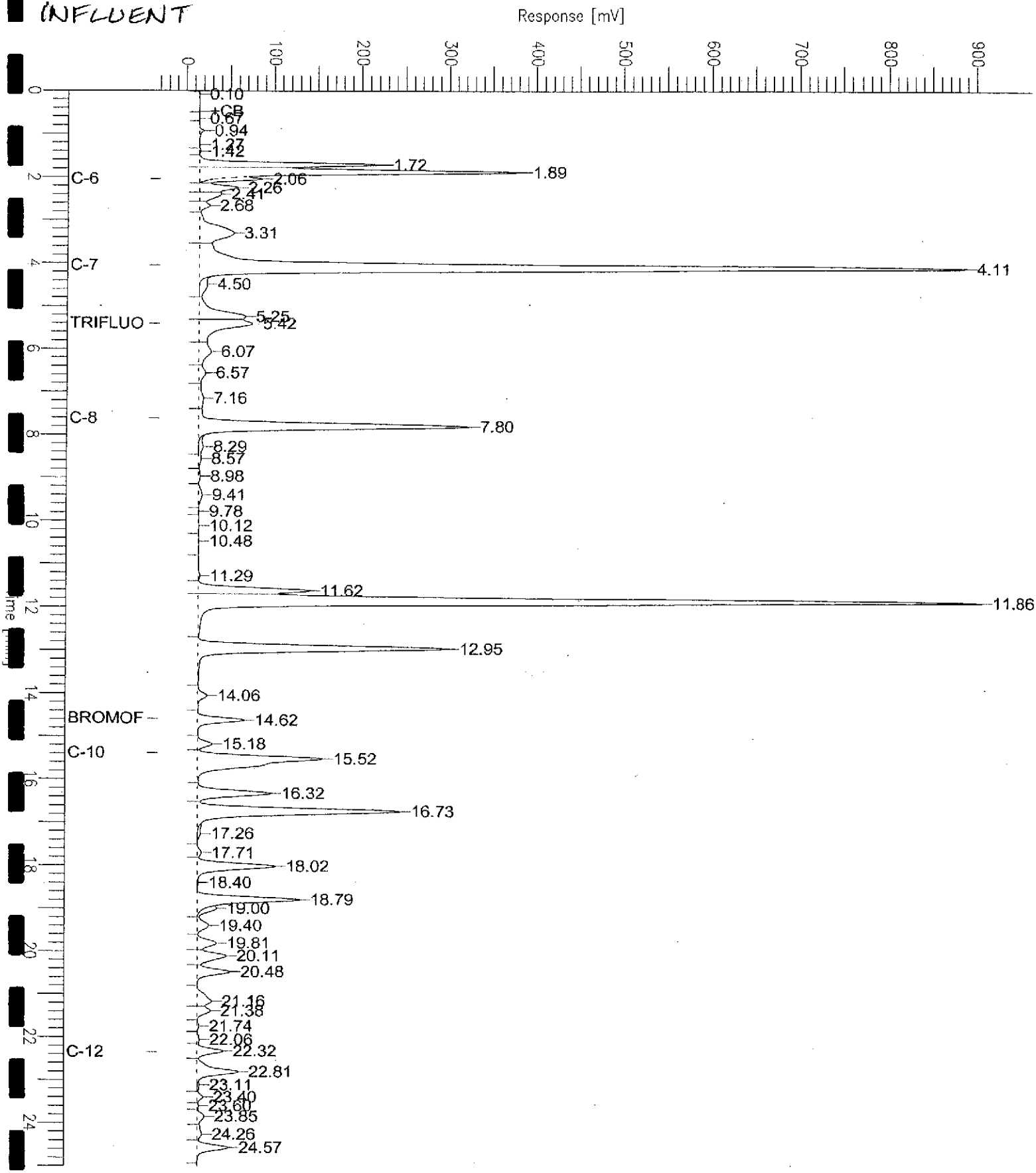
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 165746-001,82102
leName : G:\GC05\DATA\162G022.raw
thod : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -30 mV

Sample #: c1 Page 1 of 1
Date : 6/12/03 02:22 AM
Time of Injection: 6/12/03 01:57 AM
Low Point : -30.28 mV High Point : 907.60 mV
Plot Scale: 937.9 mV

INFLUENT

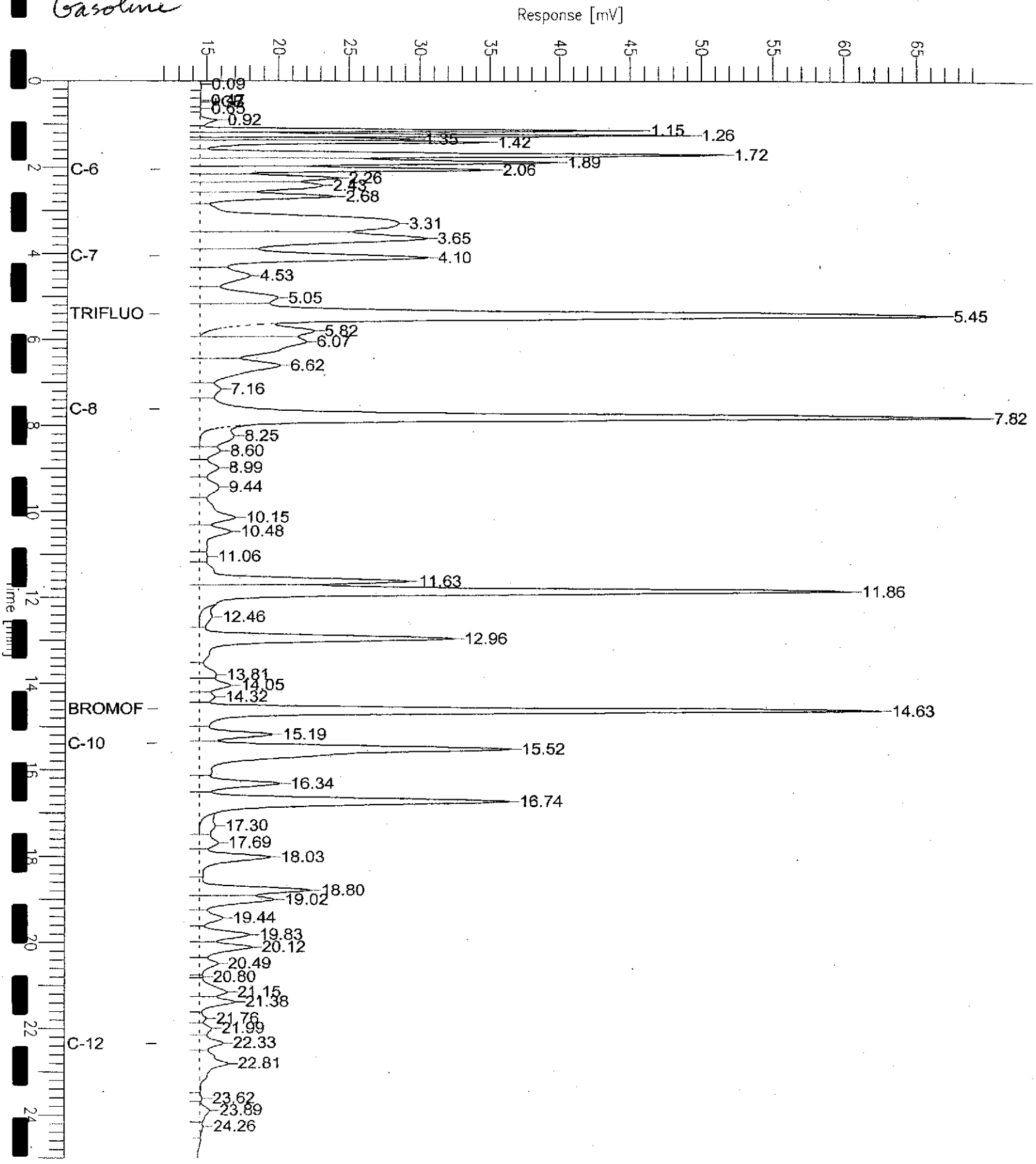


Chromatogram

Sample Name : CCV/LCS,qc216165,82102,03ws0819,2.5/5000
FileName : G:\GC05\DATA\162G002.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 12 mV

Sample #: Page 1 of 1
Date : 6/11/03 01:28 PM
Time of Injection: 6/11/03 01:03 PM
Low Point : 11.75 mV High Point : 69.76 mV
Plot Scale: 58.0 mV

Gasoline



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC216165	Batch#:	82102
Matrix:	Water	Analyzed:	06/11/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	958.0	96	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	57-150
Bromofluorobenzene (FID)	83	65-144

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Field ID:	PSP#1	Batch#:	82102
MSS Lab ID:	165746-003	Sampled:	06/10/03
Matrix:	Water	Received:	06/10/03
Units:	ug/L	Analyzed:	06/11/03
Diln Fac:	1.000		

Type: MS Lab ID: QC216202

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<13.00	2,000	1,930	96	76-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	106	57-150
Bromofluorobenzene (FID)	95	65-144

Type: MSD Lab ID: QC216203

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,916	96	76-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	57-150
Bromofluorobenzene (FID)	93	65-144

RPD= Relative Percent Difference

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Purgeable Aromatics by GC/MS

Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	INFLUENT	Batch#:	82091
Lab ID:	165746-001	Sampled:	06/10/03
Matrix:	Water	Received:	06/10/03
Units:	ug/L	Analyzed:	06/11/03
Dil'n Fac:	25.00		

Analyte	Result	RL
MTBE	3,600	130
Benzene	1,100	130
Toluene	390	130
Ethylbenzene	130	130
m,p-Xylenes	1,100	130
o-Xylene	310	130

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	77-129
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-123

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	GAC-1	Batch#:	82091
Lab ID:	165746-002	Sampled:	06/10/03
Matrix:	Water	Received:	06/10/03
Units:	ug/L	Analyzed:	06/11/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	77-129
Toluene-d8	96	80-120
Bromofluorobenzene	105	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	PSP#1	Batch#:	82091
Lab ID:	165746-003	Sampled:	06/10/03
Matrix:	Water	Received:	06/10/03
Units:	ug/L	Analyzed:	06/11/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	77-129
Toluene-d8	91	80-120
Bromofluorobenzene	103	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC216131	Batch#:	82091
Matrix:	Water	Analyzed:	06/11/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	77-129
Toluene-d8	91	80-120
Bromofluorobenzene	103	80-123

ND= Not Detected
RL= Reporting Limit

8.0

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Purgeable Aromatics by GC/MS

Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	82091
Units:	ug/L	Analyzed:	06/11/03
Diln Fac:	1.000		

Type: BS Lab ID: QC216128

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	49.65	99	80-120
Toluene	50.00	53.46	107	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	96	80-123

Type: BSD Lab ID: QC216129

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	48.21	96	80-120	3	20
Toluene	50.00	51.31	103	80-120	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	77-129
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-123

RPD= Relative Percent Difference

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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: 29-MAY-03
Lab Job Number: 165379
Project ID: 2333
Location: 3609 International Blvd

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

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

C&T LOGIN # 165379

Project No: 2333

Project Name: 3609 International Blvd., Oaklanc

Turnaround Time: Standard

Sampler: Mehran Nowroozi

Report To: Tony Perini

Company : SOMA Environmental

Telephone: 925-244-6600

Fax: 925-244-6601

Analyses

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	TPHg 8015	BTEX & MTBE 8260 GCMS
-1	Influent	5/21/03 10:50 AM		X		3 VOAs	X			X	X	X
-2	GAC-1	5/21/03 10:55 AM		X		3 VOAs	X			X	X	X
-3	PSP#1	5/21/03 11:00 AM		X		3 VOAs	X			X	X	X

Received: ☒ On Ice ☒ Cold ☐ Ambient ☒ Intact

Preservation Correct? ☐ Yes ☐ No ☐ N/A

Notes: EDF OUTPUT REQUIRED

RELINQUISHED BY:

M. Nowroozi — 5/21/03 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

5-21-03 2:35 pm DATE/TIME

DATE/TIME

DATE/TIME

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Matrix:	Water	Sampled:	05/21/03
Units:	ug/L	Received:	05/21/03
Batch#:	81639		

Field ID: INFLUENT
Type: SAMPLE
Lab ID: 165379-001
Diln Fac: 5.000
Analyzed: 05/23/03

Analyte	Result	RL
Gasoline C7-C12	9,100	250

Surrogate	%REC	Limits
Trifluorotoluene (FID)	135	68-145
Bromofluorobenzene (FID)	119	66-143

Field ID: GAC-1
Type: SAMPLE
Lab ID: 165379-002
Diln Fac: 1.000
Analyzed: 05/23/03

Analyte	Result	RL
Gasoline C7-C12	ND	50

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

Field ID: PSP#1
Type: SAMPLE
Lab ID: 165379-003
Diln Fac: 1.000
Analyzed: 05/22/03

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	68-145
Bromofluorobenzene (FID)	117	66-143

Type: BLANK
Lab ID: QC214307
Diln Fac: 1.000
Analyzed: 05/22/03

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	68-145
Bromofluorobenzene (FID)	109	66-143

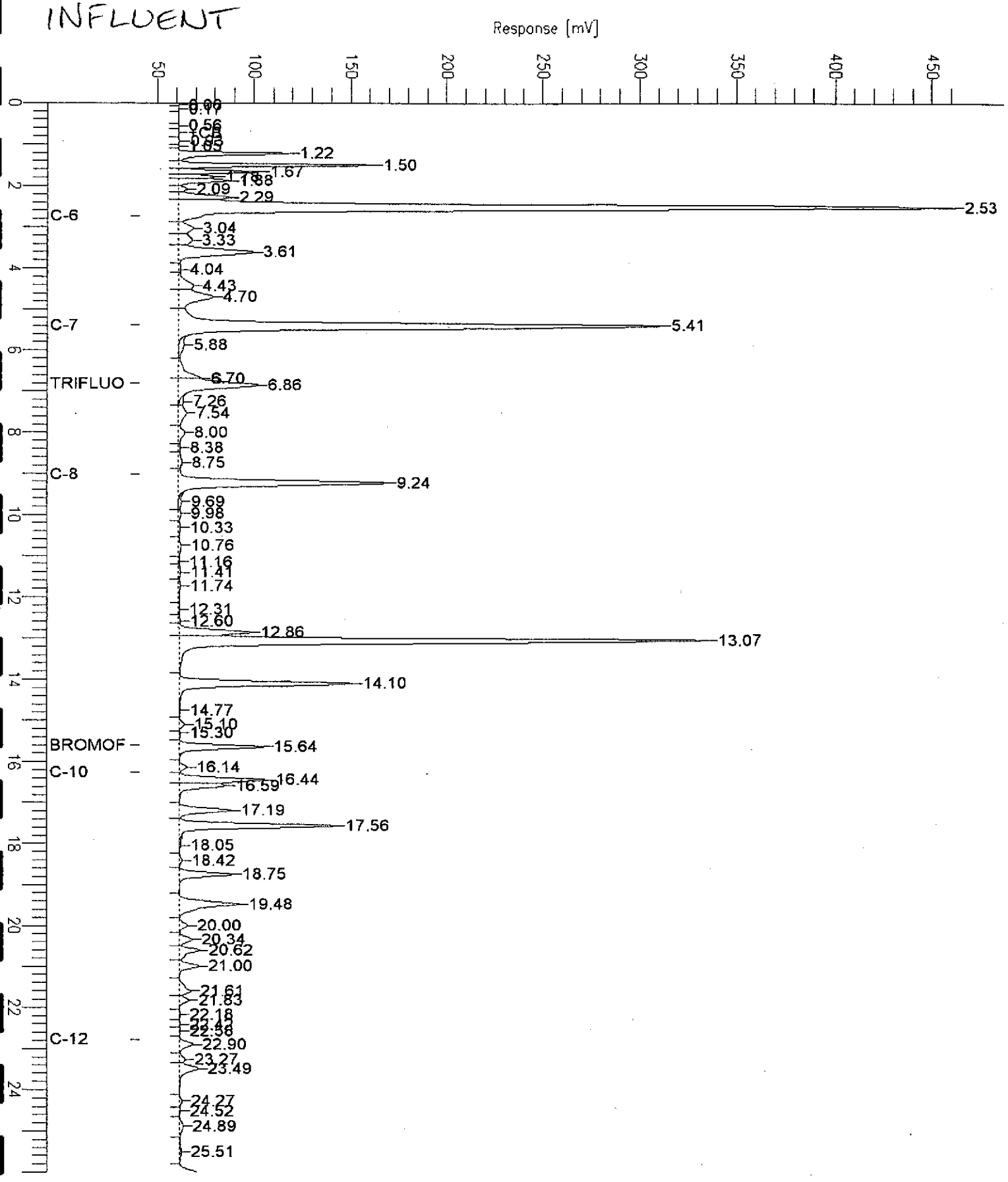
ND= Not Detected
RL= Reporting Limit

GC04 TVH 'J' Data File FID

Sample Name : 165379-001,81639,tvh only
FileName : G:\GC04\DATA\142J028.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 41 mV

Sample #: a1 Page 1 of 1
Date : 5/23/03 11:08 AM
Time of Injection: 5/23/03 10:53 AM
Low Point : 40.82 mV High Point : 462.02 mV
Plot Scale: 421.2 mV

INFLUENT

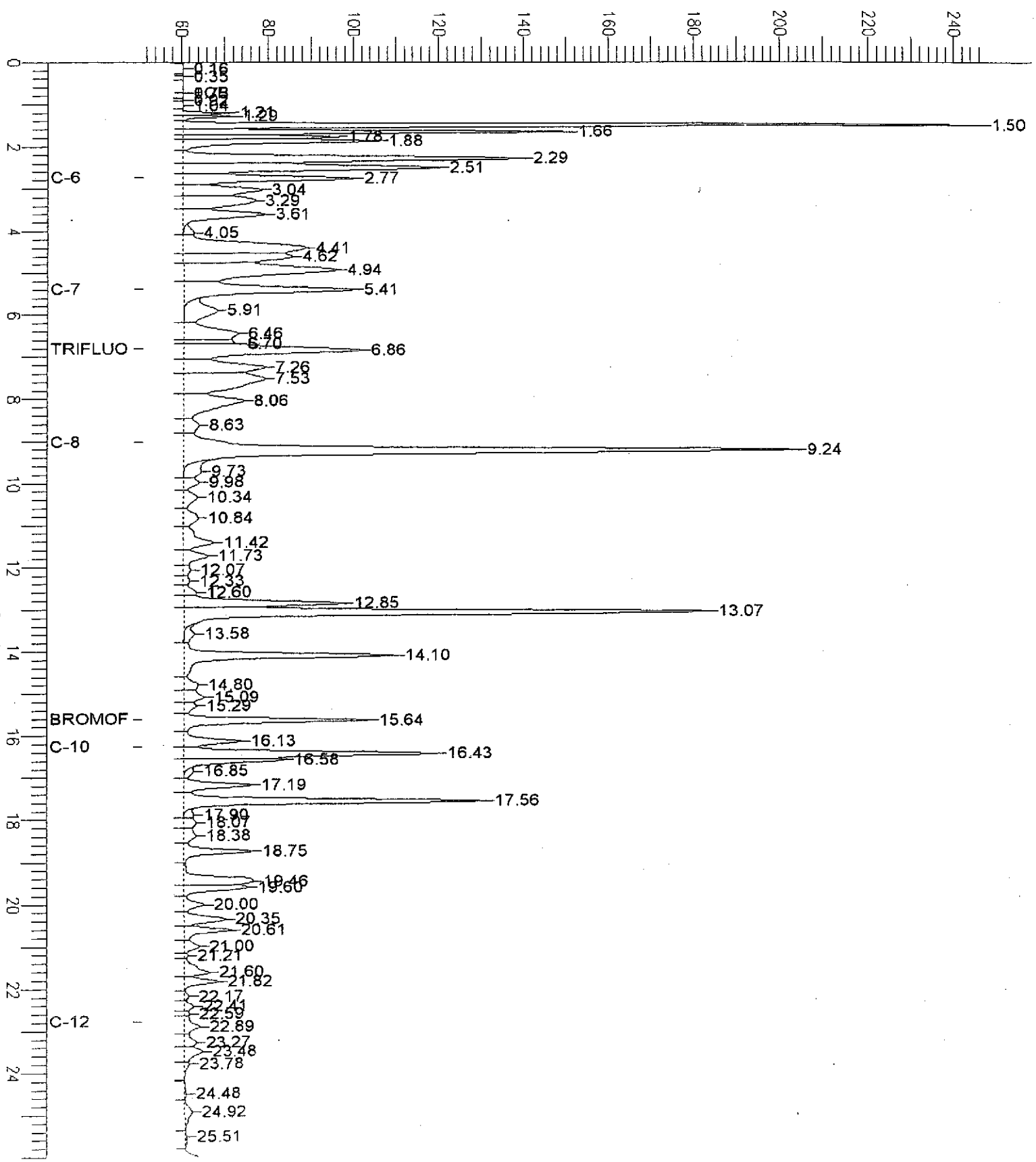


GC04 TVH 'J' Data File FID

mple Name : ccv/lcs,qc214309,81639,03ws0682,5/5000
leName : G:\GC04\DATA\142J002.raw
ethod : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 51 mV

Sample #: Page 1 of 1
Date : 5/23/03 11:08 AM
Time of Injection: 5/22/03 12:53 PM
Low Point : 51.13 mV High Point : 246.61 mV
Plot Scale: 195.5 mV

Gasoline



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC214309	Batch#:	81639
Matrix:	Water	Analyzed:	05/22/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,985	99	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	134	68-145
Bromofluorobenzene (FID)	121	66-143

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Batch#:	81639
MSS Lab ID:	165391-001	Sampled:	05/21/03
Matrix:	Water	Received:	05/22/03
Units:	ug/L	Analyzed:	05/23/03
Diln Fac:	1.000		

Type: MS Lab ID: QC214327

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	29.77	2,000	2,012	99	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	137	68-145
Bromofluorobenzene (FID)	126	66-143

Type: MSD Lab ID: QC214328

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,020	99	67-120	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	134	68-145
Bromofluorobenzene (FID)	119	66-143

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	INFLUENT	Batch#:	81634
Lab ID:	165379-001	Sampled:	05/21/03
Matrix:	Water	Received:	05/21/03
Units:	ug/L	Analyzed:	05/22/03
Diln Fac:	20.00		

Analyte	Result	RL
MTBE	3,400	100
Benzene	1,300	100
Toluene	620	100
Ethylbenzene	170	100
m,p-Xylenes	1,400	100
o-Xylene	430	100

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	113	77-130
Toluene-d8	105	80-120
Bromofluorobenzene	92	80-120

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	GAC-1	Batch#:	81616
Lab ID:	165379-002	Sampled:	05/21/03
Matrix:	Water	Received:	05/21/03
Units:	ug/L	Analyzed:	05/21/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	92	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	PSP#1	Batch#:	81616
Lab ID:	165379-003	Sampled:	05/21/03
Matrix:	Water	Received:	05/21/03
Units:	ug/L	Analyzed:	05/21/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	91	77-130
Toluene-d8	84	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC214213	Batch#:	81616
Matrix:	Water	Analyzed:	05/21/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	93	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC214281	Batch#:	81634
Matrix:	Water	Analyzed:	05/22/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	77-130
Toluene-d8	103	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected
RL= Reporting Limit

7.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81616
Units:	ug/L	Analyzed:	05/21/03
Diln Fac:	1.000		

Type: BS Lab ID: QC214211

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	47.72	95	76-120
Toluene	50.00	46.97	94	79-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	86	80-120

Type: BSD Lab ID: QC214212

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	46.00	92	76-120	4	20
Toluene	50.00	45.35	91	79-120	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	88	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165379	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81634
Units:	ug/L	Analyzed:	05/22/03
Diln Fac:	1.000		

Type: BS Lab ID: QC214279

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	49.76	100	76-120
Toluene	50.00	54.95	110	79-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	113	77-130
Toluene-d8	101	80-120
Bromofluorobenzene	90	80-120

Type: BSD Lab ID: QC214280

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	47.65	95	76-120	4	20
Toluene	50.00	51.09	102	79-120	7	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	90	80-120

RPD= Relative Percent Difference

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: 15-MAY-03
Lab Job Number: 165046
Project ID: 2333
Location: 3609 International Blvd

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

CHAIN OF CUSTODY FORM

Page ____ of ____

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

C&T LOGIN # 165046

Analyses

Sampler: Mehran Nowroozi

Report To: Tony Perini

Company: SOMA Env

Telephone: 925-244-6600

Fax:

Project No: 2333

Project Name: Oakland Int

Project P.O.:

Turnaround Time:

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO	HNO_3	ICE	Field Notes	TPH-G 8015	BTEX - 8260	MTBE - 8260
-1	PSP-1 EFFLUENT	5/1/03 11:40 AM		X			X			X		X	X	X
-2	~~GAC-11~~	5/1/03 4:35 PM		X			X			X		X	X	X
-3	INFLUENT	5/1/03 4:30 PM		X			X			X		X	X	X
For Laboratory Use														

Notes:

EFF - output

RELINQUISHED BY:	RECEIVED BY:
M. Nowroozi 5/1/03 DATE/TIME	3/1/03 5:30pm DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Signature

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	165046	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Matrix:	Water	Sampled:	05/01/03
Units:	ug/L	Received:	05/01/03
Batch#:	81243		

Field ID:	PSP-1	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	05/02/03
Lab ID:	165046-001		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	68-145
Bromofluorobenzene (FID)	109	66-143

Field ID:	GAC-1	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	05/02/03
Lab ID:	165046-002		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	94	68-145
Bromofluorobenzene (FID)	107	66-143

Field ID:	INFLUENT	Diln Fac:	5.000
Type:	SAMPLE	Analyzed:	05/03/03
Lab ID:	165046-003		

Analyte	Result	RL
Gasoline C7-C12	12,000	250

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

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212772	Analyzed:	05/02/03

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	68-145
Bromofluorobenzene (FID)	104	66-143

ND= Not Detected
RL= Reporting Limit

1.2

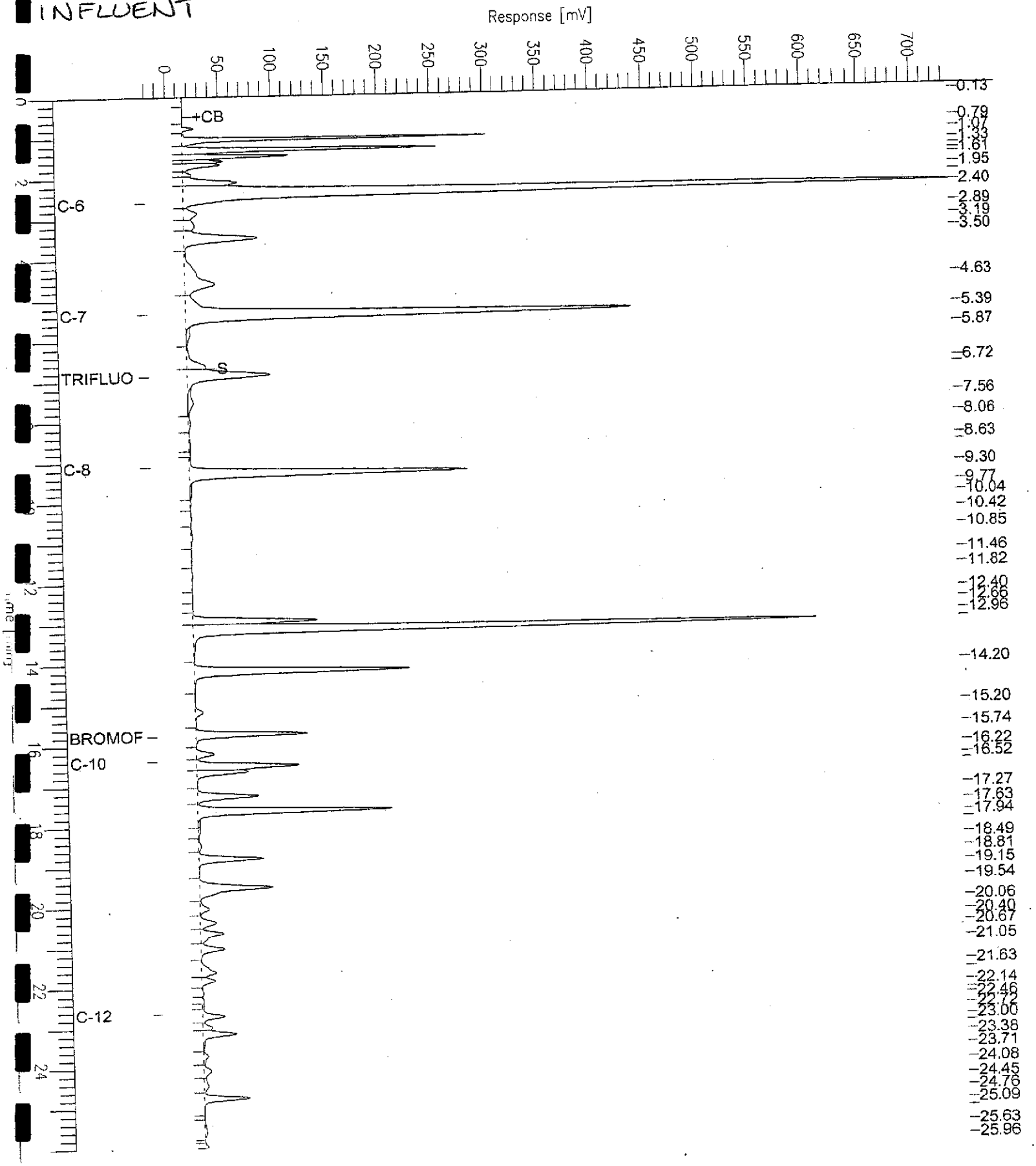
GC07 TVH 'A' Data File RTX 502

[redacted] Name : 165046-003,81243,tvh only
[redacted]me : G:\GC07\DATA\122A031.raw
[redacted] : TVHBTXE
[redacted]rt Time : 0.00 min
Scale Factor: 1.0

End Time : 26.00 min
Plot Offset: -20 mV

Sample #: a1
Date : 5/6/03 10:28 AM
Time of Injection: 5/3/03 02:45 AM
Low Point : -20.08 mV
High Point : 736.32 mV
Plot Scale: 756.4 mV

INFLUENT



GC07 TVH 'A' Data File RTX 502

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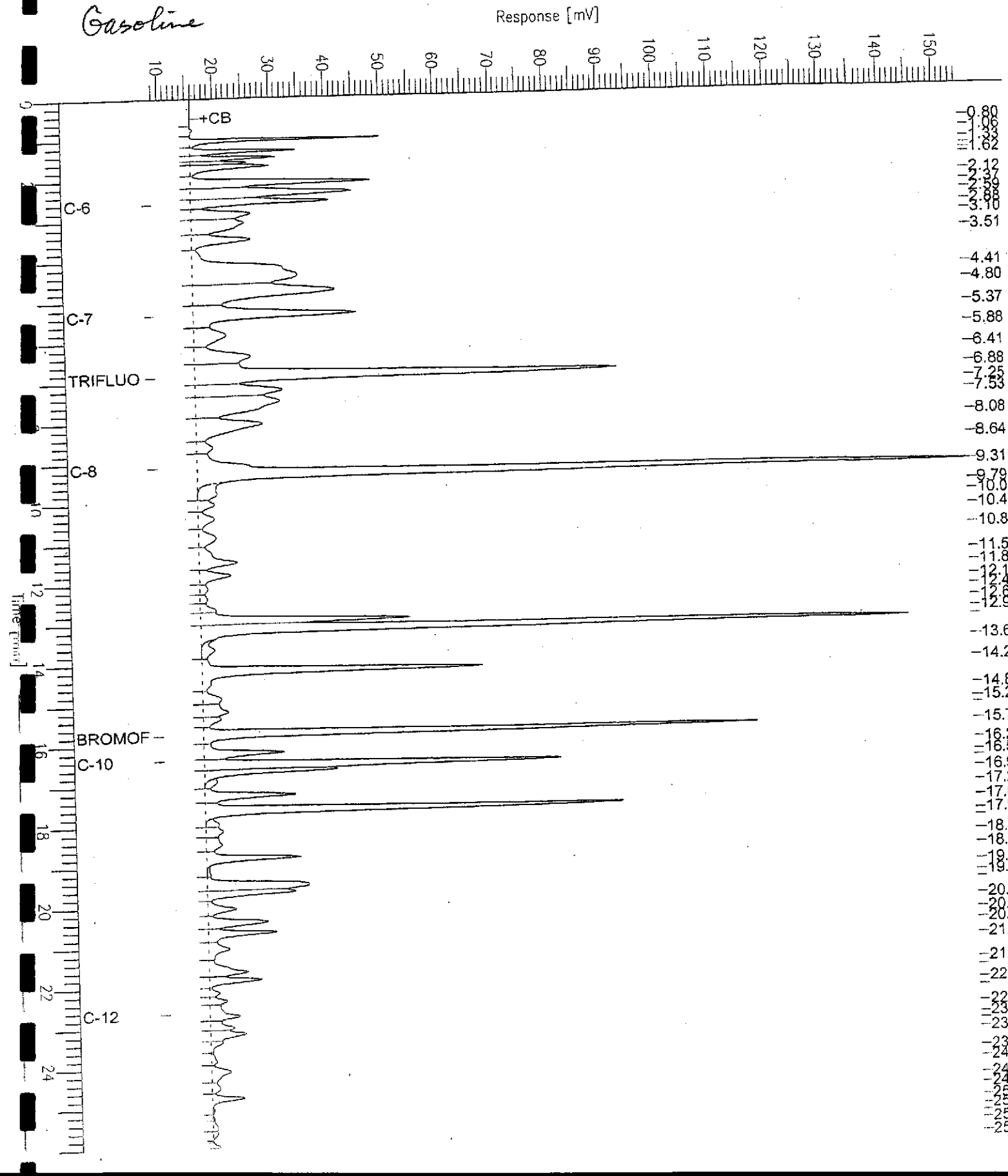
od : TVHBTXE
art Time : 0.00 min
al Factor: 1.0

End Time : 26.00 min
Plot Offset: 9 mV

Sample #:
Date : 5/2/03 10:40 AM
Time of Injection: 5/2/03 10:14 AM
Low Point : 8.89 mV
High Point : 154.65 mV
Plot Scale: 145.8 mV

Gasoline



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	165046	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212774	Batch#:	81243
Matrix:	Water	Analyzed:	05/02/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,011	101	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	68-145
Bromofluorobenzene (FID)	104	66-143

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	165046	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	8015B
Field ID:	PSP-1	Batch#:	81243
MSS Lab ID:	165046-001	Sampled:	05/01/03
Matrix:	Water	Received:	05/01/03
Units:	ug/L	Analyzed:	05/02/03
Dil'n Fac:	1.000		

Type: MS Lab ID: QC212775

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<18.00	2,000	1,917	96	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	68-145
Bromofluorobenzene (FID)	116	66-143

Type: MSD Lab ID: QC212776

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,831	92	67-120	5	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	68-145
Bromofluorobenzene (FID)	113	66-143

RPD= Relative Percent Difference

3.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165046	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	PSP-1	Batch#:	81241
Lab ID:	165046-001	Sampled:	05/01/03
Matrix:	Water	Received:	05/01/03
Units:	ug/L	Analyzed:	05/02/03
Dil'n Fac:	1.000		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	117	77-130
Toluene-d8	109	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

4.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165046	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	GAC-1	Batch#:	81241
Lab ID:	165046-002	Sampled:	05/01/03
Matrix:	Water	Received:	05/01/03
Units:	ug/L	Analyzed:	05/02/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	103	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165046	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	INFLUENT	Batch#:	81241
Lab ID:	165046-003	Sampled:	05/01/03
Matrix:	Water	Received:	05/01/03
Units:	ug/L	Analyzed:	05/02/03
Dil'n Fac:	25.00		

Analyte	Result	RL
MTBE	4,200	130
Benzene	1,400	130
Toluene	760	130
Ethylbenzene	310	130
m,p-Xylenes	1,600	130
o-Xylene	500	130

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-120

L= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165046	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212767	Batch#:	81241
Matrix:	Water	Analyzed:	05/02/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

8.0

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	165046	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81241
Units:	ug/L	Analyzed:	05/02/03
Dil Fac:	1.000		

Type: BS Lab ID: QC212764

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	48.65	97	76-120
Toluene	50.00	52.23	104	79-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	91	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

Type: BSD Lab ID: QC212765

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	48.16	96	76-120	1	20
Toluene	50.00	52.83	106	79-120	1	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	90	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

RPD= Relative Percent Difference

9.0