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Alameda County
JUN 06 2003
Environmental Health

Project: 02-2692

June 3, 2003

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

Subject: Site Located at 7240 Dublin Boulevard, Dublin, California

Dear Scott:

Enclosed for your review is a copy of SOMA's "Soil and Groundwater Investigation" report for the subject property.

Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 244-6600, if you have any questions or comments.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist

Enclosure

cc: Mr. Hooshang Hadjian w/enclosure
Ms. Karen Streich, Chevron Products w/enclosure





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**SOIL AND GROUNDWATER INVESTIGATION
AT
FORMER CHEVRON STATION
7240 Dublin Boulevard
Dublin, California**

*Alameda County
JUN 06 2003
Environmental Health*

June 3, 2003

Project 2692

Prepared for

**Hooshang Hadjian and
Karen Streich (Chevron Products Company)
2108 San Ramon Valley Boulevard
San Ramon, California**

Prepared by

**SOMA Environmental Engineering, Inc.
2680 Bishop Drive, Suite 203
San Ramon, California**

CERTIFICATION

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Hooshang Hadjian and Ms. Karen Streich, the former property owners of 7240 Dublin Boulevard, Dublin, California to comply with the Alameda County Health Care Services approved workplan, dated April 9, 2003.



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. Hooshang Hadjian and Chevron USA, the former property owners. This report is being prepared based on the Alameda County Health Care Services (ACHCS) approved workplan dated April 9, 2003.

As shown in Figure 1, the property is located at 7240 Dublin Boulevard, Dublin, California (the "Site"). The Site is situated at the southwest corner of Dublin Boulevard and Village Parkway with commercial property bordering the Site on the south and San Ramon Creek bordering the subject property on the west. Currently, the Site is being used as a gasoline service station and a car wash facility and is known as Dublin Auto Wash.

1.1 Previous Activities

The first environmental investigation at the Site began in early 1988 when Chevron Product Company (Chevron) hired EA Engineering, Science, and Technology, Inc. (EA) to conduct a soil vapor investigation at the Site. The results of the soil gas survey indicated elevated levels of hydrocarbons beneath the Site, especially around the southern pump island.

In October 1988, HEW Drilling Company installed three groundwater monitoring wells, EA-1 through EA-3. During the installation of the groundwater monitoring wells, groundwater was encountered at depths ranging between 15 to 23 feet below ground surface (bgs). The depths of the groundwater monitoring wells were 35 to 40 feet bgs. Following the installation of the groundwater monitoring wells, the quarterly groundwater monitoring programs began. The groundwater monitoring program is currently conducted at the Site on a quarterly basis.

In February 1989, one 5,000-gallon and two 10,000-gallon underground storage tanks (USTs) were excavated and removed from the Site and replaced with three new USTs. During this activity, soil and groundwater samples were collected and analyzed for petroleum hydrocarbons. Following the USTs' removal and their upgrade, a total of 180 cubic yards of soil was removed and sent to Class I and Class II landfill facilities.

In March 1989 Western Geologic Resources, Inc. (WGR) drilled and sampled five soil boreholes in the area of the former pump island. In addition, nine soil samples were collected from the vicinity of the former product-line trenches at depths ranging from 2.5 feet to 10 feet bgs. Laboratory analyses results indicated total petroleum hydrocarbon (TPH) concentrations from non-detectable to 1,700 milligram per kilograms (mg/Kg).

In May 1990, three vapor extraction wells were installed. Air samples collected from these wells contained a maximum of 29,000 parts per million (ppm) benzene, at the beginning of the test and 5,300 parts per billion ppb after 2,049 minutes into the test.

Following the installation of the three vapor extraction wells in March 1992, the soil vapor extraction (SVE) system began operating. From December 1992 through June 1995, Geraghty & Miller operated the SVE system. Reportedly, during this period a total of 13,470 pounds of hydrocarbons were removed from the subsurface.

In September 1994, Groundwater Technology, Inc. (GTI) installed three groundwater monitoring wells, MW-1 through MW-3. The depths of these wells ranged between 21.5 to 26.5 feet bgs. In March 1995, elevated levels (up to 64,000 microgram per liter ($\mu\text{g/L}$)) of Methyl tertiary Butyl Ether (MtBE) were reported for the first time in MW-3.

In February 1996, Bay Area Exploration Services, Inc. installed two groundwater monitoring wells, MW-4 and MW-5 each with a total depth of 21.5 feet bgs. During the well installation, soil and groundwater samples were collected and analyzed for petroleum hydrocarbons. No petroleum hydrocarbons were detected in the soil or groundwater samples collected from these wells. Prior consultants designated these wells as upgradient wells that have not been impacted by the petroleum hydrocarbons.

In December 1996, Weiss and Associates conducted a Risk Based Corrective Action (RBCA) and concluded that the Site is a "Low Risk" soil and groundwater petroleum release site and recommended the SVE system be shut down. Based on Weiss Associates' recommendation, the SVE system was shut down, however, the ACHCS required quarterly groundwater monitoring and free product removal reports.

In February 1997, a leak in a stainless steel flex hose to dispenser No. 2 was discovered and reported to the ACHCS. Subsequently, a new product delivery system was installed to replace the existing lines. Free product was also detected in MW-3. The results of subsequent groundwater monitoring events in 1998 and 1999 showed elevated levels of MtBE (up to 13,000 $\mu\text{g/L}$) and free product in MW-3.

Due to the occurrence of the new release at the Site, Chevron Product Company conveyed that they should no longer be the responsible party for further site characterization, removal and monitoring of contaminants at the Site. After negotiating with Chevron, Mr. Hooshang Hadjian assumed the responsibility of the new release at the Site.

Currently, the existing eight groundwater monitoring wells at the Site are being monitored by SOMA. Figure 2 illustrates the location of the existing groundwater monitoring wells.

1.2 Regional Geology

East of the San Francisco Bay, northwest-trending folds dominate the landscape with intervening valleys filled with water-laid sediments known as alluvium. Through the past several thousand years, weathering and erosion of these highland areas deposited alluvial sediments of mostly clay and silt into the valley areas. The subject Site is located in one of these alluvial valleys.

1.3 Nature and Extent of Groundwater Contamination

Historical groundwater data has indicated elevated levels of petroleum hydrocarbon constituents in the groundwater beneath the Site. Maximum concentrations of hydrocarbon contaminants have been reported in MW-3, which is located at the northern boundary of the Site next to Dublin Boulevard. GTI completed this 2-inch diameter monitoring well within thick clayey sediments and screened the well from 5 to 25 feet bgs. The maximum reported concentrations of MtBE, benzene, toluene, ethylbenzene and total xylenes (BTEX) and total petroleum hydrocarbons as gasoline (TPH-g) in MW-3 were 162,000, 4,810, 11,400, 2,800, 18,000 and 110,000 $\mu\text{g/L}$, respectively. Historically, free phase petroleum product has been reported in MW-3.

Historically, MtBE was also reported in MW-1 and MW-2 at 5,200 and 3,100 $\mu\text{g/L}$, respectively. MW-1 and MW-2 are also 2-inch diameter wells whose screen intervals are from 5 to 25 feet bgs and 5 to 20 feet bgs, respectively.

The results of the laboratory analyses on the groundwater samples collected from the allegedly downgradient monitoring wells EA-1 through EA-3 do not suggest the presence of elevated levels of MtBE and other groundwater contaminants. However, lithologic logs of EA-1 through EA-3 indicate that these are deeper than the upgradient monitoring wells MW-1 through MW-5. The screened interval of EA-1 and EA-2 are from 10 to 40 feet bgs and the screen interval of EA-3 is from 5 feet to 35 feet bgs. With screen intervals that are much longer than the upgradient wells, the EA wells probably cross connected shallow and deeper water-bearing zones under the Site and groundwater in these wells

probably represents a mixture of several zones. This makes the data interpretation somewhat difficult since the depth and the screen interval of the upgradient and downgradient wells are not identical. Figure 2 shows the location of groundwater monitoring wells.

2.0 Scope of Work

The primary objectives of this investigation are to evaluate the stratigraphy of the underlying sediment beneath the on- and off-site areas and evaluate the vertical distribution of soil and groundwater contamination. SOMA's workplan dated March 21, 2003 proposed CPT technology to determine the Site stratigraphy, number of water-bearing zones and their respective depths. To evaluate the vertical extent of groundwater contaminants, SOMA proposed to sample each water-bearing zone using a direct-push technology (DPT) drilling rig fitted with a specialized groundwater sampling device. SOMA's workplan was verbally approved by Mr. Scott Seery of the ACHCS on March 31, 2003 and formally approved in a letter dated April 9, 2003.

On April 9, 2003, Fisch Environmental (FE) advanced a Cone Penetrometer Test (CPT) borehole at the Site with no data acquisition. FE conveyed that site conditions prevented the CPT probe from responding properly, presumably because the subsurface sediments were too soft. To log the subsurface sediments and determine potential water-bearing zones, electrical conductivity (EC) logging was then proposed to substitute for the CPT technology. Mr. Scott Seery verbally approved the proposed modification on April 9, 2003.

To implement the approved workplan, SOMA complied with these requirements and performed the following tasks:

- **Field work preparation: permits, utility clearance, and HASP**
- **Drilling and logging nine electrical conductivity boreholes (ECBs)**
- **Drilling and logging one continuously sampled stratigraphic borehole**

- **Drilling and sampling soil and groundwater in the ECB areas**
- **Drilling and sampling the vadose zone in the canopy area**
- **Laboratory analysis**
- **Preferential flow pathway analysis**
- **Report preparation and construction of geologic cross sections**

The following few paragraphs describe the field work preparation.

Before commencing field activities, SOMA obtained a drilling permit from Zone 7 Water Agency and an encroachment permit to the City of Dublin Public Works - attached as Appendix A. SOMA personnel also contacted Underground Service Alert (USA) to clear proposed drilling areas of subsurface utilities. To further define subsurface utility locations, a private utility locator was subcontracted. Other preparatory activities are described below in Section 3.1.

SOMA conducted this soil and groundwater investigation to evaluate the lateral extent of the soil and groundwater contamination beneath the Site. The field work involved drilling nine electrical conductivity boreholes (ECBs) to identify potential water-bearing zones, nine direct-push Geoprobe boreholes (DPBs) to collect soil and groundwater samples in the ECB locations, one continuously sampled stratigraphic borehole, and eight shallow Geoprobe boreholes to collect vadose-zone soil samples. The soil and groundwater samples were then analyzed for the petroleum hydrocarbon constituents of concern.

Prior to commencing field activity, SOMA also prepared a site-specific health and safety plan (HASP). The HASP provided procedures to protect the field crew from physical and chemical hazards resulting from drilling and groundwater sampling. The HASP also established personnel responsibilities, general safe work practices, field procedures, personal protective equipment standards, decontamination procedures, and emergency action plans.

3.0 Investigative Activities

3.1 Installation of Electrical Conductivity Boreholes

On April 10 and 11, 2003, nine EC boreholes were advanced at locations shown in Figure 3. As shown in the EC logs attached as Appendix B, electrical conductivity logging measures the conductance of a sediment and produces a continuous vertical record of conductance within a borehole. Because clay transmits an electrical current more efficiently (with less degree of resistance) than coarser-grained sediments, the conductivity value (which is defined as the reciprocal of resistivity) increases within the fine-grained sediments and decreases within coarse-grained sediments. Since coarser-grained units are more permeable, these intervals of lower conductance can be interpreted as potential water-bearing zones.

Indirect logging technologies require calibration against soil-core logging to verify correct stratigraphic interpretation. To calibrate the EC data, a stratigraphy borehole (S-1) was drilled and continuously logged adjacent to one of the EC boreholes. SOMA designated the adjacent EC borehole as ECB-S.

As shown in Figure 3, FE advanced nine ECBs at the Site. Most of the ECBs are located in the vicinity of the pump island canopy and surrounding areas. Additional EC boreholes were advanced east and west of the canopy area with two boreholes (ECB-4 and ECB-5) on the east side of the canopy (and USTs) and three boreholes (ECB-2, ECB-7 and ECB-8) on the west side of the canopy area. The EC values recorded during drilling operations were used to construct geologic cross-sections. The location of the geologic cross sections A-A' and B-B' are in Figure 4. Figures 5 and 6 show the geologic cross-sections A-A' and B-B', respectively. As these cross-sections show there are three and occasionally four potential water-bearing zones beneath the Site. These water-

bearing zones are: 1) upper shallow, 2) shallow, 3) middle and 4) deep water-bearing zones.

3.2 Drilling Stratigraphy Borehole

On April 25, 2003, SOMA oversaw the drilling of one stratigraphy borehole (S-1) adjacent to ECB-S. Woodward Drilling advanced and continuously sampled borehole S-1 to a total depth of 49 feet bgs using a hollow-stem auger (HSA) drilling rig. As shown in the Geologic Log of Borehole S-1, attached as Appendix B, the field geologist continuously logged the entire borehole.

The field geologist also collected baggie samples for volatile vapor analysis using a photo-ionization detector (PID) and the PID values are presented on the geologic log. Fragments of sediment samples were placed into a freezer-grade re-sealable plastic bag and heated in the sun for a few minutes before measuring the volatile organic vapor content of the bag sample with the PID.

After completing the sample collection, the drilling crew tremie grouted borehole S-1 to about one-foot bgs with Portland I/II cement mixed with about 5% bentonite. The borehole was then capped with concrete to surface grade.

3.3 Drilling and Collecting Soil and Groundwater Samples

To fully characterize the extent of soil contamination around the damaged stainless steel flex-hose connection of dispenser 2, SOMA conducted an extensive investigation in the immediate vicinity of this point of release. During this investigation, the vadose-zone samples were collected from shallow boreholes adjacent to and near dispenser 2. Deeper soil samples from just above the shallow water-bearing zone (WBZ) were collected from the on-site electrical conductivity boreholes.

3.3.1 Vadose Zone and Capillary Fringe Sampling

On April 23, 2003, SOMA oversaw the drilling and sampling of eight shallow boreholes to characterize the vadose-zone plume in the dispenser island area.

Due to numerous on-site utilities and spatial constraints, and to minimize investigative waste at the Site, HSA drilling was not utilized as originally planned. Instead, SOMA selected a combination of hand-augering and DPT sampling using a Geoprobe rig. Due to the presence of a thick concrete slab, and in order to avoid damaging the drill bit, coreholes were cut through the six to eight-inch thick concrete slab using concrete coring equipment. In the canopy area, the shallow boreholes were hand augered down to the first encountered groundwater or below the anticipated utility depth to 5 feet bgs and sampled with the DPT rig at 6 feet bgs. In locations that were cleared and approved by USA respondents and the private utility locator, soil samples were collected using the DPT rig through the entire depth. After encountering heavily contaminated soils around DPB-3, two additional boreholes, B-7 and B-8, were advanced to delineate the northern boundary of the soil contamination.

To avoid cross contamination from the hand auger, the drilling crew collected soil samples from the hand auger cuttings by shoving a 6-inch long butyrate tube into the center of the soil mass within the auger head. Soil samples collected from the hand auger and those removed from the butyrate-lined Geoprobe sampler were cut into six- to twelve-inch long sections. SOMA's field geologist capped, labeled and placed these samples into a chilled cooler to await field screening.

The field geologist selected vadose-zone samples for lab analysis by field screening the samples using a PID. Fragments from the soil sample were placed into a freezer-grade re-sealable plastic bag and heated in the sun for a few minutes before measuring the volatile content of the bag sample with the PID. After determining which depth contained the highest volatile content, SOMA's geologist collected a soil sample from each soil-filled tube using the Encore™ sampler. These samples were then labeled and placed into a chilled cooler with chain of custody (COC) documentation pending laboratory delivery.

Capillary fringe soil samples were collected from the groundwater sampling boreholes immediately above the shallow WBZ. SOMA's field geologist collected

soil samples from the capillary fringe using the Encore™ sampler. The samples were labeled and placed into a chilled cooler with COC documentation pending delivery to the laboratory.

3.3.2 Collecting Groundwater Samples

On April 17, 18, 30 and May 1, 2003, SOMA oversaw the drilling of nine boreholes to collect capillary fringe and groundwater samples. The nine soil and groundwater sampling boreholes were advanced using Direct Push Technology. As shown in Figure 3, these direct-push boreholes were designated DPB-1 through DPB-8 and DPB-S – to indicate this borehole's close proximity to the stratigraphy borehole S-1.

Based on EC data provided by FE, potential shallow and deeper water-bearing zones were selected. Half way through collecting groundwater samples from these zones, on April 17, 2003, Mr. Scott Seery of the ACHCS directed SOMA to attempt to collect groundwater samples from between the shallow and deeper WBZs – herein designated as the middle WBZ. In DPB-2, DPB-4, DPB-5 and DPB-S another potential water-bearing zone above the shallow WBZ was identified, and designated by SOMA as the upper shallow WBZ.

Table 1 presents the depth intervals of potential WBZs in each borehole and the field observations during groundwater sampling. The upper shallow WBZ was identified at the vertical interval of approximately 2 to 6 feet bgs. The shallow WBZ was identified at vertical intervals ranging from approximately 10 to 15 feet bgs to 19 to 23 feet bgs. The middle WBZ was identified at vertical intervals ranging from approximately 19 to 23 feet bgs to 32 to 36 feet bgs. The deeper WBZ was identified at vertical intervals ranging from approximately 32 to 36 feet bgs to 43 to 47 feet bgs. Surface elevation differences at each borehole and stratigraphic variations account for the substantial ranges in depth intervals of the potential WBZs. Based on the EC logs at each borehole, there are at least five feet of clayey sediments that separate the four potential WBZs. The one

exception was borehole DPB-5 where the upper shallow WBZ occurred several feet above the shallow WBZ.

Because the potential water-bearing zones were separated by at least 5 feet of clay, FE determined that the SP-15 Discrete Groundwater Sampler was the most appropriate for the Site. Within each borehole, each WBZ was sampled in vertical sequence starting with the upper shallow or shallow zone and ending with the deeper zone. The enlarged upper end of the SP-15 sampler blocked off the upper portion of the borehole while sampling the subjacent water-bearing zone to prevent cross contamination of the soil and groundwater samples. After sampling each WBZ, the sampling device was removed and decontaminated. To avoid cross contamination in the DPB-5 area, the upper shallow WBZ was sampled in a separate borehole than the shallow, middle and deeper WBZs.

The field geologist immediately decanted the groundwater sample into 40-mL VOA vials that were pre-preserved with hydrochloric acid unless a carbonate reaction was noted. When this reaction occurred, non-preserved VOA vials were used. The 40-mL vials were then properly sealed to prevent the inclusion of any air bubbles within the headspace of the vial. The vials were placed in an ice chest with COC documentation pending delivery to the laboratory for chemical analyses.

3.4 Laboratory Analysis

Soil and groundwater samples collected from the boreholes were analyzed for TPH-g using EPA Method 8015 Modified. BTEX, MTBE, Gas Oxygenates and Lead Scavengers were analyzed using EPA Method 8260. Laboratory analytical reports are included as Appendices C and D.

SOMA initially planned to use a mobile lab to analyze the groundwater samples on-site. However, delays in drilling and technical issues posed by this arrangement rendered the use of a mobile lab impractical. Street drilling time was substantially constrained by the City of Dublin encroachment permit

restrictions. The use of a mobile lab would have resulted in repeated disruptions requiring as much as several days to complete one of the street boreholes. Exaggerated results endemic to mobile labs also rendered on-site analytical services infeasible. With these issues presented to Mr. Scott Seery (ACHCS), this change in the workplan was verbally approved by the regulator on April 9, 2003.

3.5 Grouting Boreholes and Temporary Wells

After SOMA collected soil and groundwater samples, narrow-gauge boreholes were tremie grouted up to surface grade. Larger diameter boreholes for vadose-zone and stratigraphic borehole drilling were tremie grouted to one-foot below the ground surface where concrete or sand-enriched cement was then emplaced to surface grade.

4.0 RESULTS

The following is a brief description of the results from our investigation conducted in accordance with the ACHCS-approved workplan for the Site.

4.1 Site Geology and Hydrogeology

The U.S. Geological Survey (USGS) mapped the east side of the Site on fine grained alluvium of Holocene age (less than 10,000 years old). The USGS described this unconsolidated unit as plastic – or expansive - with occasional fresh water gastropods and pelecypods. The west side of the Site was mapped on Late Pleistocene alluvium – estimated to be approximately 10,000 to 70,000 years old. The USGS described this unit to be a weakly consolidated and interbedded sequence of clay, silt, sand and gravel with occasional fresh water gastropod shells. Lithologic logs from prior consultants characterized the upper 30 feet of the Site as mostly clay with some sandy clay interbedded with occasional clayey sand lenses.

Based on the EC borehole data and the stratigraphy borehole log, at least 50 feet of unconsolidated sediments underlie the Site. In the northeastern portion of the investigation area, silty clay and clay constitute over 95% of the upper 50 feet with occasional silt/sand lenses at approximately 5 to 10 feet bgs and an occasional silt/sand stringer below approximately 30 feet bgs. This predominantly clayey area includes boreholes DPB-1, DPB-4 and DPB-5.

In the southwestern portion of the investigation area, the upper 30 to 35 feet consists of mostly silty to sandy clay and clay. Inter-layered with this clayey sequence are several one- to two-foot thick beds of saturated silty to clayey sand that constitute the shallow and middle WBZs. Beneath this inter-layered sequence are mostly sandy clay and clayey sand with some wet sand/silt stringers that constitute the deeper WBZ. This more permeable portion of the investigation area includes boreholes DPB-2, DPB-3, DPB-6, DPB-7 and DPB-8. Geologic cross-sections A-A' and B-B' show the stratigraphy and occurrence of potential water-bearing zones as presented in Figures 5 and 6.

4.2 Analytical Results

Soil and groundwater analytical results show elevated levels of petroleum hydrocarbon contaminants in the western portion of the Site. On the east side of the Site, petroleum hydrocarbon contaminants were either not detected or detected at trace levels. Borehole PID readings indicate that the most heavily contaminated interval of borehole S-1 consists of the uppermost silty clay unit from approximately 4.5 to 15 feet bgs.

4.2.1 Soil Analytical Results

As shown in Tables 2 and 3 and Figures 7 through 9, contaminant levels are highest in the pump island area, near dispenser 2, where a leak in the steel flex-hose connection reportedly occurred.

In the vadose zone, maximum contaminant levels were detected at a depth of 3.5 to 4.0 feet bgs. In boreholes B-2b and B-7, located near the damaged flex-hose

area, the lab detected TPH-g at 92,000,000 and 8,700,000 µg/Kg, benzene at 12,000 and 7,700 µg/Kg, toluene at 560,000 and 270,000 µg/Kg, ethylbenzene at 240,000 and 170,000 µg/Kg, and total xylenes at 1,550,000 and 920,000 µg/Kg, respectively. Gas oxygenates MtBE and TAME were detected in borehole B-2b at 21,000 and 20,000 µg/Kg respectively. MtBE was detected at 7,100 µg/Kg in B-7 and TAME was not detected in this borehole above 10,000 µg/Kg. TBA and ethanol were not detected in these two boreholes above the unusually high reporting limits of 100,000 to 1,400,000 µg/Kg.

Several feet north of B-7, in borehole B-8, at depth 4-5.75 feet the lab detected TPH-g at 9,900 µg/Kg, benzene at 6.4 µg/Kg, ethylbenzene at 33 µg/Kg, and total xylenes at 200 µg/Kg. Lab analysis also indicated MtBE, TAME, TBA and ethanol concentrations at 47, 12, 88 and 880 µg/Kg, respectively.

In boreholes B-1, B-3, B-4, B-5, and B-6, the lab did not detect TPH-g, BTEX, MtBE and TAME above reporting limits of 4.2 to 200 µg/Kg. TBA and ethanol were detected at respective ranges of 83 to 830 µg/Kg and 94 to 940 µg/Kg, in soil samples collected at depth intervals of 2.5 to 4 feet bgs.

In the deeper capillary fringe zone, samples were collected immediately above first encountered groundwater at various depths ranging from 9 to 18.75 feet bgs. The highest concentration of petroleum hydrocarbon contaminants were encountered in DPB-3 located adjacent to dispenser 2. In DPB-3 at 14 to 15 feet bgs, the lab detected TPH-g at 3,500,000 µg/Kg, benzene at 6,600 µg/Kg, toluene at 120,000 µg/Kg, ethylbenzene at 43,000 µg/Kg, total xylenes at 251,000 µg/Kg, and MtBE at 17,000 µg/Kg.

In DPB-S, which is located adjacent to stratigraphic borehole S-1 and approximately 20 feet northeast of the pump island area, the lab detected TPH-g at 1,200 µg/Kg, total xylenes at 360 µg/Kg, and MtBE at 3,500 µg/Kg at a depth of 15-16 feet bgs. Benzene, toluene, and ethylbenzene were not detected above an elevated reporting limit of 130 µg/Kg.

In boreholes DPB-4, DPB-5, DPB-6, and DPB-7, TPH-g and BTEX were not detected above the elevated laboratory reporting limits of 3.9 to 200 µg/Kg. In DPB-4, located east of and near the UST pit, TPH-g was detected at 200 µg/Kg with a chromatographic pattern that does not resemble the gasoline standard. MtBE was detected in DPB-4 and DPB-5 at 41 and 4.5 µg/Kg, respectively.

No TBA and TAME were detected in the capillary-fringe soil samples above the laboratory reporting limits of 3.9 to 1,000,000 µg/Kg.

4.2.1 Groundwater Analytical Results

As shown in Table 4 and Figures 10 through 18, the highest petroleum hydrocarbon contaminant levels were mostly encountered in the immediate vicinity of the pump islands.

4.2.1.1 Upper Shallow and Shallow Water-Bearing Zones

As shown in Table 1, the upper shallow WBZ was identified at the vertical interval of approximately 2 to 6 feet bgs. Groundwater was sampled from this zone in only one location, DPB-5. In this borehole, the lab detected none of the hazardous constituents of concern. In boreholes DPB-2, DPB-4 and DPB-S, the upper shallow zone yielded very little or no groundwater at all. Therefore, due to the insufficient volume of groundwater in these boreholes no groundwater was sampled.

The shallow WBZ was identified at vertical intervals ranging from approximately 10 to 14 feet bgs to 19 to 23 feet bgs. In the shallow WBZ the highest levels of petroleum hydrocarbon contaminants were encountered in DPB-3. In this borehole, the lab detected TPH-g at 48,000 µg/L, benzene at 400 µg/L, toluene at 5,800 µg/L, ethylbenzene at 1,500 µg/L, and total xylenes at 9,500 µg/L. MtBE, TAME and TBA were detected at 8,900, 790 and 870 µg/L, respectively.

Northwest and northeast of the pump island area, in the shallow WBZ of nearby boreholes DPB-1 and DPB-S, the lab detected TPH-g at 12,000 and 20,000 µg/L, ethylbenzene at 440 and 380 µg/L, and total xylenes at 2,180 and 6,600 µg/L, respectively. Benzene and toluene not detected in the shallow WBZ of DPB-S above an elevated reporting limit of 170 µg/L. In the shallow WBZ of DPB-1, benzene and toluene were reported at 25 µg/L and 440 µg/L, respectively. MtBE was detected in the shallow WBZs of DPB-1 and DPB-S at 8,100 and 53,000 µg/L.

In the shallow WBZ of DPB-6, approximately 50 feet southwest of the pump island area, the lab detected TPH-g at 7,700 µg/L, benzene at 18 µg/L, toluene at 77 µg/L, ethylbenzene at 170, and total xylenes at 640 µg/L. MtBE was detected in the shallow WBZ of DPB-6 at 5.9 µg/L. TAME and TBA were not detected in the shallow WBZ of this borehole.

In the shallow WBZ of DPB-5 and DPB-7, the lab did not detect the contaminants of concern.

4.2.1.2 Middle Water-Bearing Zone

The middle WBZ was identified at vertical intervals ranging from approximately 19 to 23 feet bgs to 32 to 36 feet bgs. In the middle WBZ, the highest levels of petroleum hydrocarbon contaminants were also encountered in DPB-3 – located near dispenser 2. In this borehole, the lab detected TPH-g at 62,000 µg/L, benzene at 700 µg/L, toluene at 9,900 µg/L, ethylbenzene at 1,300 µg/L, total xylenes at 7,900. Gas oxygenates MtBE, TAME and TBA were detected at 4,200 µg/L, 2,100 µg/L and 930 µg/L, respectively.

In the middle WBZ of DPB-7, located approximately 90 feet west/northwest of DPB-3, the second highest level of petroleum hydrocarbon contamination was encountered. In DPB-7, the lab detected TPH-g at 7,000 µg/L, benzene at 42 µg/L, toluene at 640 µg/L, ethylbenzene at 190 µg/L, and total xylenes at 990

µg/L. MtBE, TAME, and TBA were detected at 300, 110, and 51 µg/L, respectively.

In DPB-6, located southwest of the pump island area, the lab detected TPH-g at 4,700 µg/L, benzene at 21 µg/L, toluene at 76 µg/L, ethylbenzene at 160 µg/L, and total xylenes at 650 µg/L. A trace of MtBE was detected at 6.2 µg/L.

Approximately 20 feet northeast of the pump island area, in the middle WBZ of DPB-S, the lab detected TPH-g at 1,500 µg/L, benzene at 7.1 µg/L, ethylbenzene at 7.4 µg/L, and total xylenes at 170 µg/L. MtBE and TBA were detected at 760 and 430 µg/L.

None of the petroleum hydrocarbon constituents of concern were detected in the middle WBZ of DPB-5. This borehole is located approximately 100 feet east of the pump island area and approximately 50 feet east of the UST pit.

4.2.1.3 Deeper Water-Bearing Zone

The deeper WBZ was identified at vertical intervals ranging from approximately 32 to 36 feet bgs to 43 to 47 feet bgs. In this zone, the highest levels of petroleum hydrocarbon contaminants were also encountered in DPB-3. In this borehole, the lab detected TPH-g at 27,000 µg/L, benzene at 210 µg/L, toluene at 3,200 µg/L, ethylbenzene at 640 µg/L, and total xylenes at 4,100. MtBE, TAME and TBA were detected at 7,700, 610 and 1,100 µg/L, respectively.

Significant levels of petroleum hydrocarbon contamination in the deeper WBZ were encountered in DPB-S, located approximately 20 feet northeast of the pump islands. In this borehole, the lab detected TPH-g at 4,300 µg/L and total xylenes at 910. MtBE, TAME and TBA were detected at 42,000, 190, and 15,000 µg/L, respectively.

Southwest of the pump island area, in DPB-6, petroleum hydrocarbon contamination was also encountered in the deeper WBZ. In this borehole, the lab detected TPH-g at 2,900 µg/L, benzene at 8.8 µg/L, toluene at 24 µg/L, ethylbenzene at 54 µg/L, and total xylenes at 249 µg/L. MtBE and TBA were detected at 100 and 58 µg/L, respectively.

West/northwest of the pump island area, in the deeper WBZ of DPB-7, the lab detected TPH-g at 150 µg/L and did not detect BTEX, gas oxygenates and lead scavengers except for near trace levels of toluene, ethylbenzene and total xylenes. In boreholes DPB-4 and DPB-5, located east of the pump island area, petroleum hydrocarbon contaminants of concern were also either not detected or detected at near trace levels.

4.2.1.4 *Mixed Water-Bearing Zones*

The mixed WBZ interval spans all three water-bearing zones, extending to a total depth of 39 feet bgs in DPB-2 and 47 feet bgs in DPB-8. In DPB-2, located approximately 60 feet west of the pump island, no groundwater was encountered in any of the potential water-bearing zones at the time of drilling. To obtain a groundwater sample from DPB-2, a clean PVC well casing was placed into this borehole and sealed at surface grade. After several days, SOMA field personnel returned to collect the groundwater sample. In this borehole, the lab detected TPH-g at 710 µg/L, benzene at 1.1 µg/L, ethylbenzene at 18 µg/L, and total xylenes at 74 µg/L. MtBE was also detected at 540 µg/L.

Approximately 150 feet west/northwest of the pump island, in DPB-8, no groundwater was detected in any of the potential WBZs. However, during the withdrawal of the drilling rods, groundwater was observed on the outside of the sampling device. The driller emplaced a clean PVC well casing into DPB-8 and a groundwater sample was collected at that time. In this borehole, the lab did not detect any petroleum hydrocarbon constituents and gasoline additives above the laboratory detection limit.

4.3 Preferential Pathway Flow Analysis

SOMA personnel obtained a subsurface utility map from the San Ramon Valley Services District. A copy of this map is included as Appendix E. This map shows the location and depth of sewer and water utilities in the immediate vicinity of the Site. North of the Site along Dublin Boulevard, aligned between boreholes DPB-1 and DPB-8, this map shows an 18-inch vitrified clay pipe (VCP) sewer line with a depth of 16 to 17 feet bgs. Survey depths to this utility indicate that the sewer line and trench are sloped to the east along Dublin Boulevard and to the southeast along Village Parkway. VCP utilities are typically bedded with coarse-grained material that can also behave as a preferential flow path for contaminated groundwater.

Historical depths to water at the Site range between approximately 7 to 13 feet bgs. This is consistently higher than the depth of the sewer line and indicates that the sewer lines in the Site's vicinity are continually submerged. Based on the fact that elevated levels of groundwater contaminants were detected in the boreholes adjacent to the sewer line, it appears that the sewer line is intercepting and receiving the fuel-impacted groundwater. The trench bedding of this utility line may also be conveying contaminants to the east, under Dublin Boulevard and perhaps to the southeast under Village Parkway.

5.0 CONCLUSIONS

5.1 Site Geology and Hydrogeology

Based on SOMA's continuously sampled stratigraphy borehole and electrical conductivity logs, clay and silty clay deposits comprise most of the subsurface to a depth of 50 feet bgs. However, silty sand, clayey sand and sandy clay deposits occur more frequently than indicated in borehole logs from previous subsurface investigations. In the northeastern portion of the investigation area, silty clay and

clay constitute over 95% of the upper 50 feet with infrequent coarser-grained lenses throughout. In the southwest portion of the Site, however, silty sand lenses are frequently interbedded with silty clay, sandy clay and clayey sand below a depth of approximately 35 to 40 feet bgs. These sediments comprise the deeper WBZ that has been heavily impacted by petroleum hydrocarbon contaminants of concern.

5.2 Soil and Groundwater Contamination

Based on the soil and groundwater analytical results, petroleum hydrocarbon contamination is highest in the dispenser island area and the groundwater plume has migrated off-site to the north and northwest. The highest soil and groundwater levels of TPH-g, benzene and MtBE were encountered in the boreholes adjacent to dispenser 2. The next highest levels of contamination were encountered in DPB-S and DPB-1, respectively located 20 and 30 feet away from DPB-3. Groundwater contamination levels appear to decrease in proportion to distance from borehole DPB-3.

In DPB-3, elevated TPH-g, benzene, MtBE, and TBA levels were detected in the shallow, middle and deep WBZs. In the middle WBZ of this borehole, however, petroleum hydrocarbon levels are slightly higher. Near DPB-3 is monitoring well MW-3 and this well is exclusively completed in the shallow WBZ. The presence of five- to ten-foot thick clay aquitards separating these three zones would impede the downward migration of petroleum hydrocarbons to the lower water-bearing zones.

The petroleum hydrocarbon contamination encountered in DPB-6 may also have originated from dispenser 1 – located at the southern pump island. In a soil gas survey conducted in 1988, EA Engineering Science documented elevated hydrocarbon levels with benzene concentrations as high as 29,000,000 ppb at this pump island. During remedial excavation in this area, soil samples at 10 feet

bgs contained TPH-g as high as 1,700,000 µg/Kg. DPB-6 is located much closer to dispenser 1 than dispenser 2.

Since the existing groundwater monitoring wells are not exclusively completed and properly installed within each water-bearing zone, the current groundwater flow direction within each WBZ has not been determined. San Ramon Creek passes along the western edge of the Site and it is anticipated that the groundwater is flowing toward this watercourse. However, city sewer lines passing along the south side of Dublin Boulevard (on the north side of the Site) appear to be intercepting the fuel-impacted groundwater and could be skewing the anticipated westward flow direction to the northwest.

Assuming a northwestward groundwater flow direction, the observed pattern of groundwater contamination can be explained. With DPB-S and DPB-3 located north/northwest of and probably downgradient from the UST pit, it is possible that petroleum hydrocarbon contamination encountered in these boreholes also originated from the former USTs. Unusually high levels of petroleum hydrocarbon contamination had been detected in the former UST areas. During the excavation of the former UST pit, the soil contamination levels were high enough to require disposal at Class I and II landfills. Also, the highest gas oxygenate levels were encountered in DPB-S – higher than the dispenser-island source area. It is probable that these higher than dispenser-area levels of gas oxygenates originated from the USTs and that the UST area is another source of groundwater contamination.

In the shallow and deeper WBZ of DPB-S, MtBE and TBA levels were the highest encountered in this investigation. In the middle WBZ of this borehole, however, gas oxygenate levels decreased by at least two orders of magnitude below the shallow and deeper WBZs. Due to slow recharge during groundwater sampling, the middle WBZ of DPB-S required over a day to collect enough groundwater to sample. The log of adjacent borehole S-1 indicates that this middle zone is composed of very stiff silty clay. Based on the unusually

prolonged groundwater sampling period and the presence of very stiff clay in the middle WBZ, the middle zone of DPB-S appears to be relatively impermeable. The relative absence of middle-zone contamination and the relative impermeability of this zone indicate that the middle WBZ of DPB-S probably behaves as a localized aquitard.

5.3 Evaluation of Existing Groundwater Monitoring Network

Reviewing the construction diagram of all existing groundwater monitoring wells indicate that the majority of these wells have been improperly installed. There are currently eight groundwater monitoring wells at the Site. Monitoring wells EA-1 through EA-3 are 4-inch diameter wells each with a total depth of 40 feet. These wells were installed in 1988. The screen intervals of EA-1 and EA-2 are from 10 to 40, while the screen interval of EA-3 is from 5 to 40 feet. As the results of our current investigation indicates, the long screen interval of these wells are causing cross-contamination between the shallow, middle and deep WBZs. Therefore, the existing historical data in terms of groundwater elevation and groundwater chemical data are not representative of any of the water-bearing zones encountered beneath the Site.

Monitoring wells MW-1 through MW-3 were installed in 1994, while MW-4 and MW-5 were installed in 1996. MW-1 through MW-5 are 2-inch diameter wells with total depths of 21.5 to 26.5 feet bgs and screen depths of 20 to 25 feet bgs. Since the middle WBZ starts at approximately 20 feet bgs and MW-1 has been screened from 5 to 25, the probability of cross contamination between the shallow and middle WBZs exists.

The total depth of well MW-2 is approximately 21.5 feet bgs. In the two nearest boreholes, DPB-2 and DPB-6, the middle WBZ starts at 32 feet bgs and 26 feet bgs, respectively. Because the total depth of MW-2 is 21.5 feet bgs and the top of this well is situated two to three feet above the surface grade of DPB-6, it appears that at least six feet of clay separates the bottom of MW-2 from the top of the middle WBZ. This well appears to have been screened exclusively within

the shallow WBZ and may be considered to be representative of the shallow WBZ.

In the area of MW-3, the upper shallow WBZ was not observed in DPB-1 and DPB-3. The middle WBZ of these two boreholes starts at 30 feet bgs and 27 feet bgs, respectively. Since the total depth of MW-3 is 26.5 feet bgs and the top of MW-3 is situated two to three feet above the surface grade of DPB-3, this well is considered to be completed exclusively in the shallow WBZ. The existing data for MW-3 should be treated as a representative data for the shallow WBZ in this area.

As shown in Table 1, wells MW-4 and MW-5 are located in the vicinity of DPB-8 where no upper shallow zone was observed. The total depth of these wells is 21.5 feet bgs with screens installed at 5 to 20 feet bgs. The EC data from DPB-8 also indicates that the top of the middle WBZ starts at approximately 27 feet bgs. Based on the borehole data, it appears that MW-4 and MW-5 have been exclusively completed in the shallow WBZ and historical data for these well should be treated as a representative of the shallow WBZ. However, MW-5 has been installed on the west side of San Ramon Creek, and therefore has no hydrogeologic relevance to the Site.

5.4 Preferential Pathway Flow Analysis

Based on information received from the City of Dublin and on-site historical depths to groundwater data, the nearby sewer line, which passes along Dublin Boulevard may be conveying MtBE and other contaminants of concern off-site to the east. Fuel-impacted groundwater appears to be entering the sewer line trenches and as a result, the sewer lines and their bedding material may be acting as a preferential flow pathway.

6.0 RECOMMENDATIONS

Based on the results of this investigation, we recommend the following:

- Decommissioning on-site wells MW-1 and EA-1 through EA-3 with excessively long screens to eliminate cross-contamination between the water-bearing zones.
- Decommissioning off-site well MW-5 in order to eliminate the source of irrelevant monitoring data.
- Installing groundwater monitoring wells within the shallow, middle, and deeper WBZs to establish the groundwater flow directions within these WBZs.
- When the groundwater flow direction is established in the shallow, middle, and deeper WBZs, we recommend installing additional monitoring wells downgradient from the Site in order to delineate the horizontal extent of off-site contamination in each WBZ.
- Re-surveying all the monitoring wells in order to comply with EDF requirements.
- Sampling the city sewer lines for confirmation purposes and determine if the sewer lines are acting as preferential flow pathways.
- When the Site has been characterized, remedial feasibility studies should be undertaken to analyze the most feasible mode of remediation.

7.0 REFERENCES

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Tables

Table 1: Field Observations of Groundwater Sampling
April 17, 18, 30 & May 1, 2003
7240 Dublin Boulevard, Dublin CA

Borehole Location	Potential Water-Bearing Zone ¹	WBZ Depth ² (feet bgs)	Date Borehole Drilled	Date WBZ Sampled
DPB-1	Shallow	16.0-20.0	01-May-03	01-May-03
	Middle	30.0-34.0	01-May-03	NS
	Deep	39.0-43.0	01-May-03	NS
DPB-2	Upper Shallow	5.0-9.0	18-Apr-03	22-Apr-03 Sampled as one from Temporary PVC Casing ³
	Shallow	19.0-23.0	18-Apr-03	
	Middle	32.0-36.0	18-Apr-03	
	Deep	39.0-43.0	18-Apr-03	
DPB-3	Shallow	16.0-20.0	17-Apr-03	17-Apr-03
	Middle	27.0-31.0	17-Apr-03	18-Apr-03
	Deep	39.0-43.0	17-Apr-03	17-Apr-03
DPB-4	Upper Shallow	2.0-6.0	30-Apr-03	NS
	Shallow	10.0-14.0	17-Apr-03	NS
	Middle	19.0-23.0	30-Apr-03	NS
	Deep	32.0-36.0	17-Apr-03	17-Apr-03
DPB-5	Upper Shallow	7.0-11.0	30-Apr-03	30-Apr-03
	Shallow	11.0-15.0	17-Apr-03	17-Apr-03
	Middle	26.0-30.0	30-Apr-03	30-Apr-03
	Deep	36.0-40.0	17-Apr-03	17-Apr-03
DPB-6	Shallow	15.0-19.0	18-Apr-03	18-Apr-03
	Middle	26.0-30.0	18-Apr-03	18-Apr-03
	Deep	35.0-39.0	18-Apr-03	18-Apr-03
DPB-7	Shallow	15.0-19.0	18-Apr-03	18-Apr-03
	Middle	20.0-24.0	18-Apr-03	18-Apr-03
	Deep	35.0-39.0	18-Apr-03	18-Apr-03
DPB-8	Shallow	18.0-22.0	01-May-03	01-May-03 Sampled as one from Temporary PVC Casing ³
	Middle	27.0-31.0	01-May-03	
	Deep	43.0-47.0	01-May-03	
DPB-S	Upper Shallow	2.0-6.0	30-Apr-03	NS
	Shallow	14.0-18.0	18-Apr-03	18-Apr-03
	Middle	26.0-30.0	30-Apr-03	01-May-03
	Deep	35.0-39.0	18-Apr-03	18-Apr-03

NOTES

¹ Potential Water-Bearing Zones determined by Electrical Conductivity Borehole logs

² Borehole DPB-2 elevation approximately four (4) feet higher than DPB-3, -4, -5, and -6 and approximately two (2) feet higher than DPB-1, -7, and -8

³ None of the potential Water-Bearing Zones yielded groundwater

NS: Not Sampled - potential water-bearing zone did not yield groundwater

Table 2: Vadose Zone Soil Analytical Results

April 23, 2003

7240 Dublin Boulevard, Dublin CA

Borehole	Depth (feet bgs)	TPH-g (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethyl-benzene (ug/kg)	Total Xylenes (ug/kg)	MtBE (ug/kg)	TAME (ug/kg)	TBA (ug/kg)	Ethanol (ug/kg)
B-1	3.5-4.0	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<100	<1,000
B-2b	3.5-4.0	92,000,000	12,000	560,000	240,000	1,550,000	21,000	20,000	<100,000	<1,000,000
B-3	3.5-4.0	<190	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	86	860
B-4	2.5-3.0	<170	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	83	830
B-5	3.5-4.0	<190	<4.7	<4.7	<4.7	7.9	<4.7	<4.7	94	940
B-6	2.5-3.0	<170	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	86	860
B-7	3.5-4.0	8,700,000	7,700	270,000	170,000	920,000	7,100	<10,000	<140,000	<1,400,000
B-8	4.0-5.75	9,900 ^Y	6.4	<4.4	33	200	47	12	88	880

NOTES

Soil samples collected using EPA Method 5035

All other Gas Oxygenates and Lead Scavengers not detected above laboratory detection limits of 3.9 to 1,000,000 ug/kg.

TPH-g analyzed by EPA Method 8015

BTEX, MtBE and Gas Oxygenates analyzed by EPA Method 8260B

^Y Sample exhibits chromatographic pattern that does not resemble standard.

^H Heavier hydrocarbons contributed to the quantitation.

Table 3: Capillary Fringe Soil Analytical Results
April 17 & 18, 2003
7240 Dublin Boulevard, Dublin CA

Borehole	Depth (feet bgs)	TPH-g (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethyl-benzene (ug/kg)	Total Xylenes (ug/kg)	MtBE (ug/kg)
DPB-3	14.0-15.0	3,500,000	6,600	120,000	43,000	251,000	17,000
DPB-3	18.5-19.5	<160	<4.2	<4.2	<4.2	<4.2	1,400
DPB-4	9.0-10.0	200 ^Y	<3.9	<3.9	<3.9	<3.9	41
DPB-5	11.0-12.0	<170	<4.1	<4.1	<4.1	<4.1	4.5
DPB-6	18.0-18.75	<150	<4.0	<4.0	<4.0	<4.0	<4.0
DPB-7	15.5-16.5	<200	<5.0	<5.0	<5.0	<5.0	<5.0
DPB-S	15.0-16.0	1,200	<130	<130	<130	360	3,500

NOTES

Soil samples collected using EPA Method 5035

TPH-g analyzed by EPA Method 8015

BTEX, MtBE and Gas Oxygenates analyzed by EPA Method 8260B

Gas Oxygenates and lead scavengers not detected above laboratory detection limits of
 3.9 to 1,000,000 ug/Kg

^Y Sample exhibits chromatographic pattern that does not resemble standard.

Table 4: Groundwater Analytical Results

April 17, 18, 30 & May 1, 2003
7240 Dublin Boulevard, Dublin CA

Borehole	Depth (feet bgs)	TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)	MtBE (ug/L)	TAME (ug/L)
UPPER SHALLOW WATER-BEARING ZONE								
DPB-5	7.0-11.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SHALLOW WATER-BEARING ZONE								
DPB-1	16.0-20.0	12,000	25	440	440	2,180	8,100	<25
DPB-2	16.0-20.0	48,000	400	5,800	1,500	9,500	8,900	790
DPB-5	11.0-15.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DPB-6	16.0-19.0	7,700	18	177	170	640	59	10
DPB-7	15.0-19.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DPB-S	14.0-18.0	20,000	170	1,170	580	6,600	53,000	270
MIDDLE WATER-BEARING ZONE								
DPB-3	27.0-31.0	62,000	700	9,900	1,300	7,900	4,200	2,100
DPB-5	26.0-30.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DPB-6	26.0-30.0	4,700	21	76	160	650	6.2	<0.8
DPB-7	20.0-24.0	7,000	42	640	190	990	300	10
DPB-S	26.0-30.0	1,500	7.1	<3.1	7.4	170	760	<3.1
DEEPER WATER-BEARING ZONE								
DPB-3	39.0-43.0	27,000	210	3,200	640	4,100	7,700	610
DPB-4	32.0-36.0	<50	<0.5	2.3	<0.5	1.9	9.4	<0.5
DPB-5	36.0-40.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DPB-6	35.0-39.0	2,900	8.8	24	54	249	1,100	20.5
DPB-7	35.0-39.0	150	<0.5	1.8	0.8	5.7	<0.5	<0.5
DPB-S	35.0-39.0	1,300	63	<63	<63	910	42,000	190
MIXED WATER-BEARING ZONES								
DPB-2	NA	710	1.1	<1.0	18	74	540	<1.0
DPB-8	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

NOTES

TPH-g analyzed by EPA Method 8015

BTEX, MtBE and Gas Oxygenates analyzed by EPA Method 8260B

Other Gas Oxygenates and Lead Scavengers not detected above laboratory detection limits of 0.5 to 330,000 ug/L



Figure 1: Site vicinity map.

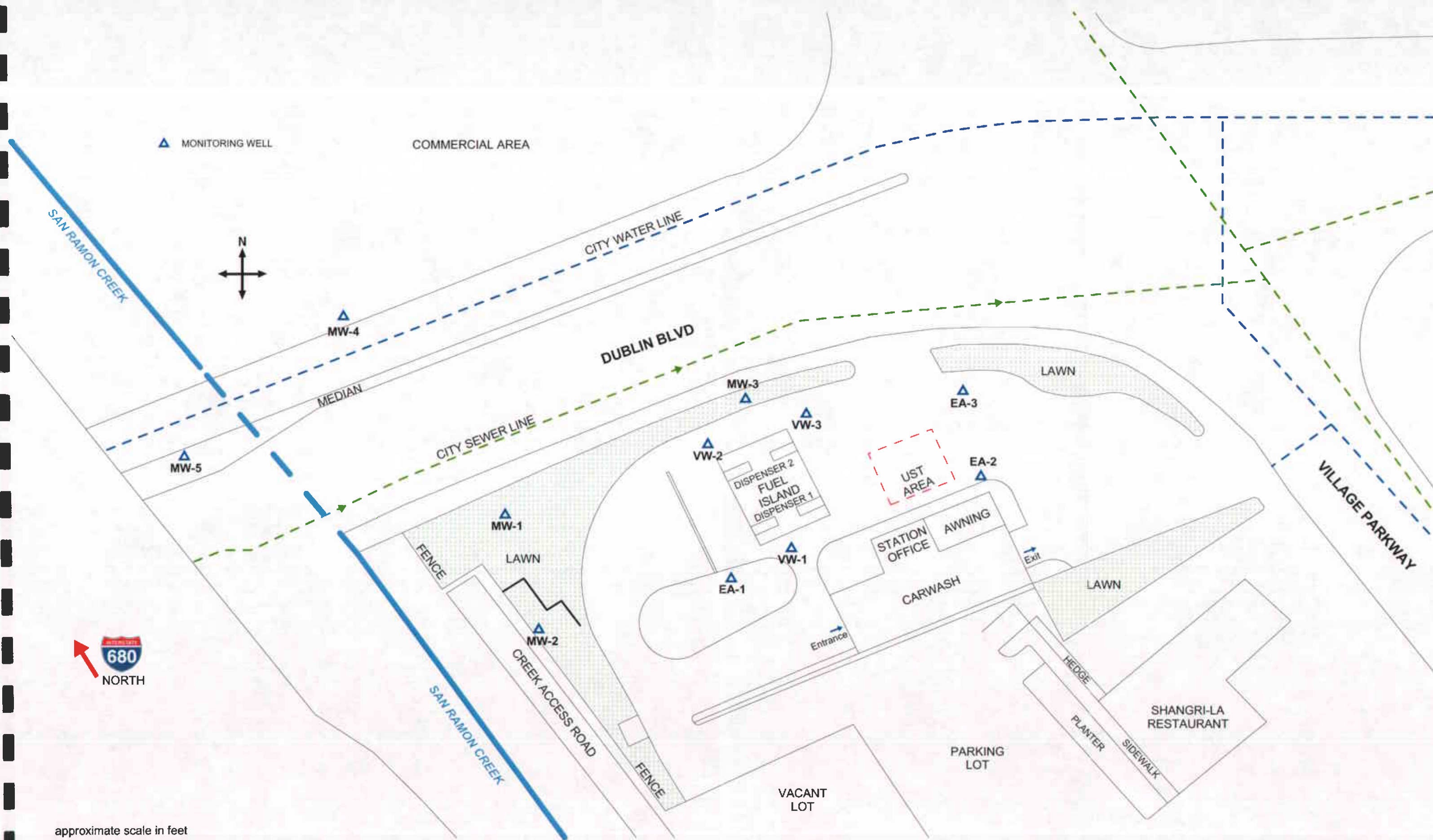


Figure 2: Site map showing locations of existing monitoring wells.

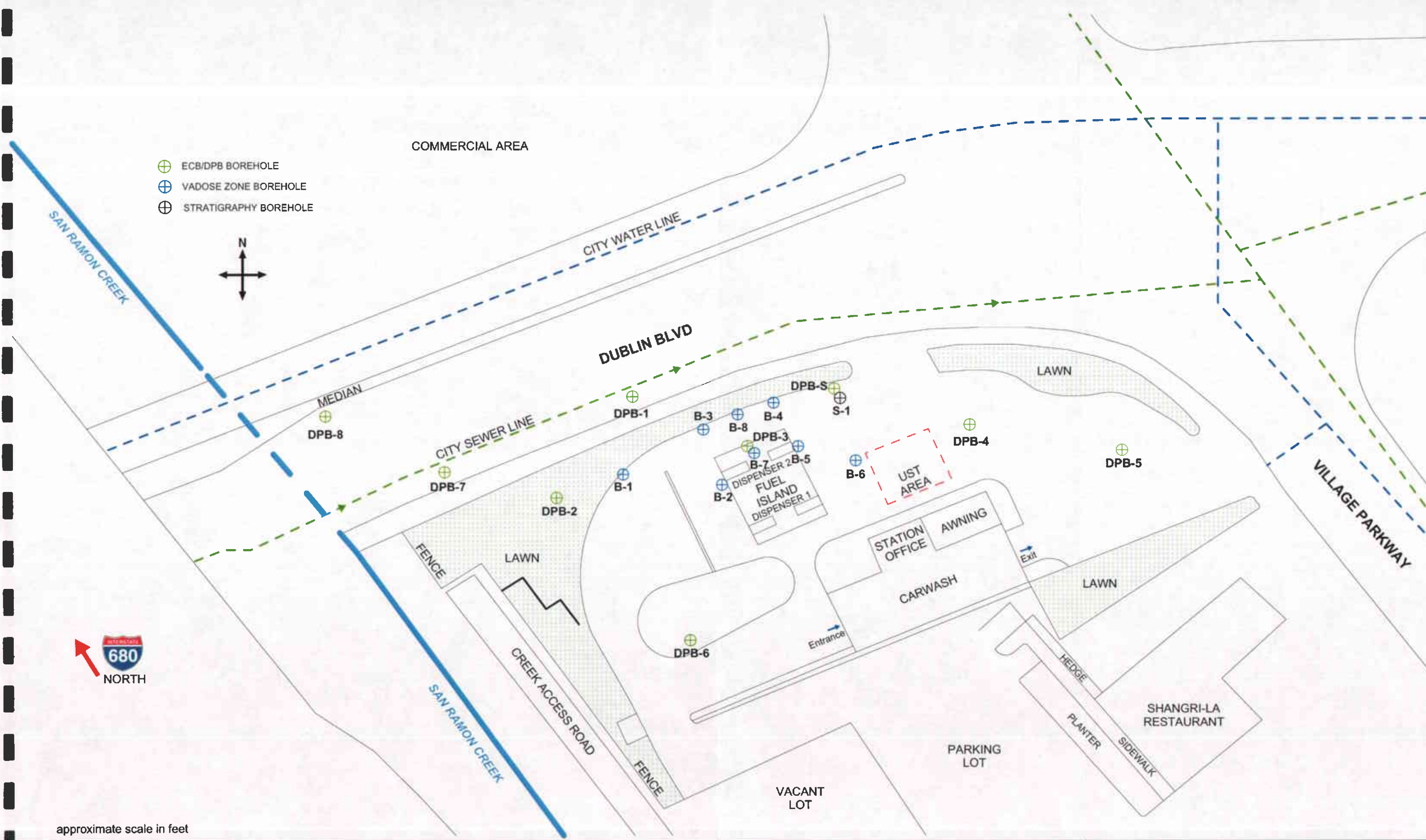
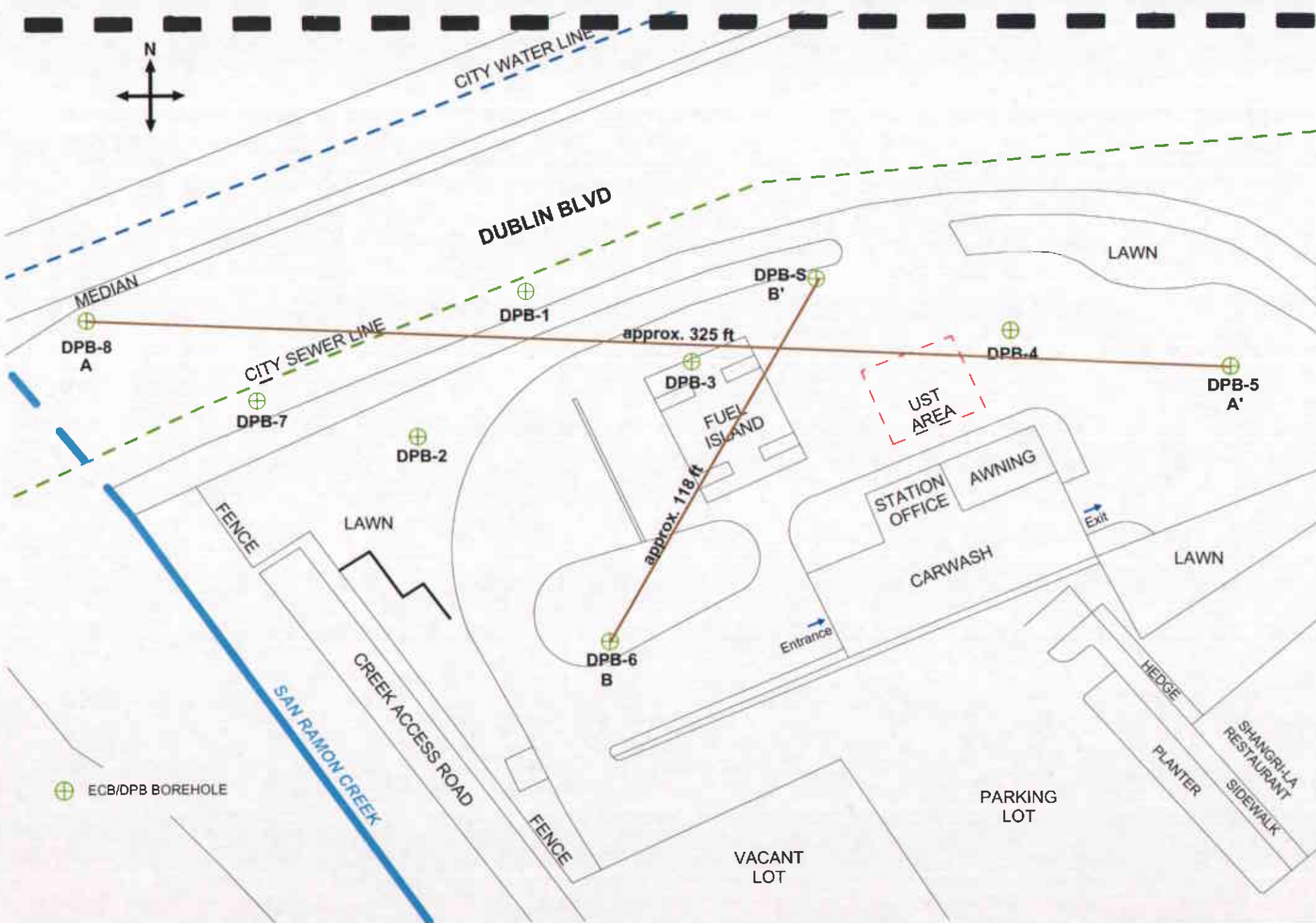


Figure 3: Site map showing locations of electrical conductivity boreholes, direct push boreholes, vadose zone boreholes, and the stratigraphy borehole.



⊕ ECB/DPB BOREHOLE

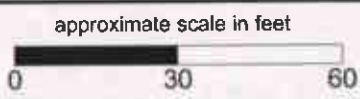


Figure 4: Site map showing locations of geologic cross sections A-A' and B-B'.

PROJECTION FROM
CROSS SECTION LINE

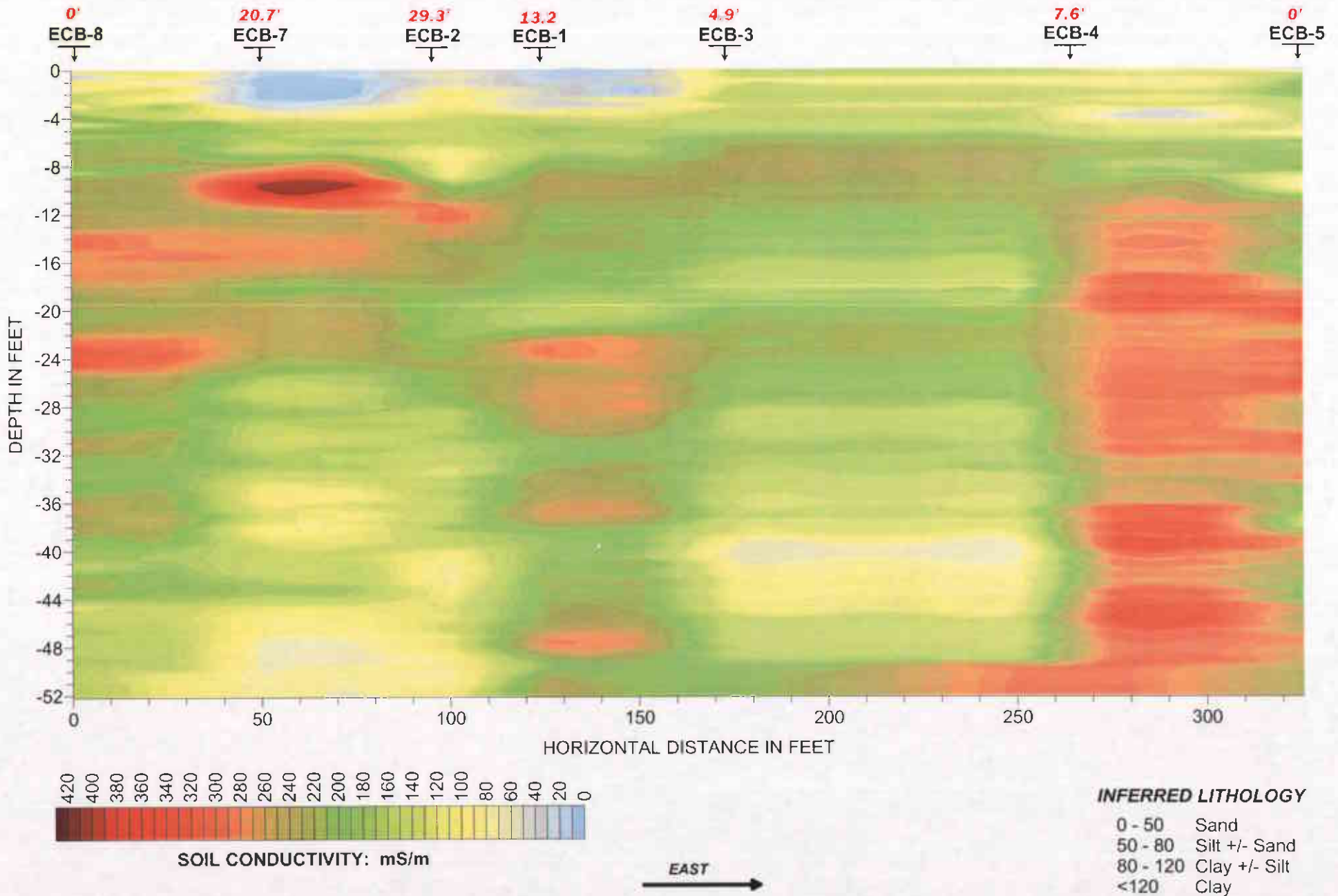
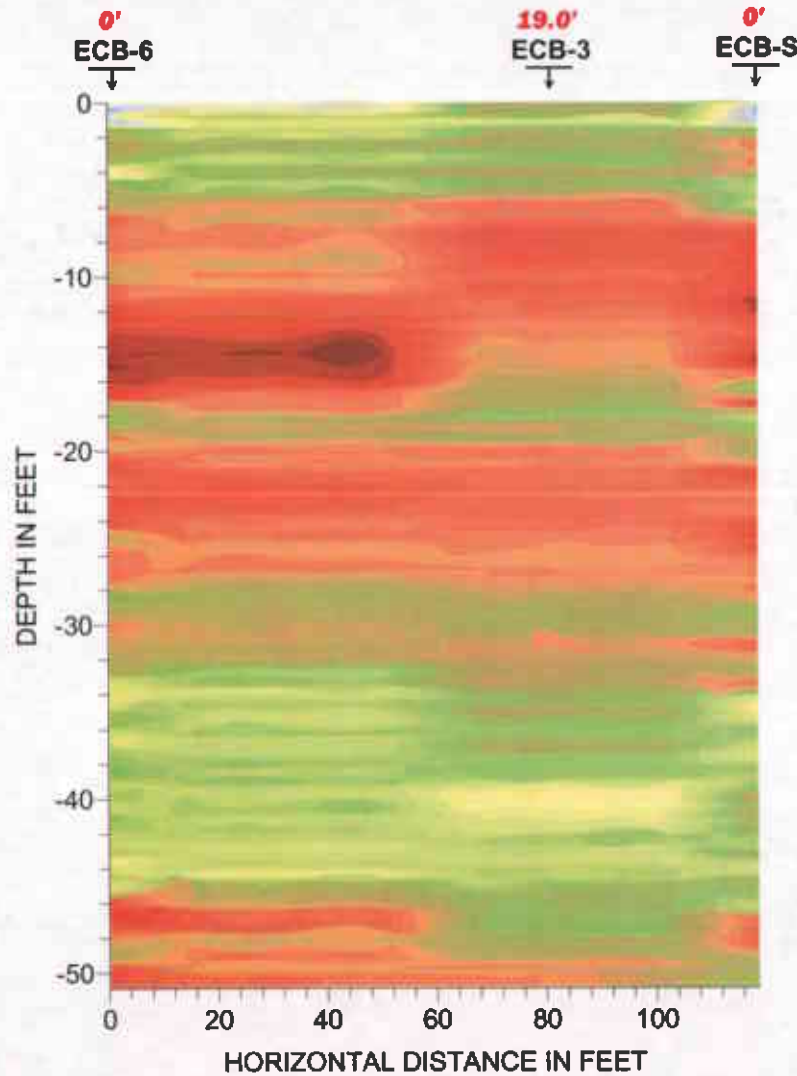


Figure 5: Geologic cross section A-A'.



#' PROJECTION FROM CROSS SECTION LINE



NORTHEAST

INFERRED LITHOLOGY

- 0 - 50 Sand
- 50 - 80 Silt +/- Sand
- 80 - 120 Clay +/- Silt
- <120 Clay

Figure 6: Geologic cross section B-B'.

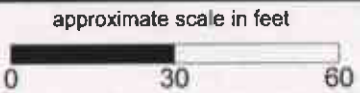
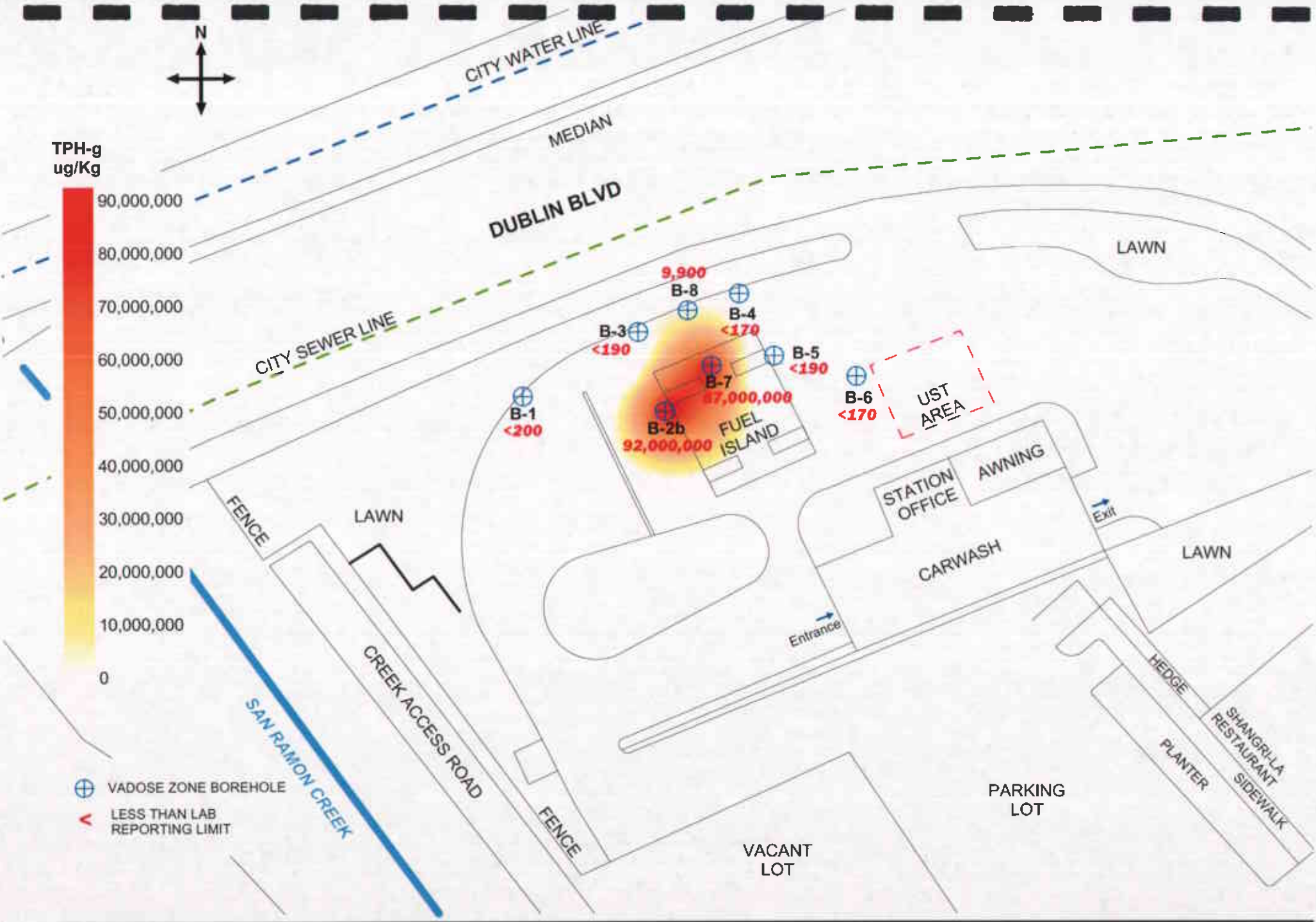
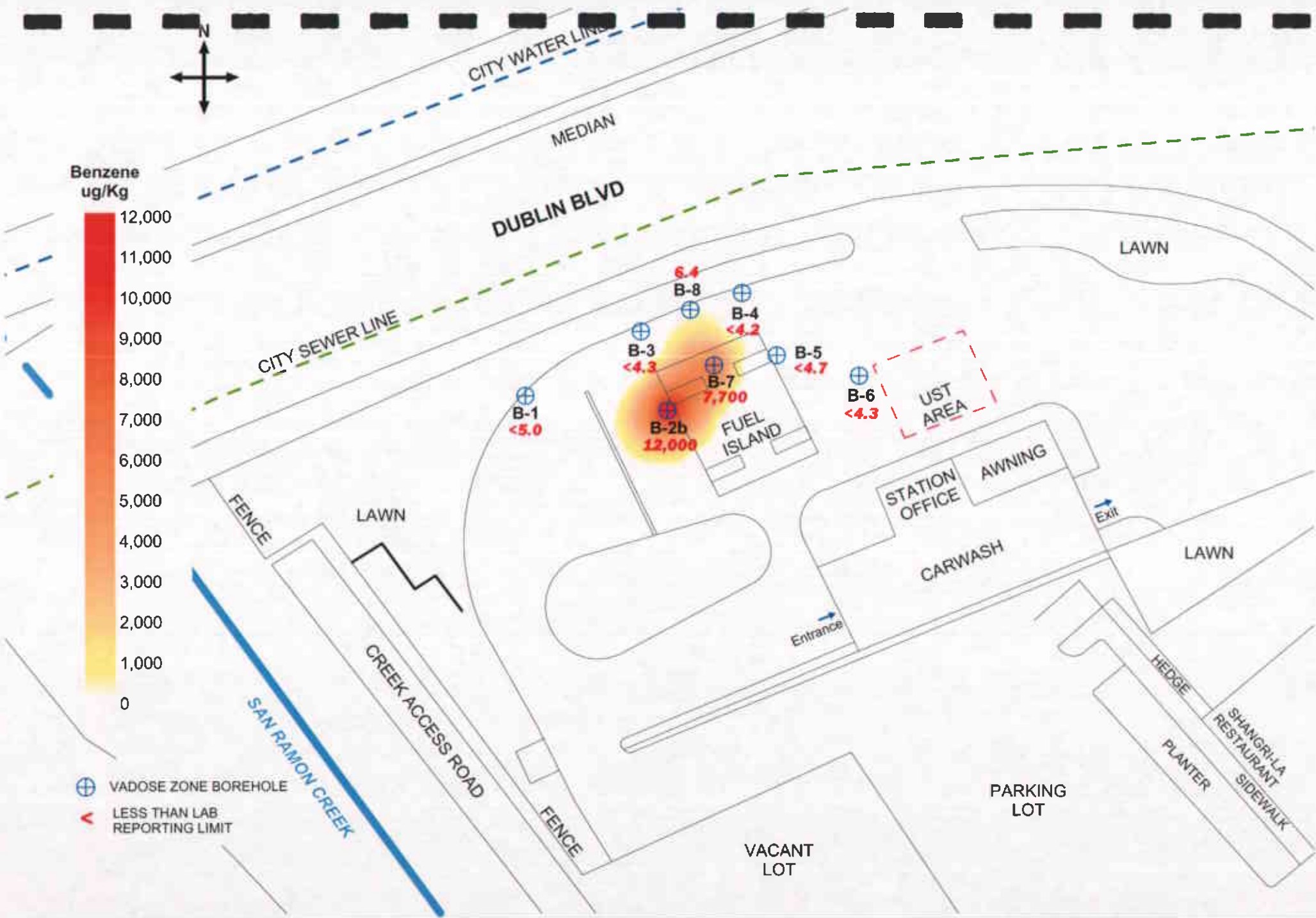


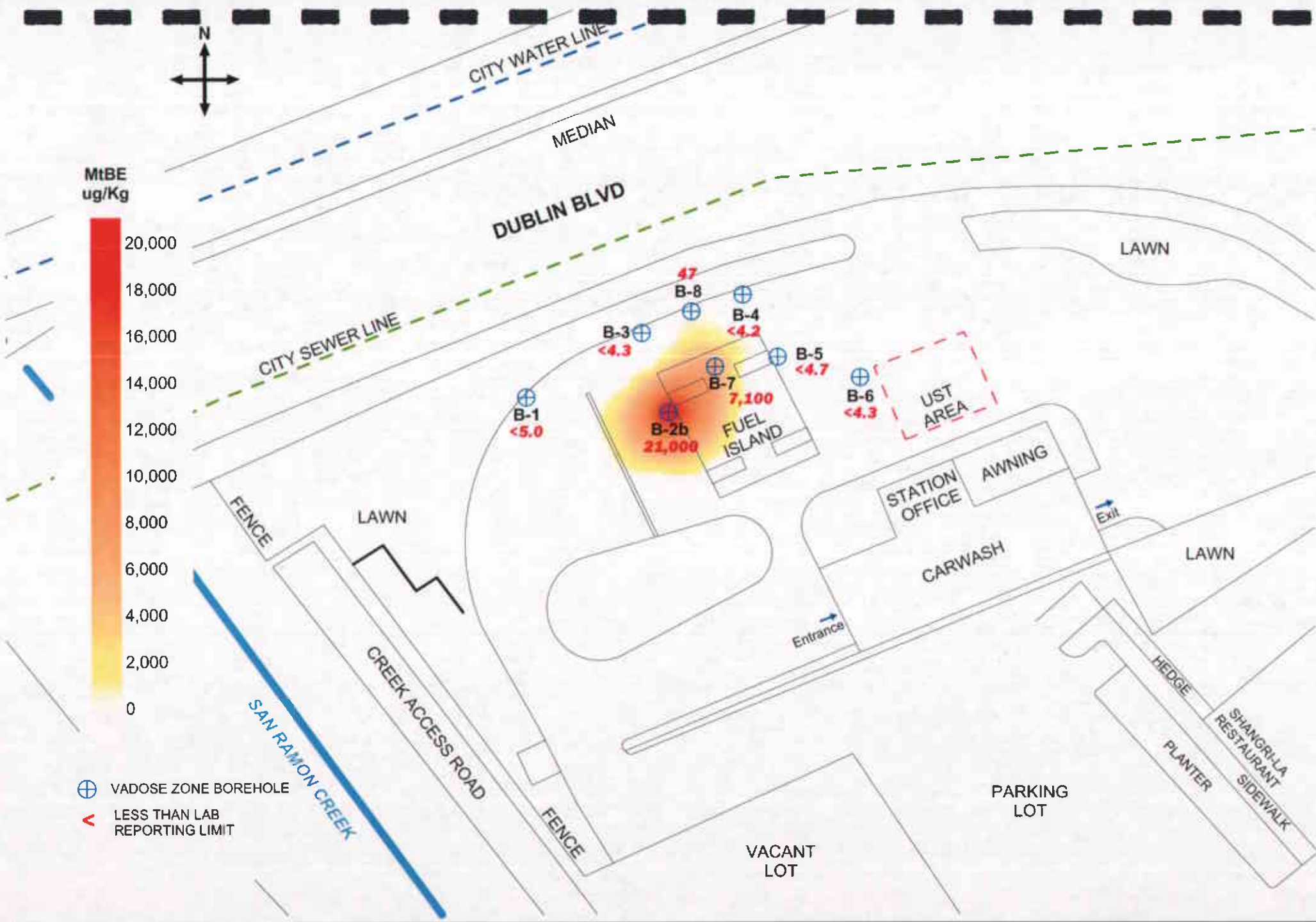
Figure 7: Contour map of TPH-g concentrations in the vadose zone.



approximate scale in feet



Figure 8: Contour map of Benzene concentrations in the vadose zone.



approximate scale in feet



Figure 9: Contour map of MtBE concentrations in the vadose zone.

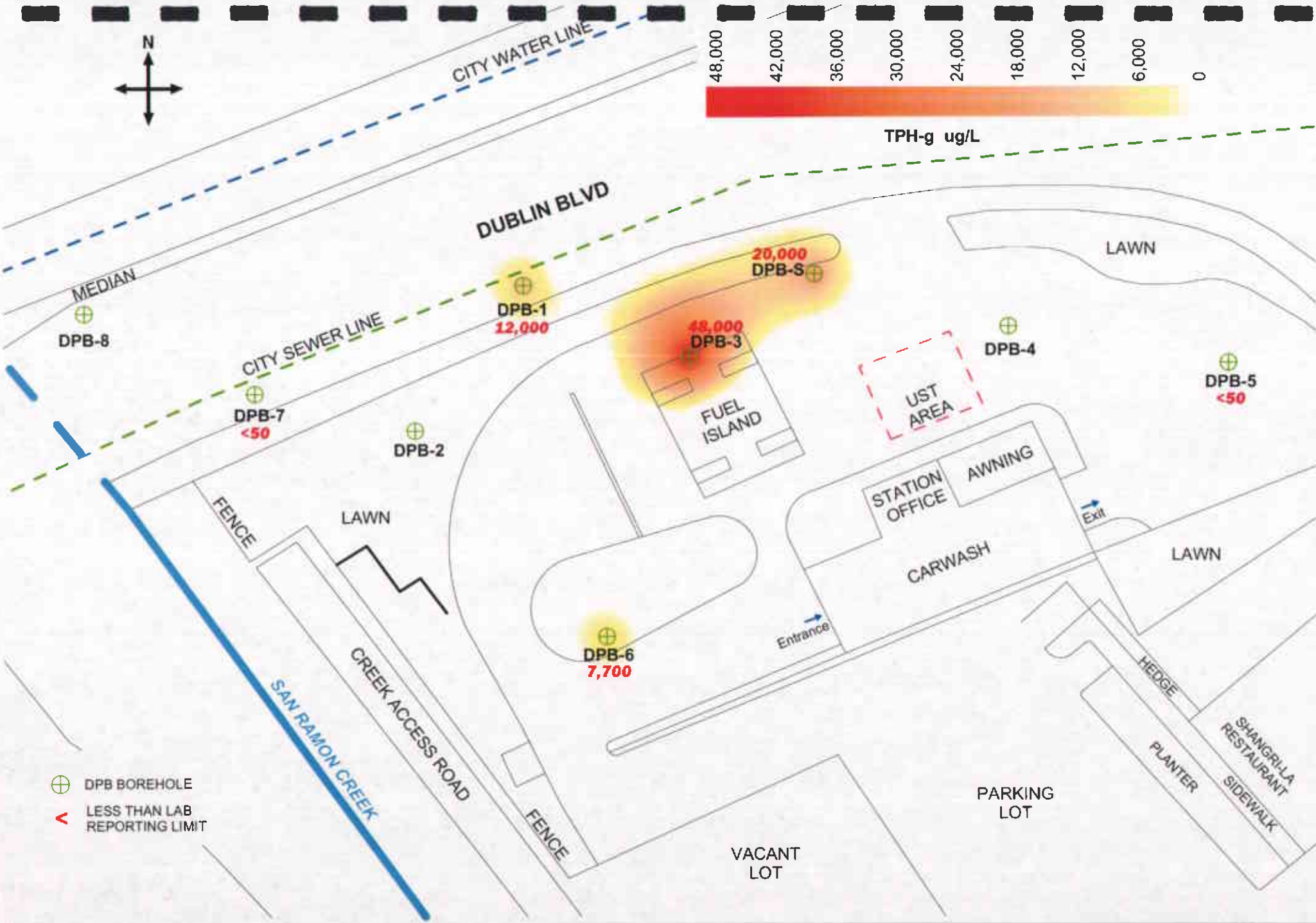


Figure 10: Contour map of TPH-g concentrations in the upper shallow and shallow water-bearing zone.

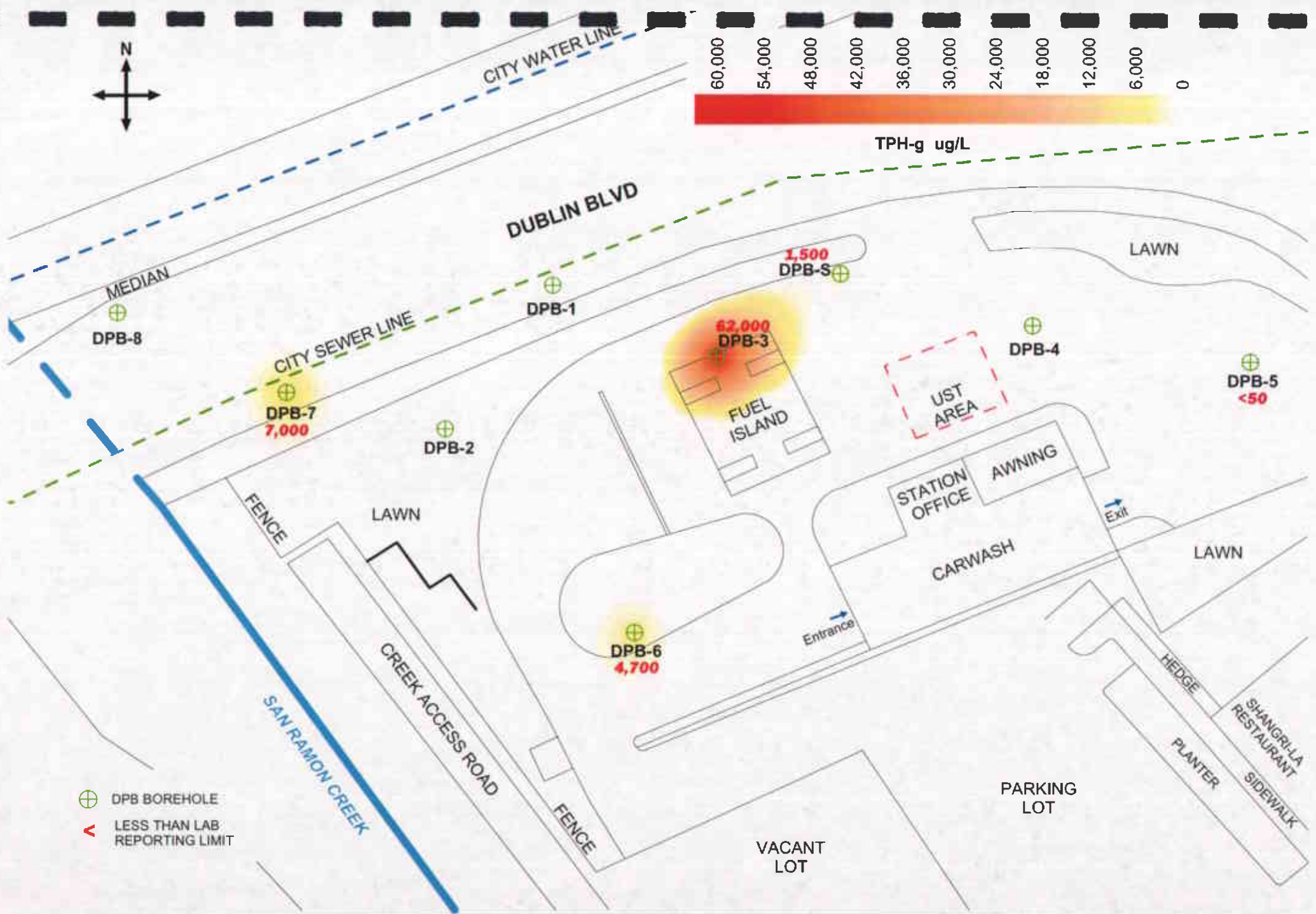


Figure 11: Contour map of TPH-g concentrations in the middle water-bearing zone.

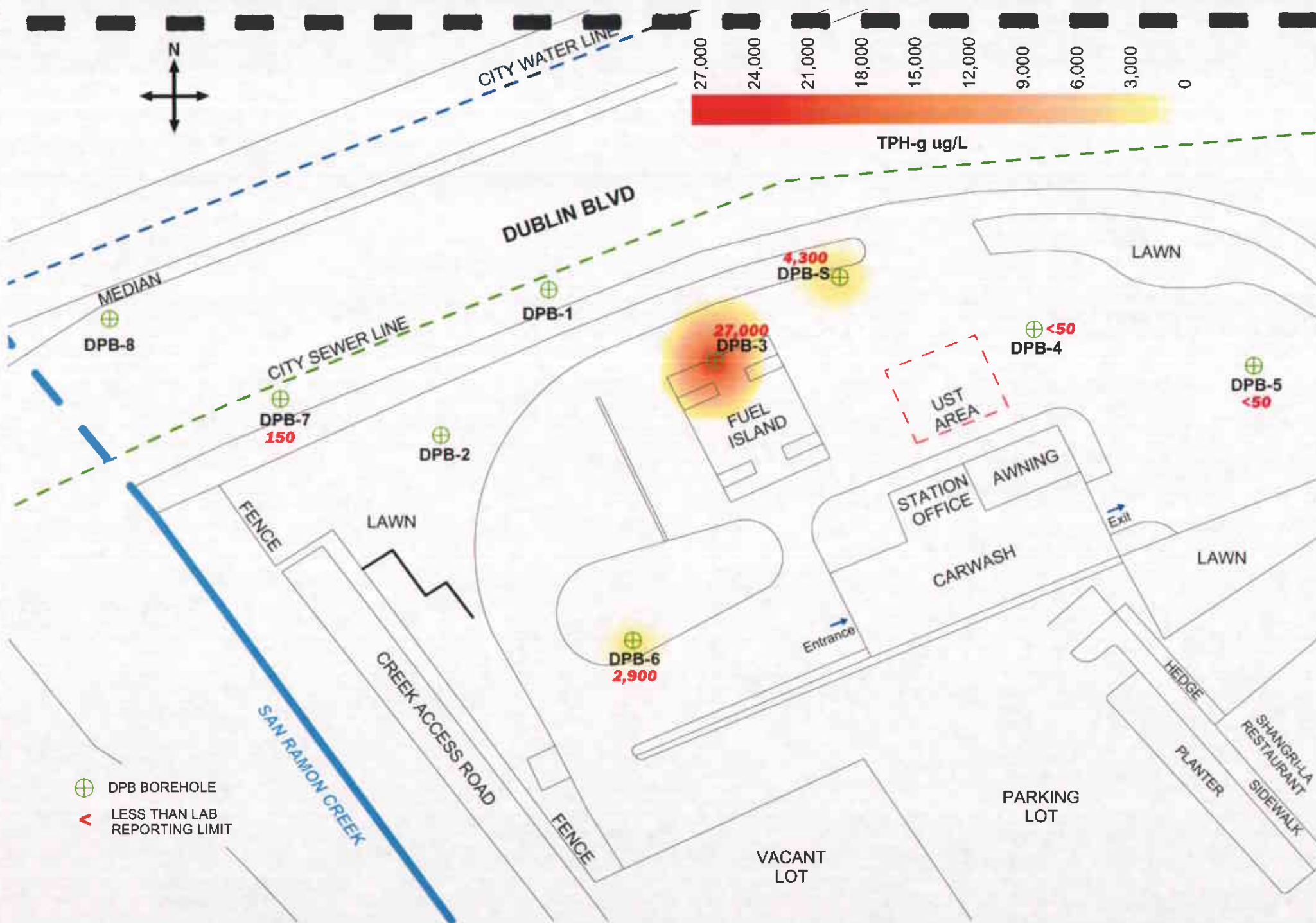


Figure 12: Contour map of TPH-g concentrations in the deeper water-bearing zone.

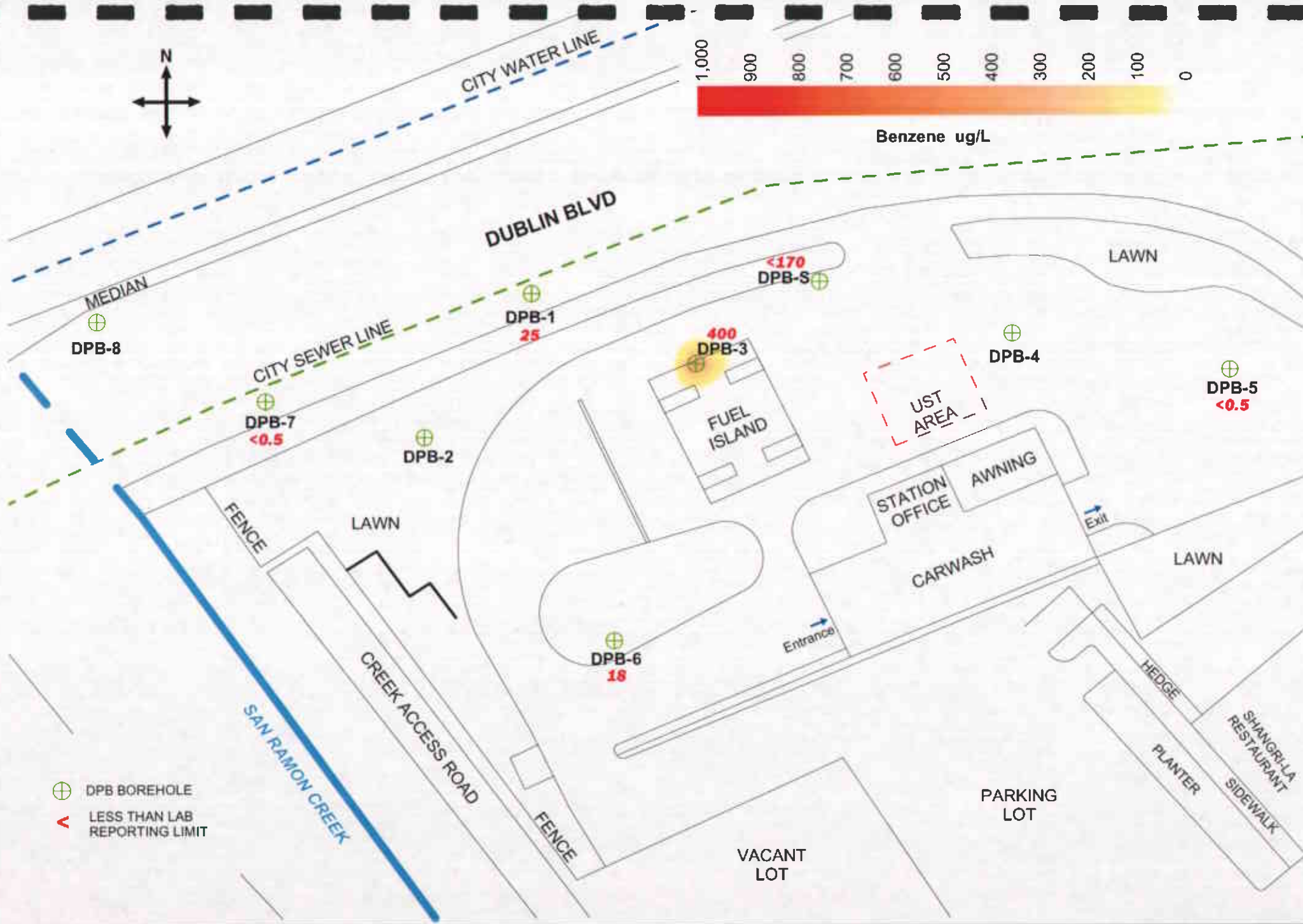


Figure 13: Contour map of Benzene concentrations in the upper shallow and shallow water-bearing zone.

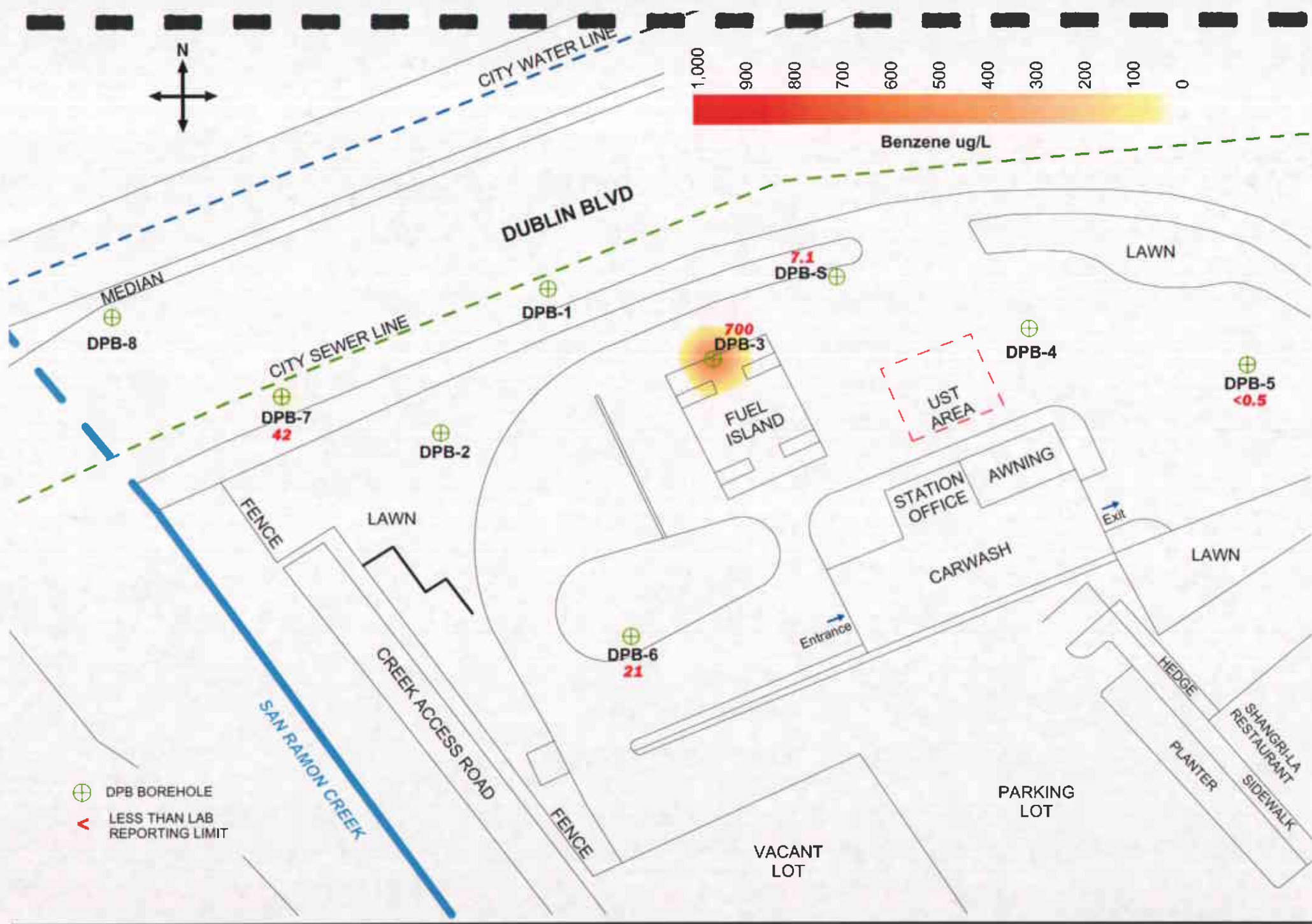


Figure 14: Contour map of Benzene concentrations in the middle water-bearing zone.

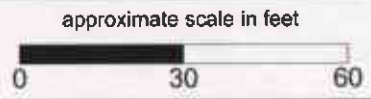
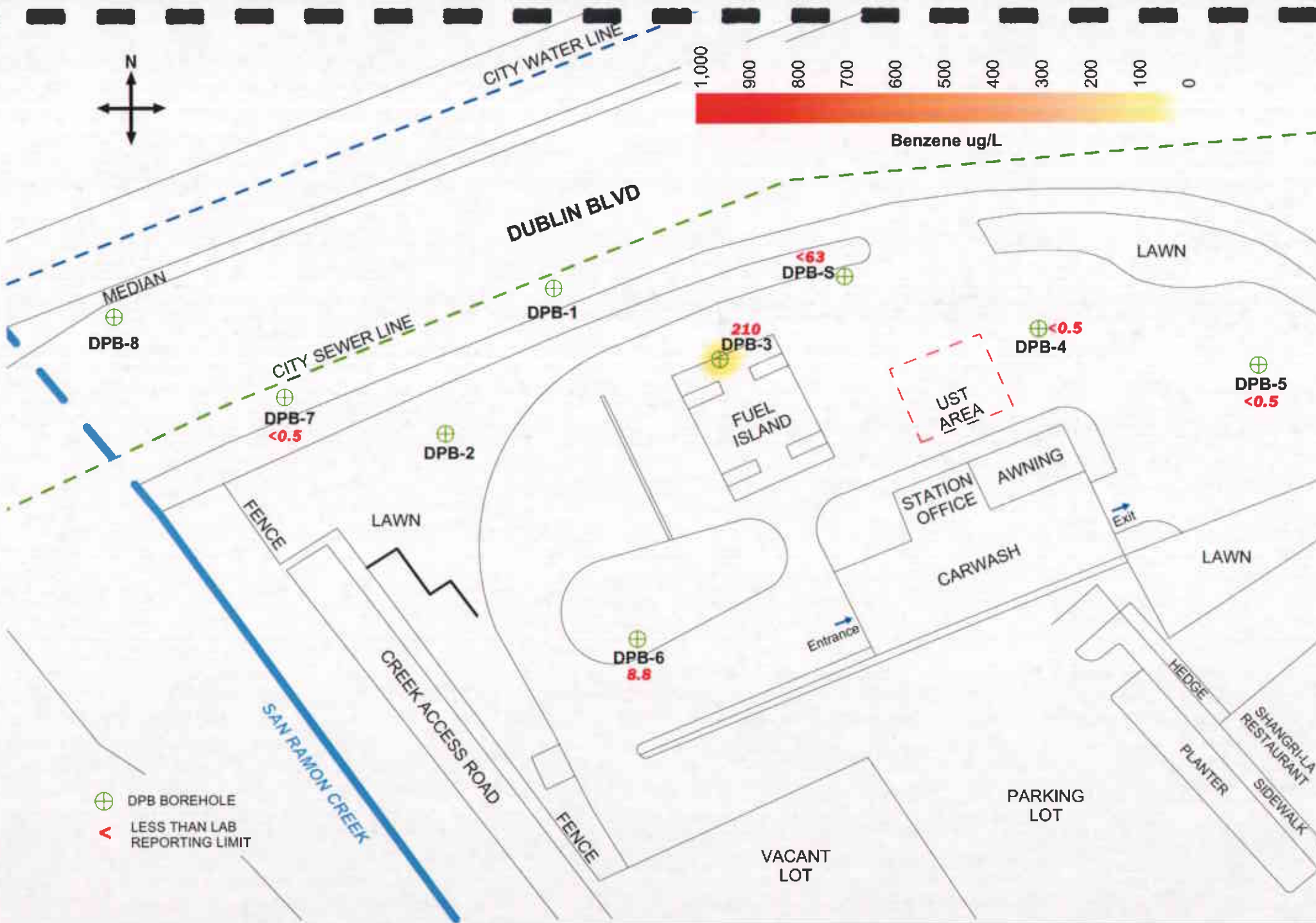


Figure 15: Contour map of Benzene concentrations in the deeper water-bearing zone.

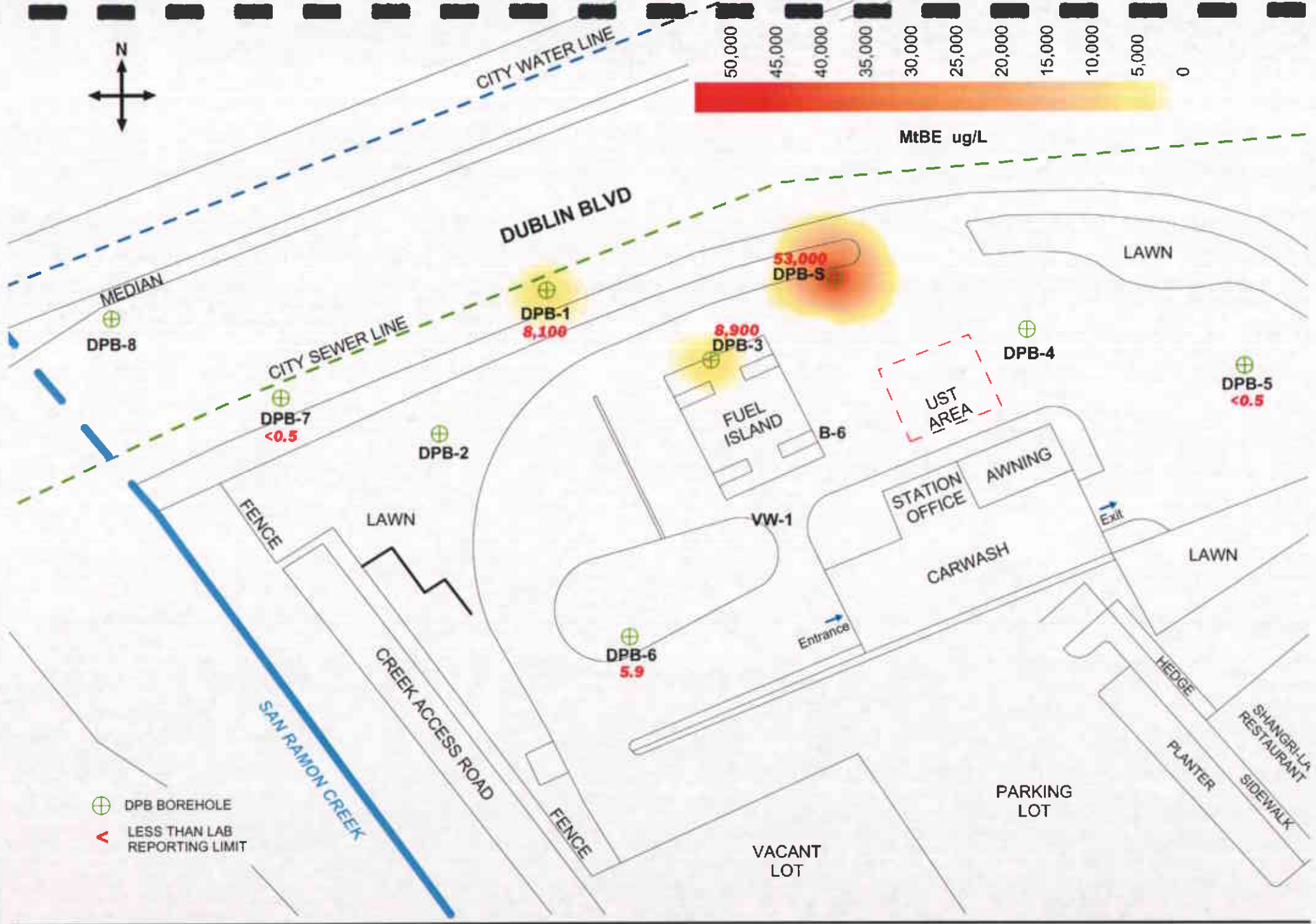
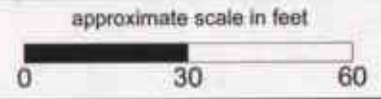


Figure 16: Contour map of MtBE concentrations in the upper shallow and shallow water-bearing zone.



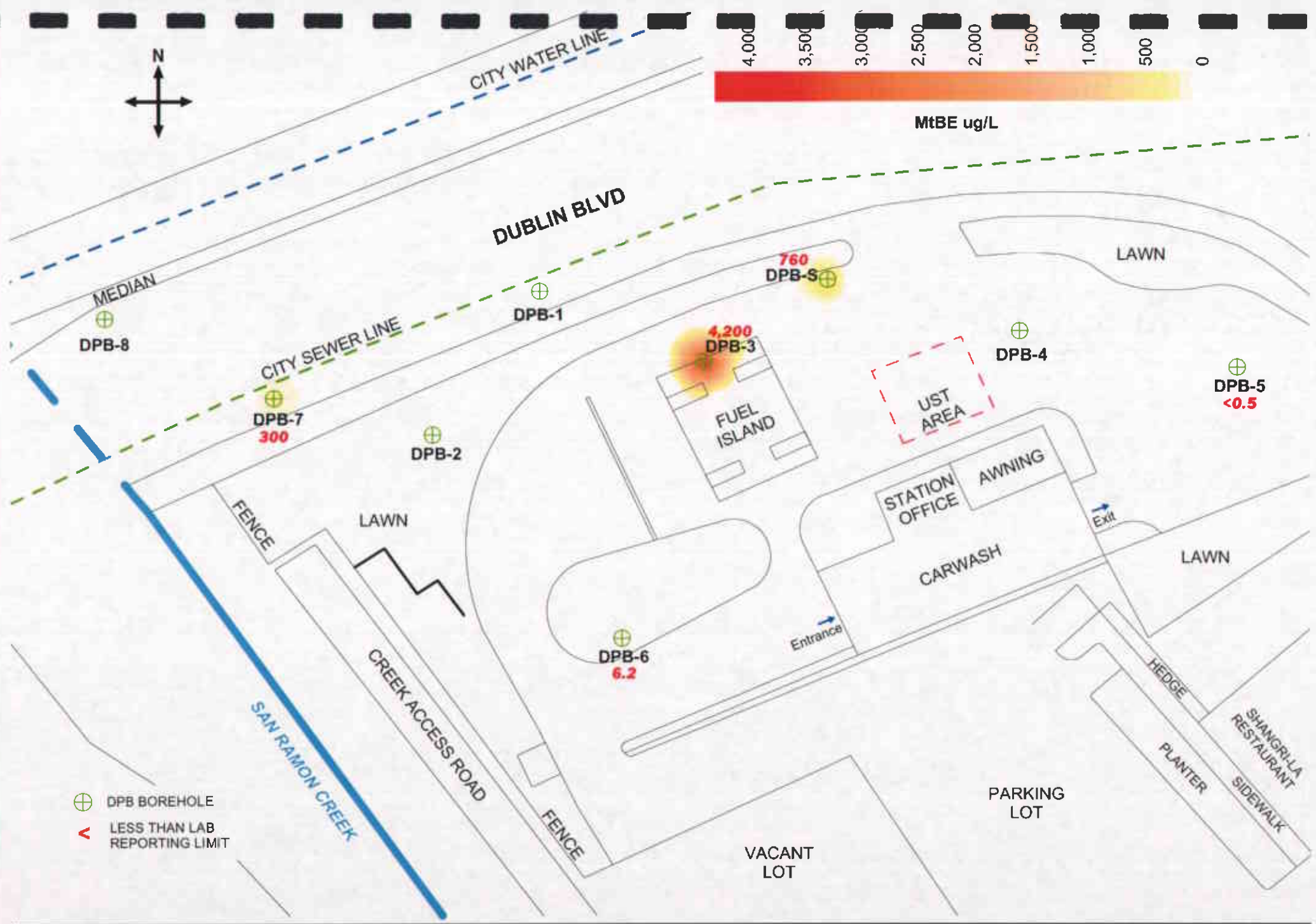


Figure 17: Contour map of MtBE concentrations in the middle water-bearing zone.

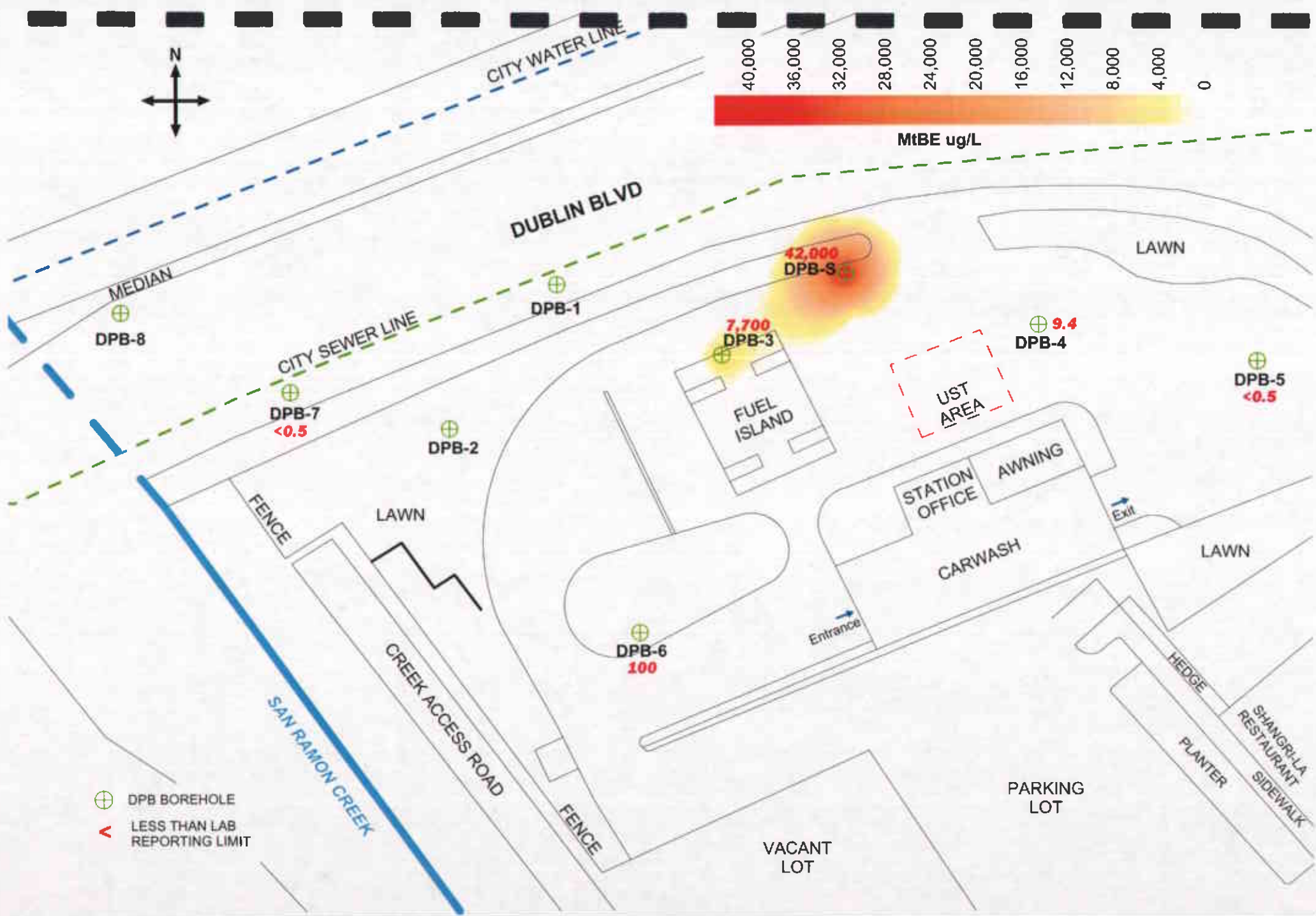


Figure 18: Contour map of MtBE concentrations in the deeper water-bearing zone.

Appendix A

Drilling and Encroachment Permits



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588-5127 VOICE (925) 484-2600 X235 FAX (925) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 7240 Dublin Blvd
Dublin CA

PERMIT NUMBER 23033
WELL NUMBER _____
APN _____

California Coordinates Source _____ Accuracy: _____ ft.
CCN IL CCE _____ ft.
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT
Name Hooshang Hadian
Address 7240 Dublin Blvd none
City Dublin CA Zip _____

A. GENERAL

- 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
- 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
- 3. Permit is void if project not begun within 90 days of approval date.

APPLICANT
Name SOMA Environmental Engineering
Address 2680 Bishop Dr Fax 925 244 6607
City San Ramon CA Phone 925 244 6600
Zip 94583

B. WATER SUPPLY WELLS

- 1. Minimum surface seal diameter is four inches greater than the well casing diameter.
- 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
- 3. Grout placed by tremie.
- 4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
- 5. A sample port is required on the discharge pipe near the wellhead.

TYPE OF PROJECT:
Well Construction _____ Geotechnical Investigation _____
Well Destruction _____ X Contamination Investigation _____
Cathodic Protection _____ Other _____

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

- 1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
- 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
- 3. Grout placed by tremie.

PROPOSED WELL USE:
Domestic _____ Irrigation _____
Municipal _____ Remediation _____
Industrial _____ X Groundwater Monitoring _____
Dewatering _____ Other _____

D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DRILLING METHOD:
Mud Rotary _____ Air Rotary _____ X Hollow Stem Auger _____
Cable Tool _____ X Direct Push _____ Other _____

E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

DRILLING COMPANY Fisch Environmental
DRILLER'S LICENSE NO. 057 683 865/436 387/710 079*

F. WELL DESTRUCTION. See attached.

WELL SPECIFICATIONS:
Drill Hole Diameter _____ in. Maximum _____
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

G. SPECIAL CONDITIONS: Submit to Zone 7 within 60 days after completion of permitted work the well installation report including all soil and water laboratory analysis results.

SOIL BORINGS: GW Sampling Boreholes
Number of Borings 9/6/1 Maximum _____
Hole Diameter 3 1/2" Depth 50 ft.

ESTIMATED STARTING DATE 9 April 2003
ESTIMATED COMPLETION DATE 18 April 2003
30

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

Approved Wyman Hong Date 3/31/2003
Wyman Hong

APPLICANT'S SIGNATURE [Signature] Date 3/31/2003

ATTACH SITE PLAN OR SKETCH

SOMA

Dublin
Department
CA 94588 - (925) 833-8840

Copy

NSE APPLICATION
IS OUTSIDE THE CITY OF DUBLIN ONLY

CITY OF DUBLIN

TR# 14 REG# 01 CP# 1040 04/01/2003
04/01/2003 13:10:06

B/L FEE
ACCOUNT#: 001,530,007
FINANCE Receipt#: 46500
BL 7602
PAYOR: SOMA ENVIRONMENTAL

Tendered ANT: 25.00
CHECK: 5003 25.00
CHANGE: .00
TOTAL: 25.00

--- THANK YOU ---

Expiration Date:

Engineering, Inc
Dr., Ste 203
CA Zip 94583
Business Fax (925) 244-6601
bove
Zip

ation, Environmental

urposes

File No.:
D. No.: 94-3158230
D. No.:

Applicant please check one:
 New Application Renewal
 Change of Owner/Business Name
 Change of Address/Location

OFFICIAL USE ONLY

Application No.: 007602
License Fee: \$ 25.00
Date Paid: 4/1/03 Cash Check # : 5003

License Review and Approval:
Finance Department
 Approved Disapproved
Comments:

Ownership: Corporation Ltd. Liability Corp.
 Sole Proprietor Partnership Trust

Enter below names of Owners, Partners, or Corporate Officers - Use additional sheets as necessary.

Owners Name Mansour Sepehr Title President Phone (925) 838-3939
Home Address 45 Redbud Court Cell Phone (925) 984-1580
City Danville State CA Zip 94526 E-mail Address msepehr@somaenv.com
Social Security No. (If no Federal I.D.)

Application Instructions.

The City of Dublin business registration fee is \$50.00 per year. For business locations outside the City of Dublin and operating in Dublin, please use the schedule listed to determine the appropriate fee for your business license. The pro-rated fee is based upon the month during the business license year (10/1 through 9/30) that work begins in the City of Dublin.

Renewal notices are mailed out in September. If you are no longer doing business in Dublin, please indicate on the renewal form the last day business was conducted in Dublin, and return to the Finance Department. Your license will be marked inactive. If you renew at a later date during the license year, please refer to the schedule listed for your appropriate fee.

Pro-rated Fee Schedule

Month Business Started	Fee Due
October	\$50.00
November	45.83
December	41.67
January	37.50
February	33.33
March	29.17
April	25.00
May	20.83
June	16.67
July	12.50
August	8.33
September	4.17

PLEASE CALCULATE AMOUNT DUE BY ENTERING INFORMATION IN BOXES BELOW.
PLEASE BE SURE TO SIGN APPLICATION BELOW.

Business Registration Fee \$
Prorated Registration Fee \$ 25.00
Penalty Fee, if applicable \$
TOTAL AMOUNT DUE \$ 25.00

Thank you for doing business in the City of Dublin!

I declare, under penalty of perjury that the above application is true and correct to the best of my knowledge. I certify that I will operate my business in accordance with all applicable federal, state and city laws and regulations. I further understand that any false statements made above are grounds for denial or revocation of the business license.

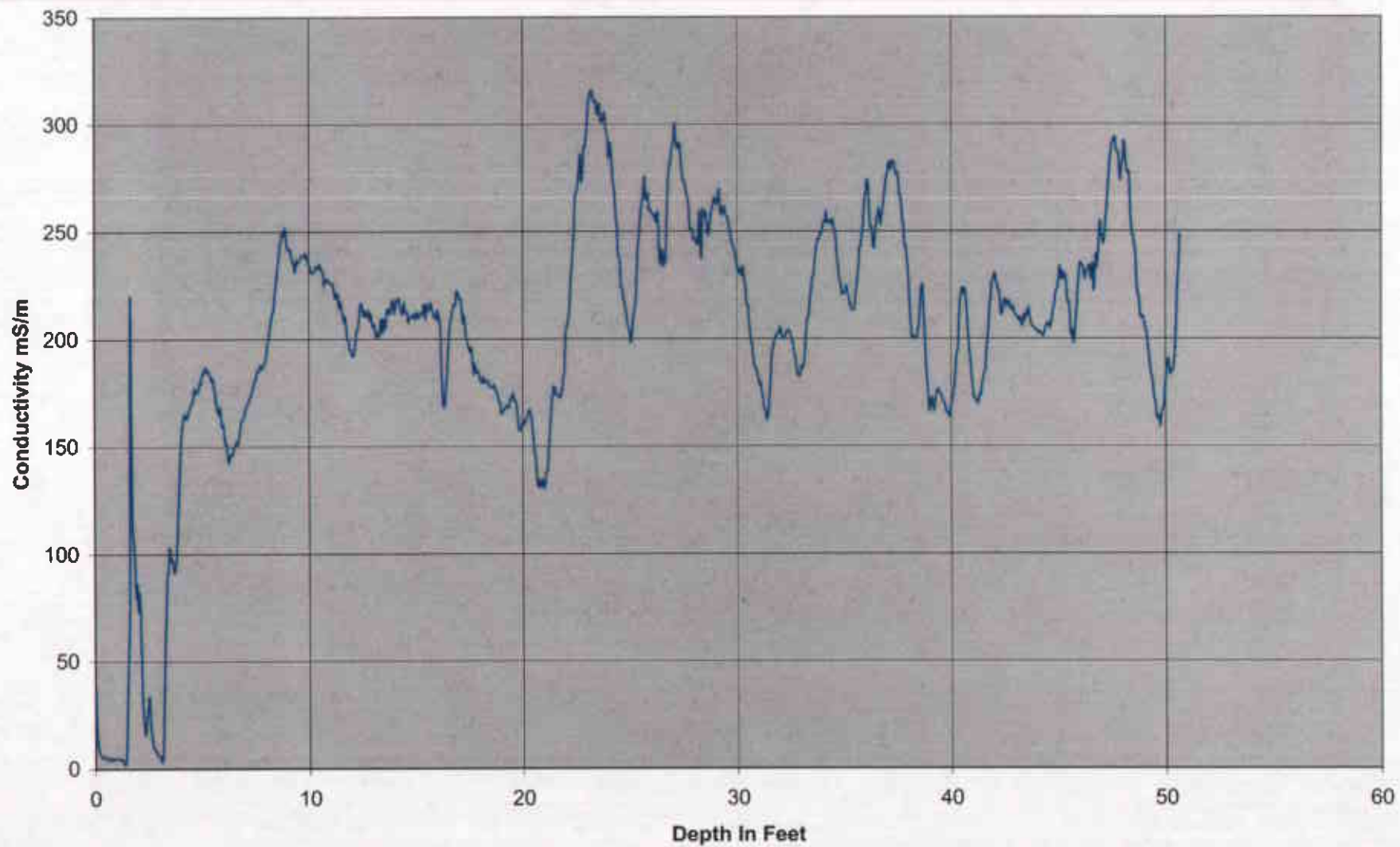
Date: 4-1-03 Signature of Owner or Representative: [Signature]

Return the entire application form to the address above and make check payable to the City of Dublin

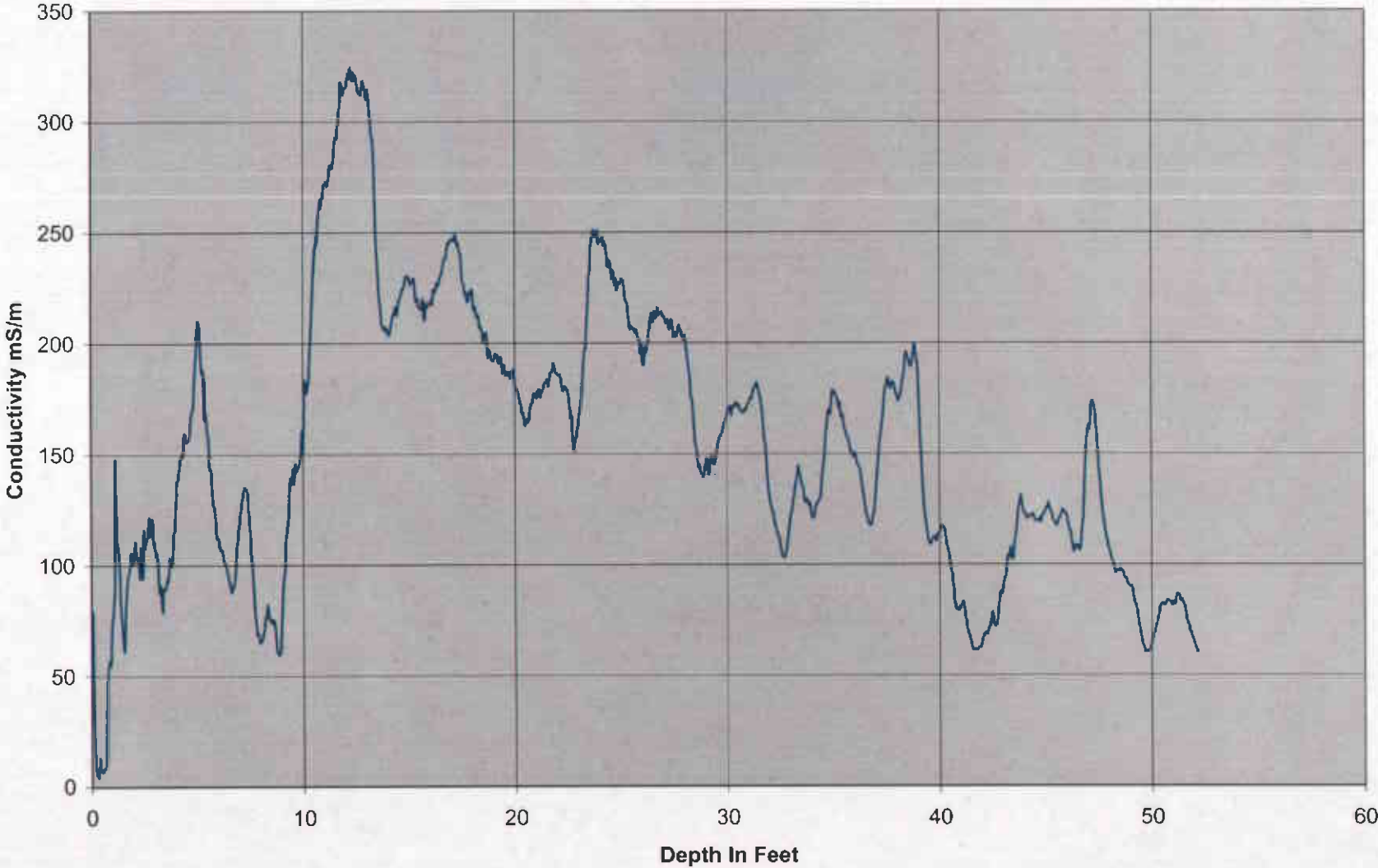
Appendix B

Borehole Logs

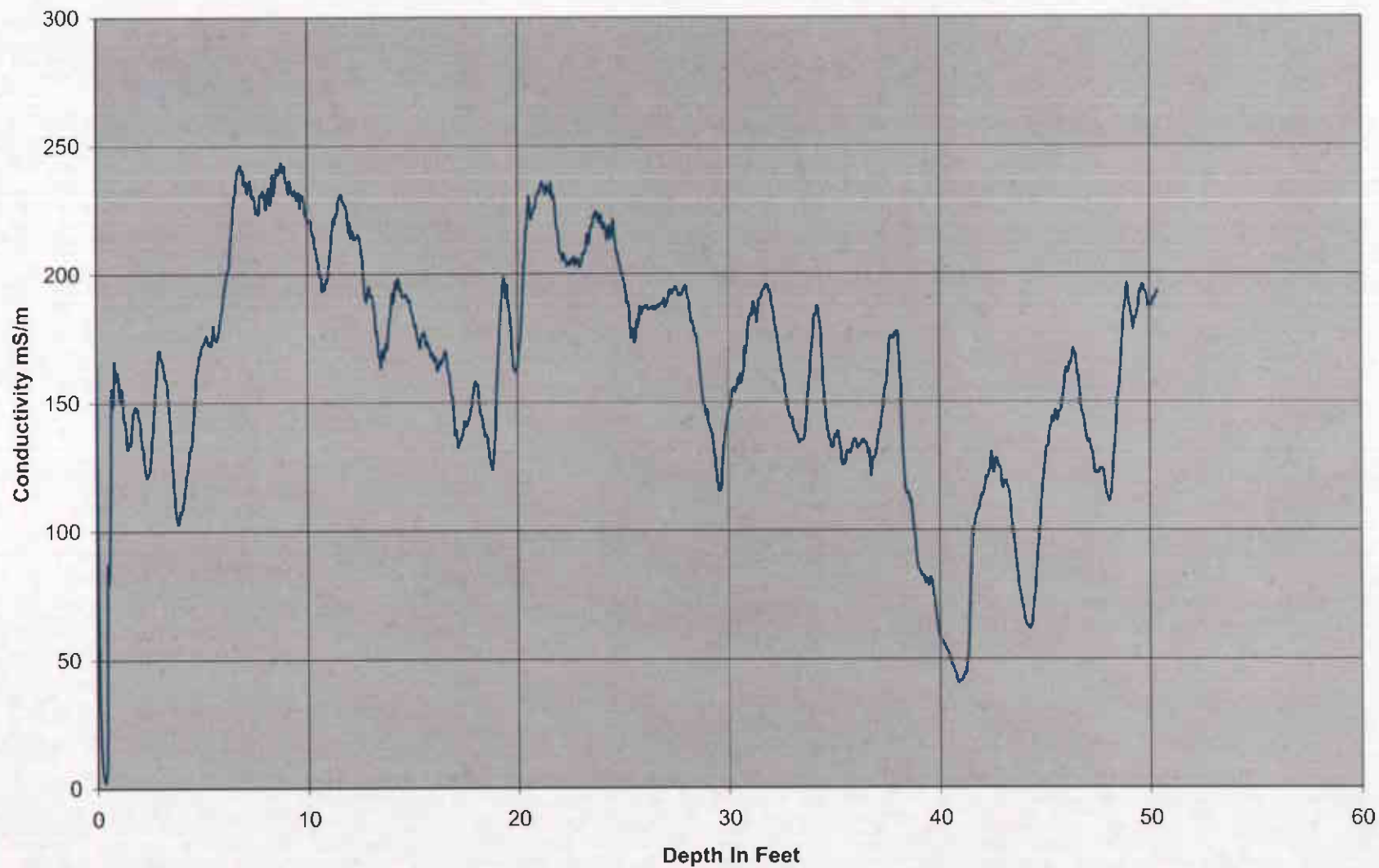
EC BOREHOLE 1



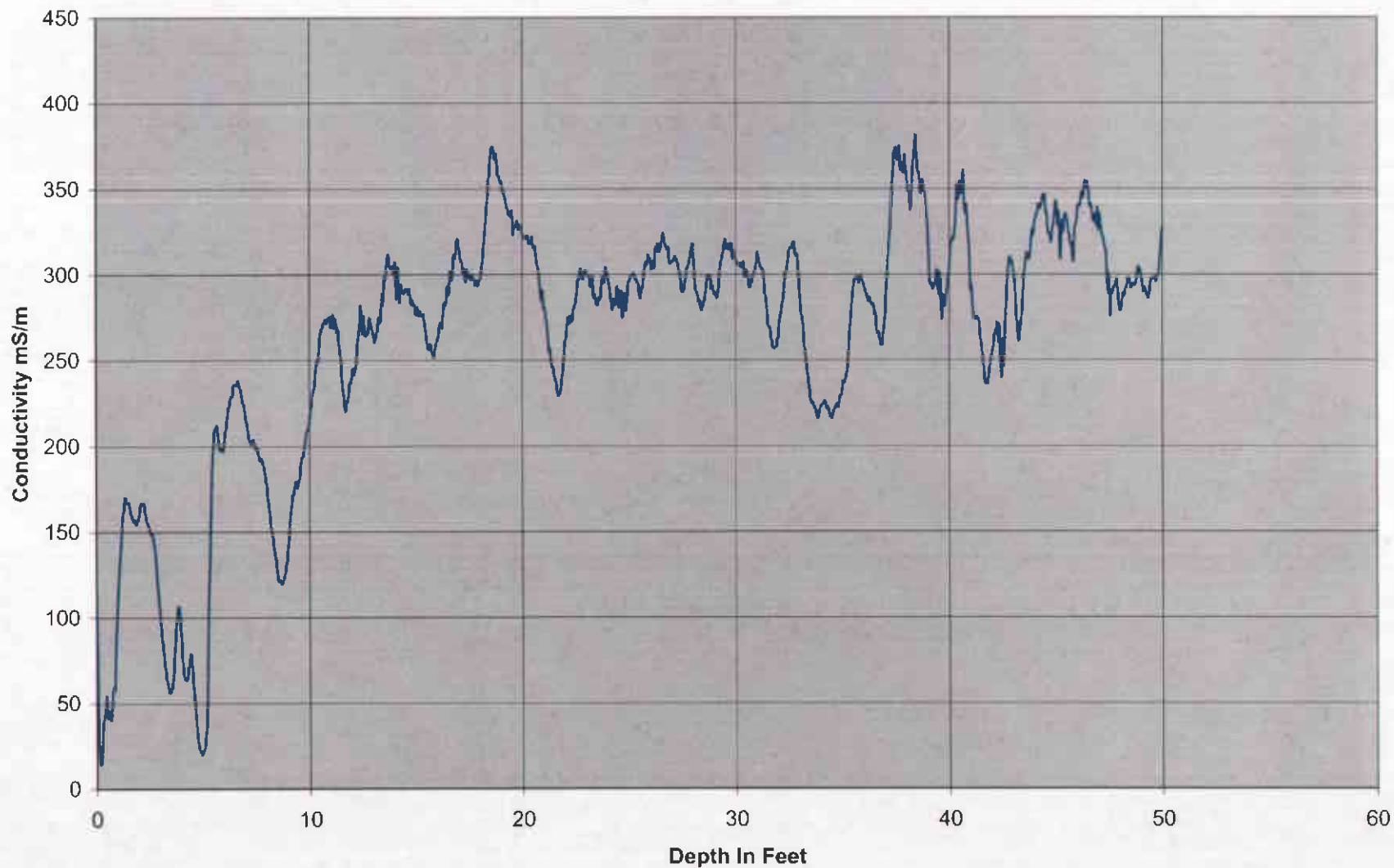
EC BOREHOLE 2



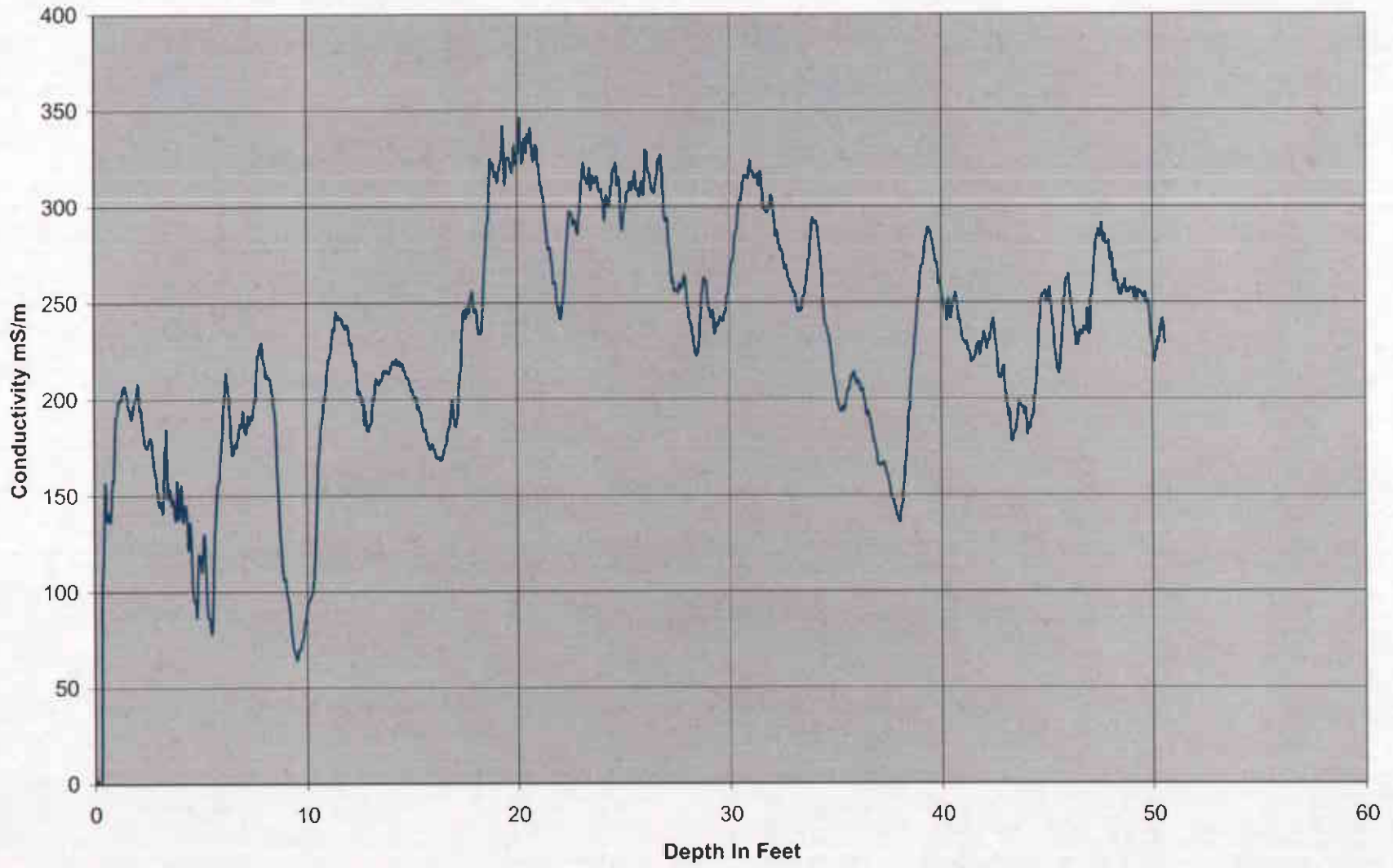
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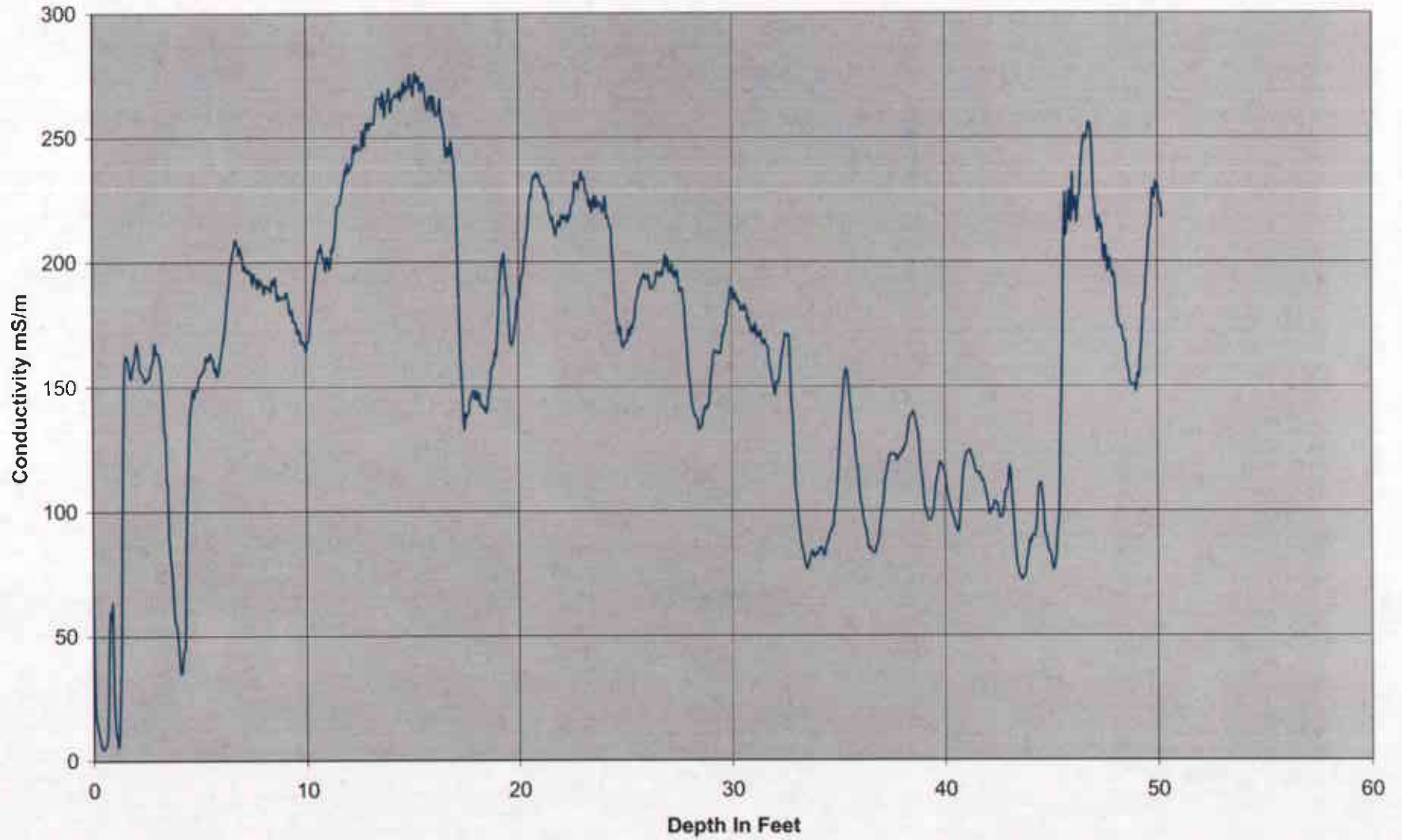
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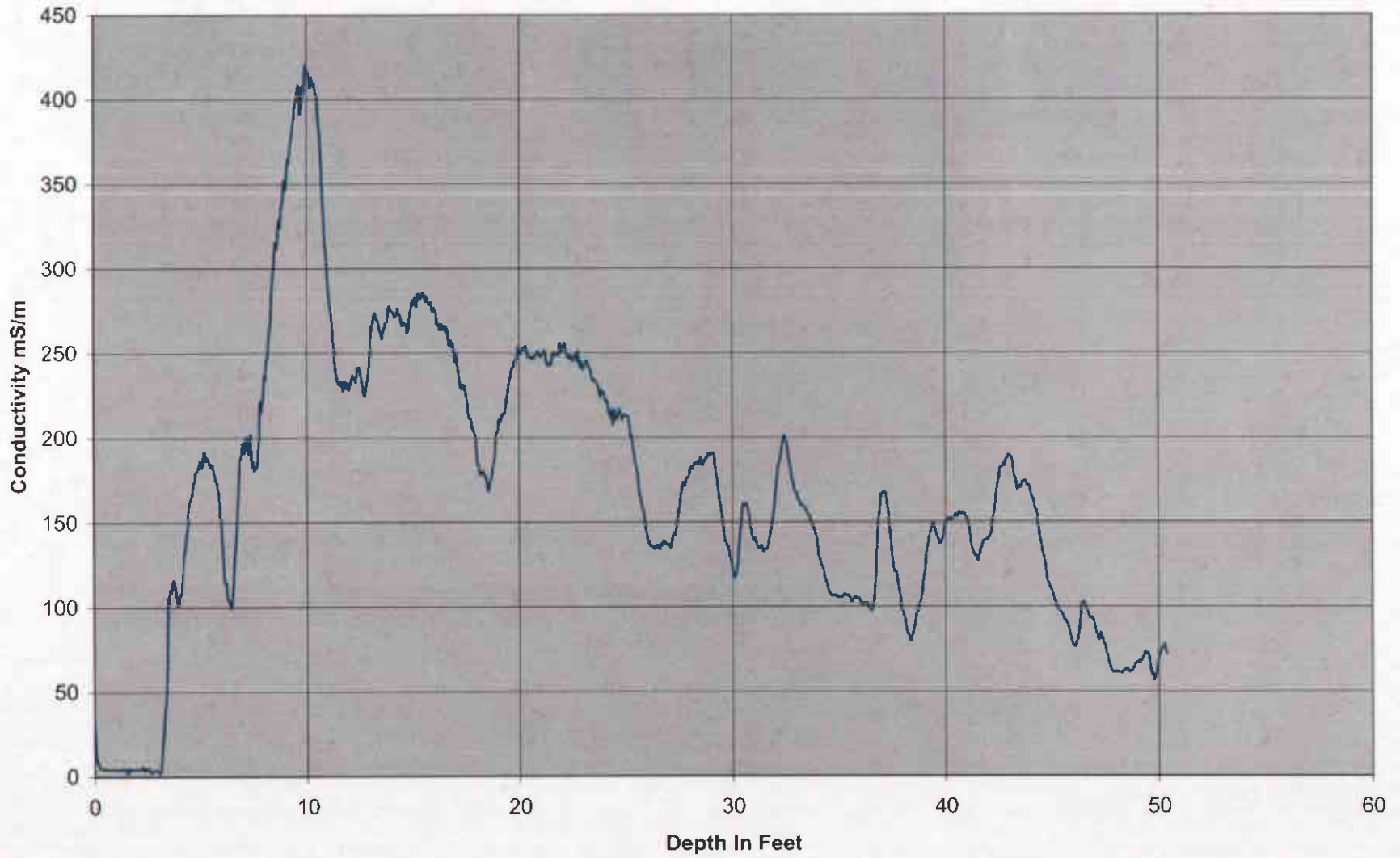
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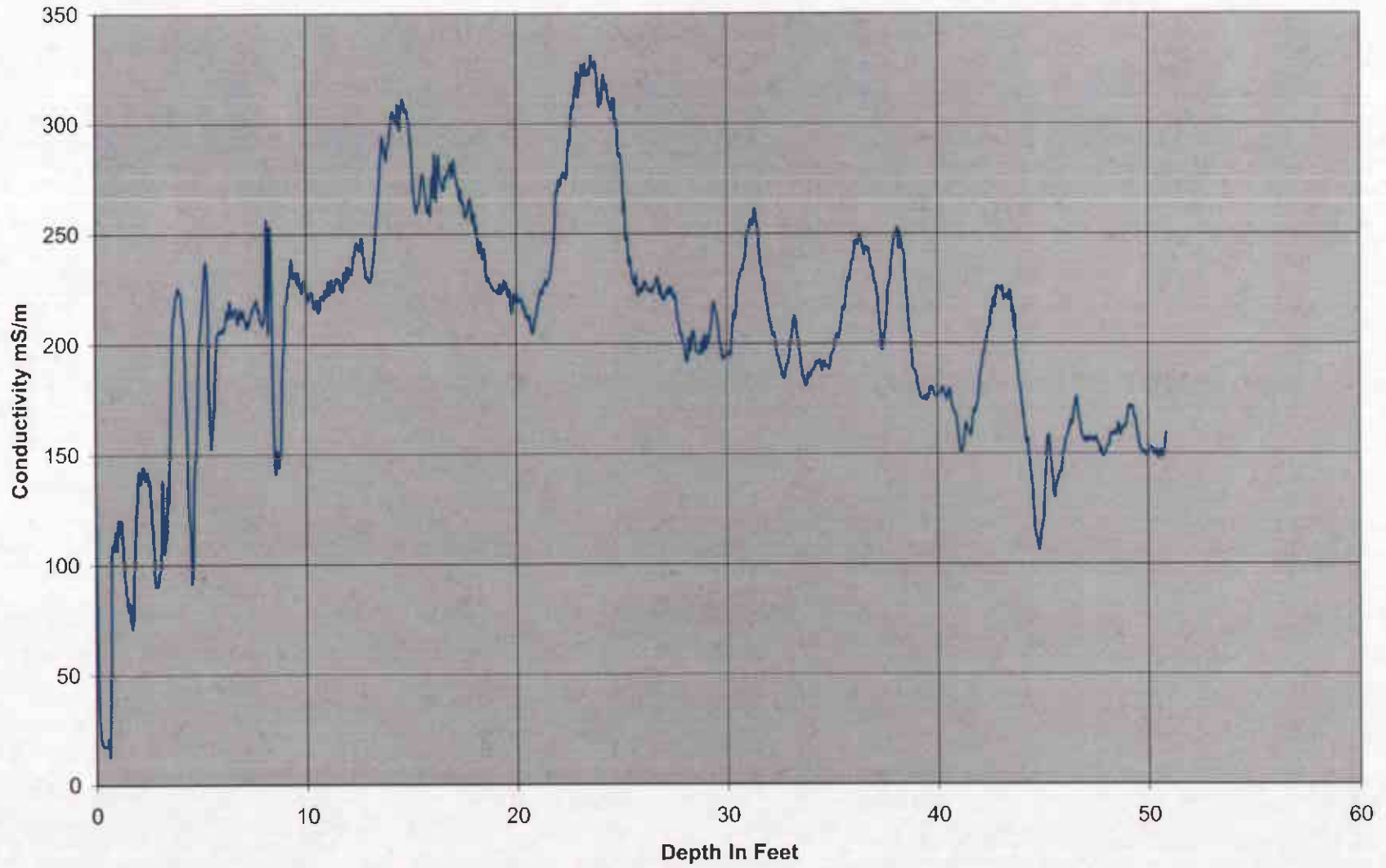
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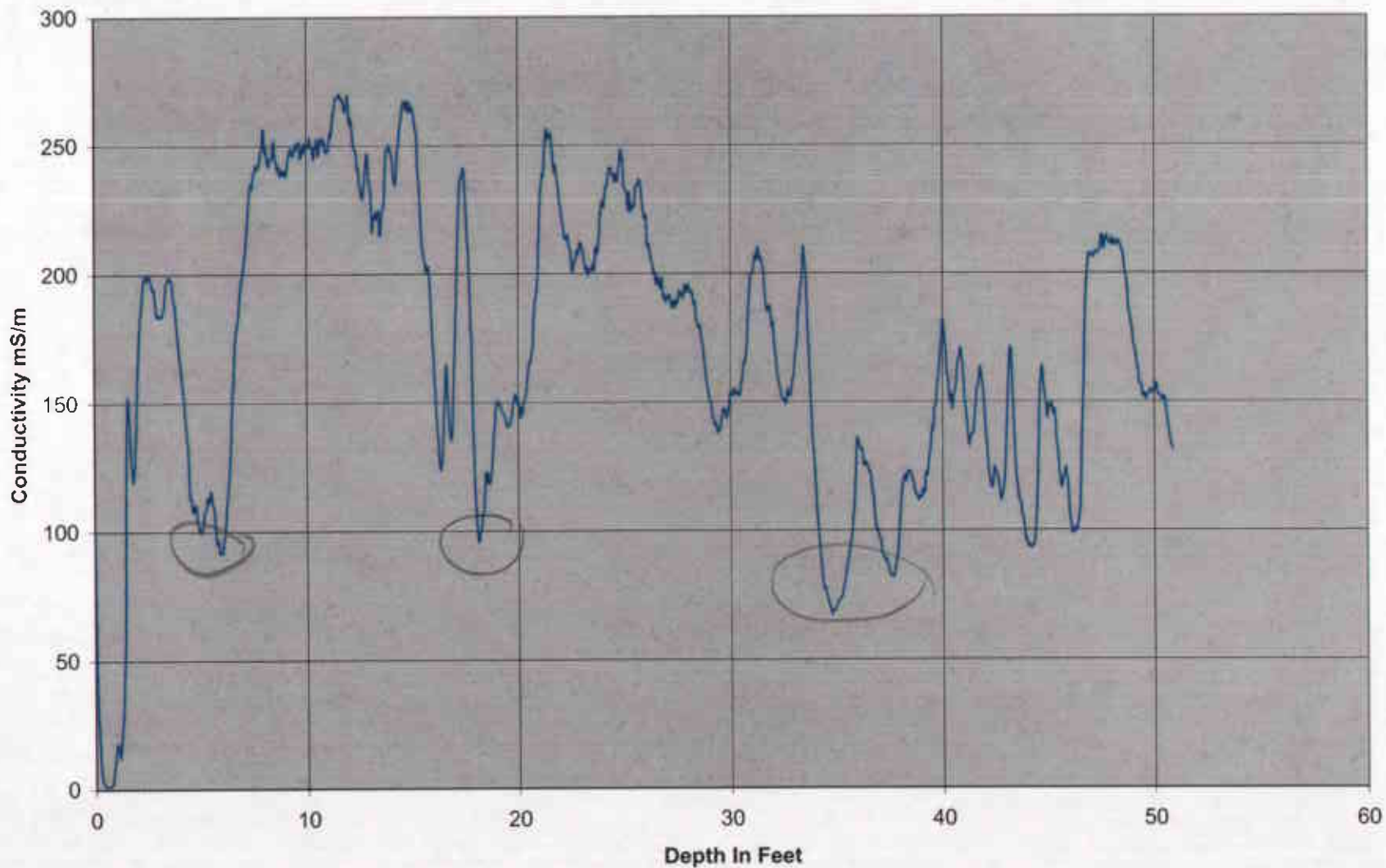
EC BOREHOLE 7



EC BOREHOLE 8



EC BOREHOLE S





GEOLOGIC LOG OF BOREHOLE S-1

Boring Location:

See Site Map.

Project: 2692

Site Location: 7240 Dublin Blvd
Dublin CA

Drilling Method: HSA

Driller: Woodward Drilling (Frank Ramirez)

Logged By: R Papler

Date Drilled: April 25, 2003

Casing Elevation: NA

Depth to 1st Groundwater: 6.5 ft

Approved By: M Sepehr PE

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	continuous core	SAMPLED blow count per 1 ft	POTENTIAL WATER-BEARING ZONE AS PER EC LOGS
				4" concrete over 3" baserock			
	0		CH	CLAY: dark gray brown, firm to stiff, moist, highly plastic. No petroleum hydrocarbon (PHC) odors.			UPPER-SHALLOW
	0		CL	SANDY CLAY: dark gray brown, firm to stiff, moist, plastic, 30-40% very fine sand. No PHC odor.			
	5		SM&ML	SILTY SAND & SANDY SILT: light gray brown, loose to medium dense, firm, moist to v. moist becoming wet at 5 to 6'. No PHC odor.		10	
	115		CL	SILTY CLAY: dark gray brown, stiff to v. stiff, moist, plastic w/ stringer of moist v. fine sand at 7'. Moderate PHC odor.		17	
	180		CL	As Above with some caliche below 11'		15	
	10		CL			23	
	56		CL			12	
	31		CL			21	
	15		SC/CL	CLAYEY SAND/SANDY CLAY: light gray brown, firm to stiff, moist, slightly to moderately plastic, 40-60% v. fine sand w/ v. moist stringers of med. to fine sand. Slight PHC odor.		18	
	20		CH	CLAY: gray, firm to stiff, moist, highly plastic w/ gastropod shells and carbonaceous deposits. No PHC odor.		32	
	15		CH	CLAY: gray, firm to stiff, moist, highly plastic w/ gastropod shells and carbonaceous deposits. No PHC odor.		24	
	10		SM	SILTY SAND: brownish gray, loose to med. dense, v. moist to wet, fine to coarse, moderately sorted. No PHC odor.		28	SHALLOW
	5		CL	SANDY CLAY: gray, stiff, moist, plastic, 30-40% v. fine sand w/ v. moist stringer of sandy silt at 19.5'. No PHC odor.		16	
	20		CL	SANDY CLAY: gray, stiff, moist, plastic, 30-40% v. fine sand w/ v. moist stringer of sandy silt at 19.5'. No PHC odor.		19	
	5		CL	GRAVELLY CLAY w/some Sand: ls brownish gray, wet, 20-30% well rounded gravel to 1/2", <15% v. fine sand. No PHC odor.		12	
	0		CL	SILTY CLAY: gray brown mottled gray, moist, v. stiff to hard, plastic w/ some caliche. No PHC odor.		18	
	25		CL	SILTY CLAY: gray brown mottled gray, moist, v. stiff to hard, plastic w/ some caliche. No PHC odor.		40	
			CL	SILTY CLAY: gray brown mottled gray, moist, v. stiff to hard, plastic w/ some caliche. No PHC odor.		43	
			CL	SILTY CLAY: gray brown mottled gray, moist, v. stiff to hard, plastic w/ some caliche. No PHC odor.		10	
			CL	SILTY CLAY: gray brown mottled gray, moist, v. stiff to hard, plastic w/ some caliche. No PHC odor.		22	
			CL	SILTY CLAY: gray brown mottled gray, moist, v. stiff to hard, plastic w/ some caliche. No PHC odor.		15	
			CL	SILTY CLAY: gray brown mottled gray, moist, v. stiff to hard, plastic w/ some caliche. No PHC odor.		23	



GEOLOGIC LOG OF BOREHOLE S-1

Boring Location:
See Site Map.

Project: 2692
Site Location: 7240 Dublin Blvd
Dublin CA
Drilling Method: HSA
Driller: Woodward Drilling (Frank Ramirez)
Logged By: R Papler

Date Drilled: April 25, 2003
Casing Elevation: NA
Depth to 1st Groundwater: NA
Approved By: M Sepehr PE

DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	SAMPLED		POTENTIAL WATER-BEARING ZONE AS PER EC LOGS
				continuous	blow counts	
0		CL	SILTY CLAY: gray brown mottled gray, moist, v. stiff, to hard, plastic w/ some caliche. No PHC odor	25		MIDDLE
30		CL	As Above	33		
0		CL	SANDY CLAY: gray, stiff, v. moist, plastic, 15-30% v. fine sand. No PHC odor.	28		DEEPER
30		CL	As Above	40		
0		SP&ML	SAND interbedded w/ SANDY SILT: gray, loose to medium dense, wet, v. fine, well sorted. No PHC odor.	20		
35		SC/CL	CLAYEY SAND/SANDY CLAY: gray becoming grayish brown w/ depth, medium dense to dense, moist, plastic. No PHC odor.	38		
0		SC/CL	As above w/ stringer of wet silty sand at 36'.	22		
40		SC	CLAYEY SAND: gray brown mottled gray, medium dense to dense, moist to v. moist, slightly plastic w/ stringers of wet silty sand at 41', 41.5', and 43'. No PHC odor.	37		
0		SC	As above with stringers of wet silty sand at 41', 41.5', and 43'.	20		
45		CL	SILTY CLAY: gray brown mottled gray, v. stiff to hard, moist, plastic w/ stringer of v. moist silty sand at 47.25' w/ abundant caliche at 45-46'. No PHC odor.	36		
0		CL	As above with moist silty sand stringer at 47'.	54		
50			Total Depth: 49 ft bgs	64		

Appendix C

Laboratory Reports of Soil Analytical and Chain
of Custody Form



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

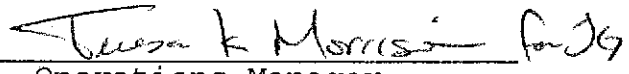
Date: 05-MAY-03
Lab Job Number: 164930
Project ID: 2692
Location: Hadjian/Dublin

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____


Project Manager

Reviewed by: _____


Operations Manager

This package may be reproduced only in its entirety.



Laboratory Number: 164930 (soil)
Client: SOMA Environmental Engineering Inc.
Project Name: Hadjian/Dublin
Project Number: 2692
Receipt Date: 04/24/2003

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for eight soil samples received from the above referenced project on April 24, 2003. The samples were received cold and intact.

Total Volatile Hydrocarbons:

The recovery for the surrogate bromofluorobenzene trifluorotoluene in the sample B-8@4.5.75 exceeds acceptance limits due to the coelution of the surrogate peak with hydrocarbon peaks. The associated surrogate bromofluorobenzene recovery is acceptable; therefore, there is no affect on the quality of the sample. No analytical problems were encountered.

Purgeable Organics (EPA 8260):

No analytical problems were encountered.



Gasoline by GC/FID (5035 Prep)

Lab #:	164930	Location:	Hadilan/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Matrix:	Soil	Sampled:	04/23/03
Units:	mg/Kg	Received:	04/24/03
Basis:	as received		

Field ID:	B-1@3.5-4	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	81080
Lab ID:	164930-001	Analyzed:	04/26/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	94	58-144
Bromofluorobenzene (FID)	93	60-146

Field ID:	B-2B@3.5-4	Diln Fac:	400.0
Type:	SAMPLE	Batch#:	81124
Lab ID:	164930-002	Analyzed:	04/28/03

Analyte	Result	RL
Gasoline C7-C12	9,200	400

Surrogate	%REC	Limits
Trifluorotoluene (FID)	131	58-144
Bromofluorobenzene (FID)	120	60-146

Field ID:	B-3@3.5-4	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	81124
Lab ID:	164930-003	Analyzed:	04/28/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	58-144
Bromofluorobenzene (FID)	93	60-146

Field ID:	B-4@2.5-3	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	81080
Lab ID:	164930-004	Analyzed:	04/26/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.17

Surrogate	%REC	Limits
Trifluorotoluene (FID)	91	58-144
Bromofluorobenzene (FID)	85	60-146

*= Value outside of QC limits; see narrative
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
D= Not Detected
RL= Reporting Limit

Gasoline by GC/FID (5035 Prep)

Lab #:	164930	Location:	Hadilan/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Matrix:	Soil	Sampled:	04/23/03
Units:	mg/Kg	Received:	04/24/03
Basis:	as received		

Field ID:	B-5@3.5-4	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	81080
Lab ID:	164930-005	Analyzed:	04/26/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.19
Surrogate	%REC	Limits
Trifluorotoluene (FID)	86	58-144
Bromofluorobenzene (FID)	82	60-146

Field ID:	B-6@2.5-3	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	81080
Lab ID:	164930-006	Analyzed:	04/26/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.17
Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	58-144
Bromofluorobenzene (FID)	104	60-146

Field ID:	B-7@3.5-4	Diln Fac:	200.0
Type:	SAMPLE	Batch#:	81080
Lab ID:	164930-007	Analyzed:	04/26/03

Analyte	Result	RL
Gasoline C7-C12	8,700	200
Surrogate	%REC	Limits
Trifluorotoluene (FID)	132	58-144
Bromofluorobenzene (FID)	110	60-146

Field ID:	B-8@4-5.75	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	81109
Lab ID:	164930-008	Analyzed:	04/26/03

Analyte	Result	RL
Gasoline C7-C12	99 H Y	5.0
Surrogate	%REC	Limits
Trifluorotoluene (FID)	132	58-144
Bromofluorobenzene (FID)	147 *	60-146

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



Gasoline by GC/FID (5035 Prep)

Lab #:	164930	Location:	Hadilan/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Matrix:	Soil	Sampled:	04/23/03
Units:	mg/Kg	Received:	04/24/03
Basis:	as received		

Type:	BLANK	Batch#:	81080
Lab ID:	QC212114	Analyzed:	04/25/03
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	1.0
Surrogate	%REC	Limits
Trifluorotoluene (FID)	89	58-144
Bromofluorobenzene (FID)	86	60-146

Type:	BLANK	Batch#:	81109
Lab ID:	QC212228	Analyzed:	04/26/03
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	1.0
Surrogate	%REC	Limits
Trifluorotoluene (FID)	125	58-144
Bromofluorobenzene (FID)	121	60-146

Type:	BLANK	Batch#:	81124
Lab ID:	QC212281	Analyzed:	04/28/03
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	1.0
Surrogate	%REC	Limits
Trifluorotoluene (FID)	104	58-144
Bromofluorobenzene (FID)	96	60-146

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

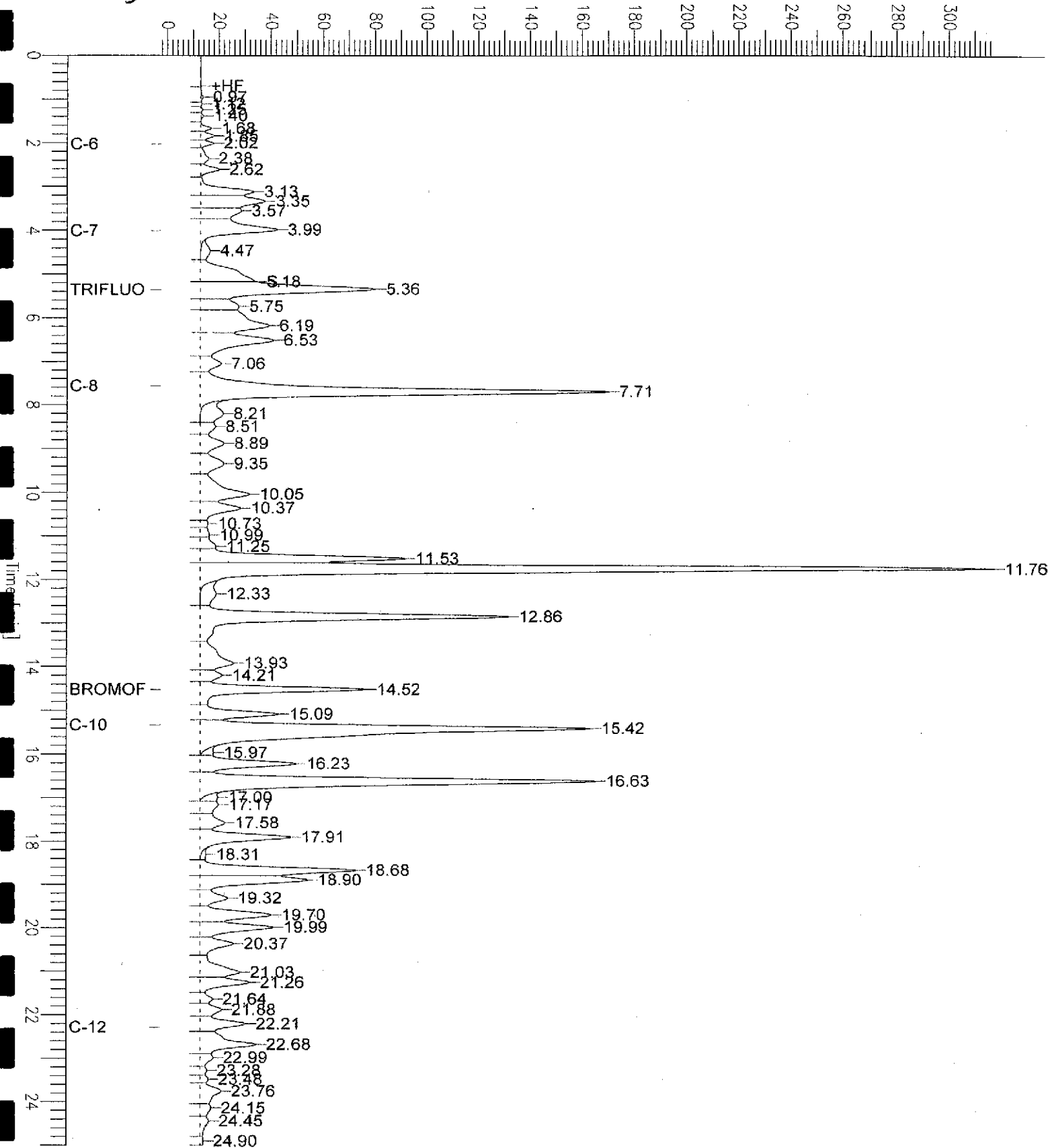
Chromatogram

Sample Name : 164930-002,81124
FileName : G:\GC05\DATA\118G004.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

Sample #: c
Date : 4/28/03 03:57 PM
Time of Injection: 4/28/03 01:29 PM
Low Point : -2.35 mV
Plot Scale: 319.8 mV
End Time : 25.00 min
Plot Offset: -2 mV
High Point : 317.45 mV

B-2B@3.5-4

Response [mV]



GC19 TVH 'X' Data File (FID)

Sample Name : 164930-007,81080,tvh only

Sample #: a

Page 1 of 1

FileName : G:\GC19\DATA\115X036.raw

Date : 4/26/03 06:24 AM

Method : TVHBTXE

Time of Injection: 4/26/03 05:57 AM

Start Time : 0.00 min End Time : 26.80 min

Low Point : -36.70 mV

High Point : 1051.79 mV

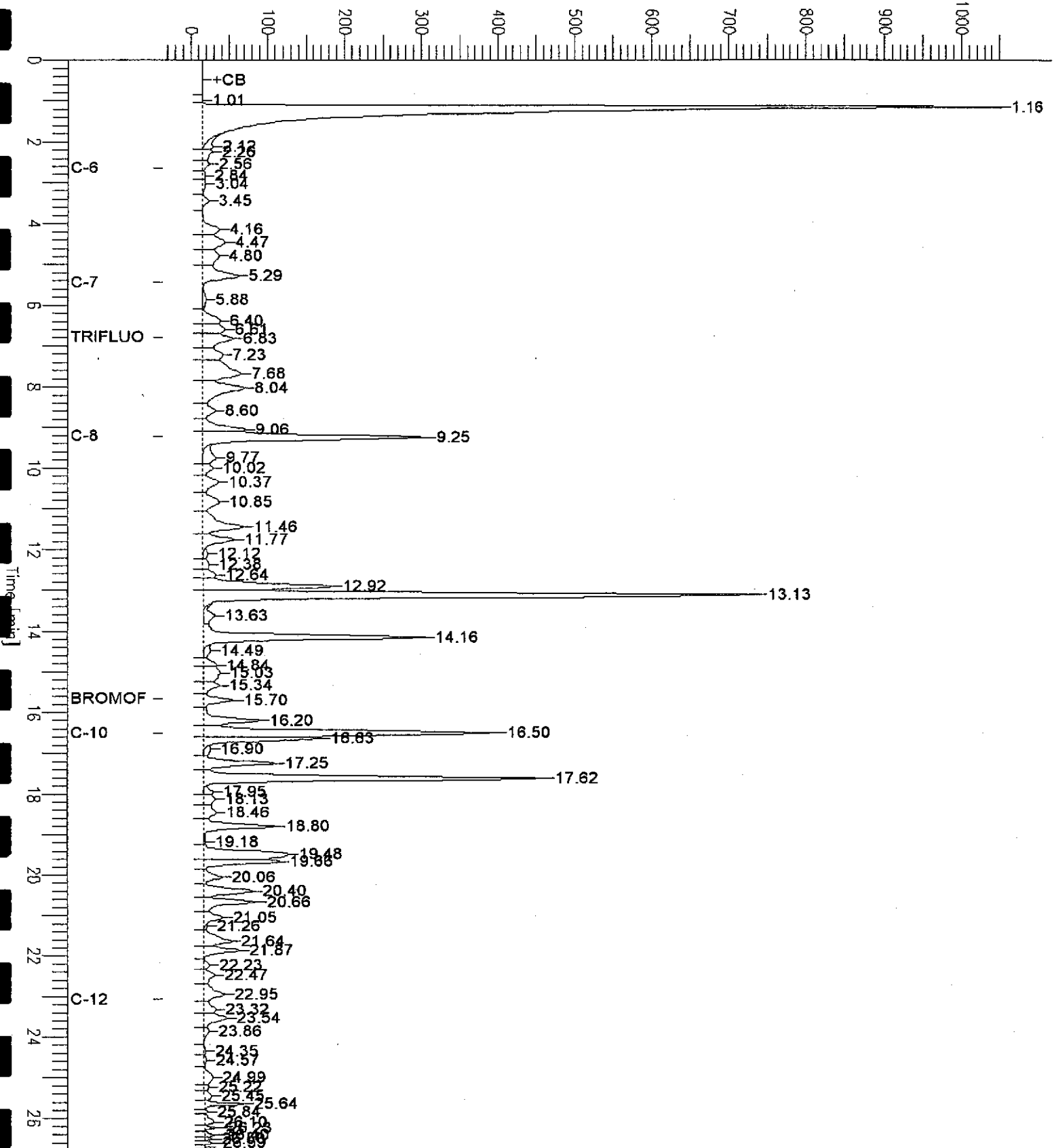
Scale Factor: 1.0

Plot Offset: -37 mV

Plot Scale: 1088.5 mV

B-7@35-4

Response [mV]



GC04 TVH 'J' Data File FID

Sample Name : 164930-008,81109,tvh only

Sample #: c

Page 1 of 1

FileName : G:\GC04\DATA\116J008.raw

Date : 4/28/03 10:14 AM

Method : TVHBTXE

Time of Injection: 4/26/03 10:40 PM

Start Time : 0.00 min

End Time : 26.00 min

Low Point : 44.99 mV

High Point : 301.00 mV

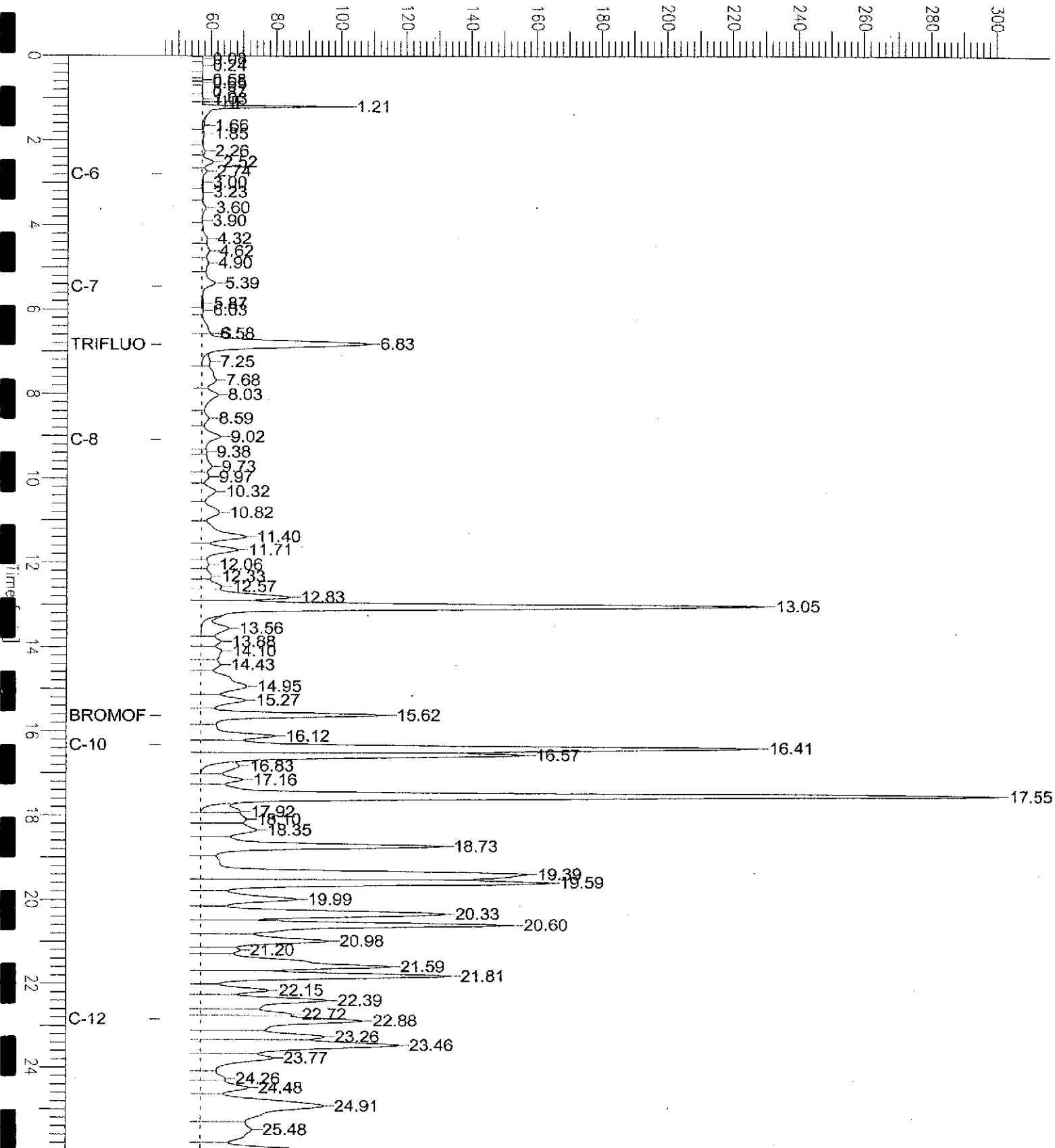
Scale Factor: 1.0

Plot Offset: 45 mV

Plot Scale: 256.0 mV

B-804-5.75

Response [mV]



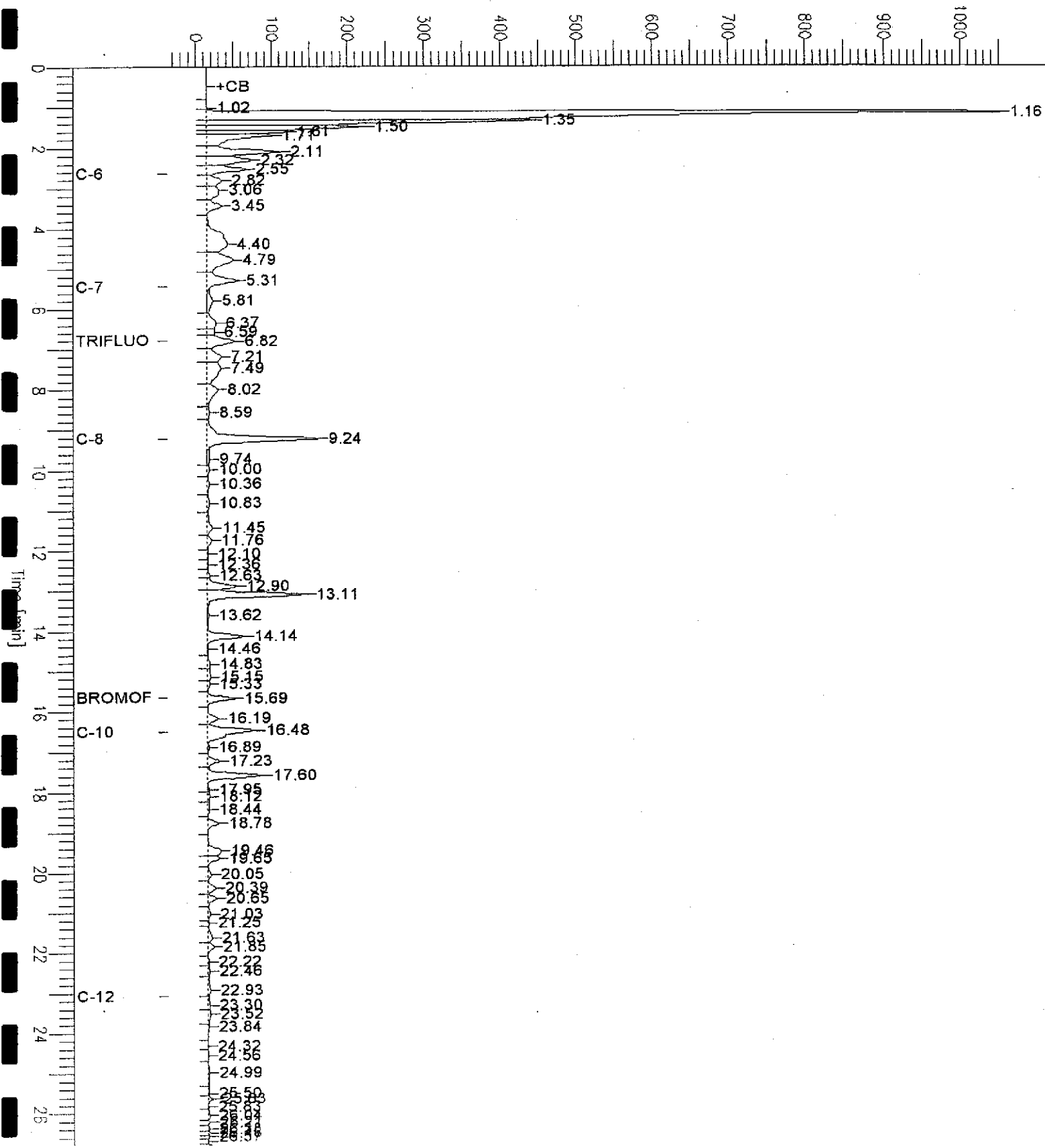
GC19 TVH 'X' Data File (FID)

Sample Name : ccv/lcs,gc212116,81080,03ws0527,5/5000
File Name : G:\GC19\DATA\115X003.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: 1.0 Plot Offset: -38 mV

Sample #: Page 1 of 1
Date : 4/25/03 11:07 AM
Time of Injection: 4/25/03 10:40 AM
Low Point : -37.80 mV High Point : 1051.76 mV
Plot Scale: 1089.6 mV

Gasoline

Response [mV]



Gasoline by GC/FID (5035 Prep)

Lab #: 164930	Location: Hadilan/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5035
Project#: 2692	Analysis: 8015B
Type: LCS	Basis: as received
Lab ID: QC212116	Diln Fac: 1.000
Matrix: Soil	Batch#: 81080
Units: mg/Kg	Analyzed: 04/25/03

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	9.850	99	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	104	58-144
Bromofluorobenzene (FID)	90	60-146



Gasoline by GC/FID (5035 Prep)

Lab #:	164930	Location:	Hadilan/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Type:	BS	Basis:	as received
Lab ID:	QC212229	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81109
Units:	mg/Kg	Analyzed:	04/26/03

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	10.86	109	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	142	58-144
Bromofluorobenzene (FID)	124	60-146



Gasoline by GC/FID (5035 Prep)

Lab #:	164930	Location:	Hadilan/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Type:	BSD	Basis:	as received
Lab ID:	QC212233	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81109
Units:	mg/Kg	Analyzed:	04/27/03

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.00	10.77	108	78-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	141	58-144
Bromofluorobenzene (FID)	123	60-146

Gasoline by GC/FID (5035 Prep)

Lab #:	164930	Location:	Hadilan/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Batch#:	81124
Basis:	as received	Analyzed:	04/28/03

Type: BS Lab ID: QC212282

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	10.18	102	78-120
Surrogate	%REC	Limits		
Trifluorotoluene (FID)	123	58-144		
Bromofluorobenzene (FID)	104	60-146		

Type: BSD Lab ID: QC212329

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	15.00	15.38	103	78-120	1	20
Surrogate	%REC	Limits				
Trifluorotoluene (FID)	130	58-144				
Bromofluorobenzene (FID)	108	60-146				



Gasoline by GC/FID (5035 Prep)

Lab #:	164930	Location:	Hadilan/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	164945-004	Batch#:	81080
Matrix:	Soil	Sampled:	04/23/03
Units:	mg/Kg	Received:	04/25/03
Basis:	as received	Analyzed:	04/25/03

Type: MS Lab ID: QC212185

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	5.256	9.901	12.15	70	44-133

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	58-144
Bromofluorobenzene (FID)	120	60-146

Type: MSD Lab ID: QC212186

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.10	11.92	66	44-133	3	31

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	58-144
Bromofluorobenzene (FID)	113	60-146

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-1@3.5-4	Diln Fac:	1.000
Lab ID:	164930-001	Batch#:	81089
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/25/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	117	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	104	77-126

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-2B@3.5-4	Basis:	as received
Lab ID:	164930-002	Sampled:	04/23/03
Matrix:	Soil	Received:	04/24/03
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
MTBE	21,000	5,000	1,000	81147	04/28/03
Benzene	12,000	5,000	1,000	81147	04/28/03
Toluene	560,000	17,000	3,333	81162	04/29/03
Chlorobenzene	ND	5,000	1,000	81147	04/28/03
Ethylbenzene	240,000	17,000	3,333	81162	04/29/03
m,p-Xylenes	1,100,000	17,000	3,333	81162	04/29/03
o-Xylene	450,000	17,000	3,333	81162	04/29/03
1,3-Dichlorobenzene	ND	5,000	1,000	81147	04/28/03
1,4-Dichlorobenzene	ND	5,000	1,000	81147	04/28/03
1,2-Dichlorobenzene	ND	5,000	1,000	81147	04/28/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
1,2-Dichloroethane-d4	109	75-128	1,000	81147	04/28/03
Toluene-d8	97	80-111	1,000	81147	04/28/03
Bromofluorobenzene	97	77-126	1,000	81147	04/28/03

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-3@3.5-4	Diln Fac:	0.8621
Lab ID:	164930-003	Batch#:	81132
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/28/03

Analyte	Result	RL
MTBE	ND	4.3
Benzene	ND	4.3
Toluene	ND	4.3
Chlorobenzene	ND	4.3
Ethylbenzene	ND	4.3
m,p-Xylenes	ND	4.3
o-Xylene	ND	4.3
1,3-Dichlorobenzene	ND	4.3
1,4-Dichlorobenzene	ND	4.3
1,2-Dichlorobenzene	ND	4.3

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	97	77-126

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-4@2.5-3	Diln Fac:	0.8333
Lab ID:	164930-004	Batch#:	81132
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/28/03

Analyte	Result	RL
MTBE	ND	4.2
Benzene	ND	4.2
Toluene	ND	4.2
Chlorobenzene	ND	4.2
Ethylbenzene	ND	4.2
m,p-Xylenes	ND	4.2
o-Xylene	ND	4.2
1,3-Dichlorobenzene	ND	4.2
1,4-Dichlorobenzene	ND	4.2
1,2-Dichlorobenzene	ND	4.2

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	94	77-126

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

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-5@3.5-4	Diln Fac:	0.9434
Lab ID:	164930-005	Batch#:	81132
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/28/03

Analyte	Result	RL
MTBE	ND	4.7
Benzene	ND	4.7
Toluene	ND	4.7
Chlorobenzene	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	7.9	4.7
o-Xylene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	94	77-126

**Purgeable Aromatics by GC/MS**

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-6@2.5-3	Diln Fac:	0.8621
Lab ID:	164930-006	Batch#:	81132
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/28/03

Analyte	Result	RL
MTBE	ND	4.3
Benzene	ND	4.3
Toluene	ND	4.3
Chlorobenzene	ND	4.3
Ethylbenzene	ND	4.3
m,p-Xylenes	ND	4.3
o-Xylene	ND	4.3
1,3-Dichlorobenzene	ND	4.3
1,4-Dichlorobenzene	ND	4.3
1,2-Dichlorobenzene	ND	4.3

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	97	77-126

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

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-7@3.5-4	Basis:	as received
Lab ID:	164930-007	Sampled:	04/23/03
Matrix:	Soil	Received:	04/24/03
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
MTBE	7,100	7,100	1,429	81162	04/29/03
Benzene	7,700	7,100	1,429	81162	04/29/03
Toluene	270,000	13,000	2,500	81193	04/30/03
Chlorobenzene	ND	7,100	1,429	81162	04/29/03
Ethylbenzene	170,000	7,100	1,429	81162	04/29/03
m,p-Xylenes	640,000	13,000	2,500	81193	04/30/03
o-Xylene	280,000	13,000	2,500	81193	04/30/03
1,3-Dichlorobenzene	ND	7,100	1,429	81162	04/29/03
1,4-Dichlorobenzene	ND	7,100	1,429	81162	04/29/03
1,2-Dichlorobenzene	ND	7,100	1,429	81162	04/29/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
1,2-Dichloroethane-d4	102	75-128	1,429	81162	04/29/03
Toluene-d8	100	80-111	1,429	81162	04/29/03
Bromofluorobenzene	89	77-126	1,429	81162	04/29/03

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

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-8@4-5.75	Diln Fac:	0.8772
Lab ID:	164930-008	Batch#:	81089
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/26/03

Analyte	Result	RL
MTBE	47	4.4
Benzene	6.4	4.4
Toluene	ND	4.4
Chlorobenzene	ND	4.4
Ethylbenzene	33	4.4
m,p-Xylenes	200	4.4
o-Xylene	ND	4.4
1,3-Dichlorobenzene	ND	4.4
1,4-Dichlorobenzene	ND	4.4
1,2-Dichlorobenzene	ND	4.4

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	95	77-126

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

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC212180	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81089
Units:	ug/Kg	Analyzed:	04/25/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	112	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	100	77-126

ND= Not Detected

RL= Reporting Limit

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Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC212311	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81132
Units:	ug/Kg	Analyzed:	04/28/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	95	77-126

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC212318	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81132
Units:	ug/Kg	Analyzed:	04/28/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	90	77-126

D= Not Detected
 L= Reporting Limit
 Page 1 of 1

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212371	Batch#:	81147
Matrix:	Water	Analyzed:	04/28/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	90	77-126

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212428	Batch#:	81162
Matrix:	Water	Analyzed:	04/29/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	93	77-126



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212568	Batch#:	81193
Matrix:	Water	Analyzed:	04/30/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	98	80-111
Bromofluorobenzene	95	77-126

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC212149	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81089
Units:	ug/Kg	Analyzed:	04/25/03

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	48.53	97	77-120
Toluene	50.00	49.58	99	80-120
Chlorobenzene	50.00	47.93	96	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	75-128
Toluene-d8	102	80-111
Bromofluorobenzene	98	77-126



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.667
MSS Lab ID:	164906-002	Batch#:	81089
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/23/03
Basis:	as received	Analyzed:	04/26/03

Type: MS Lab ID: QC212220

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.1300	83.33	66.58	80	55-125
Toluene	<0.3300	83.33	66.47	80	48-131
Chlorobenzene	<0.2600	83.33	47.83	57	42-128

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	90	77-126

Type: MSD Lab ID: QC212221

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	83.33	68.64	82	55-125	3	20
Toluene	83.33	64.24	77	48-131	3	20
Chlorobenzene	83.33	46.71	56	42-128	2	23

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	91	77-126



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC212310	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81132
Units:	ug/Kg	Analyzed:	04/28/03

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	48.78	98	77-120
Toluene	50.00	49.51	99	80-120
Chlorobenzene	50.00	47.37	95	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	90	77-126



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	164964-001	Batch#:	81132
Matrix:	Soil	Sampled:	04/24/03
Units:	ug/Kg	Received:	04/25/03
Basis:	as received	Analyzed:	04/28/03

Type: MS Lab ID: QC212316

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.08100	50.00	47.59	95	55-125
Toluene	<0.2000	50.00	49.37	99	48-131
Chlorobenzene	<0.1600	50.00	46.50	93	42-128

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	93	77-126

Type: MSD Lab ID: QC212317

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	46.97	94	55-125	1	20
Toluene	50.00	48.65	97	48-131	1	20
Chlorobenzene	50.00	46.11	92	42-128	1	23

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	94	77-126

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212370	Batch#:	81147
Matrix:	Water	Analyzed:	04/28/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	48.94	98	77-120
Toluene	50.00	50.67	101	80-120
Chlorobenzene	50.00	50.28	101	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	92	77-126



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-7@3.5-4	Diln Fac:	250.0
MSS Lab ID:	164930-007	Batch#:	81147
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/29/03

Type: MS Lab ID: QC212373

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	6,506	12,500	17,650	89	55-125
Toluene	199,800 >LR	12,500	188,200 >LR	-93 NM	48-131
Chlorobenzene	301.4	12,500	12,470	97	42-128

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	93	80-111
Bromofluorobenzene	100	77-126

Type: MSD Lab ID: QC212374

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	12,500	17,150	85	55-125	3	20
Toluene	12,500	182,000 >LR	-142 NM	48-131	NC	20
Chlorobenzene	12,500	12,000	94	42-128	4	23

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	75-128
Toluene-d8	94	80-111
Bromofluorobenzene	98	77-126

NC= Not Calculated
 NM= Not Meaningful
 >LR= Response exceeds instrument's linear range
 RPD= Relative Percent Difference



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212427	Batch#:	81162
Matrix:	Water	Analyzed:	04/29/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	46.48	93	77-120
Toluene	50.00	48.78	98	80-120
Chlorobenzene	50.00	47.76	96	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	75-128
Toluene-d8	98	80-111
Bromofluorobenzene	93	77-126



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	100.0
MSS Lab ID:	164962-005	Batch#:	81162
Matrix:	Soil	Sampled:	04/24/03
Units:	ug/Kg	Received:	04/25/03
Basis:	as received	Analyzed:	04/30/03

Type: MS Lab ID: QC212516

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<8.100	5,000	4,992	100	55-125
Toluene	<20.00	5,000	5,106	102	48-131
Chlorobenzene	<16.00	5,000	5,101	102	42-128

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	92	77-126

Type: MSD Lab ID: QC212517

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	5,000	4,853	97	55-125	3	20
Toluene	5,000	5,164	103	48-131	1	20
Chlorobenzene	5,000	5,078	102	42-128	0	23

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	94	77-126

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212567	Batch#:	81193
Matrix:	Water	Analyzed:	04/30/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	47.90	96	77-120
Toluene	50.00	50.32	101	80-120
Chlorobenzene	50.00	50.16	100	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	95	77-126



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	B-7@3.5-4	Diln Fac:	2,500
MSS Lab ID:	164930-007	Batch#:	81193
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/30/03

Type: MS Lab ID: QC212589

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	5,467	125,000	115,600	88	55-125
Toluene	266,300	125,000	352,400	69	48-131
Chlorobenzene	<390.0	125,000	114,600	92	42-128

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	95	77-126

Type: MSD Lab ID: QC212590

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	125,000	125,400	96	55-125	8	20
Toluene	125,000	409,200	114	48-131	15	20
Chlorobenzene	125,000	123,000	98	42-128	7	23

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	94	77-126

RPD= Relative Percent Difference



Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/24/03
Sampled:	04/23/03		

Field ID:	B-1@3.5-4	Units:	ug/Kg
Type:	SAMPLE	Diln Fac:	1.000
Lab ID:	164930-001	Batch#:	81089
Matrix:	Soil	Analyzed:	04/25/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	108	74-124
1,2-Dichloroethane-d4	117	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	104	75-127

Field ID:	B-2B@3.5-4	Units:	ug/Kg
Type:	SAMPLE	Diln Fac:	1,000
Lab ID:	164930-002	Batch#:	81147
Matrix:	Soil	Analyzed:	04/28/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100,000
MTBE	21,000	5,000
Isopropyl Ether (DIPE)	ND	5,000
Ethyl tert-Butyl Ether (ETBE)	ND	5,000
Methyl tert-Amyl Ether (TAME)	20,000	5,000
1,2-Dichloroethane	ND	5,000
1,2-Dibromoethane	ND	5,000
Ethanol	ND	1,000,000

Surrogate	%REC	Limits
Dibromofluoromethane	97	74-124
1,2-Dichloroethane-d4	109	75-128
Toluene-d8	97	80-111
Bromofluorobenzene	97	75-127

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/24/03
Sampled:	04/23/03		

Field ID:	B-3@3.5-4	Units:	ug/Kg
Type:	SAMPLE	Diln Fac:	0.8621
Lab ID:	164930-003	Batch#:	81132
Matrix:	Soil	Analyzed:	04/28/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	86
MTBE	ND	4.3
Isopropyl Ether (DIPE)	ND	4.3
Ethyl tert-Butyl Ether (ETBE)	ND	4.3
Methyl tert-Amyl Ether (TAME)	ND	4.3
1,2-Dichloroethane	ND	4.3
1,2-Dibromoethane	ND	4.3
Ethanol	ND	860

Surrogate	%REC	Limits
Dibromofluoromethane	99	74-124
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	97	75-127

Field ID:	B-4@2.5-3	Units:	ug/Kg
Type:	SAMPLE	Diln Fac:	0.8333
Lab ID:	164930-004	Batch#:	81132
Matrix:	Soil	Analyzed:	04/28/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	83
MTBE	ND	4.2
Isopropyl Ether (DIPE)	ND	4.2
Ethyl tert-Butyl Ether (ETBE)	ND	4.2
Methyl tert-Amyl Ether (TAME)	ND	4.2
1,2-Dichloroethane	ND	4.2
1,2-Dibromoethane	ND	4.2
Ethanol	ND	830

Surrogate	%REC	Limits
Dibromofluoromethane	100	74-124
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	94	75-127

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #: 164930	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Basis: as received	Received: 04/24/03
Sampled: 04/23/03	

Field ID: B-5@3.5-4	Units: ug/Kg
Type: SAMPLE	Diln Fac: 0.9434
Lab ID: 164930-005	Batch#: 81132
Matrix: Soil	Analyzed: 04/28/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
1,2-Dichloroethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethanol	ND	940

Surrogate	%REC	Limits
Dibromofluoromethane	98	74-124
1,2-Dichloroethane-d4	110	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	94	75-127

Field ID: B-6@2.5-3	Units: ug/Kg
Type: SAMPLE	Diln Fac: 0.8621
Lab ID: 164930-006	Batch#: 81132
Matrix: Soil	Analyzed: 04/28/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	86
MTBE	ND	4.3
Isopropyl Ether (DIPE)	ND	4.3
Ethyl tert-Butyl Ether (ETBE)	ND	4.3
Methyl tert-Amyl Ether (TAME)	ND	4.3
1,2-Dichloroethane	ND	4.3
1,2-Dibromoethane	ND	4.3
Ethanol	ND	860

Surrogate	%REC	Limits
Dibromofluoromethane	102	74-124
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	97	75-127

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/24/03
Sampled:	04/23/03		

Field ID:	B-7@3.5-4	Units:	ug/Kg
Type:	SAMPLE	Diln Fac:	1,429
Lab ID:	164930-007	Batch#:	81162
Matrix:	Soil	Analyzed:	04/29/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	140,000
MTBE	7,100	7,100
Isopropyl Ether (DIPE)	ND	7,100
Ethyl tert-Butyl Ether (ETBE)	ND	7,100
Methyl tert-Amyl Ether (TAME)	10,000	7,100
1,2-Dichloroethane	ND	7,100
1,2-Dibromoethane	ND	7,100
Ethanol	ND	1,400,000

Surrogate	%REC	Limits
Dibromofluoromethane	96	74-124
1,2-Dichloroethane-d4	102	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	89	75-127

Field ID:	B-8@4-5.75	Units:	ug/Kg
Type:	SAMPLE	Diln Fac:	0.8772
Lab ID:	164930-008	Batch#:	81089
Matrix:	Soil	Analyzed:	04/26/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	88
MTBE	47	4.4
Isopropyl Ether (DIPE)	ND	4.4
Ethyl tert-Butyl Ether (ETBE)	ND	4.4
Methyl tert-Amyl Ether (TAME)	12	4.4
1,2-Dichloroethane	ND	4.4
1,2-Dibromoethane	ND	4.4
Ethanol	ND	880

Surrogate	%REC	Limits
Dibromofluoromethane	94	74-124
1,2-Dichloroethane-d4	102	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	95	75-127

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit



Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/24/03
Sampled:	04/23/03		

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212150	Batch#:	81089
Matrix:	Soil	Analyzed:	04/25/03
Units:	ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	5.0
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	101	74-124
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	102	75-127

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212180	Batch#:	81089
Matrix:	Soil	Analyzed:	04/25/03
Units:	ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	106	74-124
1,2-Dichloroethane-d4	112	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	100	75-127

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/24/03
Sampled:	04/23/03		

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212311	Batch#:	81132
Matrix:	Soil	Analyzed:	04/28/03
Units:	ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	5.0
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	97	74-124
1,2-Dichloroethane-d4	104	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	95	75-127

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212318	Batch#:	81132
Matrix:	Soil	Analyzed:	04/28/03
Units:	ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	95	74-124
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	90	75-127

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/24/03
Sampled:	04/23/03		

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212371	Batch#:	81147
Matrix:	Water	Analyzed:	04/28/03
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	95	74-124
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	90	75-127

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212428	Batch#:	81162
Matrix:	Water	Analyzed:	04/29/03
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	97	74-124
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	93	75-127

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
 Page 7 of 7

Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC212149	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81089
Units:	ug/Kg	Analyzed:	04/25/03

Analyte	Spiked	Result	*REC	Limits
MTBE	50.00	48.93	98	63-121

Surrogate	*REC	Limits
Dibromofluoromethane	103	74-124
1,2-Dichloroethane-d4	108	75-128
Toluene-d8	102	80-111
Bromofluorobenzene	98	75-127

Gasoline Oxygenates by GC/MS

Lab #: 164930	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Type: LCS	Basis: as received
Lab ID: QC212310	Diln Fac: 1.000
Matrix: Soil	Batch#: 81132
Units: ug/Kg	Analyzed: 04/28/03

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	45.99	92	63-121

Surrogate	%REC	Limits
Dibromofluoromethane	96	74-124
1,2-Dichloroethane-d4	104	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	90	75-127

Gasoline Oxygenates by GC/MS

Lab #: 164930	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Field ID: ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID: 164964-001	Batch#: 81132
Matrix: Soil	Sampled: 04/24/03
Units: ug/Kg	Received: 04/25/03
Basis: as received	Analyzed: 04/28/03

Type: MS Lab ID: QC212316

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.2000	50.00	46.89	94	53-131

Surrogate	%REC	Limits
Dibromofluoromethane	98	74-124
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	93	75-127

Type: MSD Lab ID: QC212317

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	46.10	92	53-131	2	30

Surrogate	%REC	Limits
Dibromofluoromethane	98	74-124
1,2-Dichloroethane-d4	104	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	94	75-127

Gasoline Oxygenates by GC/MS

Lab #: 164930	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Type: LCS	Diln Fac: 1.000
Lab ID: QC212370	Batch#: 81147
Matrix: Water	Analyzed: 04/28/03
Units: ug/L	

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	46.70	93	63-121

Surrogate	%REC	Limits
Dibromofluoromethane	96	74-124
1,2-Dichloroethane-d4	101	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	92	75-127

Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212427	Batch#:	81162
Matrix:	Water	Analyzed:	04/29/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	46.05	92	63-121

Surrogate	%REC	Limits
Dibromofluoromethane	99	74-124
1,2-Dichloroethane-d4	107	75-128
Toluene-d8	98	80-111
Bromofluorobenzene	93	75-127

Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	100.0
MSS Lab ID:	164962-005	Batch#:	81162
Matrix:	Soil	Sampled:	04/24/03
Units:	ug/Kg	Received:	04/25/03
Basis:	as received	Analyzed:	04/30/03

Type: MS Lab ID: QC212516

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<20.00	5,000	4,659	93	53-131

Surrogate	%REC	Limits
Dibromofluoromethane	91	74-124
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	92	75-127

Type: MSD Lab ID: QC212517

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	5,000	4,775	96	53-131	2	30

Surrogate	%REC	Limits
Dibromofluoromethane	94	74-124
1,2-Dichloroethane-d4	99	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	94	75-127

Appendix D

Laboratory Reports of Groundwater Analytical
and Chain of Custody Form



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

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

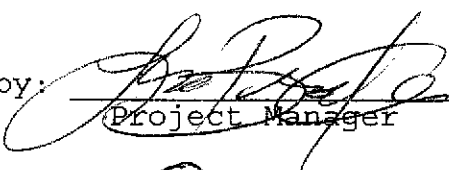
Prepared for:

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

Date: 30-APR-03
Lab Job Number: 164846
Project ID: 2692
Location: Hadjian/Dublin

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by:


Project Manager

Reviewed by:


Operations Manager

This package may be reproduced only in its entirety.

Laboratory Number: 164846 (soil)
Client: SOMA Environmental Engineering Inc.
Project Name: Hadjian/Dublin
Project Number: 2692
Receipt Date: 04/21/2003

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for three soil samples received from the above referenced project on April 21, 2003. The samples were received cold and intact.

Total Volatile Hydrocarbons:

The trifluorotoluene surrogate recoveries for samples DPB-6S, DPB-6M, DPB-6D, and the matrix spikes exceed acceptance limits due to coelution of the surrogate peak with hydrocarbon peaks. The associated bromofluorobenzene surrogate recoveries were acceptable and therefore, there is no affect on the quality of the sample results. No other analytical problems were encountered.

Purgeable Organics (EPA 8260):

No analytical problems were encountered.



Gasoline by GC/FID (5035 Prep)

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Matrix:	Soil	Batch#:	80943
Units:	mg/Kg	Received:	04/21/03
Basis:	as received		

Field ID:	DPB-3@14'-15'	Diln Fac:	200.0
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164846-004	Analyzed:	04/22/03

Analyte	Result	RL
Gasoline C7-C12	3,500	200

Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	58-144
Bromofluorobenzene (FID)	109	60-146

Field ID:	DPB-4@9'-10'	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164846-005	Analyzed:	04/22/03

Analyte	Result	RL
Gasoline C7-C12	0.20 Y	0.16

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	58-144
Bromofluorobenzene (FID)	107	60-146

Field ID:	DPB-5@11-12'	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164846-006	Analyzed:	04/22/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.17

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	58-144
Bromofluorobenzene (FID)	107	60-146

Field ID:	DPB-6@18-18.75	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/18/03
Lab ID:	164846-007	Analyzed:	04/22/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.15

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	58-144
Bromofluorobenzene (FID)	110	60-146

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit

Page 1 of 2

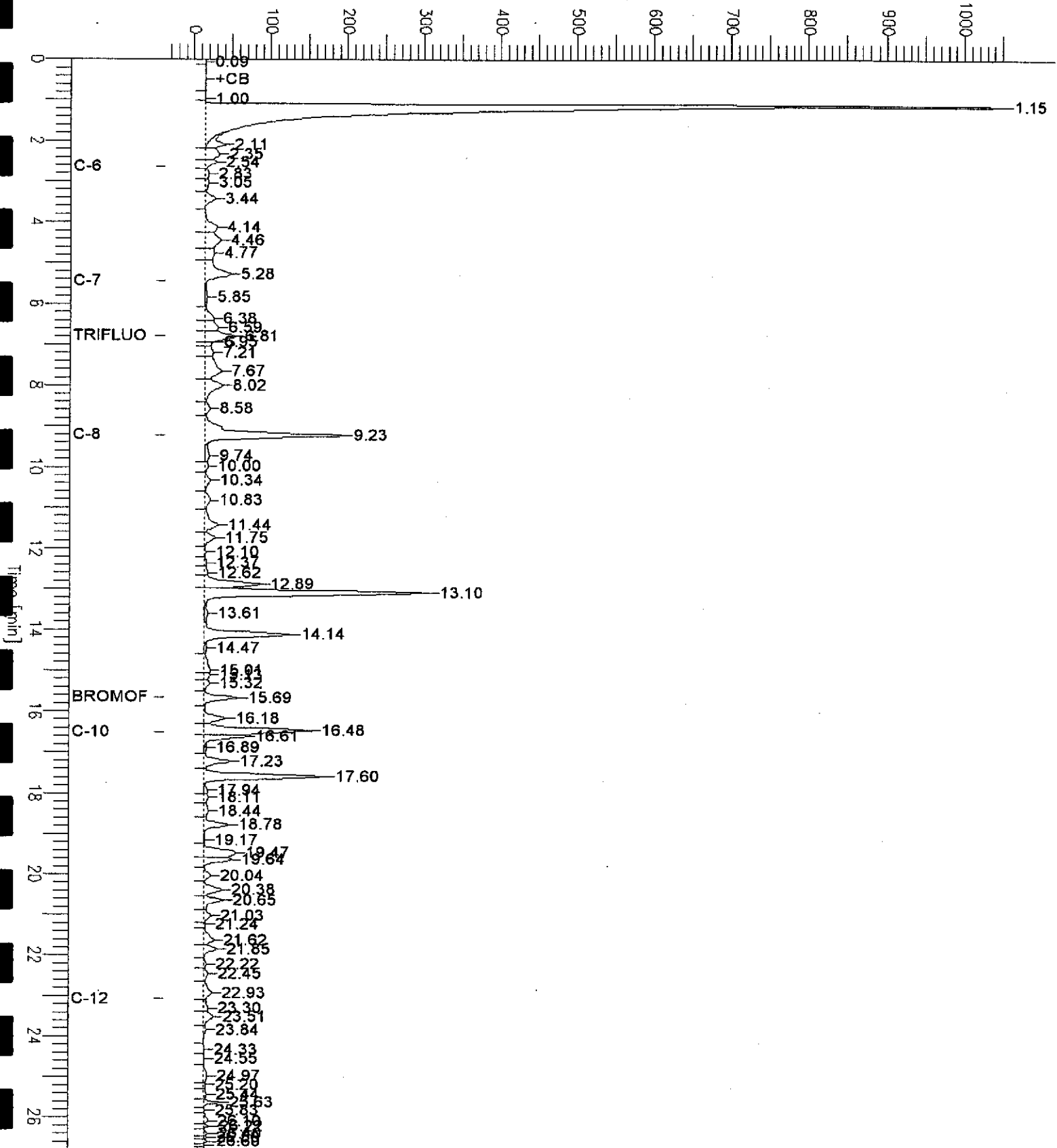
GC19 TVH 'X' Data File (FID)

Sample Name : 164846-004,80943
 FileName : G:\GC19\DATA\111X041.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.80 min
 Scale Factor : 1.0 Plot Offset : -38 mV

Sample #: b Page 1 of 1
 Date : 4/22/03 12:17 PM
 Time of Injection: 4/22/03 11:34 AM
 Low Point : -37.86 mV High Point : 1051.62 mV
 Plot Scale: 1089.5 mV

DPB-3 @ 14'-15'

Response [mV]





Gasoline by GC/FID (5035 Prep)

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Matrix:	Soil	Batch#:	80943
Units:	mg/Kg	Received:	04/21/03
Basis:	as received		

Field ID:	DPB-7@15.5-16.5	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/18/03
Lab ID:	164846-008	Analyzed:	04/21/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.20
Surrogate	%REC	Limits
Trifluorotoluene (FID)	89	58-144
Bromofluorobenzene (FID)	96	60-146

Field ID:	DPB-S@15-16'	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/18/03
Lab ID:	164846-009	Analyzed:	04/22/03

Analyte	Result	RL
Gasoline C7-C12	1.2	0.18
Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	58-144
Bromofluorobenzene (FID)	99	60-146

Field ID:	DPB-3@18.5-19.5	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164846-010	Analyzed:	04/22/03

Analyte	Result	RL
Gasoline C7-C12	ND	0.16
Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	58-144
Bromofluorobenzene (FID)	110	60-146

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC211582	Analyzed:	04/21/03

Analyte	Result	RL
Gasoline C7-C12	ND	1.0
Surrogate	%REC	Limits
Trifluorotoluene (FID)	88	58-144
Bromofluorobenzene (FID)	96	60-146

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit

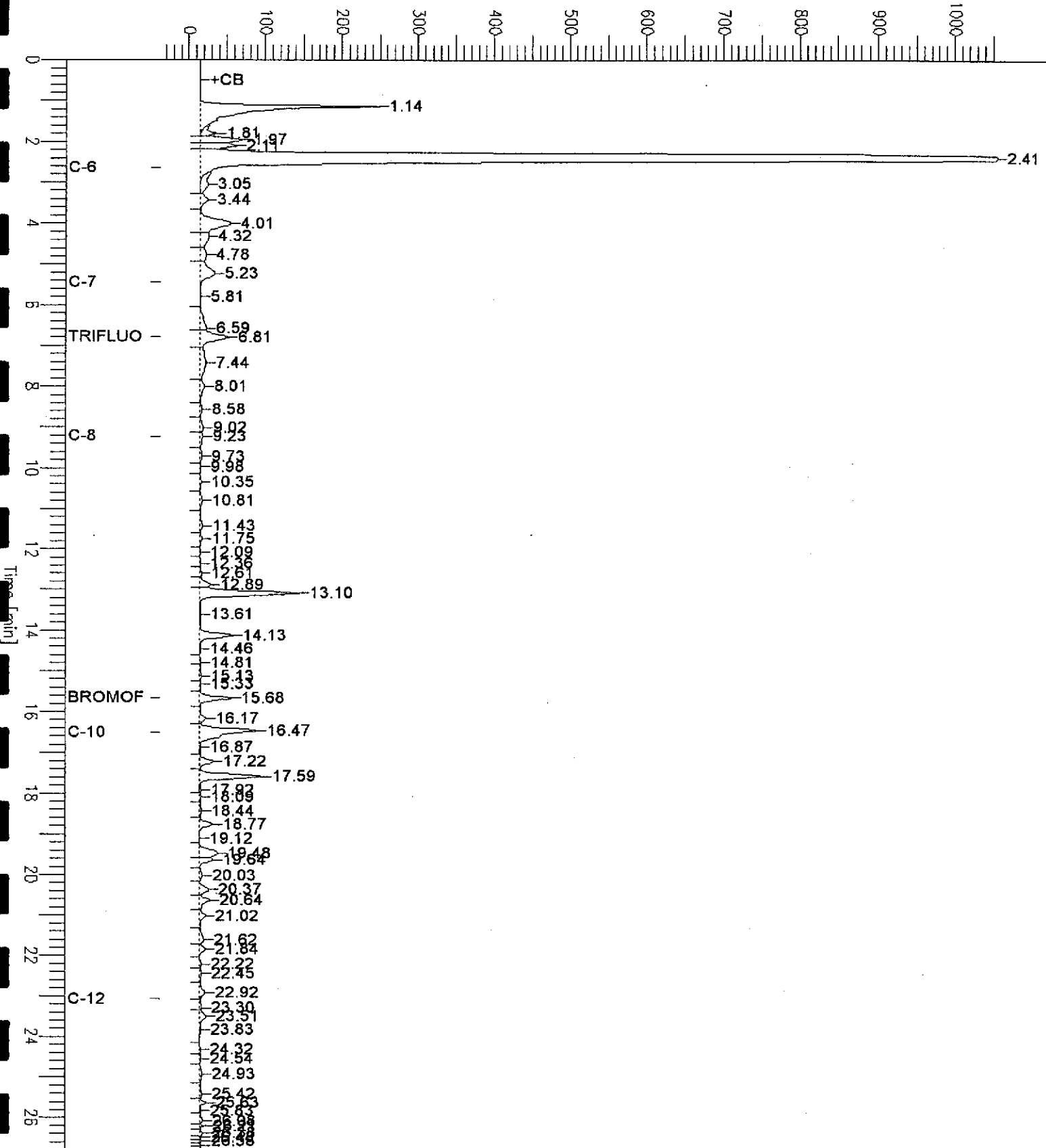
GC19 TVH 'X' Data File (FID)

Sample Name : 164846-009,80943
 FileName : G:\GC19\DATA\111X027.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.80 min
 Scale Factor : 1.0 Plot Offset : -38 mV

Sample #: a Page 1 of 1
 Date : 4/22/03 01:17 AM
 Time of Injection: 4/22/03 12:49 AM
 Low Point : -38.04 mV High Point : 1055.70 mV
 Plot Scale: 1093.7 mV

DPB-S @ 15-16'

Response [mV]



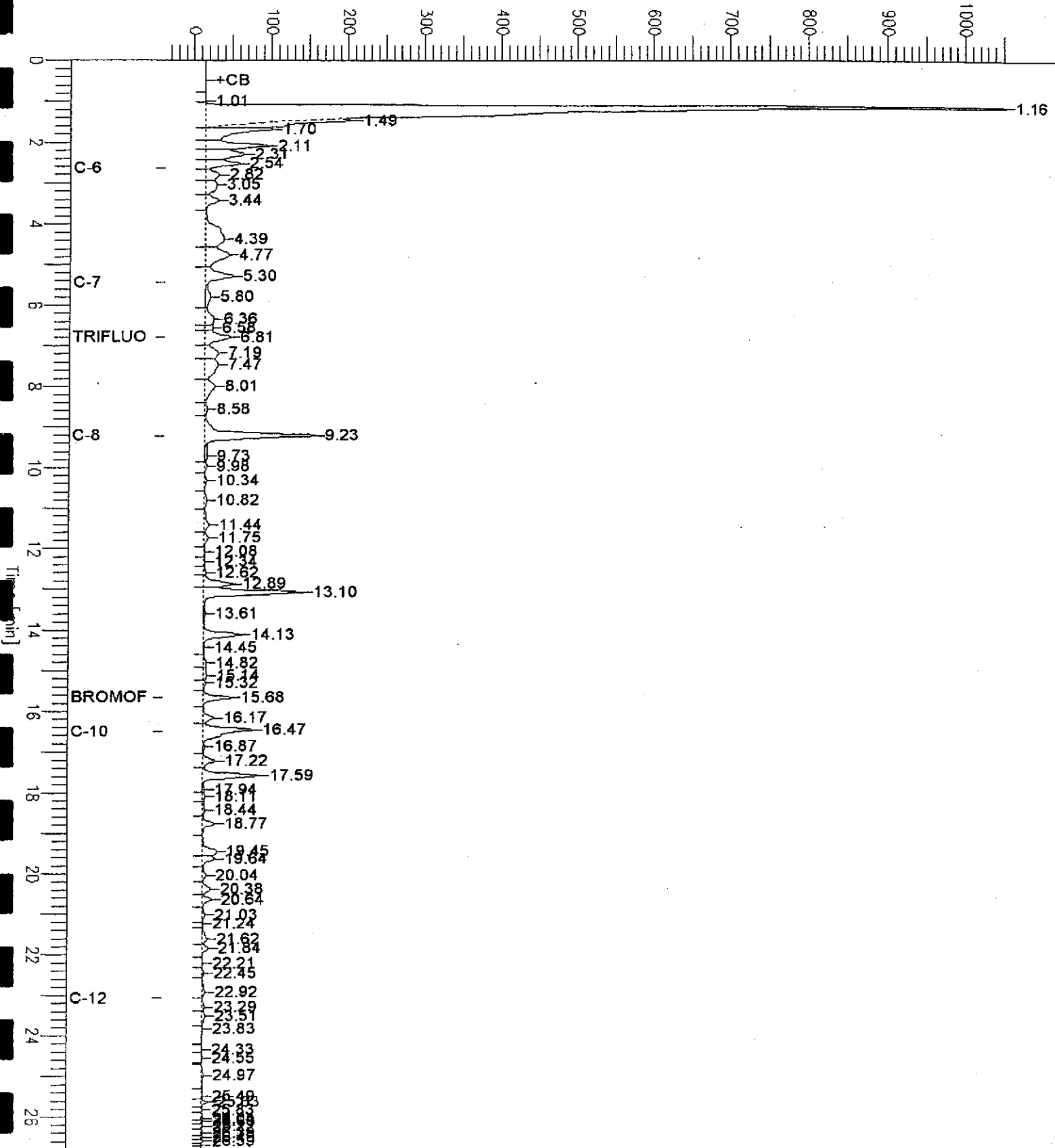
GC19 TVH 'X' Data File (FID)

Sample Name : ccv/lcs,qc211584,80943,03ws0527,5/5000
 FileName : G:\GC19\DATA\111x002.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.80 min
 Scale Factor : 1.0 Plot Offset : -38 mV

Sample #: Page 1 of 1
 Date : 4/21/03 11:49 AM
 Time of Injection: 4/21/03 09:10 AM
 Low Point : -37.90 mV High Point : 1051.82 mV
 Plot Scale: 1089.7 mV

Gasoline

Response [mV]



Gasoline by GC/FID (5035 Prep)

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	8015B
Type:	LCS	Basis:	as received
Lab ID:	QC211584	Diln Fac:	1.000
Matrix:	Soil	Batch#:	80943
Units:	mg/Kg	Analyzed:	04/21/03

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	9.741	97	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	58-144
Bromofluorobenzene (FID)	92	60-146



Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-3@14'-15'	Diln Fac:	1,000
Lab ID:	164846-004	Batch#:	81024
Matrix:	Soil	Sampled:	04/17/03
Units:	ug/Kg	Received:	04/21/03
Basis:	as received	Analyzed:	04/23/03

Analyte	Result	RL
MTBE	17,000	5,000
Benzene	6,600	5,000
Toluene	120,000	5,000
Chlorobenzene	ND	5,000
Ethylbenzene	43,000	5,000
m,p-Xylenes	180,000	5,000
o-Xylene	71,000	5,000
1,3-Dichlorobenzene	ND	5,000
1,4-Dichlorobenzene	ND	5,000
1,2-Dichlorobenzene	ND	5,000

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	96	77-126

ND= Not Detected

RL= Reporting Limit

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Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-4@9'-10'	Diln Fac:	0.7813
Lab ID:	164846-005	Batch#:	81023
Matrix:	Soil	Sampled:	04/17/03
Units:	ug/Kg	Received:	04/21/03
Basis:	as received	Analyzed:	04/24/03

Analyte	Result	RL
MTBE	41	3.9
Benzene	ND	3.9
Toluene	ND	3.9
Chlorobenzene	ND	3.9
Ethylbenzene	ND	3.9
m,p-Xylenes	ND	3.9
o-Xylene	ND	3.9
1,3-Dichlorobenzene	ND	3.9
1,4-Dichlorobenzene	ND	3.9
1,2-Dichlorobenzene	ND	3.9

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	98	77-126

ND= Not Detected

RL= Reporting Limit

Page 1 of 1



Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-5@11-12'	Diln Fac:	0.8197
Lab ID:	164846-006	Batch#:	81056
Matrix:	Soil	Sampled:	04/17/03
Units:	ug/Kg	Received:	04/21/03
Basis:	as received	Analyzed:	04/24/03

Analyte	Result	RL
MTBE	4.5	4.1
Benzene	ND	4.1
Toluene	ND	4.1
Chlorobenzene	ND	4.1
Ethylbenzene	ND	4.1
m,p-Xylenes	ND	4.1
o-Xylene	ND	4.1
1,3-Dichlorobenzene	ND	4.1
1,4-Dichlorobenzene	ND	4.1
1,2-Dichlorobenzene	ND	4.1

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	101	77-126



Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-6@18-18.75	Diln Fac:	0.8065
Lab ID:	164846-007	Batch#:	81003
Matrix:	Soil	Sampled:	04/18/03
Units:	ug/Kg	Received:	04/21/03
Basis:	as received	Analyzed:	04/22/03

Analyte	Result	RL
MTBE	ND	4.0
Benzene	ND	4.0
Toluene	ND	4.0
Chlorobenzene	ND	4.0
Ethylbenzene	ND	4.0
m,p-Xylenes	ND	4.0
o-Xylene	ND	4.0
1,3-Dichlorobenzene	ND	4.0
1,4-Dichlorobenzene	ND	4.0
1,2-Dichlorobenzene	ND	4.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	93	77-126



Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-7@15.5-16.5	Diln Fac:	1.000
Lab ID:	164846-008	Batch#:	81003
Matrix:	Soil	Sampled:	04/18/03
Units:	ug/Kg	Received:	04/21/03
Basis:	as received	Analyzed:	04/22/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	95	77-126

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-S@15-16'	Diln Fac:	25.00
Lab ID:	164846-009	Batch#:	81057
Matrix:	Soil	Sampled:	04/18/03
Units:	ug/Kg	Received:	04/21/03
Basis:	as received	Analyzed:	04/24/03

Analyte	Result	RL
MTBE	3,500	130
Benzene	ND	130
Toluene	ND	130
Chlorobenzene	ND	130
Ethylbenzene	ND	130
m,p-Xylenes	360	130
o-Xylene	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	93	77-126

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-3@18.5-19.5	Basis:	as received
Lab ID:	164846-010	Sampled:	04/17/03
Matrix:	Soil	Received:	04/21/03
Units:	ug/Kg		

Analyte	Result	RD	Diln Fac	Batch#	Analyzed
MTBE	1,400	130	25.00	81024	04/24/03
Benzene	ND	4.2	0.8333	81003	04/22/03
Toluene	ND	4.2	0.8333	81003	04/22/03
Chlorobenzene	ND	4.2	0.8333	81003	04/22/03
Ethylbenzene	ND	4.2	0.8333	81003	04/22/03
m,p-Xylenes	ND	4.2	0.8333	81003	04/22/03
o-Xylene	ND	4.2	0.8333	81003	04/22/03
1,3-Dichlorobenzene	ND	4.2	0.8333	81003	04/22/03
1,4-Dichlorobenzene	ND	4.2	0.8333	81003	04/22/03
1,2-Dichlorobenzene	ND	4.2	0.8333	81003	04/22/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
1,2-Dichloroethane-d4	97	75-128	0.8333	81003	04/22/03
Toluene-d8	101	80-111	0.8333	81003	04/22/03
Bromofluorobenzene	96	77-126	0.8333	81003	04/22/03



Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC211812	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81003
Units:	ug/Kg	Analyzed:	04/22/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	100	77-126

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC211889	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81023
Units:	ug/Kg	Analyzed:	04/23/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%RRC	Limits
1,2-Dichloroethane-d4	103	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	95	77-126

Purgeable Aromatics by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5035
Project#: 2692	Analysis: EPA 8260B
Type: BLANK	Basis: as received
Lab ID: QC212003	Diln Fac: 1.000
Matrix: Soil	Batch#: 81056
Units: ug/Kg	Analyzed: 04/24/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	98	77-126

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

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC212022	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81056
Units:	ug/Kg	Analyzed:	04/24/03

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	REC	Limits
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	100	77-126

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC212002	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81056
Units:	ug/Kg	Analyzed:	04/24/03

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	49.47	99	77-120
Toluene	50.00	50.40	101	80-120
Chlorobenzene	50.00	49.04	98	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	97	77-126

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Soil	Diln Fac:	1.000
Units:	ug/Kg	Batch#:	81023
Basis:	as received	Analyzed:	04/23/03

Type: BS Lab ID: QC211929

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	51.28	103	77-120
Toluene	50.00	52.06	104	80-120
Chlorobenzene	50.00	50.84	102	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	90	77-126

Type: BSD Lab ID: QC211930

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	44.22	88	77-120	15	20
Toluene	50.00	45.64	91	80-120	13	20
Chlorobenzene	50.00	45.00	90	80-120	12	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	97	77-126

RPD= Relative Percent Difference

Purgeable Aromatics by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5035
Project#: 2692	Analysis: EPA 8260B
Field ID: ZZZZZZZZZZ	Diln Fac: 1.042
MSS Lab ID: 164913-003	Batch#: 81056
Matrix: Soil	Sampled: 04/23/03
Units: ug/Kg	Received: 04/24/03
Basis: as received	Analyzed: 04/25/03

Type: MS Lab ID: QC212004

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.08400	52.08	46.36	89	55-125
Toluene	<0.2000	52.08	48.76	94	48-131
Chlorobenzene	<0.1600	52.08	45.76	88	42-128

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	114	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	102	77-126

Type: MSD Lab ID: QC212005

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	52.08	43.08	83	55-125	7	20
Toluene	52.08	45.21	87	48-131	8	20
Chlorobenzene	52.08	41.77	80	42-128	9	23

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	112	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	102	77-126

Gasoline Oxygenates by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Basis: as received	Received: 04/21/03

Field ID: DPB-3@14'-15'	Diln Fac: 1,000
Type: SAMPLE	Batch#: 81024
Lab ID: 164846-004	Sampled: 04/17/03
Matrix: Soil	Analyzed: 04/23/03
Units: ug/Kg	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100,000
MTBE	17,000	5,000
Isopropyl Ether (DIPE)	ND	5,000
Ethyl tert-Butyl Ether (ETBE)	ND	5,000
Methyl tert-Amyl Ether (TAME)	ND	5,000
1,2-Dichloroethane	ND	5,000
1,2-Dibromoethane	ND	5,000
Ethanol	ND	1,000,000

Surrogate	%REC	Limits
Dibromofluoromethane	94	74-124
1,2-Dichloroethane-d4	102	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	96	75-127

Field ID: DPB-4@9'-10'	Diln Fac: 0.7813
Type: SAMPLE	Batch#: 81023
Lab ID: 164846-005	Sampled: 04/17/03
Matrix: Soil	Analyzed: 04/24/03
Units: ug/Kg	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	78
MTBE	41	3.9
Isopropyl Ether (DIPE)	ND	3.9
Ethyl tert-Butyl Ether (ETBE)	ND	3.9
Methyl tert-Amyl Ether (TAME)	ND	3.9
1,2-Dichloroethane	ND	3.9
1,2-Dibromoethane	ND	3.9
Ethanol	ND	780

Surrogate	%REC	Limits
Dibromofluoromethane	97	74-124
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	98	75-127

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #: 164846	Location: Hadjian/Dublin	
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B	
Project#: 2692	Analysis: EPA 8260B	
Basis: as received	Received: 04/21/03	

Field ID: DPB-5@11-12'	Diln Fac: 0.8197	
Type: SAMPLE	Batch#: 81056	
Lab ID: 164846-006	Sampled: 04/17/03	
Matrix: Soil	Analyzed: 04/24/03	
Units: ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	82
MTBE	4.5	4.1
Isopropyl Ether (DIPE)	ND	4.1
Ethyl tert-Butyl Ether (ETBE)	ND	4.1
Methyl tert-Amyl Ether (TAME)	ND	4.1
1,2-Dichloroethane	ND	4.1
1,2-Dibromoethane	ND	4.1
Ethanol	ND	820

Surrogate	%REC	Limits
Dibromofluoromethane	101	74-124
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	101	75-127

Field ID: DPB-6@18-18.75	Diln Fac: 0.8065	
Type: SAMPLE	Batch#: 81003	
Lab ID: 164846-007	Sampled: 04/18/03	
Matrix: Soil	Analyzed: 04/22/03	
Units: ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	81
MTBE	ND	4.0
Isopropyl Ether (DIPE)	ND	4.0
Ethyl tert-Butyl Ether (ETBE)	ND	4.0
Methyl tert-Amyl Ether (TAME)	ND	4.0
1,2-Dichloroethane	ND	4.0
1,2-Dibromoethane	ND	4.0
Ethanol	ND	810

Surrogate	%REC	Limits
Dibromofluoromethane	96	74-124
1,2-Dichloroethane-d4	97	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	93	75-127

Gasoline Oxygenates by GC/MS

Lab #: 164846	Location: Hadjian/Dublin	
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B	
Project#: 2692	Analysis: EPA 8260B	
Basis: as received	Received: 04/21/03	

Field ID: DPB-7@15.5-16.5	Diln Fac: 1.000	
Type: SAMPLE	Batch#: 81003	
Lab ID: 164846-008	Sampled: 04/18/03	
Matrix: Soil	Analyzed: 04/22/03	
Units: ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	93	74-124
1,2-Dichloroethane-d4	97	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	95	75-127

Field ID: DPB-S@15-16'	Diln Fac: 25.00	
Type: SAMPLE	Batch#: 81057	
Lab ID: 164846-009	Sampled: 04/18/03	
Matrix: Soil	Analyzed: 04/24/03	
Units: ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	2,500
MTBE	3,500	130
Isopropyl Ether (DIPE)	ND	130
Ethyl tert-Butyl Ether (ETBE)	ND	130
Methyl tert-Amyl Ether (TAME)	ND	130
1,2-Dichloroethane	ND	130
1,2-Dibromoethane	ND	130
Ethanol	ND	25,000

Surrogate	%REC	Limits
Dibromofluoromethane	97	74-124
1,2-Dichloroethane-d4	107	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	93	75-127

NA= Not Analyzed
 D= Not Detected
 L= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Basis: as received	Received: 04/21/03

Field ID: DPB-3@18.5-19.5	Matrix: Soil
Type: SAMPLE	Units: ug/Kg
Lab ID: 164846-010	Sampled: 04/17/03

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
tert-Butyl Alcohol (TBA)	ND	83	0.8333	81003	04/22/03
MTBE	1,400	130	25.00	81024	04/24/03
Isopropyl Ether (DIPE)	ND	4.2	0.8333	81003	04/22/03
Ethyl tert-Butyl Ether (ETBE)	ND	4.2	0.8333	81003	04/22/03
Methyl tert-Amyl Ether (TAME)	ND	4.2	0.8333	81003	04/22/03
1,2-Dichloroethane	ND	4.2	0.8333	81003	04/22/03
1,2-Dibromoethane	ND	4.2	0.8333	81003	04/22/03
Ethanol	ND	830	0.8333	81003	04/22/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	96	74-124	0.8333	81003	04/22/03
1,2-Dichloroethane-d4	97	75-128	0.8333	81003	04/22/03
Toluene-d8	101	80-111	0.8333	81003	04/22/03
Bromofluorobenzene	96	75-127	0.8333	81003	04/22/03

Type: BLANK	Diln Fac: 1.000
Lab ID: QC211812	Batch#: 81003
Matrix: Soil	Analyzed: 04/22/03
Units: ug/Kg	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	103	74-124
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	100	75-127

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/21/03

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC211889	Batch#:	81023
Matrix:	Soil	Analyzed:	04/23/03
Units:	ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	95	74-124
1,2-Dichloroethane-d4	103	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	95	75-127

Type:	BLANK	Matrix:	Soil
Lab ID:	QC211890		

Analyte	Result
tert-Butyl Alcohol (TBA)	NA
MTBE	NA
Isopropyl Ether (DIPE)	NA
Ethyl tert-Butyl Ether (ETBE)	NA
Methyl tert-Amyl Ether (TAME)	NA
1,2-Dichloroethane	NA
1,2-Dibromoethane	NA
Ethanol	NA

Surrogate	Result
Dibromofluoromethane	NA
1,2-Dichloroethane-d4	NA
Toluene-d8	NA
Bromofluorobenzene	NA

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/21/03

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212003	Batch#:	81056
Matrix:	Soil	Analyzed:	04/24/03
Units:	ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	101	74-124
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	98	75-127

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212022	Batch#:	81056
Matrix:	Soil	Analyzed:	04/24/03
Units:	ug/Kg		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	5.0
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	102	74-124
1,2-Dichloroethane-d4	111	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	100	75-127

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC212002	Diln Fac:	1.000
Matrix:	Soil	Batch#:	81056
Units:	ug/Kg	Analyzed:	04/24/03

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	49.52	99	63-121

Surrogate	%REC	Limits
Dibromofluoromethane	103	74-124
1,2-Dichloroethane-d4	108	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	97	75-127



Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Soil	Diln Fac:	1.000
Units:	ug/Kg	Batch#:	81003
Basis:	as received	Analyzed:	04/22/03

Type: BS Lab ID: QC211810

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	48.43	97	63-121

Surrogate	%REC	Limits
Dibromofluoromethane	104	74-124
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	103	75-127

Type: BSD Lab ID: QC211811

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	48.31	97	63-121	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	74-124
1,2-Dichloroethane-d4	106	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	99	75-127

RPD= Relative Percent Difference

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Soil	Diln Fac:	1.000
Units:	ug/Kg	Batch#:	81023
Basis:	as received	Analyzed:	04/23/03

Type: BS Lab ID: QC211929

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	47.62	95	63-121

Surrogate	%REC	Limits
Dibromofluoromethane	96	74-124
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	90	75-127

Type: BSD Lab ID: QC211930

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	43.65	87	63-121	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	74-124
1,2-Dichloroethane-d4	102	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	97	75-127

RPD= Relative Percent Difference

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.042
MSS Lab ID:	164913-003	Batch#:	81056
Matrix:	Soil	Sampled:	04/23/03
Units:	ug/Kg	Received:	04/24/03
Basis:	as received	Analyzed:	04/25/03

Type: MS Lab ID: QC212004

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.2100	52.08	45.95	88	53-131

Surrogate	%REC	Limits
Dibromofluoromethane	106	74-124
1,2-Dichloroethane-d4	114	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	102	75-127

Type: MSD Lab ID: QC212005

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	52.08	40.86	78	53-131	12	30

Surrogate	%REC	Limits
Dibromofluoromethane	104	74-124
1,2-Dichloroethane-d4	112	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	102	75-127

RPD= Relative Percent Difference

Gasoline Oxygenates by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Field ID: DPB-S@15-16'	Diln Fac: 25.00
MSS Lab ID: 164846-009	Batch#: 81057
Matrix: Soil	Sampled: 04/18/03
Units: ug/Kg	Received: 04/21/03
Basis: as received	Analyzed: 04/25/03

Type: MS Lab ID: QC212008

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	3,466	1,250	4,514	84	53-131

Surrogate	%REC	Limits
Dibromofluoromethane	99	74-124
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	102	80-111
Bromofluorobenzene	95	75-127

Type: MSD Lab ID: QC212009

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	1,250	4,512	84	53-131	0	30

Surrogate	%REC	Limits
Dibromofluoromethane	96	74-124
1,2-Dichloroethane-d4	99	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	96	75-127

Appendix D

Laboratory Reports of Groundwater Analytical
and Chain of Custody Form



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: 05-MAY-03
Lab Job Number: 164930
Project ID: 2692
Location: Hadjian/Dublin

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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Laboratory Number: 164930 (water)
Client: SOMA Environmental Engineering Inc.
Project Name: Hadjian/Dublin
Project Number: 2692
Receipt Date: 04/24/2003

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for one water sample received from the above referenced project on April 24, 2003. The sample was received cold and intact.

Total Volatile Hydrocarbons:

The recoveries for the surrogate trifluorotoluene in the matrix spikes exceed acceptance limits due to the coelution of the surrogate peak with hydrocarbon peaks. The associated surrogate bromofluorobenzene recoveries are acceptable; therefore, there is no affect on the quality of the sample. No analytical problems were encountered.

Purgeable Organics (EPA 8260):

No analytical problems were encountered.

CHAIN OF CUSTODY FORM


Analyses

Curtis & Tompkins, Ltd.

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 (510)486-0900 Phone
 (510)486-0532 Fax

C&T
 LOGIN # 164930

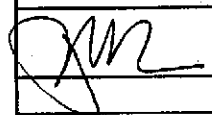
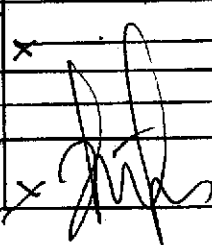
Project No: 242
 Project Name: Hadjivan/Biblin ^{1140 Rubin Blvd}
 Project P.O.:
 Turnaround Time: Standard

Sampler: RW PAPEN 
 Report To: Roger Papen
 Company: SOMA Env Eng.
 Telephone: (925) 244-6600
 Fax: (925) 244-6601

TPH-g	8015																		
8015																			

Laboratory Number	Sample ID	Sampling Date Time	Matrix			# of Containers	Preservative				Field Notes									
			Soil	Water	Waste		HCL	H ₂ SO ₄	HNO ₃	ICE										
	DPB-2X	12/22/03		X		4	X			X	Direct Push Borehole 2	X	X	X						
Laboratory Use																				

Notes: EDF Required

RELINQUISHED BY:	RECEIVED BY:
	
24 Nov 2003 / 12:45 PM	4-24-03 12:45 PM
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Signature

RECEIVED COLD



Total Volatile Hydrocarbons

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Field ID:	DPB-2	Batch#:	81087
Matrix:	Water	Sampled:	04/22/03
Units:	ug/L	Received:	04/24/03
Diln Fac:	1.000		

Type: SAMPLE Analyzed: 04/26/03
 Lab ID: 164930-009

Analyte	Result	RL
Gasoline C7-C12	710	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	137	68-145
Bromofluorobenzene (FID)	128	66-143

Type: BLANK Analyzed: 04/25/03
 Lab ID: QC212141

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	121	68-145
Bromofluorobenzene (FID)	116	66-143

GC04 TVH 'J' Data File FID

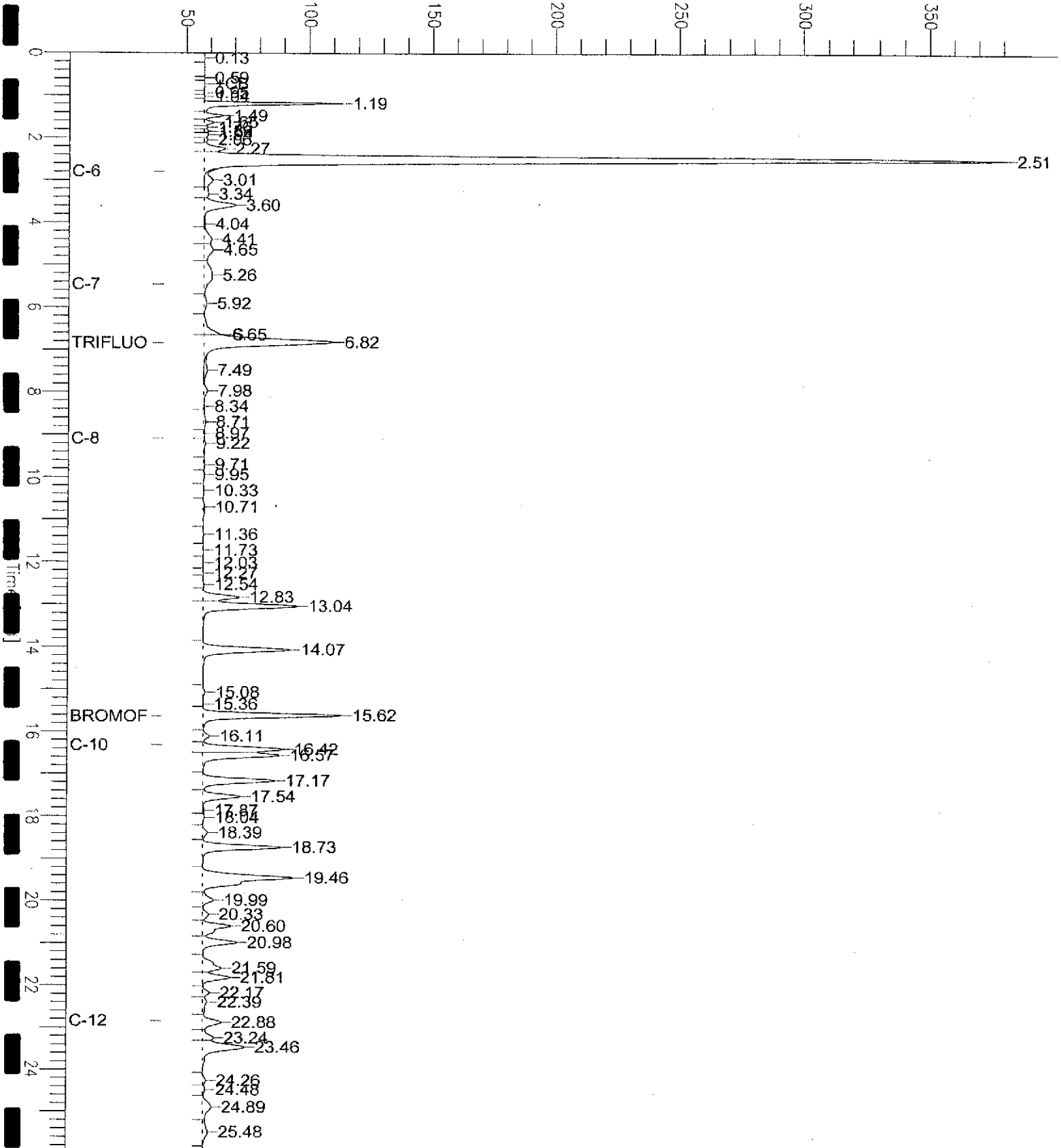
Sample Name : 164930-009,81087
File Name : G:\GC04\DATA\115J026.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

End Time : 26.00 min
Plot Offset : 41 mV

Sample #: c3
Date : 4/28/03 08:14 AM
Time of Injection: 4/26/03 03:09 AM
Low Point : 41.05 mV
High Point : 381.24 mV
Plot Scale: 340.2 mV

DPB-2

Response [mV]



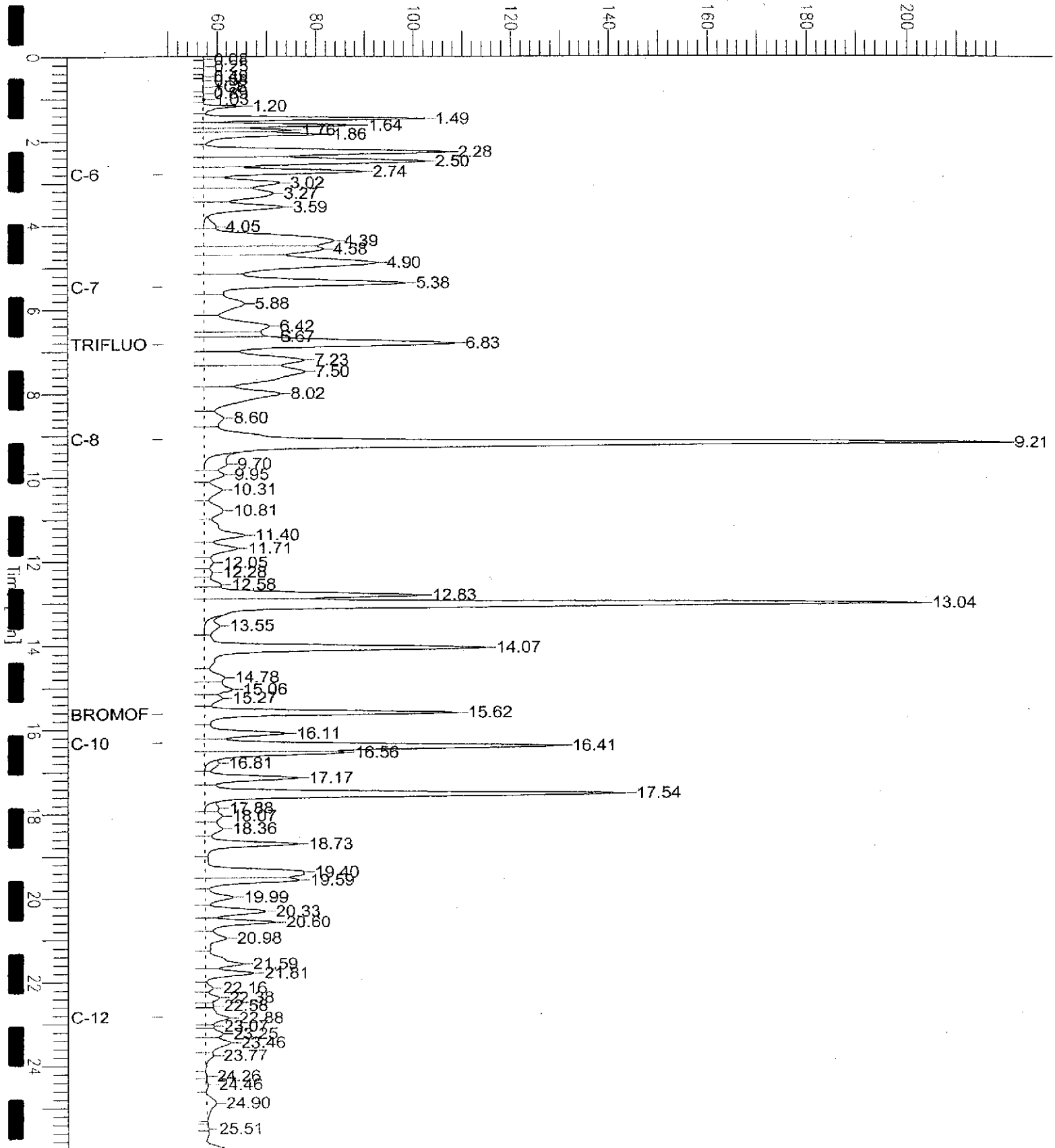
GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs,qc212143,81087,03ws0527,5/5000
 File Name : G:\GC04\DATA\115J002.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor : 1.0 Plot Offset: 49 mV

Sample #: Page 1 of 1
 Date : 4/28/03 08:13 AM
 Time of Injection: 4/25/03 12:22 PM
 Low Point : 49.06 mV High Point : 219.32 mV
 Plot Scale: 170.3 mV

Gasoline

Response [mV]





Total Volatile Hydrocarbons

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212143	Batch#:	81087
Matrix:	Water	Analyzed:	04/25/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,145	107	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	135	68-145
Bromofluorobenzene (FID)	121	66-143



Total Volatile Hydrocarbons

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Batch#:	81087
MSS Lab ID:	164934-002	Sampled:	04/24/03
Matrix:	Water	Received:	04/24/03
Units:	ug/L	Analyzed:	04/25/03
Diln Fac:	1.000		

Type: MS Lab ID: QC212164

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	36.08	2,000	2,242	110	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	150 *	68-145
Bromofluorobenzene (FID)	134	66-143

Type: MSD Lab ID: QC212165

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,234	110	67-120	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	152 *	68-145
Bromofluorobenzene (FID)	135	66-143

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-2	Units:	ug/L
Lab ID:	164930-009	Sampled:	04/22/03
Matrix:	Water	Received:	04/24/03

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
MTBE	540	2.0	4.000	81125	04/29/03
Benzene	1.1	1.0	2.000	81074	04/26/03
Toluene	ND	1.0	2.000	81074	04/26/03
Chlorobenzene	ND	1.0	2.000	81074	04/26/03
Ethylbenzene	18	1.0	2.000	81074	04/26/03
m,p-Xylenes	45	1.0	2.000	81074	04/26/03
o-Xylene	29	1.0	2.000	81074	04/26/03
1,3-Dichlorobenzene	ND	1.0	2.000	81074	04/26/03
1,4-Dichlorobenzene	ND	1.0	2.000	81074	04/26/03
1,2-Dichlorobenzene	ND	1.0	2.000	81074	04/26/03

Surrogate	%RSC	Limits	Diln Fac	Batch#	Analyzed
1,2-Dichloroethane-d4	107	77-130	2.000	81074	04/26/03
Toluene-d8	96	80-120	2.000	81074	04/26/03
Bromofluorobenzene	101	80-120	2.000	81074	04/26/03



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212075	Batch#:	81074
Matrix:	Water	Analyzed:	04/25/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212076	Batch#:	81074
Matrix:	Water	Analyzed:	04/25/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212285	Batch#:	81125
Matrix:	Water	Analyzed:	04/28/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212286	Batch#:	81125
Matrix:	Water	Analyzed:	04/28/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212074	Batch#:	81074
Matrix:	Water	Analyzed:	04/25/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	50.06	100	76-120
Toluene	50.00	48.76	98	79-120
Chlorobenzene	50.00	44.74	89	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	81074
MSS Lab ID:	164891-003	Sampled:	04/22/03
Matrix:	Water	Received:	04/22/03
Units:	ug/L	Analyzed:	04/25/03
Diln Fac:	1.000		

Type: MS Lab ID: QC212110

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.07000	50.00	48.75	97	79-120
Toluene	<0.06000	50.00	46.73	93	75-120
Chlorobenzene	<0.1000	50.00	45.66	91	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	116	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

Type: MSD Lab ID: QC212111

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	46.73	93	79-120	4	20
Toluene	50.00	45.45	91	75-120	3	20
Chlorobenzene	50.00	44.88	90	80-120	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	112	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-120



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	81074
MSS Lab ID:	164891-004	Sampled:	04/22/03
Matrix:	Water	Received:	04/22/03
Units:	ug/L	Analyzed:	04/25/03
Diln Fac:	1.000		

Type: MS Lab ID: QC212112

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.07000	50.00	48.65	97	79-120
Toluene	<0.06000	50.00	47.12	94	75-120
Chlorobenzene	<0.1000	50.00	45.19	90	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-120

Type: MSD Lab ID: QC212113

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	49.20	98	79-120	1	20
Toluene	50.00	47.24	94	75-120	0	20
Chlorobenzene	50.00	46.01	92	80-120	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	102	80-120

RPD= Relative Percent Difference



Purgeable Aromatics by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81125
Units:	ug/L	Analyzed:	04/28/03
Diln Fac:	1.000		

Type: BS Lab ID: QC212283

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	49.37	99	76-120
Toluene	50.00	48.40	97	79-120
Chlorobenzene	50.00	45.45	91	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	77-130
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC212284

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	48.17	96	76-120	2	20
Toluene	50.00	46.56	93	79-120	4	20
Chlorobenzene	50.00	45.27	91	80-120	0	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120



Gasoline Oxygenates by GC/MS

Lab #: 164930	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Field ID: DPB-2	Sampled: 04/22/03
Matrix: Water	Received: 04/24/03
Units: ug/L	

Type: SAMPLE Lab ID: 164930-009

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
tert-Butyl Alcohol (TBA)	ND	20	2.000	81074	04/26/03
MTBE	540	2.0	4.000	81125	04/29/03
Isopropyl Ether (DIPE)	ND	1.0	2.000	81074	04/26/03
Ethyl tert-Butyl Ether (ETBE)	ND	1.0	2.000	81074	04/26/03
Methyl tert-Amyl Ether (TAME)	ND	1.0	2.000	81074	04/26/03
1,2-Dichloroethane	ND	1.0	2.000	81074	04/26/03
1,2-Dibromoethane	ND	1.0	2.000	81074	04/26/03
Ethanol	ND	2,000	2.000	81074	04/26/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	107	80-121	2.000	81074	04/26/03
1,2-Dichloroethane-d4	107	77-130	2.000	81074	04/26/03
Toluene-d8	96	80-120	2.000	81074	04/26/03
Bromofluorobenzene	101	80-120	2.000	81074	04/26/03

Type: BLANK Lab ID: QC212075 Batch#: 81074 Analyzed: 04/25/03
Diln Fac: 1.000

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	0.5
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-121
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120



Gasoline Oxygenates by GC/MS

Lab #: 164930	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Field ID: DPB-2	Sampled: 04/22/03
Matrix: Water	Received: 04/24/03
Units: ug/L	

Type: BLANK	Batch#: 81074
Lab ID: QC212076	Analyzed: 04/25/03
Diln Fac: 1.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1.000

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-121
1,2-Dichloroethane-d4	107	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120

Type: BLANK	Batch#: 81125
Lab ID: QC212285	Analyzed: 04/28/03
Diln Fac: 1.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	0.5
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-121
1,2-Dichloroethane-d4	105	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
 Page 2 of 3



Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-2	Sampled:	04/22/03
Matrix:	Water	Received:	04/24/03
Units:	ug/L		

Type:	BLANK	Batch#:	81125
Lab ID:	QC212286	Analyzed:	04/28/03
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-121
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212074	Batch#:	81074
Matrix:	Water	Analyzed:	04/25/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	45.56	91	49-144

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-121
1,2-Dichloroethane-d4	106	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	81074
MSS Lab ID:	164891-003	Sampled:	04/22/03
Matrix:	Water	Received:	04/22/03
Units:	ug/L	Analyzed:	04/25/03
Diln Fac:	1.000		

Type: MS Lab ID: QC212110

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.04900	50.00	57.07	114	49-144

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-121
1,2-Dichloroethane-d4	116	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

Type: MSD Lab ID: QC212111

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	56.73	113	49-144	1	21

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-121
1,2-Dichloroethane-d4	112	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-120



Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	81074
MSS Lab ID:	164891-004	Sampled:	04/22/03
Matrix:	Water	Received:	04/22/03
Units:	ug/L	Analyzed:	04/25/03
Diln Fac:	1.000		

Type: MS Lab ID: QC212112

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.04900	50.00	53.25	107	49-144

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-121
1,2-Dichloroethane-d4	109	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-120

Type: MSD Lab ID: QC212113

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	53.68	107	49-144	1	21

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-121
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	102	80-120

RPD= Relative Percent Difference

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Gasoline Oxygenates by GC/MS

Lab #:	164930	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81125
Units:	ug/L	Analyzed:	04/28/03
Diln Fac:	1.000		

Type: BS Lab ID: QC212283

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	47.52	95	49-144

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-121
1,2-Dichloroethane-d4	110	77-130
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC212284

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	46.77	94	49-144	2	21

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-121
1,2-Dichloroethane-d4	108	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-120



A N A L Y T I C A L R E P O R T

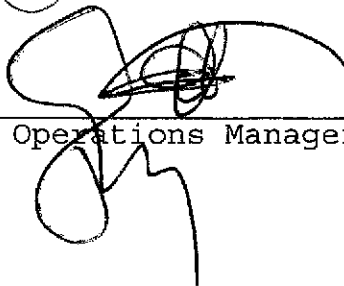
Prepared for:

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

Date: 30-APR-03
Lab Job Number: 164832
Project ID: 2692
Location: Hadjian/Dublin

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 NELAP 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 # 164832

Analyses

Project No: 2692
 Project Name: Hadjilan/Tublin ^{7240 DUBLIN BNA}
 Project P.O.: —
 Turnaround Time: Standard

Sampler: RW Papler
 Report To: Roger Papler
 Company: SOMA ENV. Eng
 Telephone: (925) 244-6600
 Fax: (925) 244-6601

Laboratory Number	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative				Field Notes	TPH-g	SOIL	METAL/MTBE	SOLO B	VOC	S&P
			Soil	Water	Waste		HCL	H ₂ SO ₄	HNO ₃	ICE							
1 -2 Laboratory	DPB-3g	7AP ⁰⁵ 2:45P		X		4	X			X	shallow						
	DPB-5g	8:00A		X		4	X			X	.5 shallow						
	DPB-7g	9:55A															
-3 -4 Laboratory	DPB-3d	7AP ⁰⁵ 3:55P		X		4	X			X	Direct Push Borehole-3 deep						
	DPB-4d	12:50P		X		4	X			X	.4						
	DPB-5d	9:45A		X		4	X			X	.5						
-6 -7 -8 Laboratory	DPB-7g	7AP ⁰⁵ 9:55A		X		4	X			X	.7 shallow						
	DPB-7m	10:20A		X		4	X			X	.7 middle						
	DPB-7d	10:50A		X		4	X			X	.7 deep						
	DPB-5g	7:45A		X		4	X			X	.5 shallow						
-9 -10 Laboratory	DPB-5d	8:30A		X		4	X			X	.5 deep						
	DPB-3m			X		4	X			X	3 middle						

Notes: EDF Required
see attached analysis sheet
No HCL in 1B DPB-5d & DPB-3m & DPB-5g & DPB-5d
 * 12:50 → 6:00P

RELINQUISHED BY: RW Papler ^{12AP05 12:40P}
 DATE/TIME: _____
 RECEIVED BY: George Lambie
 DATE/TIME: 4/15/03 1240

Signature add contact in lee

Total Volatile Hydrocarbons

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Matrix:	Water	Received:	04/18/03
Units:	ug/L		

Field ID:	DPB-3S	Batch#:	80937
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164832-001	Analyzed:	04/20/03
Diln Fac:	10.00		

Analyte	Result	RL
Gasoline C7-C12	48,000	500

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	68-145
Bromofluorobenzene (FID)	100	66-143

Field ID:	DPB-5S	Batch#:	80932
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164832-002	Analyzed:	04/19/03
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	68-145
Bromofluorobenzene (FID)	103	66-143

Field ID:	DPB-3D	Batch#:	80937
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164832-003	Analyzed:	04/20/03
Diln Fac:	5.000		

Analyte	Result	RL
Gasoline C7-C12	27,000	250

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	68-145
Bromofluorobenzene (FID)	101	66-143

Field ID:	DPB-4D	Batch#:	80932
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164832-004	Analyzed:	04/19/03
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	68-145
Bromofluorobenzene (FID)	102	66-143

Total Volatile Hydrocarbons

Lab #: 164832	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: 8015B
Matrix: Water	Received: 04/18/03
Units: ug/L	

Field ID: DPB-5D	Batch#: 80932
Type: SAMPLE	Sampled: 04/17/03
Lab ID: 164832-005	Analyzed: 04/19/03
Diln Fac: 1.000	

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	93	68-145
Bromofluorobenzene (FID)	103	66-143

Field ID: DPB-7S	Batch#: 80932
Type: SAMPLE	Sampled: 04/18/03
Lab ID: 164832-006	Analyzed: 04/19/03
Diln Fac: 1.000	

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	93	68-145
Bromofluorobenzene (FID)	102	66-143

Field ID: DPB-7M	Batch#: 80937
Type: SAMPLE	Sampled: 04/18/03
Lab ID: 164832-007	Analyzed: 04/20/03
Diln Fac: 1.000	

Analyte	Result	RL
Gasoline C7-C12	7,000	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	68-145
Bromofluorobenzene (FID)	107	66-143

Field ID: DPB-7D	Batch#: 80932
Type: SAMPLE	Sampled: 04/18/03
Lab ID: 164832-008	Analyzed: 04/19/03
Diln Fac: 1.000	

Analyte	Result	RL
Gasoline C7-C12	150	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	68-145
Bromofluorobenzene (FID)	101	66-143

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 4

Total Volatile Hydrocarbons

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Matrix:	Water	Received:	04/18/03
Units:	ug/L		

Field ID:	DPB-SS	Batch#:	80937
Type:	SAMPLE	Sampled:	04/18/03
Lab ID:	164832-009	Analyzed:	04/19/03
Diln Fac:	20.00		

Analyte	Result	RL
Gasoline C7-C12	20,000	1,000

Surrogate	%REC	Limits
Trifluorotoluene (FID)	109	68-145
Bromofluorobenzene (FID)	103	66-143

Field ID:	DPB-SD	Batch#:	80932
Type:	SAMPLE	Sampled:	04/18/03
Lab ID:	164832-010	Analyzed:	04/19/03
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	4,300	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	106	68-145
Bromofluorobenzene (FID)	101	66-143

Field ID:	DPB-3M	Batch#:	80937
Type:	SAMPLE	Sampled:	04/18/03
Lab ID:	164832-011	Analyzed:	04/19/03
Diln Fac:	20.00		

Analyte	Result	RL
Gasoline C7-C12	62,000	1,000

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	68-145
Bromofluorobenzene (FID)	100	66-143

Type:	BLANK	Batch#:	80932
Lab ID:	QC211530	Analyzed:	04/18/03
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	88	68-145
Bromofluorobenzene (FID)	92	66-143

Total Volatile Hydrocarbons

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Matrix:	Water	Received:	04/18/03
Units:	ug/L		

Type:	BLANK	Batch#:	80937
Lab ID:	QC211554	Analyzed:	04/19/03
Diln Fac:	1.000		

Analyte	Result	RI
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	91	68-145
Bromofluorobenzene (FID)	99	66-143

GC19 TVH 'X' Data File (FID)

Sample Name : 164832-001,80937

Sample #: c7

Page 1 of 1

File Name : G:\GC19\DATA\109X008.raw

Date : 4/20/03 01:24 AM

Method : TVHBTXE

Time of Injection: 4/20/03 12:57 AM

Start Time : 0.00 min

End Time : 26.80 min

Low Point : -14.96 mV

High Point : 612.87 mV

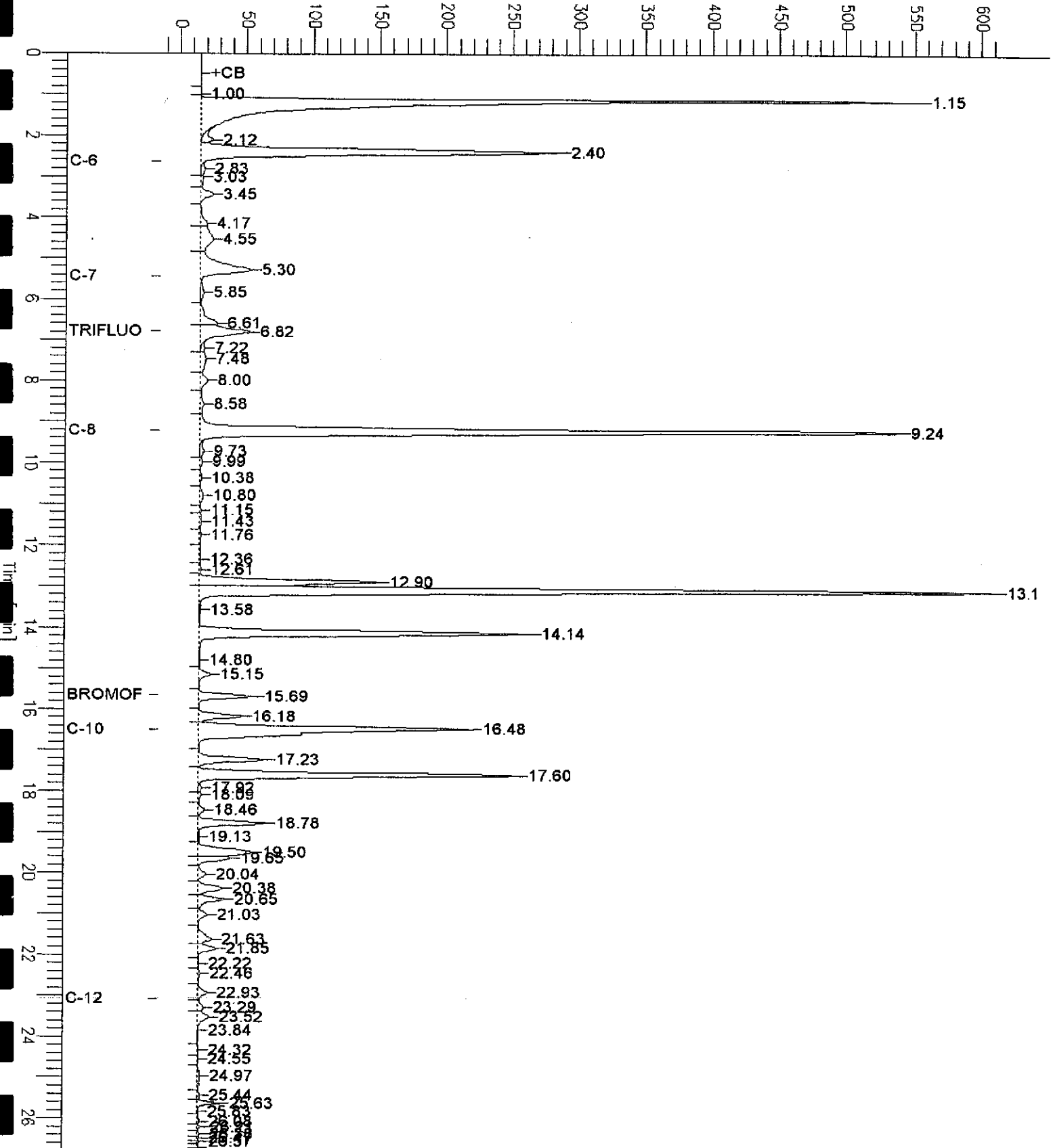
Scale Factor: 1.0

Plot Offset: -15 mV

Plot Scale: 627.8 mV

DPB-3S

Response [mV]



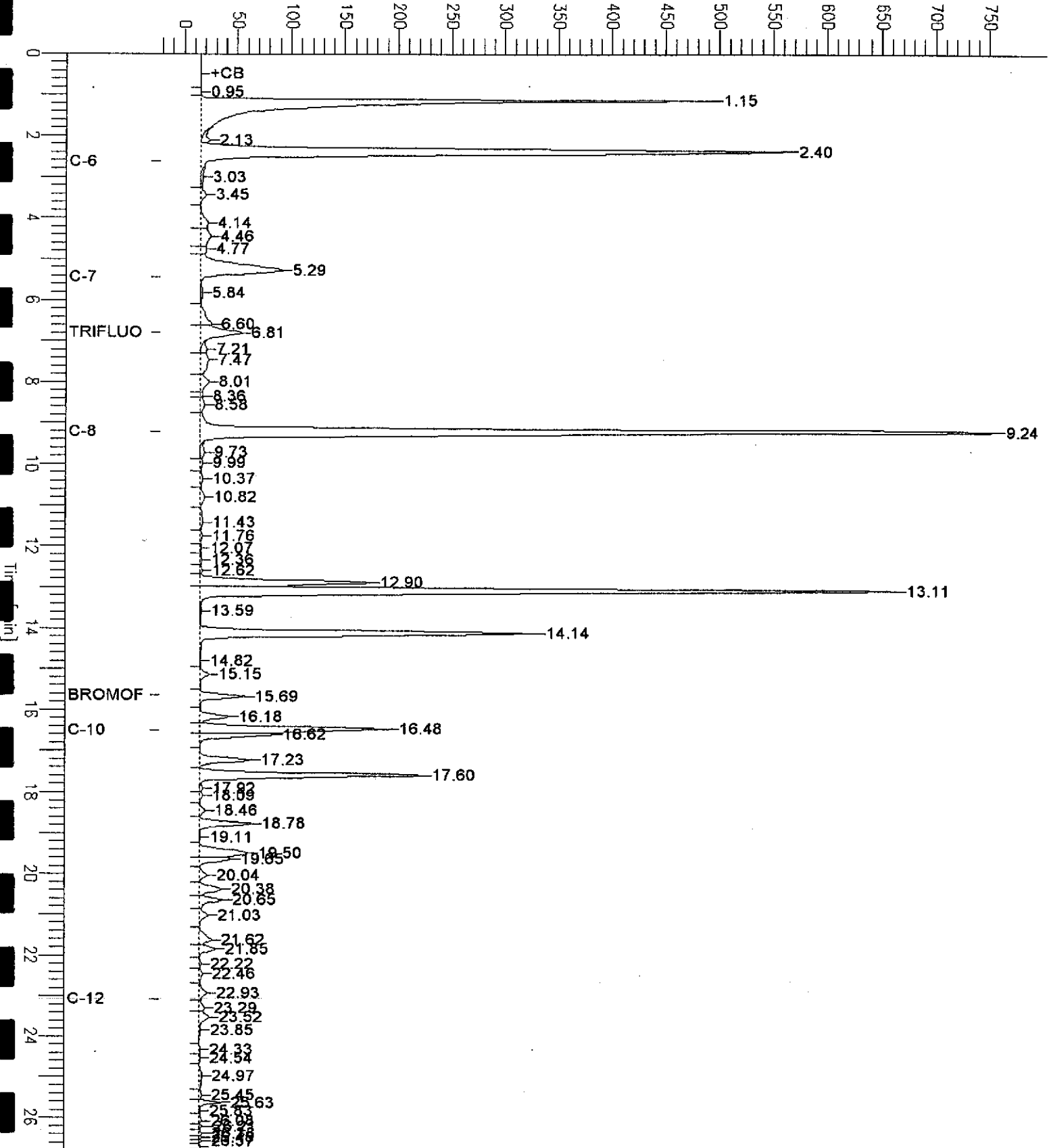
GC19 TVH 'X' Data File (FID)

Sample Name : 164832-003,80937
 File Name : G:\GC19\DATA\109X013.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor : 1.0

Sample #: c7
 Date : 4/20/03 04:14 AM
 Time of Injection: 4/20/03 03:47 AM
 Low Point : -22.42 mV
 High Point : 756.04 mV
 Plot Offset: -22 mV
 Plot Scale: 778.5 mV

DPB-3D

Response [mV]



GC19 TVH 'X' Data File (FID)

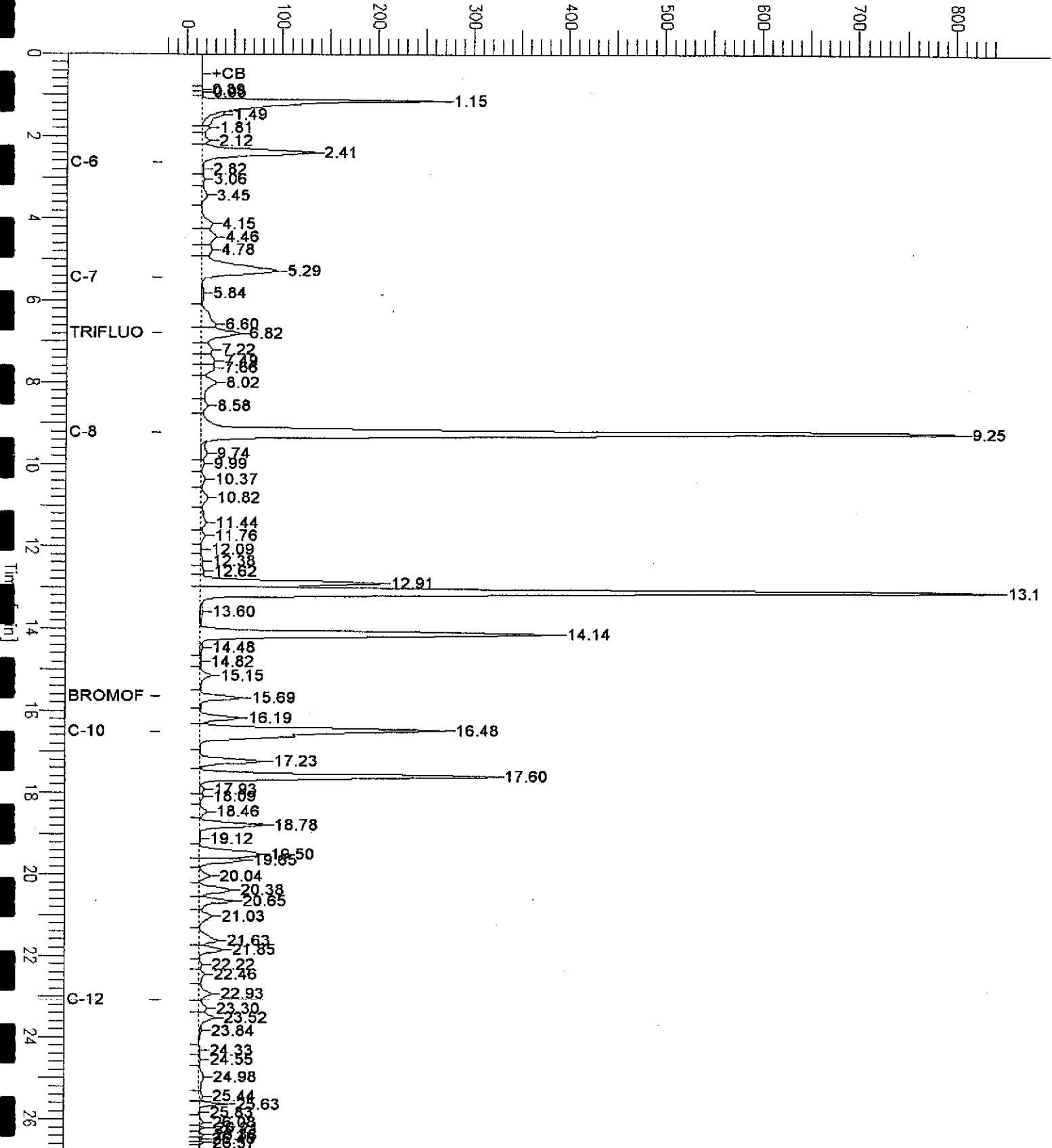
Sample Name : 164832-007,80937
 File Name : G:\GC19\DATA\109X010.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor : 1.0

Sample #: c7
 Date : 4/20/03 02:32 AM
 Time of Injection: 4/20/03 02:05 AM
 Low Point : -26.32 mV
 Plot Scale: 870.9 mV
 End Time : 26.80 min
 Plot Offset: -26 mV
 High Point : 844.60 mV

Page 1 of 1

DPB-7M

Response [mV]



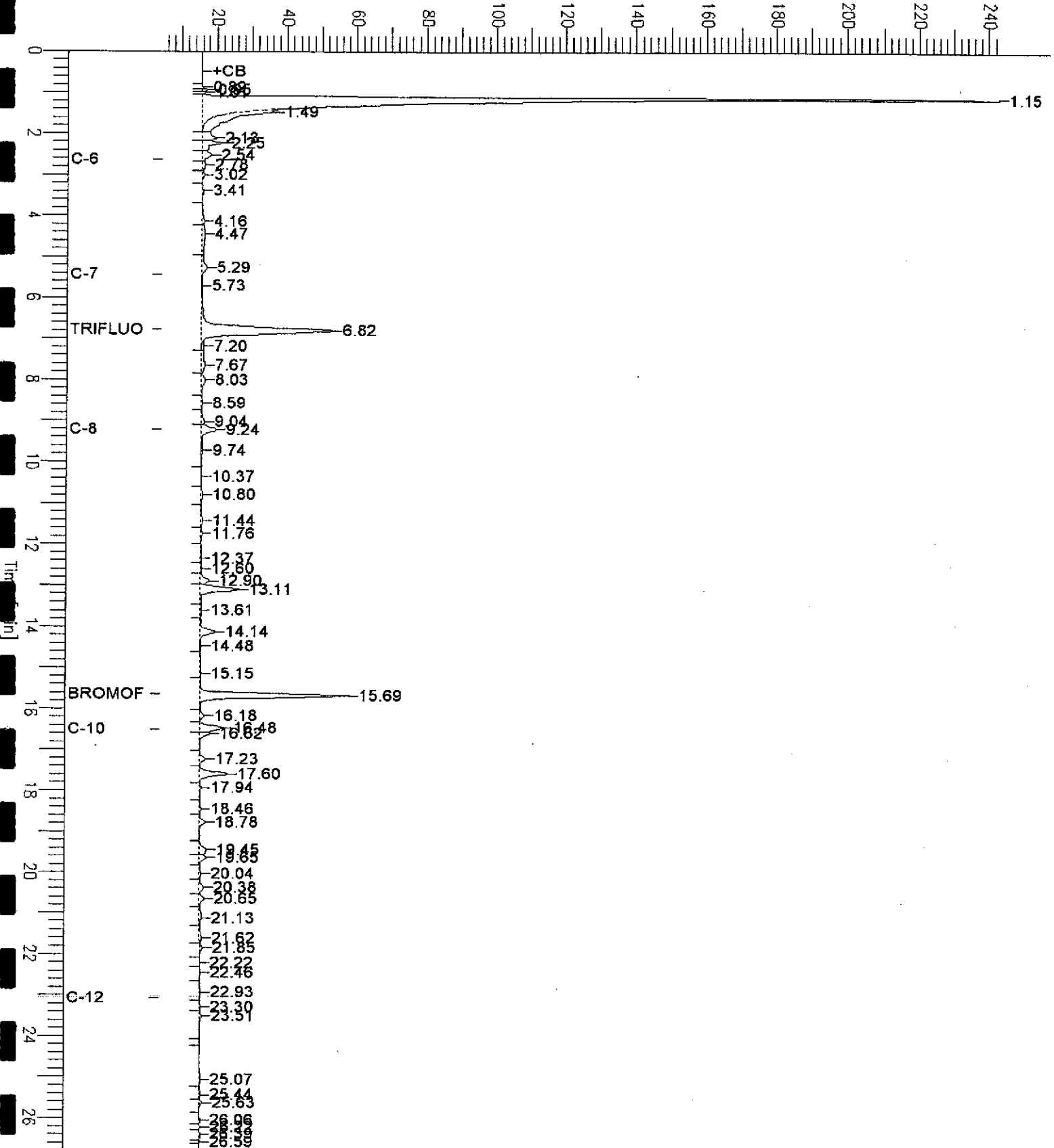
GC19 TVH 'X' Data File (FID)

Sample Name : 164832-008,80932,tvh only
 File Name : G:\GC19\DATA\108X026.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.80 min
 Scale Factor : 1.0 Plot Offset : 4 mV

Sample #: al Page 1 of 1
 Date : 4/19/03 05:31 AM
 Time of Injection: 4/19/03 05:04 AM
 Low Point : 4.23 mV High Point : 242.86 mV
 Plot Scale: 238.6 mV

DPB-7D

Response [mV]



GC19 TVH 'X' Data File (FID)

Sample Name : 164832-009,80937
File Name : G:\GC19\DATA\109X006.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

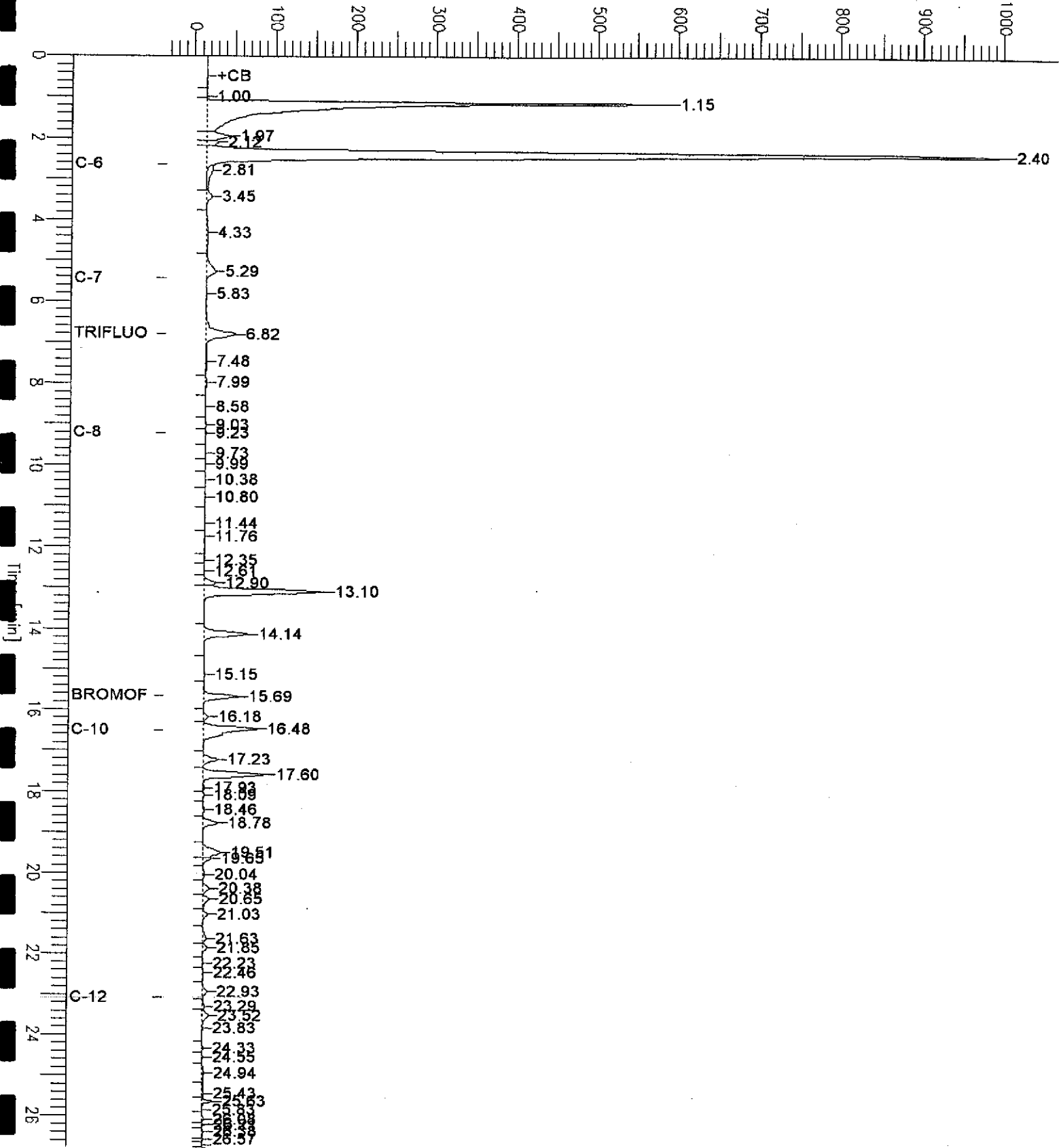
End Time : 26.80 min
Plot Offset : -35 mV

Sample #: c1
Date : 4/20/03 12:16 AM
Time of Injection: 4/19/03 11:48 PM
Low Point : -34.88 mV
Plot Scale: 1038.3 mV
High Point : 1003.46 mV

Page 1 of 1

DPB-SS

Response [mV]



GC19 TVH 'X' Data File (FID)

Sample Name : 164832-010,80932,tvh only

File Name : G:\GC19\DATA\108X031.raw

Method : TVHBIXE

Start Time : 0.00 min

Scale Factor: 1.0

End Time : 26.80 min

Plot Offset: -36 mV

Sample #: a7

Date : 4/19/03 06:49 PM

Time of Injection: 4/19/03 07:54 AM

Low Point : -36.42 mV

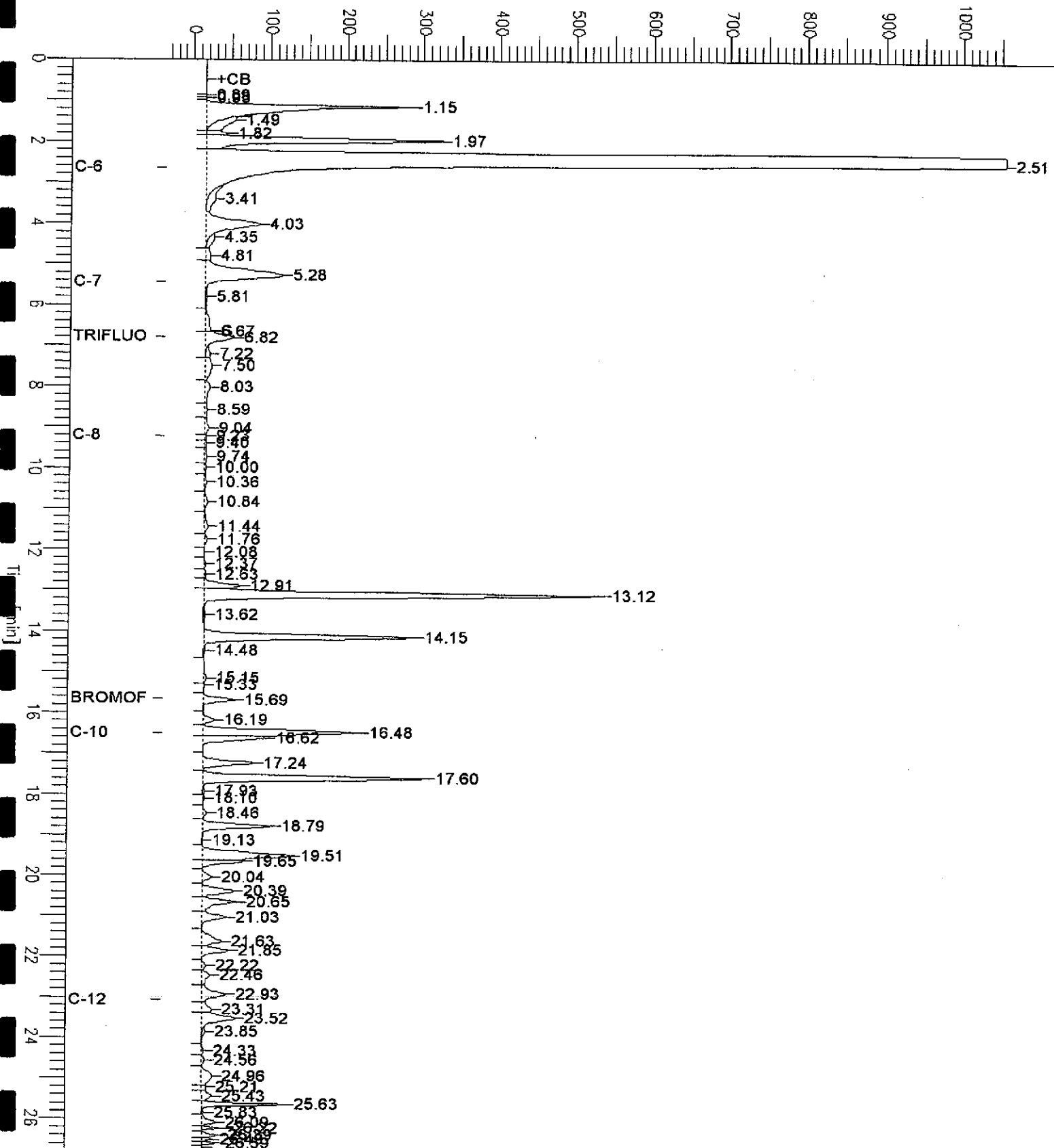
Plot Scale: 1092.2 mV

Page 1 of 1

High Point : 1055.76 mV

DPB-SD

Response [mV]



GC19 TVH 'X' Data File (FID)

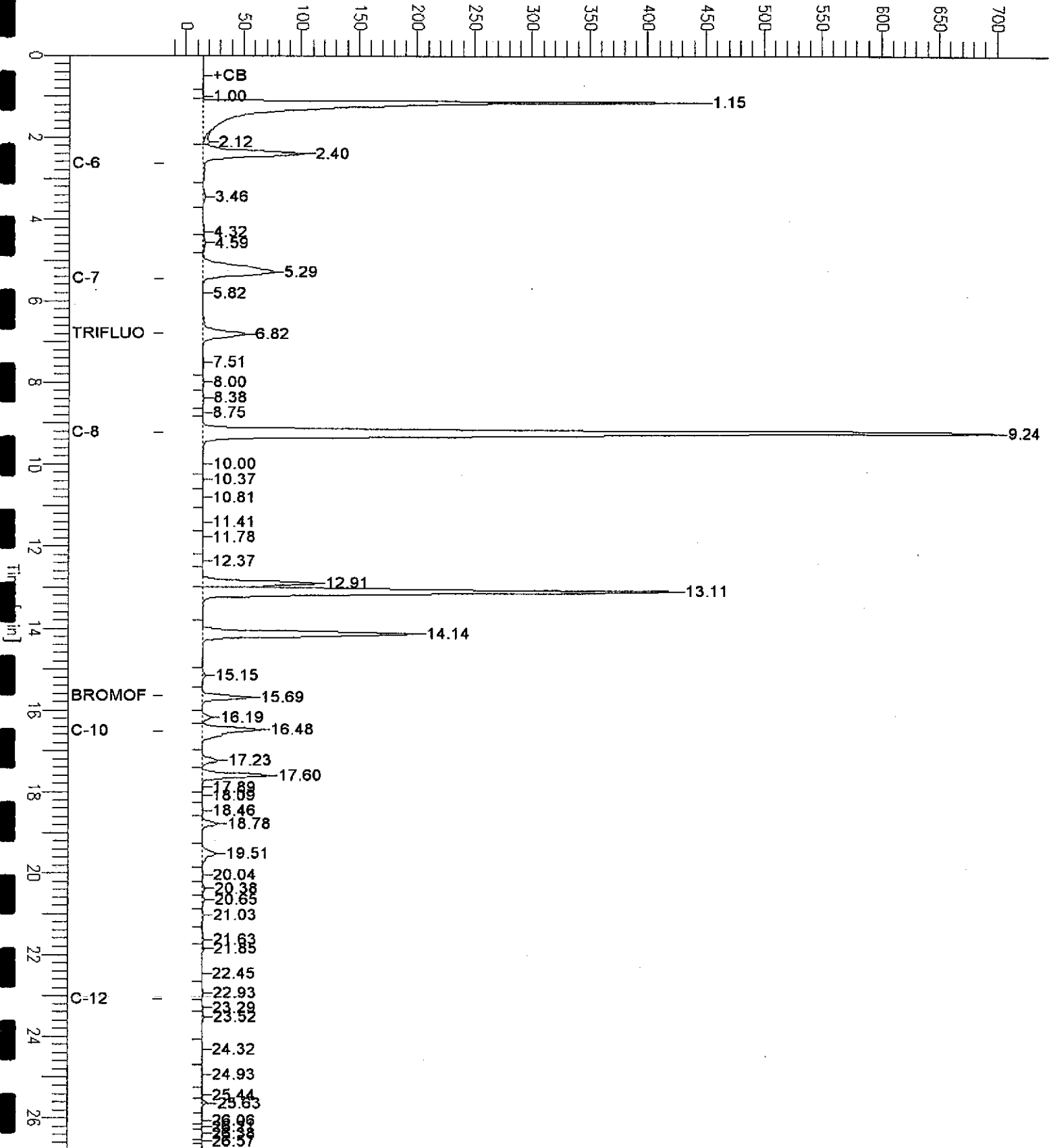
Sample Name : 164832-011,80937
FileName : G:\GC19\DATA\109X004.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor: 1.0

Sample #: c1
Date : 4/19/03 11:08 PM
Time of Injection: 4/19/03 10:41 PM
Low Point : -19.72 mV
High Point : 700.87 mV
Plot Offset: -20 mV
Plot Scale: 720.6 mV

Page 1 of 1

DPB-3M

Response [mV]



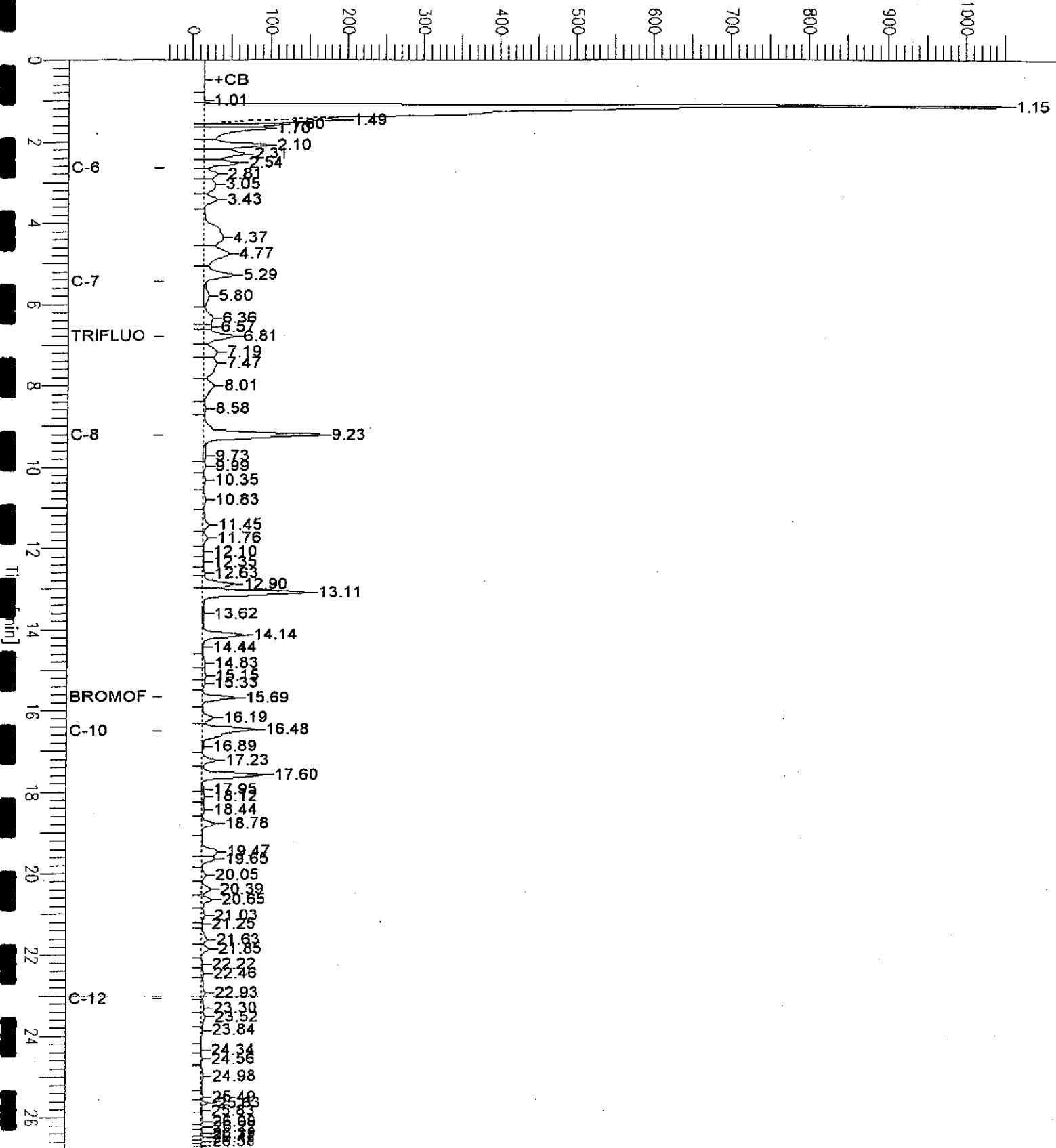
GC19 TVH 'X' Data File (FID)

Sample Name : ccv/bs,qc211555,80937,03ws0527,5/5000
 File Name : g:\gc19\data\109x002.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.80 min
 Scale Factor: 1.0 Plot Offset: -37 mV

Sample #: Page 1 of 1
 Date : 4/19/03 10:04 PM
 Time of Injection: 4/19/03 09:33 PM
 Low Point : -37.15 mV High Point : 1051.70 mV
 Plot Scale: 1088.8 mV

Gasoline

Response [mV]



Total Volatile Hydrocarbons

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC211532	Batch#:	80932
Matrix:	Water	Analyzed:	04/18/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,925	96	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	101	68-145
Bromofluorobenzene (FID)	93	66-143

Total Volatile Hydrocarbons

Lab #: 164832	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: 8015B
Field ID: ZZZZZZZZZZ	Batch#: 80932
MSS Lab ID: 164829-003	Sampled: 04/18/03
Matrix: Water	Received: 04/18/03
Units: ug/L	Analyzed: 04/19/03
Diln Fac: 1.000	

Type: MS Lab ID: QC211536

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<12.00	2,000	2,038	102	67-120
Surrogate	%REC	Limits			
Trifluorotoluene (FID)	110	68-145			
Bromofluorobenzene (FID)	106	66-143			

Type: MSD Lab ID: QC211537

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,018	101	67-120	1	20
Surrogate	%REC	Limits				
Trifluorotoluene (FID)	109	68-145				
Bromofluorobenzene (FID)	104	66-143				

Total Volatile Hydrocarbons

Lab #: 164832	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: 8015B
Matrix: Water	Diln Fac: 1.000
Units: ug/L	Batch#: 80937

Type: BS Analyzed: 04/19/03
 Lab ID: QC211555

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,076	104	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	68-145
Bromofluorobenzene (FID)	107	66-143

Type: BSD Analyzed: 04/20/03
 Lab ID: QC211557

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,002	100	79-120	4	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	68-145
Bromofluorobenzene (FID)	102	66-143

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-3S	Batch#:	80960
Lab ID:	164832-001	Sampled:	04/17/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	50.00		

Analyte	Result	RL
MTBE	8,900	25
Benzene	400	25
Toluene	5,800	25
Chlorobenzene	ND	25
Ethylbenzene	1,500	25
m,p-Xylenes	6,900	25
o-Xylene	2,600	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-120

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-5S	Batch#:	80960
Lab ID:	164832-002	Sampled:	04/17/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected

RL= Reporting Limit

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-3D	Batch#:	80960
Lab ID:	164832-003	Sampled:	04/17/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	50.00		

Analyte	Result	RL
MTBE	7,700	25
Benzene	210	25
Toluene	3,200	25
Chlorobenzene	ND	25
Ethylbenzene	640	25
m,p-Xylenes	2,800	25
o-Xylene	1,300	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 1

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-4D	Batch#:	80960
Lab ID:	164832-004	Sampled:	04/17/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	9.4	0.5
Benzene	ND	0.5
Toluene	2.3	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	1.2	0.5
o-Xylene	0.7	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-5D	Batch#:	80960
Lab ID:	164832-005	Sampled:	04/17/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

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

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-7S	Batch#:	80960
Lab ID:	164832-006	Sampled:	04/18/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-120

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-7M	Units:	ug/L
Lab ID:	164832-007	Sampled:	04/18/03
Matrix:	Water	Received:	04/18/03

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
MTBE	300	2.5	5.000	80984	04/22/03
Benzene	42	0.5	1.000	80960	04/21/03
Toluene	640	2.5	5.000	80984	04/22/03
Chlorobenzene	ND	0.5	1.000	80960	04/21/03
Ethylbenzene	190	0.5	1.000	80960	04/21/03
m,p-Xylenes	680	2.5	5.000	80984	04/22/03
o-Xylene	310	2.5	5.000	80984	04/22/03
1,3-Dichlorobenzene	ND	0.5	1.000	80960	04/21/03
1,4-Dichlorobenzene	ND	0.5	1.000	80960	04/21/03
1,2-Dichlorobenzene	ND	0.5	1.000	80960	04/21/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
1,2-Dichloroethane-d4	99	77-130	1.000	80960	04/21/03
Toluene-d8	99	80-120	1.000	80960	04/21/03
Bromofluorobenzene	101	80-120	1.000	80960	04/21/03

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-7D	Batch#:	80984
Lab ID:	164832-008	Sampled:	04/18/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/22/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	1.8	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	0.8	0.5
m,p-Xylenes	4.3	0.5
o-Xylene	1.4	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-120

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

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-SS	Batch#:	80960
Lab ID:	164832-009	Sampled:	04/18/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/22/03
Diln Fac:	333.3		

Analyte	Result	RL
MTBE	53,000	170
Benzene	ND	170
Toluene	ND	170
Chlorobenzene	ND	170
Ethylbenzene	380	170
m,p-Xylenes	5,000	170
o-Xylene	1,600	170
1,3-Dichlorobenzene	ND	170
1,4-Dichlorobenzene	ND	170
1,2-Dichlorobenzene	ND	170

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-120

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-SD	Sampled:	04/18/03
Lab ID:	164832-010	Received:	04/18/03
Matrix:	Water	Analyzed:	04/22/03
Units:	ug/L		

Analyte	Result	RL	Diln Fac	Batch#
MTBE	42,000	170	333.3	80984
Benzene	ND	63	125.0	80960
Toluene	ND	63	125.0	80960
Chlorobenzene	ND	63	125.0	80960
Ethylbenzene	ND	63	125.0	80960
m,p-Xylenes	640	63	125.0	80960
o-Xylene	270	63	125.0	80960
1,3-Dichlorobenzene	ND	63	125.0	80960
1,4-Dichlorobenzene	ND	63	125.0	80960
1,2-Dichlorobenzene	ND	63	125.0	80960

Surrogate	REC	Limits	Diln Fac	Batch#
1,2-Dichloroethane-d4	99	77-130	125.0	80960
Toluene-d8	99	80-120	125.0	80960
Bromofluorobenzene	99	80-120	125.0	80960



Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-3M	Batch#:	80960
Lab ID:	164832-011	Sampled:	04/18/03
Matrix:	Water	Received:	04/18/03
Units:	ug/L	Analyzed:	04/22/03
Diln Fac:	50.00		

Analyte	Result	RL
MTBE	4,200	25
Benzene	700	25
Toluene	9,900	25
Chlorobenzene	ND	25
Ethylbenzene	1,300	25
m,p-Xylenes	5,400	25
o-Xylene	2,500	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25

Surrogate	%RAC	Limits
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

D= Not Detected
L= Reporting Limit
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Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	80960
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	1.000		

Type: BS Lab ID: QC211647

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	47.51	95	76-120
Toluene	50.00	47.31	95	79-120
Chlorobenzene	50.00	48.11	96	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC211648

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	47.28	95	76-120	0	20
Toluene	50.00	46.86	94	79-120	1	20
Chlorobenzene	50.00	47.54	95	80-120	1	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC211649	Batch#:	80960
Matrix:	Water	Analyzed:	04/21/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC211650	Batch#:	80960
Matrix:	Water	Analyzed:	04/21/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

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

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	80984
Units:	ug/L	Analyzed:	04/22/03
Diln Fac:	1.000		

Type: BS Lab ID: QC211732

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	48.85	98	76-120
Toluene	50.00	48.52	97	79-120
Chlorobenzene	50.00	48.21	96	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC211733

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	48.14	96	76-120	1	20
Toluene	50.00	47.67	95	79-120	2	20
Chlorobenzene	50.00	47.58	95	80-120	1	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC211734	Batch#:	80984
Matrix:	Water	Analyzed:	04/22/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120



Purgeable Aromatics by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC211735	Batch#:	80984
Matrix:	Water	Analyzed:	04/22/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

Gasoline Oxygenates by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Received:	04/18/03
Units:	ug/L		

Field ID:	DPB-3S	Batch#:	80960
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164832-001	Analyzed:	04/21/03
Diln Fac:	50.00		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	870	500
MTBE	8,900	25
Isopropyl Ether (DIPE)	ND	25
Ethyl tert-Butyl Ether (ETBE)	ND	25
Methyl tert-Amyl Ether (TAME)	790	25
1,2-Dichloroethane	ND	25
1,2-Dibromoethane	ND	25
Ethanol	ND	50,000

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-121
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-120

Field ID:	DPB-5S	Batch#:	80960
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164832-002	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-121
1,2-Dichloroethane-d4	100	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-120

A= Not Analyzed
 D= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #: 164832	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Matrix: Water	Received: 04/18/03
Units: ug/L	

Field ID: DPB-3D	Batch#: 80960
Type: SAMPLE	Sampled: 04/17/03
Lab ID: 164832-003	Analyzed: 04/21/03
Diln Fac: 50.00	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	1,100	500
MTBE	7,700	25
Isopropyl Ether (DIPE)	ND	25
Ethyl tert-Butyl Ether (ETBE)	ND	25
Methyl tert-Amyl Ether (TAME)	610	25
1,2-Dichloroethane	ND	25
1,2-Dibromoethane	ND	25
Ethanol	ND	50,000

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-121
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

Field ID: DPB-4D	Batch#: 80960
Type: SAMPLE	Sampled: 04/17/03
Lab ID: 164832-004	Analyzed: 04/21/03
Diln Fac: 1.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	19	10
MTBE	9.4	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-121
1,2-Dichloroethane-d4	102	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Received:	04/18/03
Units:	ug/L		

Field ID:	DPB-5D	Batch#:	80960
Type:	SAMPLE	Sampled:	04/17/03
Lab ID:	164832-005	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

Field ID:	DPB-7S	Batch#:	80960
Type:	SAMPLE	Sampled:	04/18/03
Lab ID:	164832-006	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-120

A= Not Analyzed
 D= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #: 164832	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Matrix: Water	Received: 04/18/03
Units: ug/L	

Field ID: DPB-7M	Lab ID: 164832-007
Type: SAMPLE	Sampled: 04/18/03

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
tert-Butyl Alcohol (TBA)	51	10	1.000	80960	04/21/03
MTBE	300	2.5	5.000	80984	04/22/03
Isopropyl Ether (DIPE)	ND	0.5	1.000	80960	04/21/03
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	1.000	80960	04/21/03
Methyl tert-Amyl Ether (TAME)	110	0.5	1.000	80960	04/21/03
1,2-Dichloroethane	ND	0.5	1.000	80960	04/21/03
1,2-Dibromoethane	ND	0.5	1.000	80960	04/21/03
Ethanol	ND	1,000	1.000	80960	04/21/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	99	80-121	1.000	80960	04/21/03
1,2-Dichloroethane-d4	99	77-130	1.000	80960	04/21/03
Toluene-d8	99	80-120	1.000	80960	04/21/03
Bromofluorobenzene	101	80-120	1.000	80960	04/21/03

Field ID: DPB-7D	Batch#: 80984
Type: SAMPLE	Sampled: 04/18/03
Lab ID: 164832-008	Analyzed: 04/22/03
Diln Fac: 1.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #: 164832	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Matrix: Water	Received: 04/18/03
Units: ug/L	

Field ID: DPB-SS	Batch#: 80960
Type: SAMPLE	Sampled: 04/18/03
Lab ID: 164832-009	Analyzed: 04/22/03
Diln Fac: 333.3	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	19,000	3,300
MTBE	53,000	170
Isopropyl Ether (DIPE)	ND	170
Ethyl tert-Butyl Ether (ETBE)	ND	170
Methyl tert-Amyl Ether (TAME)	270	170
1,2-Dichloroethane	ND	170
1,2-Dibromoethane	ND	170
Ethanol	ND	330,000

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-121
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-120

Field ID: DPB-SD	Sampled: 04/18/03
Type: SAMPLE	Analyzed: 04/22/03
Lab ID: 164832-010	

Analyte	Result	RL	Diln Fac	Batch#
tert-Butyl Alcohol (TBA)	15,000	1,300	125.0	80960
MTBE	42,000	170	333.3	80984
Isopropyl Ether (DIPE)	ND	63	125.0	80960
Ethyl tert-Butyl Ether (ETBE)	ND	63	125.0	80960
Methyl tert-Amyl Ether (TAME)	190	63	125.0	80960
1,2-Dichloroethane	ND	63	125.0	80960
1,2-Dibromoethane	ND	63	125.0	80960
Ethanol	ND	130,000	125.0	80960

Surrogate	%REC	Limits	Diln Fac	Batch#
Dibromofluoromethane	101	80-121	125.0	80960
1,2-Dichloroethane-d4	99	77-130	125.0	80960
Toluene-d8	99	80-120	125.0	80960
Bromofluorobenzene	99	80-120	125.0	80960

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Received:	04/18/03
Units:	ug/L		

Field ID:	DPB-3M	Batch#:	80960
Type:	SAMPLE	Sampled:	04/18/03
Lab ID:	164832-011	Analyzed:	04/22/03
Diln Fac:	50.00		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	930	500
MTBE	4,200	25
Isopropyl Ether (DIPE)	ND	25
Ethyl tert-Butyl Ether (ETBE)	ND	25
Methyl tert-Amyl Ether (TAME)	2,100	25
1,2-Dichloroethane	ND	25
1,2-Dibromoethane	ND	25
Ethanol	ND	50,000

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-121
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

Type:	BLANK	Batch#:	80960
Lab ID:	QC211649	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	0.5
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-121
1,2-Dichloroethane-d4	100	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Received:	04/18/03
Units:	ug/L		

Type:	BLANK	Batch#:	80960
Lab ID:	QC211650	Analyzed:	04/21/03
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

Type:	BLANK	Batch#:	80984
Lab ID:	QC211734	Analyzed:	04/22/03
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	0.5
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Received:	04/18/03
Units:	ug/L		

Type:	BLANK	Batch#:	80984
Lab ID:	QC211735	Analyzed:	04/22/03
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1.000

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit
Page 8 of 8

Gasoline Oxygenates by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	80960
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	1.000		

Type: BS Lab ID: QC211647

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	50.51	101	49-144

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC211648

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	51.68	103	49-144	2	21

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-121
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

Gasoline Oxygenates by GC/MS

Lab #:	164832	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	80984
Units:	ug/L	Analyzed:	04/22/03
Diln Fac:	1.000		

Type: BS Lab ID: QC211732

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	51.18	102	49-144

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-121
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC211733

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	50.92	102	49-144	1	21

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-121
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120



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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

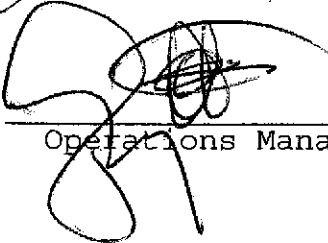
Date: 30-APR-03
Lab Job Number: 164846
Project ID: 2692
Location: Hadjian/Dublin

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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C&T
 LOGIN # 164846

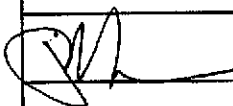
Analyses

Project No: 2092
 Project Name: Hartman / Dublin
 Project P.O.: —
 Turnaround Time: Standard

Sampler: RW Papler
 Report To: Roger Papler
 Company: SOMA Env. Eng
 Telephone: (925) 244-6600
 Fax: (925) 244-6601

Laboratory Number	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative				Field Notes	Analyses																		
			Soil	Water	Waste		HCL	H ₂ SO ₄	HNO ₃	ICE		TPH	SOB	BTEX	MPBE	SLURB														
Factory Laboratory Use	DPB-6a	205 P	X	X		4	X			X	shallow	X	X	X																
	DPB-6m	245 P	X	X		4	X			X	:middle	X	X	X																
	DPB-6d	315 P	X	X		4	X			X	:deep	X	X	X																
Direct Push Borehole: 6'												X	X	X																

Notes: EDF required
see attached photocopy

RELINQUISHED BY:	RECEIVED BY:
 RW Papler DATE/TIME: <u>21 Apr 2003 / 11:25</u>	DATE/TIME: _____ DATE/TIME: _____ DATE/TIME: _____ DATE/TIME: <u>4/21/03 11:25</u>

Signature

Long Lumber
rec'd intact in ice

Laboratory Number: 164846 (water)
Client: SOMA Environmental Engineering Inc.
Project Name: Hadjian/Dublin
Project Number: 2692
Receipt Date: 04/21/2003

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for seven water samples received from the above referenced project on April 21, 2003. The samples were received cold and intact.

Total Volatile Hydrocarbons:

No analytical problems were encountered.

Purgeable Organics (EPA 8260):

No analytical problems were encountered.



Total Volatile Hydrocarbons

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Matrix:	Water	Sampled:	04/18/03
Units:	ug/L	Received:	04/21/03
Batch#:	80973		

Field ID:	DPB-6S	Diln Fac:	2.000
Type:	SAMPLE	Analyzed:	04/22/03
Lab ID:	164846-001		

Analyte	Result	RL
Gasoline C7-C12	7,700	100
Surrogate	%REC	Limits
Trifluorotoluene (FID)	154 *	68-145
Bromofluorobenzene (FID)	125	66-143

Field ID:	DPB-6M	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	04/21/03
Lab ID:	164846-002		

Analyte	Result	RL
Gasoline C7-C12	4,700	50
Surrogate	%REC	Limits
Trifluorotoluene (FID)	158 *	68-145
Bromofluorobenzene (FID)	118	66-143

Field ID:	DPB-6D	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	04/21/03
Lab ID:	164846-003		

Analyte	Result	RL
Gasoline C7-C12	2,900	50
Surrogate	%REC	Limits
Trifluorotoluene (FID)	151 *	68-145
Bromofluorobenzene (FID)	123	66-143

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC211679	Analyzed:	04/21/03

Analyte	Result	RL
Gasoline C7-C12	ND	50
Surrogate	%REC	Limits
Trifluorotoluene (FID)	122	68-145
Bromofluorobenzene (FID)	120	66-143

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

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GC04 TVH 'J' Data File FID

Sample Name : 164846-001,80973

Sample #: a7

Page 1 of 1

File Name : G:\GC04\DATA\111J015.raw

Date : 4/22/03 10:25 AM

Method : TVHBTXE

Time of Injection: 4/22/03 09:23 AM

Start Time : 0.00 min

End Time : 26.00 min

Low Point : 41.72 mV

High Point : 373.12 mV

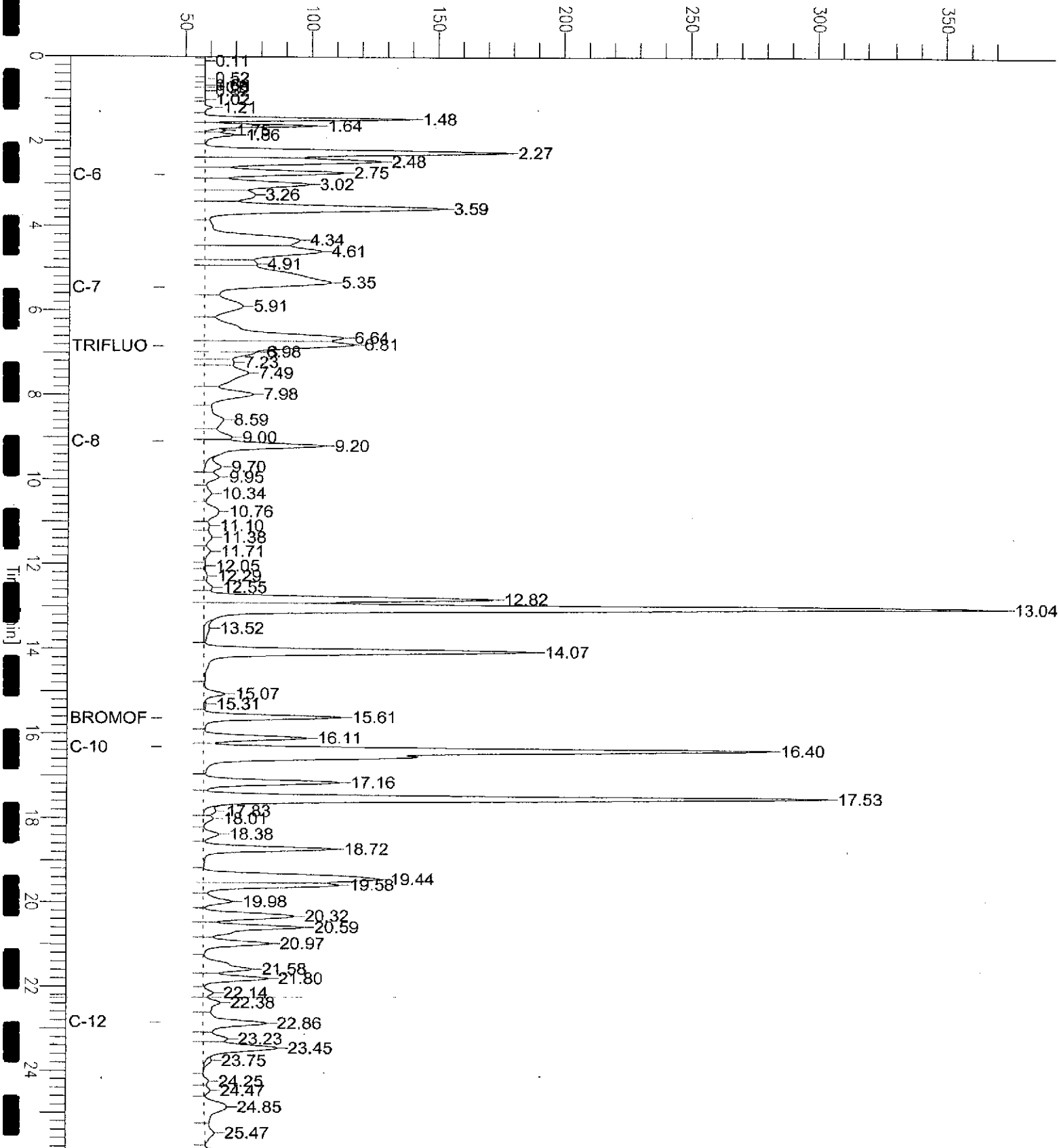
Scale Factor: 1.0

Plot Offset: 42 mV

Plot Scale: 331.4 mV

DPB-6S

Response [mV]



GC04 TVH 'J' Data File FID

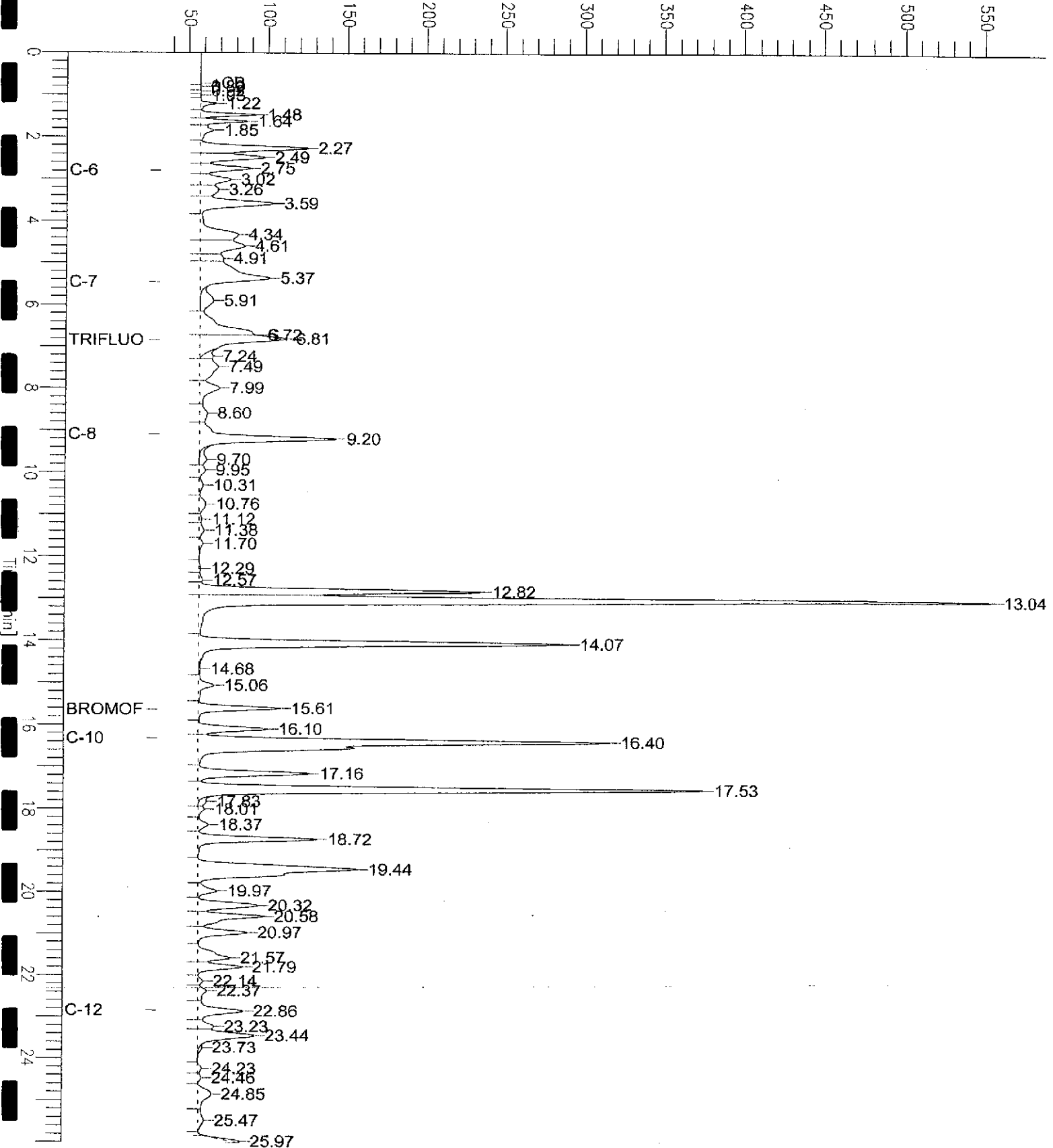
Sample Name : mss,164846-002,80973
FileName : G:\GC04\DATA\111J006.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

End Time : 26.00 min
Plot Offset : 32 mV

Sample #: b7
Date : 4/22/03 10:44 AM
Time of Injection: 4/21/03 06:15 PM
Low Point : 32.06 mV
High Point : 556.30 mV
Plot Scale: 524.2 mV

DPB-6M

Response [mV]



GC04 TVH 'J' Data File FID

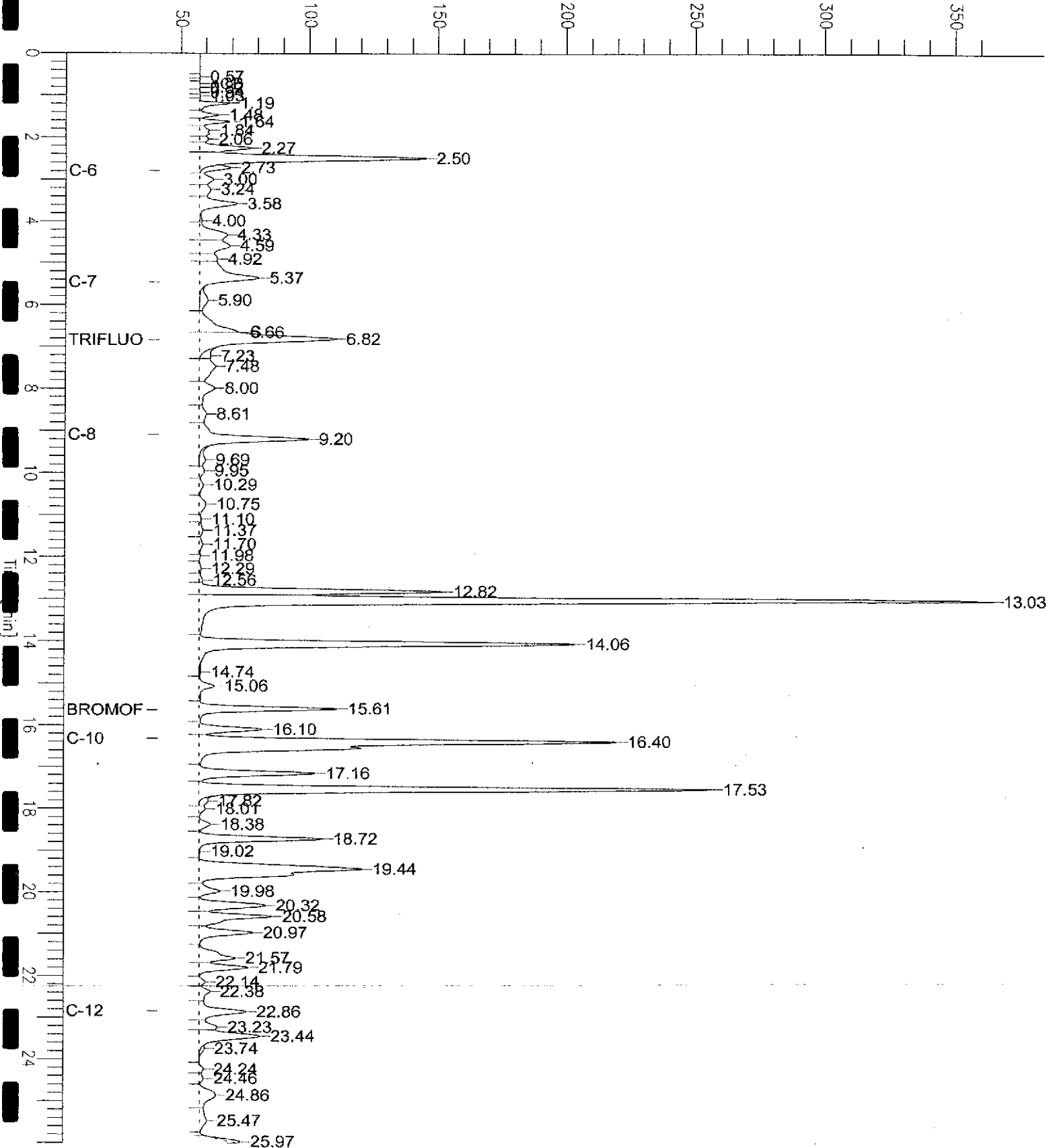
Sample Name : 164846-003,80973
File Name : G:\GC04\DATA\111J008.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

End Time : 26.00 min
Plot Offset : 42 mV

Sample #: a7
Date : 4/22/03 10:25 AM
Time of Injection: 4/21/03 07:26 PM
Low Point : 41.70 mV
High Point : 364.82 mV
Plot Scale : 323.1 mV

DPB-6D

Response [mV]



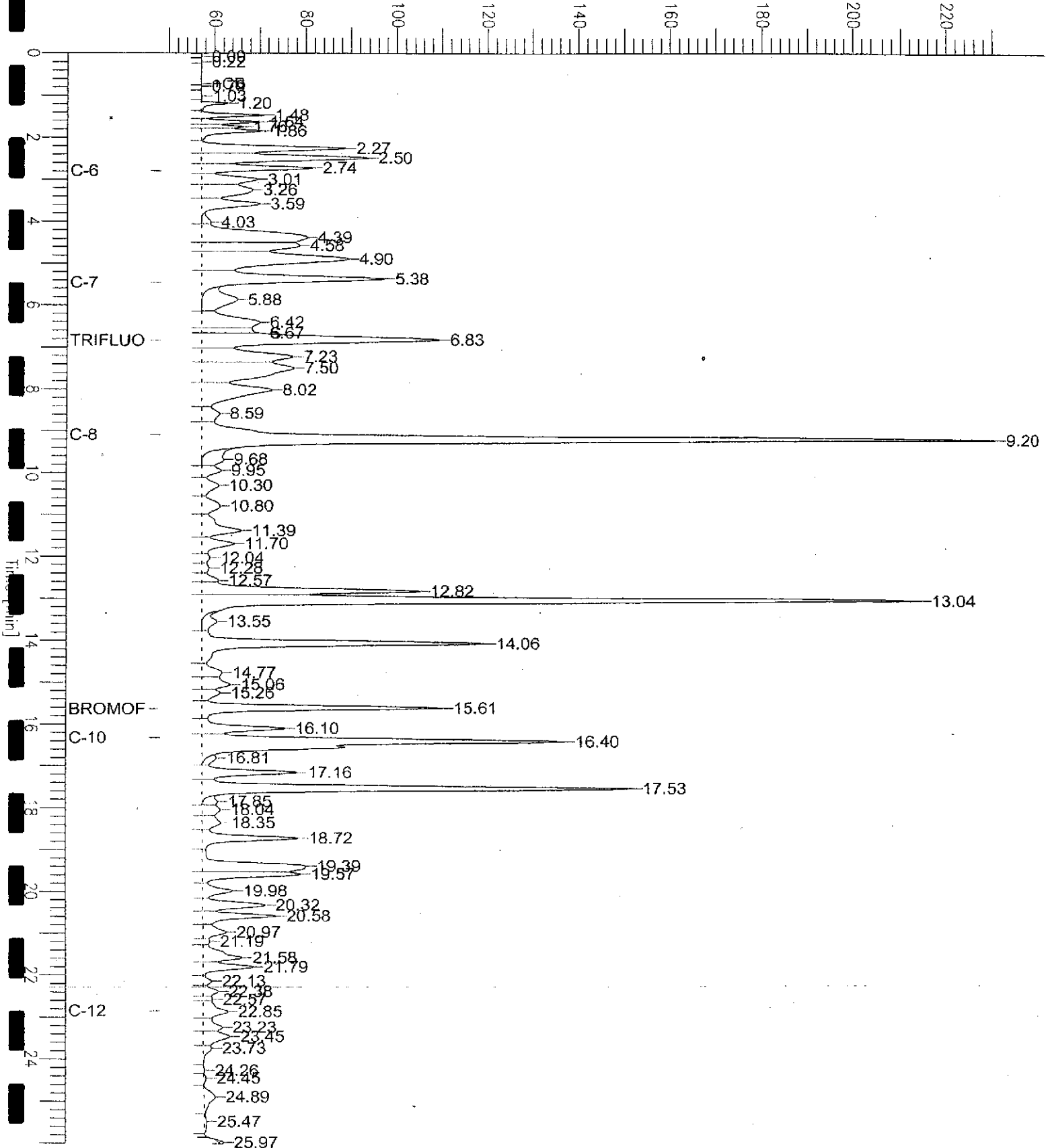
GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs,qc211680,80973,03ws0527,5/5000
File Name : G:\GC04\DATA\111J001.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor : 1.0 Plot Offset : 48 mV

Sample # :
Date : 4/22/03 10:25 AM
Time of Injection : 4/21/03 03:14 PM
Low Point : 48.25 mV High Point : 230.94 mV
Plot Scale : 182.7 mV

Gasoline

Response [mV]



Total Volatile Hydrocarbons

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: 8015B
Type: LCS	Diln Fac: 1.000
Lab ID: QC211680	Batch#: 80973
Matrix: Water	Analyzed: 04/21/03
Units: ug/L	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,289	114	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	136	68-145
Bromofluorobenzene (FID)	124	66-143

Total Volatile Hydrocarbons

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Field ID:	DPB-6M	Batch#:	80973
MSS Lab ID:	164846-002	Sampled:	04/18/03
Matrix:	Water	Received:	04/21/03
Units:	ug/L	Analyzed:	04/21/03
Diln Fac:	1.000		

Type: MS Lab ID: QC211681

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	4,684	2,000	6,279	80	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	161 *	68-145
Bromofluorobenzene (FID)	126	66-143

Type: MSD Lab ID: QC211682

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	6,229	77	67-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	166 *	68-145
Bromofluorobenzene (FID)	131	66-143

*= Value outside of QC limits; see narrative
 RPD= Relative Percent Difference
 Page 1 of 1



Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-6S	Batch#:	81046
Lab ID:	164846-001	Sampled:	04/18/03
Matrix:	Water	Received:	04/21/03
Units:	ug/L	Analyzed:	04/24/03
Diln Fac:	2.000		

Analyte	Result	RL
MTBE	5.9	1.0
Benzene	18	1.0
Toluene	77	1.0
Chlorobenzene	ND	1.0
Ethylbenzene	170	1.0
m,p-Xylenes	450	1.0
o-Xylene	190	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

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

ND= Not Detected

RL= Reporting Limit

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Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-6M	Batch#:	81046
Lab ID:	164846-002	Sampled:	04/18/03
Matrix:	Water	Received:	04/21/03
Units:	ug/L	Analyzed:	04/24/03
Diln Fac:	1.667		

Analyte	Result	RL
MTBE	6.2	0.8
Benzene	21	0.8
Toluene	76	0.8
Chlorobenzene	ND	0.8
Ethylbenzene	160	0.8
m,p-Xylenes	440	0.8
o-Xylene	210	0.8
1,3-Dichlorobenzene	ND	0.8
1,4-Dichlorobenzene	ND	0.8
1,2-Dichlorobenzene	ND	0.8

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-120

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-6D	Batch#:	81046
Lab ID:	164846-003	Sampled:	04/18/03
Matrix:	Water	Received:	04/21/03
Units:	ug/L	Analyzed:	04/24/03
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	100	0.5
Benzene	8.8	0.5
Toluene	24	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	54	0.5
m,p-Xylenes	170	0.5
o-Xylene	79	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected

RL= Reporting Limit

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Purgeable Aromatics by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5035
Project#: 2692	Analysis: EPA 8260B
Type: BLANK	Diln Fac: 1.000
Lab ID: QC211892	Batch#: 81024
Matrix: Water	Analyzed: 04/23/03
Units: ug/L	

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	REC	Limits
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	98	80-111
Bromofluorobenzene	91	77-126

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC211928	Batch#:	81024
Matrix:	Water	Analyzed:	04/23/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	96	77-126

Purgeable Aromatics by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Type: BLANK	Diln Fac: 1.000
Lab ID: QC211962	Batch#: 81046
Matrix: Water	Analyzed: 04/24/03
Units: ug/L	

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212007	Batch#:	81057
Matrix:	Water	Analyzed:	04/24/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	101	77-126

Purgeable Aromatics by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Matrix: Water	Batch#: 81046
Units: ug/L	Analyzed: 04/24/03
Diln Fac: 1.000	

Type: BS Lab ID: QC211959

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	49.85	100	76-120
Toluene	50.00	50.25	100	79-120
Chlorobenzene	50.00	50.71	101	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

Type: BSD Lab ID: QC211960

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	49.18	98	76-120	1	20
Toluene	50.00	49.14	98	79-120	2	20
Chlorobenzene	50.00	49.02	98	80-120	3	20

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

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC211891	Batch#:	81024
Matrix:	Water	Analyzed:	04/23/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	51.88	104	77-120
Toluene	50.00	52.57	105	80-120
Chlorobenzene	50.00	52.20	104	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	93	77-126

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212006	Batch#:	81057
Matrix:	Water	Analyzed:	04/24/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	49.96	100	77-120
Toluene	50.00	51.44	103	80-120
Chlorobenzene	50.00	51.02	102	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	97	77-126

Purgeable Aromatics by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5035
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	81024
MSS Lab ID:	164748-001	Sampled:	04/15/03
Matrix:	TCLP Leachate	Received:	04/15/03
Units:	ug/L	Analyzed:	04/23/03
Diln Fac:	0.9900		

Type: MS Lab ID: QC211912

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.2300	49.50	48.80	99	55-125
Toluene	<0.2200	49.50	50.22	101	48-131
Chlorobenzene	<0.2400	49.50	49.35	100	42-128

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	75-128
Toluene-d8	102	80-111
Bromofluorobenzene	94	77-126

Type: MSD Lab ID: QC211913

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	49.50	51.75	105	55-125	6	20
Toluene	49.50	53.35	108	48-131	6	20
Chlorobenzene	49.50	52.67	106	42-128	6	23

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	96	77-126

Gasoline Oxygenates by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Matrix: Water	Sampled: 04/18/03
Units: ug/L	Received: 04/21/03
Batch#: 81046	Analyzed: 04/24/03

Field ID: DPB-6S	Lab ID: 164846-001
Type: SAMPLE	Diln Fac: 2.000

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	20
MTBE	5.9	1.0
Isopropyl Ether (DIPE)	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	1.0
1,2-Dichloroethane	ND	1.0
1,2-Dibromoethane	ND	1.0
Ethanol	ND	2,000

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-121
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

Field ID: DPB-6M	Lab ID: 164846-002
Type: SAMPLE	Diln Fac: 1.667

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	17
MTBE	6.2	0.8
Isopropyl Ether (DIPE)	ND	0.8
Ethyl tert-Butyl Ether (ETBE)	ND	0.8
Methyl tert-Amyl Ether (TAME)	ND	0.8
1,2-Dichloroethane	ND	0.8
1,2-Dibromoethane	ND	0.8
Ethanol	ND	1,700

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-121
1,2-Dichloroethane-d4	96	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
 Page 1 of 3

Gasoline Oxygenates by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Matrix: Water	Sampled: 04/18/03
Units: ug/L	Received: 04/21/03
Batch#: 81046	Analyzed: 04/24/03

Field ID: DPB-6D	Lab ID: 164846-003
Type: SAMPLE	Diln Fac: 1.000

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	58	10
MTBE	100	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1.000

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-121
1,2-Dichloroethane-d4	96	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-120

Type: BLANK	Diln Fac: 1.000
Lab ID: QC211961	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	0.5
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-121
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-120

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	04/18/03
Units:	ug/L	Received:	04/21/03
Batch#:	81046	Analyzed:	04/24/03

Type: BLANK Diln Fac: 1.000
 Lab ID: QC211962

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-121
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

Gasoline Oxygenates by GC/MS

Lab #: 164846	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: EPA 8260B
Basis: as received	Received: 04/21/03

Type: BLANK	Diln Fac: 1.000
Lab ID: QC211892	Batch#: 81024
Matrix: Water	Analyzed: 04/23/03
Units: ug/L	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	5.0
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	96	74-124
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	98	80-111
Bromofluorobenzene	91	75-127

Type: BLANK	Diln Fac: 1.000
Lab ID: QC211928	Batch#: 81024
Matrix: Water	Analyzed: 04/23/03
Units: ug/L	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	96	74-124
1,2-Dichloroethane-d4	100	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	96	75-127

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Basis:	as received	Received:	04/21/03

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212007	Batch#:	81057
Matrix:	Water	Analyzed:	04/24/03
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	101	74-124
1,2-Dichloroethane-d4	105	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	101	75-127

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81046
Units:	ug/L	Analyzed:	04/24/03
Diln Fac:	1.000		

Type: BS Lab ID: QC211959

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	51.71	103	49-144

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-121
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

Type: BSD Lab ID: QC211960

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	51.87	104	49-144	0	21

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC211891	Batch#:	81024
Matrix:	Water	Analyzed:	04/23/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	47.86	96	63-121

Surrogate	%REC	Limits
Dibromofluoromethane	95	74-124
1,2-Dichloroethane-d4	97	75-128
Toluene-d8	100	80-111
Bromofluorobenzene	93	75-127

Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC212006	Batch#:	81057
Matrix:	Water	Analyzed:	04/24/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	49.55	99	63-121

Surrogate	%REC	Limits
Dibromofluoromethane	100	74-124
1,2-Dichloroethane-d4	103	75-128
Toluene-d8	99	80-111
Bromofluorobenzene	97	75-127



Gasoline Oxygenates by GC/MS

Lab #:	164846	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	81024
MSS Lab ID:	164748-001	Sampled:	04/15/03
Matrix:	TCLP Leachate	Received:	04/15/03
Units:	ug/L	Analyzed:	04/23/03
Diln Fac:	0.9900		

Type: MS Lab ID: QC211912

Analyte	MSS Result	Spiked	Result	%REC	Limits
MTBE	<0.2100	49.50	48.18	97	53-131

Surrogate	%REC	Limits
Dibromofluoromethane	98	74-124
1,2-Dichloroethane-d4	99	75-128
Toluene-d8	102	80-111
Bromofluorobenzene	94	75-127

Type: MSD Lab ID: QC211913

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	49.50	50.36	102	53-131	4	30

Surrogate	%REC	Limits
Dibromofluoromethane	97	74-124
1,2-Dichloroethane-d4	101	75-128
Toluene-d8	101	80-111
Bromofluorobenzene	96	75-127



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A N A L Y T I C A L R E P O R T

Prepared for:

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San Ramon, CA 94583

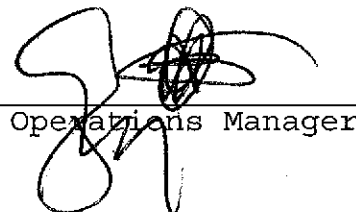
Date: 16-MAY-03
Lab Job Number: 165060
Project ID: 2692
Location: Hadjian/Dublin

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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Total Volatile Hydrocarbons

Lab #: 165060	Location: Hadjian/Dublin	
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B	
Project#: 2692	Analysis: 8015B	
Matrix: Water	Received: 05/02/03	
Units: ug/L	Analyzed: 05/02/03	
Batch#: 81246		

Field ID: DPB-1S	Diln Fac: 5.000	
Type: SAMPLE	Sampled: 05/02/03	
Lab ID: 165060-001		

Analyte	Result	RL
Gasoline C7-C12	12,000	250

Surrogate	%REC	Limits
Trifluorotoluene (FID)	139	68-145
Bromofluorobenzene (FID)	105	66-143

Field ID: DPB-5US	Diln Fac: 1.000	
Type: SAMPLE	Sampled: 04/30/03	
Lab ID: 165060-002		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	68-145
Bromofluorobenzene (FID)	103	66-143

Field ID: DPB-5M	Diln Fac: 1.000	
Type: SAMPLE	Sampled: 04/30/03	
Lab ID: 165060-003		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	106	68-145
Bromofluorobenzene (FID)	101	66-143

Total Volatile Hydrocarbons

Lab #: 165060	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: 8015B
Matrix: Water	Received: 05/02/03
Units: ug/L	Analyzed: 05/02/03
Batch#: 81246	

Field ID: DPB-8	Diln Fac: 1.000
Type: SAMPLE	Sampled: 05/01/03
Lab ID: 165060-004	

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	68-145
Bromofluorobenzene (FID)	101	66-143

Field ID: DPB-SM	Diln Fac: 1.000
Type: SAMPLE	Sampled: 05/01/03
Lab ID: 165060-005	

Analyte	Result	RL
Gasoline C7-C12	1,500	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	68-145
Bromofluorobenzene (FID)	104	66-143

Type: BLANK	Diln Fac: 1.000
Lab ID: QC212779	

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	68-145
Bromofluorobenzene (FID)	91	66-143

Chromatogram

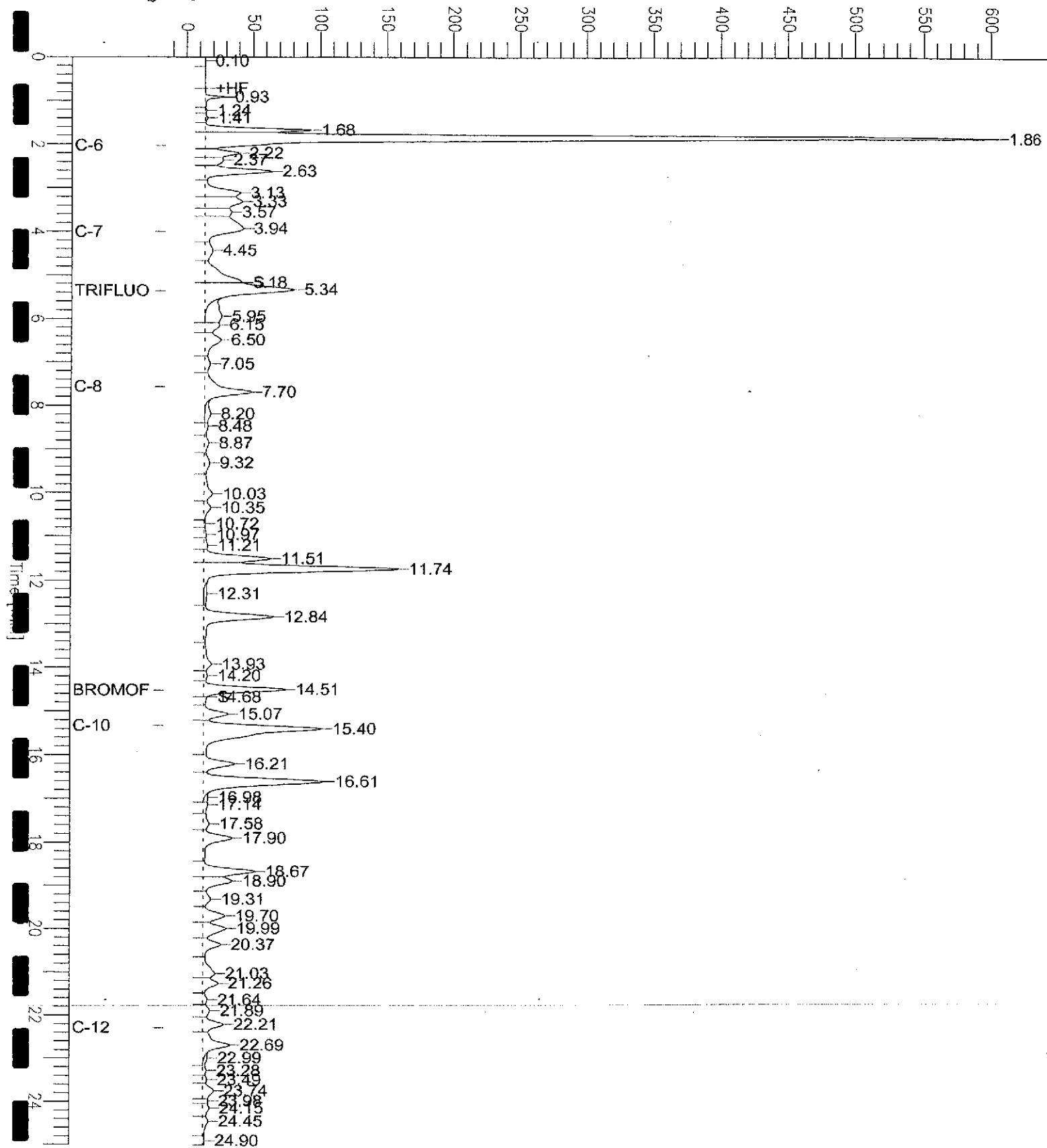
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FileName : G:\GC05\DATA\122G021.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

End Time : 25.00 min
Plot Offset : -16 mV

Sample #: a1
Date : 5/3/03 08:16 AM
Time of Injection: 5/2/03 10:50 PM
Low Point : -15.85 mV
High Point : 605.49 mV
Plot Scale: 621.3 mV

DPB-15

Response [mV]



Chromatogram

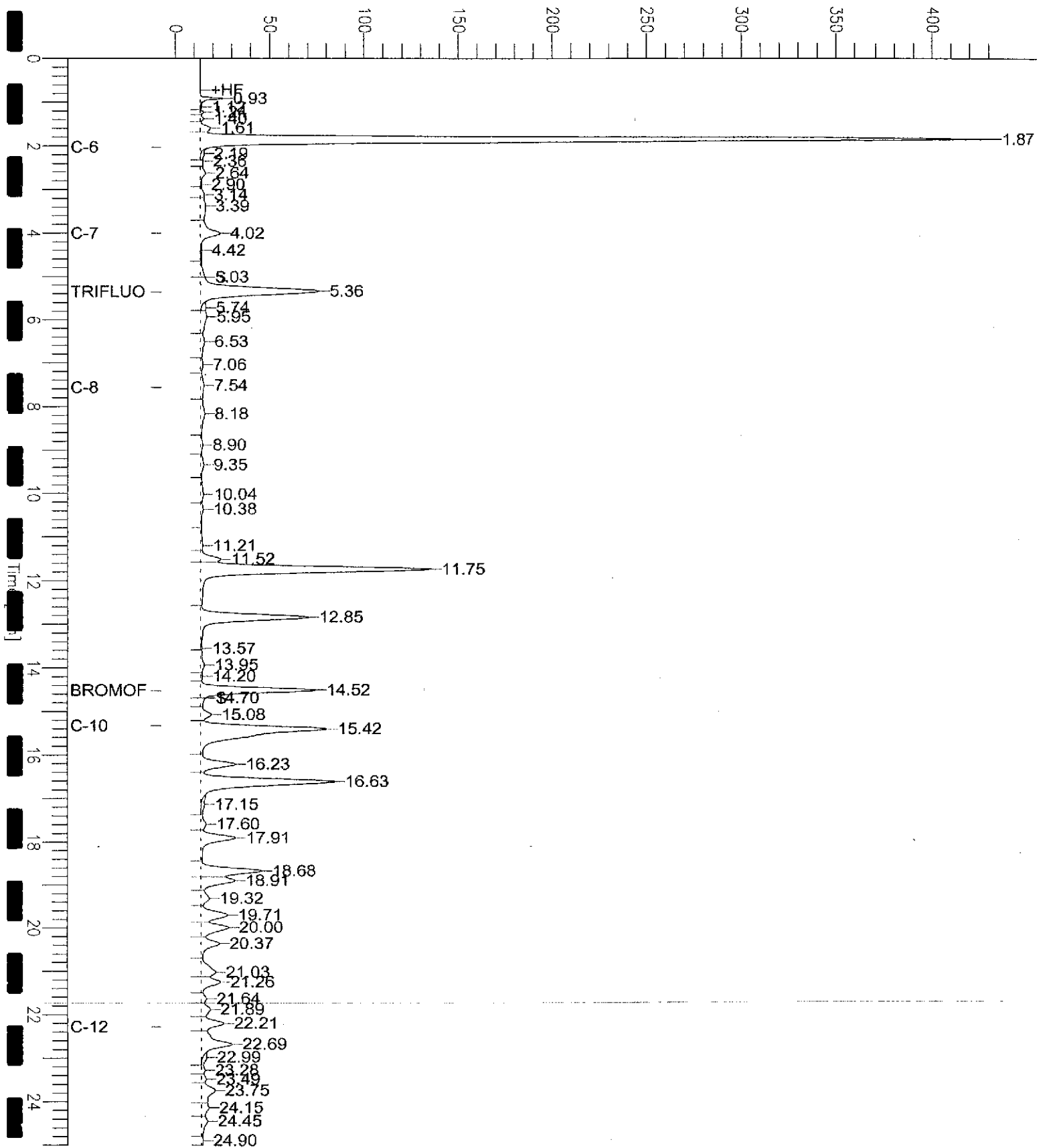
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File Name : G:\GC05\DATA\122G014.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

End Time : 25.00 min
Plot Offset : -8 mV

Sample #: a1
Date : 5/2/03 07:05 PM
Time of Injection: 5/2/03 06:34 PM
Low Point : -7.59 mV
High Point : 431.33 mV
Plot Scale: 438.9 mV

DPB-SM

Response [mV]



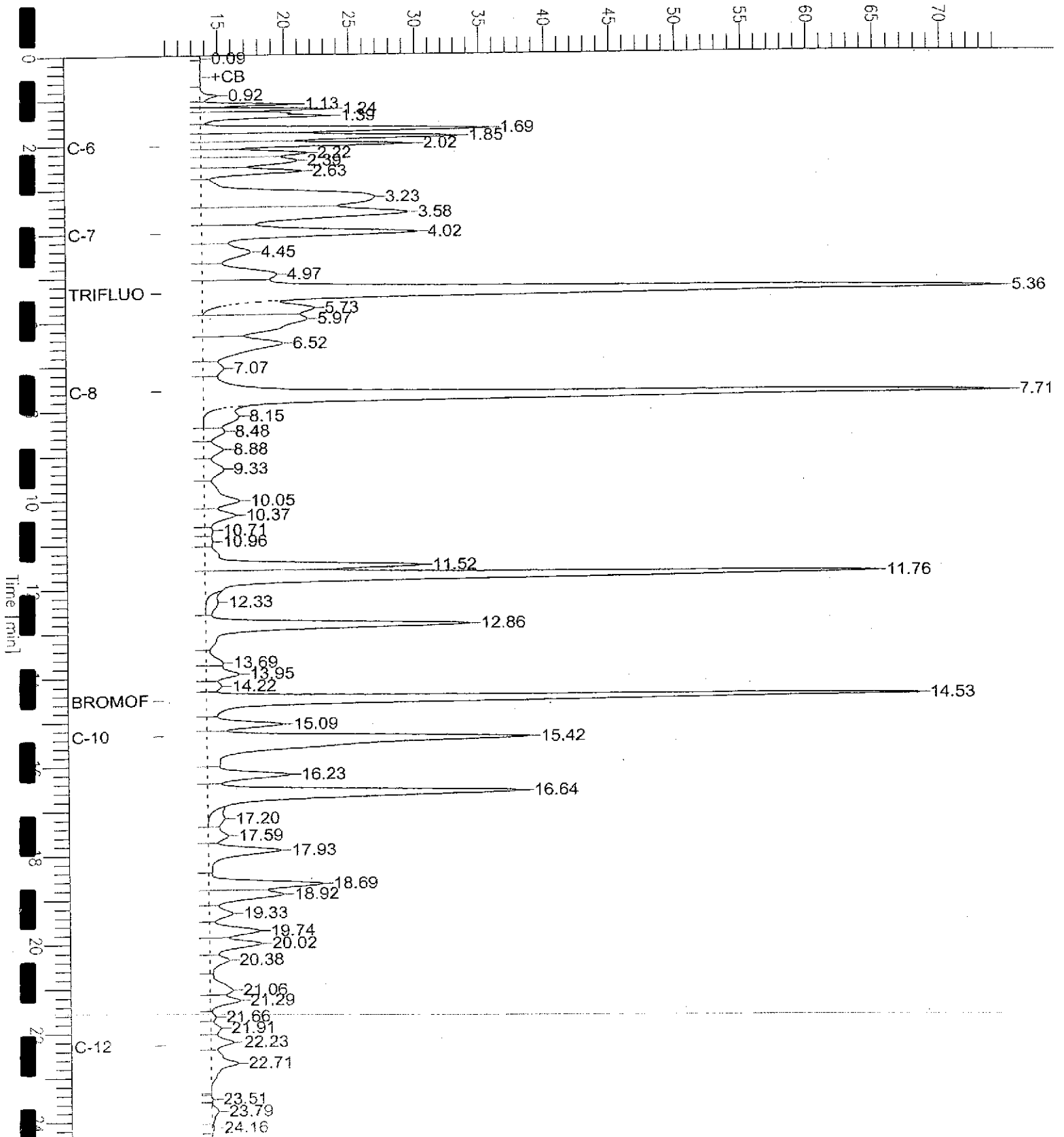
Chromatogram

Sample Name : CCV/LCS_gc212780_81246_03ws0682_2.5/5000
File Name : G:\GC05\DATA\122G002.raw
Method : TVHBTXE
Start Time : 0.00 min
End Time : 25.00 min
Plot Offset : 11 mV
Scale Factor : 1.0

Sample # :
Date : 5/2/03 11:53 AM
Time of Injection : 5/2/03 11:28 AM
Low Point : 10.60 mV
High Point : 74.95 mV
Plot Scale : 64.4 mV

Gasoline

Response [mV]



Total Volatile Hydrocarbons

Lab #: 165060	Location: Hadjian/Dublin
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2692	Analysis: 8015B
Type: LCS	Diln Fac: 1.000
Lab ID: QC212780	Batch#: 81246
Matrix: Water	Analyzed: 05/02/03
Units: ug/L	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	969.6	97	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	68-145
Bromofluorobenzene (FID)	95	66-143



Total Volatile Hydrocarbons

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	8015B
Field ID:	DPB-5M	Batch#:	81246
MSS Lab ID:	165060-003	Sampled:	04/30/03
Matrix:	Water	Received:	05/02/03
Units:	ug/L	Analyzed:	05/02/03
Diln Fac:	1.000		

Type: MS Lab ID: QC212812

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	21.86	2,000	1,900	94	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	122	68-145
Bromofluorobenzene (FID)	110	66-143

Type: MSD Lab ID: QC212813

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,914	95	67-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	68-145
Bromofluorobenzene (FID)	110	66-143

Purgeable Aromatics by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-1S	Batch#:	81280
Lab ID:	165060-001	Sampled:	05/02/03
Matrix:	Water	Received:	05/02/03
Units:	ug/L	Analyzed:	05/06/03
Diln Fac:	50.00		

Analyte	Result	RL
MTBE	8,100	25
Benzene	25	25
Toluene	440	25
Chlorobenzene	ND	25
Ethylbenzene	440	25
m,p-Xylenes	1,700	25
o-Xylene	480	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-120

Purgeable Aromatics by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-5US	Batch#:	81280
Lab ID:	165060-002	Sampled:	04/30/03
Matrix:	Water	Received:	05/02/03
Units:	ug/L	Analyzed:	05/06/03
Diln Fac:	1.000		

Analyte	Result	RL
TBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 1

Purgeable Aromatics by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-5M	Batch#:	81280
Lab ID:	165060-003	Sampled:	04/30/03
Matrix:	Water	Received:	05/02/03
Units:	ug/L	Analyzed:	05/06/03
Injection Fac:	1.000		

Analyte	Result	RL
MIBK	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-120

Purgeable Aromatics by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-8	Batch#:	81280
Lab ID:	165060-004	Sampled:	05/01/03
Matrix:	Water	Received:	05/02/03
Units:	ug/L	Analyzed:	05/06/03
Wt/Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-120

Purgeable Aromatics by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Field ID:	DPB-SM	Batch#:	81280
Lab ID:	165060-005	Sampled:	05/01/03
Matrix:	Water	Received:	05/02/03
Units:	ug/L	Analyzed:	05/06/03
File Fac:	6.250		

Analyte	Result	RL
TBE	760	3.1
Benzene	7.1	3.1
Toluene	ND	3.1
Chlorobenzene	ND	3.1
Ethylbenzene	7.4	3.1
m,p-Xylenes	120	3.1
o-Xylene	50	3.1
1,3-Dichlorobenzene	ND	3.1
1,4-Dichlorobenzene	ND	3.1
1,2-Dichlorobenzene	ND	3.1

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-120

Purgeable Aromatics by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212922	Batch#:	81280
Matrix:	Water	Analyzed:	05/05/03
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	REC	Limits
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	99	80-120

Purgeable Aromatics by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81280
Units:	ug/L	Analyzed:	05/05/03
Diln Fac:	1.000		

Type: BS Lab ID: QC212919

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	49.19	98	76-120
Toluene	50.00	48.33	97	79-120
Chlorobenzene	50.00	49.23	98	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	96	80-120

Type: BSD Lab ID: QC212920

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	50.00	48.40	97	76-120	2	20
Toluene	50.00	47.67	95	79-120	1	20
Chlorobenzene	50.00	48.10	96	80-120	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

Gasoline Oxygenates by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81280
Units:	ug/L	Received:	05/02/03

Field ID:	DPB-1S	Diln Fac:	50.00
Type:	SAMPLE	Sampled:	05/02/03
Lab ID:	165060-001	Analyzed:	05/06/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	500
MTBE	8,100	25
Isopropyl Ether (DIPE)	ND	25
Ethyl tert-Butyl Ether (ETBE)	ND	25
Methyl tert-Amyl Ether (TAME)	ND	25
1,2-Dichloroethane	ND	25
1,2-Dibromoethane	ND	25
Ethanol	ND	50,000

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-121
1,2-Dichloroethane-d4	100	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-120

Field ID:	DPB-5US	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/30/03
Lab ID:	165060-002	Analyzed:	05/06/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-121
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

N= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81280
Units:	ug/L	Received:	05/02/03

Field ID:	DPB-5M	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	04/30/03
Lab ID:	165060-003	Analyzed:	05/06/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-120

Field ID:	DPB-8	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/01/03
Lab ID:	165060-004	Analyzed:	05/06/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-121
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81280
Units:	ug/L	Received:	05/02/03

Field ID:	DPB-SM	Diln Fac:	6.250
Type:	SAMPLE	Sampled:	05/01/03
Lab ID:	165060-005	Analyzed:	05/06/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	430	63
MTBE	760	3.1
Isopropyl Ether (DIPE)	ND	3.1
Ethyl tert-Butyl Ether (ETBE)	ND	3.1
Methyl tert-Amyl Ether (TAME)	ND	3.1
1,2-Dichloroethane	ND	3.1
1,2-Dibromoethane	ND	3.1
Ethanol	ND	6.300

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-121
1,2-Dichloroethane-d4	99	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-120

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212921	Analyzed:	05/05/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	NA	
MTBE	ND	0.5
Isopropyl Ether (DIPE)	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Methyl tert-Amyl Ether (TAME)	NA	
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-121
1,2-Dichloroethane-d4	101	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81280
Units:	ug/L	Received:	05/02/03

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC212922	Analyzed:	05/05/03

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-121
1,2-Dichloroethane-d4	103	77-130
Toluene-d8	98	80-120
Bromofluorobenzene	99	80-120

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	165060	Location:	Hadjian/Dublin
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2692	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	81280
Units:	ug/L	Analyzed:	05/05/03
Diln Fac:	1.000		

Type: BS Lab ID: QC212919

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	55.02	110	49-144

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-121
1,2-Dichloroethane-d4	97	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	96	80-120

Type: BSD Lab ID: QC212920

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	54.43	109	49-144	1	21

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-121
1,2-Dichloroethane-d4	98	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

Appendix E

Subsurface Utility Map of Site Vicinity

