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September 29, 2004

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

Subject: **StID#3337**

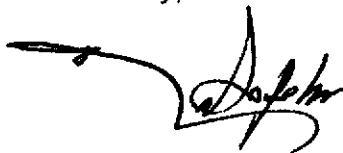
Site Address: 3609 International Blvd., Oakland, California

Dear Mr. Gholami:

Enclosed for your review is a copy of SOMA's "Third Quarter 2004 Groundwater Monitoring and Remediation System Operation Report" for the subject property.

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

Sincerely,



Mansour Sepehr, Ph.D.,PE
Principal Hydrogeologist

Enclosure

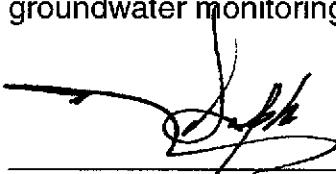
cc: Mr. Abolghassem Razi w/enclosure
Tony's Express Auto Service

Mr. Vince Tong w/enclosure
Traction International

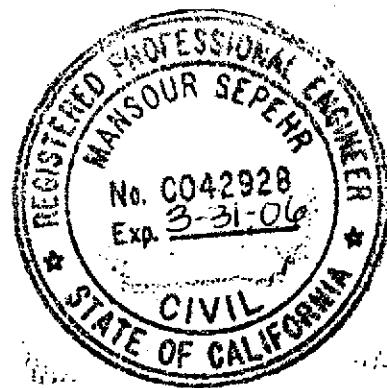


Certification

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Abolghassem Razi, the property owner of 3609 International Boulevard, Oakland, California, to comply with the Alameda County Environmental Health Service's requirements for the Third Quarter 2004 groundwater monitoring event.



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



Alameda County
Groundwater Monitoring
Sept 30, 2004

Table of Contents

CERTIFICATION.....	I
TABLE OF CONTENTS.....	II
LIST OF TABLES	III
LIST OF FIGURES.....	III
LIST OF APPENDICES	III
1.0 INTRODUCTION.....	1
1.1 Background.....	2
2.0 RESULTS.....	3
2.1 Field Measurements	3
2.2 Laboratory Analysis	4
2.3 Historical Analytical Results	5
3.0 GROUNDWATER TREATMENT SYSTEM OPERATION	6
4.0 SOIL VAPOR EXTRACTION SYSTEM OPERATION	7
5.0 CONCLUSIONS AND RECOMMENDATIONS.....	8
6.0 REPORT LIMITATIONS.....	9

List of Tables

- Table 1: Historical Groundwater Elevation Data & Analytical Results
- Table 2: Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
- Table 3: Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System

List of Figures

- Figure 1: Site vicinity map.
- Figure 2: Site map showing the locations of groundwater monitoring wells, French drain, SVE system, and GAC system.
- Figure 3: Groundwater elevation contour map in feet. August 2004.
- Figure 4: Contour map of TPH-g concentrations in the groundwater. August 2004.
- Figure 5: Contour map of Benzene concentrations in the groundwater. August 2004.
- Figure 6: Contour map of MtBE concentrations in the groundwater. (EPA Method 8260B). August 2004.
- Figure 7: Schematic of the Groundwater Remediation System
- Figure 8: Cumulative mass of TPH-g and MtBE removed from groundwater since the installation of the treatment system.

List of Appendices

- Appendix A: SOMA's Groundwater Monitoring Procedures
- Appendix B: Table of Elevations & Coordinates on Monitoring Well Surveyed by Kier Wright Civil Engineers Surveyors, Inc., and Field Measurements of Physical, Chemical, and Biodegradation Parameters of Groundwater
- Appendix C: Chain of Custody Form and Laboratory Report for the Third Quarter 2004 Monitoring Event
- Appendix D: Chain of Custody Forms and Laboratory Reports for the Groundwater Extraction Treatment System

1.0 Introduction

This report has been prepared by SOMA Environmental Engineering, Inc. (SOMA) on behalf of Mr. Abolghassem Razi, the owner of Tony's Express Auto Service, which is located at 3609 International Boulevard at the intersection of 36th Avenue in Oakland, California (the "Site"), as shown in Figure 1.

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

This report summarizes the results of the Third Quarter 2004 groundwater monitoring event, which was conducted at the Site on August 19 and August 20, 2004. Included in this report are the results of the laboratory analysis on the groundwater samples, which were analyzed for:

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

In addition to the above laboratory analyses, a natural attenuation study was conducted during this monitoring event. This study consisted of measuring groundwater bioattenuation parameters, which included dissolved oxygen (DO), ferrous iron (Fe^{+2}), nitrate (NO_3^-) and sulfate (SO_4^{2-}). The objective of the natural attenuation study was to evaluate whether the petroleum hydrocarbons found in the groundwater were biodegrading. Therefore, groundwater samples collected during this monitoring event were analyzed for common electron acceptors and other geochemical indicators. The results of these analyses are also described in this report.

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

Appendix A details SOMA's groundwater monitoring procedures during the Third Quarter 2004.

This report also describes the operation of the groundwater extraction system installed by SOMA in December 1999, as well as the operation of the vapor extraction system, which was installed by SOMA in July 2000. The locations of

the groundwater extraction system and the vapor extraction system are displayed in Figure 2.

1.1 Background

In 1992, Soil Tech Engineering, Inc. (STE) conducted an initial environmental investigation to determine whether or not the soil near the product lines and USTs had been impacted by petroleum hydrocarbons. In July 1993, STE removed one single-walled 10,000-gallon gasoline tank and one single-walled 6,000-gallon gasoline tank along with a 550-gallon waste oil tank from the Site. Three double-walled USTs replaced these tanks. Currently, there is one 10,000-gallon double-walled gasoline tank and two 6,000-gallon double-walled gasoline tanks beneath the Site. The locations of the USTs are shown in Figure 2.

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

In April 1999, Mr. Razi retained SOMA to conduct groundwater monitoring, risk-based corrective action (RBCA), a corrective action plan (CAP), as well as soil and groundwater remediation at the Site. The results of the RBCA study indicated that the Site is a high-risk groundwater site; therefore, the soil and groundwater in the on and off-site areas warranted remedial actions. The source of the petroleum hydrocarbons in the groundwater was believed to have been the former USTs, which were used to store gasoline at the Site. The results of the CAP study indicated that the installation of a French drain combined with a vapor extraction system would be the most cost effective alternative for the Site's remediation.

In late August 1999, SOMA installed a French drain and groundwater treatment system to prevent further migration of the chemically impacted groundwater. This treatment system has been in operation since early December 1999. In July 2000, following approval from the ACEHS, SOMA installed a vapor extraction system as recommended in our CAP document, dated July 1, 1999.

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

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

2.0 Results

The following sections provide the results of the field measurements and laboratory analyses for the August 19 and August 20, 2004 groundwater monitoring event.

2.1 Field Measurements

Table 1 presents the calculated groundwater elevations in each monitoring well and riser. The calculated groundwater elevation data was used to evaluate the impact of the French drain and determine the extent of the groundwater extraction capture zone.

As shown in Table 1, the groundwater elevations for the monitoring wells ranged from 24.84 feet in monitoring well MW-12 to 27.41 feet in monitoring well MW-5. The groundwater elevations for the center, east and west risers were 23.30 feet, 25.09 feet and 23.47 feet, respectively.

In general, the groundwater elevations in all of the monitoring wells and French drain risers decreased, with the exception of the center French drain riser. Local recharge rates in each well, as well as, seasonal fluctuations determine the variations in the groundwater elevations. Due to the lack of rain encountered this quarter, the watertable level descended, which caused the groundwater elevations to decrease.

Figure 3 displays the groundwater elevation contour map, as measured during the Third Quarter 2004. Throughout the Site, the groundwater flows towards the French drain at an approximate gradient of 0.040 feet/feet. The lowest site-wide groundwater elevation was measured in the center French drain riser. The calculated groundwater elevation data was also used to evaluate the impact of the French drain operation. Based on the groundwater elevation data, it appears that the French drain is providing excellent hydraulic control in preventing the contaminants from migrating further off-site.

The field notes for the physical, chemical and biodegradation parameters measured during this monitoring event are included in Appendix B.

Naturally occurring biological processes can enhance the removal rate of contaminants in the subsurface. During the degradation processes, indigenous bacteria that exist in the subsurface utilize the energy released from the transfer of electrons to drive the redox reactions that remove organic mass from contaminated groundwater. The more positive the redox potential of an electron acceptor, the more energetically favorable is the reaction utilizing that electron acceptor. Based on thermodynamic considerations, the most energetically preferred electron acceptor for redox reactions is DO, followed by nitrate, manganese, ferric iron, sulfate, and carbon dioxide, in descending order of

preference. Evaluating the distribution of these electron acceptors can provide evidence of where and to what extent hydrocarbon biodegradation is occurring.

In general, DO was detected throughout the Site. ORP showed negative redox potentials in all of the wells, with the exception of MW-2, MW-4, MW-5, and MW-10. The negative redox potentials indicate these wells are conducive to anaerobic biodegradation. In general, DO concentrations appear to have increased throughout the Site.

The presence of Fe^{2+} indicates that the available DO in the subsurface has been consumed and anaerobic bacteria began to utilize other electrons acceptors, such as Fe^{3+} , NO_3^- and SO_4^{2-} , to metabolize dissolved hydrocarbons. Ferrous iron concentrations can thus be used as an indicator of anaerobic biodegradation. Ferrous iron is a product of the reduction reaction of ferric iron and hydrocarbons. The presence of ferrous iron was detected in all of the wells, with the exception of wells MW-2, MW-4, MW-5, and MW-10. In general, ferrous iron concentrations were detected at low values throughout the Site, with the exception of well MW-3. Ferrous iron was detected at the equipment's maximum allowable range of 3.30 mg/L in well MW-3.

Nitrate concentrations were below the equipment's minimum allowable level in all of the groundwater samples collected throughout the Site, with the exception of well MW-4. The presence of high ferrous iron concentrations in combination with non-detectable nitrate levels is indicative of anaerobic biodegradation beneath the Site.

The absence of sulfate in the groundwater samples may be indicative of an anaerobic methanogenesis process. Sulfate was below the equipment tolerance level in all of the groundwater samples collected throughout the Site, with the exception of wells MW-2, MW-4, and MW-5. However, sulfate was detected at low levels in wells MW-2, MW-4, and MW-5.

2.2 Laboratory Analysis

Table 1 presents the results of the laboratory analyses on the groundwater samples collected during the Third Quarter 2004 monitoring event. In general, the most impacted monitoring wells this quarter were MW-1 and MW-3, which are in the vicinity of the USTs, and MW-6, which is near the soil vapor extraction (SVE) system.

As shown in Table 1, TPH-g was detected in all of the groundwater samples collected this quarter, with the exception of well MW-4. Figure 4 displays the contour map of the TPH-g concentrations in the groundwater during the Third Quarter 2004 monitoring event. As shown in Figure 4, high TPH-g concentrations

were detected in the vicinity of the USTs in wells MW-1 and MW-3, as well as, near the SVE system in well MW-6.

As shown in Table 1, all BTEX concentrations were at low levels in MW-2, which is near the pump islands. In well MW-4, toluene was below the laboratory reporting limit, all other BTEX analytes were at low levels. In well MW-5, all BTEX analytes were below the laboratory reporting limit. In well MW-7, all BTEX analytes were below the laboratory reporting limit, with the exception of toluene. The toluene result in well MW-7 may have been misrepresentative due to matrix interferences during analytical testing. The laboratory designated this variation by using a "C" flag; see the laboratory report in Appendix C for further clarification. In well MW-12, both toluene and ethylbenzene were below the laboratory reporting limit, and both benzene and total xylenes were at low levels.

BTEX concentrations appear to have impacted the locations in the vicinity of the UST cavity and SVE treatment system to a greater extent. The highest BTEX concentrations, with the exception of total xylenes, were detected in well MW-3. The highest total xylenes concentration was detected in well MW-1.

Figure 5 displays the contour map of benzene concentrations in the groundwater during the Third Quarter 2004 monitoring event. As shown in Figure 5, the highest benzene concentrations were found in MW-1 and MW-3, which are in the vicinity of the USTs, and in well MW-6, which is in the vicinity of the vapor extraction system.

MtBE was below the laboratory reporting limit in monitoring wells MW-2, MW-4, MW-6, and MW-8. Figure 6 displays the contour map of MtBE concentrations in the groundwater during the Third Quarter 2004 monitoring event, as analyzed using EPA Method 8260B. The elevated MtBE concentration found in MW-1 may be attributed to the proximity and down-gradient location of MW-1 to the USTs. In general, with the exception of wells MW-1 and MW-3, MtBE was either at low concentrations or below the laboratory reporting limit throughout the Site.

The laboratory report and COC form for the Third Quarter 2004 monitoring event are included in Appendix C.

2.3 Historical Analytical Results

Table 1 shows the historical groundwater analytical data. The following concentration trends have been observed in the more impacted wells MW-1, MW-3, and MW-6, since the previous monitoring event.

- In well MW-1, TPH-g significantly decreased, and both benzene and MtBE increased.

- In well MW-3, both TPH-g and benzene decreased, and MtBE slightly increased.
- In well MW-6, TPH-g decreased by several orders of magnitude, benzene also decreased, and MtBE remained below the laboratory reporting limit.

To review further detailed groundwater concentration trends refer to Table 1.

3.0 Groundwater Treatment System Operation

The treatment system began operating on December 9, 1999. Since that time, 2,594,390 gallons of groundwater has been treated and discharged under the existing discharge permit (as of September 13, 2004), into the East Bay Municipal Utility District's (EBMUD's) sewer system.

On July 25, 2004, a downhole pneumatic pump was installed in the western riser of the French drain. On January 9, 2004, the pneumatic downhole pumps in the western and center French drain risers were removed and replaced with electrical downhole pumps. The schematic of the remediation system is displayed in Figure 7.

As required by the discharge permit and the ACEHS, sampling of the groundwater treatment system has been performed on a routine basis. Table 2 presents the total volume of treated groundwater and the groundwater analytical results. Table 2 shows that all of the effluent samples have been below the discharge limits set forth by EBMUD.

The analytical data for the October 2002 sampling period was erroneous. The high non-detectable concentration levels are due to a high dilution factor caused by the presence of 2-Butanone. During the laboratory testing, 2-Butanone was detected at a high concentration of 200,000 µg/L in only the effluent sample. The influent sample concentration for 2-Butanone was only 20 µg/L. Based on the fact that 2-Butanone has not been detected in any of the effluent samples since December 1999, and because there was a very low influent concentration, the sample results shown are erroneous and are only used to depict that sampling was conducted in October 2002.

The high TPH-g concentration detected during the same sampling event as the erroneous 2-Butanone concentration also may not have been representative due to the sample exhibiting unknown peaks; the sample exhibited a fuel pattern, which did not resemble the standard. The laboratory designated these items by using "Y" and "Z" flags. However, the system was turned off upon detection of these concentrations and a carbon change-out was performed.

The laboratory reports for the groundwater treatment system during this quarter are included in Appendix D of this report.

The cumulative weight of TPH-g and MtBE extracted from the groundwater since the installation of the treatment system is displayed in Figure 8. As Figure 8 shows, an approximate total of 176 pounds of TPH-g and 82 pounds of MtBE have been removed since the system's initial start-up until September 13, 2004.

4.0 Soil Vapor Extraction System Operation

The soil vapor extraction (SVE) system consists of 6 vapor extraction wells, a de-moisturizing unit, a blower, and four drums of GAC filters. The vapor extraction system began operating on July 24, 2000. Since then, during its working days, the system has extracted and treated more than 3,000,000 liters per day of soil gas. When the system first began to operate the influent had a concentration of 394 parts per million on volumetric basis (ppmv) of petroleum hydrocarbons. However, it gradually decreased to 68 ppmv after 31 days of operation.

In November 2002, SOMA met a representative of the Bay Area Air Quality Management District (BAAQMD) on-site. At the request of BAAQMD, an air sample was collected from the influent and effluent of the system. The SVE system was determined to be in compliance with the BAAQMD operating permit. In August 2003, another air sample was collected from the SVE system, based on the analytical results the system has remained in compliance.

The SVE system was turned off in November 2003, and then re-started on April 5, 2004. The system has been operational since April 2004. During the rainy season, the watertable ascends closer to the ground's surface, and thereby, reduces the unsaturated zone beneath the Site. The SVE system, during the rainy season, is inoperable and becomes operational during the drier season. This allows a greater petroleum mass to be removed in the larger unsaturated region.

On May 5, 2004, all four SVE carbon drums were changed out. On May 10, 2004, samples were collected at the influent and effluent of the SVE system. The samples were collected at the system influent to determine the overall hydrocarbon removal efficiency. The samples were collected at the effluent to verify that the system was still in compliance with BAAQMD's discharge requirements.

The total mass of petroleum hydrocarbons removed by the SVE system is shown in Table 3. As of September 13, 2004, the SVE system removed approximately 422.20 pounds of petroleum hydrocarbons from the vadose zone beneath the Site.

5.0 Conclusions and Recommendations

The findings of the Third Quarter 2004 groundwater monitoring event can be summarized as follows:

1. The groundwater remediation system is providing excellent hydraulic control in preventing further migration of the contaminants.
2. The bio-attenuation study confirmed the occurrence of biodegradation beneath the Site. Based on this study, the affected areas appear in the vicinity of the USTs in wells MW-1 and MW-3, as well as, the eastern section of the Site in well MW-6.
3. The source area remains in the vicinity of the USTs, in wells MW-1 and MW-3. However, a high TPH-g concentration was also detected in well MW-6.
4. In general, the GAC and SVE systems have effectively reduced contaminants throughout the Site. TPH-g has significantly reduced in the more impacted regions of wells MW-1, MW-3, and MW-6. Benzene also decreased in wells MW-3 and MW-6.
5. Approximately 2,594,390 gallons of groundwater has been treated and discharged into EBMUD's sewer system, under the existing discharge permit (as of September 13, 2004). All effluent samples from the groundwater treatment system have remained below the allowable discharge requirements. From initial start-up to September 13, 2004, approximately 176 pounds of TPH-g and 82 pounds of MtBE have been removed during the operation of the treatment system.
6. As of September 13, 2004, the SVE system has removed approximately 422.20 pounds of petroleum hydrocarbons from the vadose zone beneath the Site. The operation of the SVE system is based on seasonal fluctuations; the system is turned off during wetter periods of the year and operational during drier periods.

6.0 Report Limitations

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

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

TABLES

Table 1
Historical Groundwater Elevation Data & Analytical Results
3609 International Boulevard, Oakland, California

Monitoring Well	Date	Top Of Casing Elevation (feet)	Groundwater Elevations (feet)	TPH-g ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl-Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	MtBE ¹ EPA 8260B ($\mu\text{g/L}$)
MW-1	Oct-94	97.99	82.60	320,000	24,000	21,000	2,600	15,000	NA
	Dec-94	97.99	88.67	80,000	3,800	6,600	2,300	11,000	NA
	Mar-95	97.99	89.92	32,000	190	160	150	490	NA
	Jun-95	97.99	88.46	21,000	950	650	570	150	NA
	Oct-95	97.99	84.70	59,000	140	130	140	390	NA
	Jan-96	97.99	87.92	30,000	71	73	50	120	NA
	Apr-96	97.99	89.70	31,000	98	120	63	170	NA
	Dec-96	97.99	86.32	NA	NA	NA	NA	NA	NA
	Apr-97	97.99	86.85	NA	NA	NA	NA	NA	NA
	Dec-97	97.99	88.69	27,000	2,300	2,100	1,400	5,100	NA
	Sep-98	97.99	84.41	NA	NA	NA	NA	NA	NA
	Dec-98	97.99	86.89	65,000	2,500	2,400	2,300	9,500	160
	Mar-99	97.99	88.08	17,000	480	860	850	3,000	190
	Jun-99	97.99	86.89	25,000	1,110	1,460	1,330	5,265	77
	Aug-99	97.99	84.64	19,750	678	463	893	2,938	38
	Nov-99	97.99	83.54	10,000	693	15	<5	3,471	50
	Feb-00	97.99	86.79	40,000	2,280	1,380	8	6,130	47
	May-00	97.99	86.50	15,610	610	350	310	1,400	<5
	Aug-00	97.99	84.63	11,000	638	<5	<5	<5	17.1
	Nov-00	97.99	84.79	7,050	435	52	ND	689	10
	Mar-01	97.99	89.03	14,570	1,005	440	108	2,030	16
	May-01	97.99	86.49	4,900	310	81	82	388	150
	Aug-01	97.99	84.46	14,820	852	342	568	1,606	2,000
	Nov-01	97.99	83.98	41,000	2,700	5,100	1,000	4,570	74,000
	Feb-02	97.99	87.88	260,000	3,700	12,000	3,700	19,200	23,000
	May-02	97.99	87.13	53,000	4,400	5,100	1300	7,000	32,000
	Jul-02	40.11	27.31	29,000	2,400	2,500	920	4,400	13,000
	Oct-02	40.11	24.61	27,000	2,200	2,400	950	4,500	34,000
	Jan-03	40.11	30.38	62,000	3,500	6,000	1600	9,700	48,000
	May-03	40.11	30.40	59,000	8,100	2,700	1500	7,000	14,000
	Jul-03	40.11	27.57	36,000	4,800	1,800	1300	5,600	25,000
	Oct-03	40.11	26.22	630,000 H	3,300	1900 C	3600	27,700	15,000
	Jan-04	40.11	29.66	39,000	3,100	1,600	950	4,300	8,500
	Apr-04	40.11	28.62	41,000	1,200	350C	830	2,740	4,300
	Aug-04	40.11	26.30	22,000	2,000	220	560	3,090	6,900

Table 1
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3609 International Boulevard, Oakland, California

Monitoring Well	Date	Top Of Casing Elevation (feet)	Groundwater Elevations (feet)	TPH-g ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl-Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	MtBE ¹ EPA 8260B ($\mu\text{g/L}$)
MW-2	Oct-94	98.58	89.22	NA	NA	NA	NA	NA	NA
	Dec-94	98.58	89.98	NA	NA	NA	NA	NA	NA
	Mar-95	98.58	90.90	490	3	3	3	1	NA
	Jun-95	98.58	88.99	8,000	220	330	350	660	NA
	Oct-95	98.58	85.16	46,000	160	130	93	240	NA
	Jan-96	98.58	88.65	46,000	160	130	93	240	NA
	Apr-96	98.58	90.45	27,000	0.1	92	44	13	NA
	Dec-96	98.58	86.91	6,200	11	7	2	14	ND
	Apr-97	98.58	87.18	53,000	150	110	37	0.12	ND
	Dec-97	98.58	89.54	35,000	4,900	4,900	1,600	7,000	NA
	Jun-98	98.58	NM	25,000	2,000	2,000	1,300	4,300	NA
	Sep-98	98.58	85.00	29,000	290	180	160	360	<0.5
	Dec-98	98.58	87.64	26,000	1,400	1,600	880	9,500	<5
	Mar-99	98.58	90.98	7,600	730	830	610	1,900	55
	Jun-99	98.58	87.34	3,500	290	428	211	744	ND
	Aug-99	98.58	85.08	60	6	9	4	11	ND
	Nov-99	98.58	84.48	<50	<5	<5	<5	<5	<5
	Feb-00	98.58	88.73	6,400	372	639	46	134	8
	May-00	98.58	87.70	2,930	130	330	180	570	<5
	Aug-00	98.58	85.55	<50	<5	<5	<5	<5	<5
	Nov-00	98.58	85.98	ND	ND	ND	ND	ND	ND
	Mar-01	98.58	90.03	932	18	34	1.3	225	ND
	May-01	98.58	87.58	870	37	75	55	179	2.7
	Aug-01	98.58	85.05	125	4	4	3	11	ND
	Nov-01	98.58	85.15	470	13	64	22	83	14
	Feb-02	98.58	89.59	1,700	26	180	95	360	<2
	May-02	98.58	87.99	1,800	31	140	110	348	<2
	Jul-02	40.71	28.01	180	11	6.3	9.4	27	<2.0
	Oct-02	40.71	26.48	<50	<0.5	<0.5	<0.5	0.64	<2.0
	Jan-03	40.71	32.05	510	5	30.0	24.0	92	<2.0
	May-03	40.71	31.54	1,300	14	88.0	78.0	271	<2.0
	Jul-03	40.71	28.48	220	3.9	4.3	7	14.5	<2.0
	Oct-03	40.71	27.06	170 H	1.9	<0.5	2.2	2.2	<2.0
	Jan-04	40.71	31.17	860	7.2	37	50	151	<2.0
	Apr-04	40.71	29.91	730	6.6	19	38	87	<2.0
	Aug-04	40.71	27.17	220	2.2	1.9	7	11.7	<0.5

Table 1
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3609 International Boulevard, Oakland, California

Monitoring Well	Date	Top Of Casing Elevation (feet)	Groundwater Elevations (feet)	TPH-g ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl-Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	MtBE ¹ EPA 8260B ($\mu\text{g/L}$)
MW-3	Oct-94	97.78	81.99	3,000,000	190,000	740,000	310,000	130,000	NA
	Dec-94	97.78	87.99	250,000	19,000	22,000	4,400	28,000	NA
	Mar-95	97.78	89.09	350,000	20,000	42,000	5,800	36,000	NA
	Jun-95	97.78	87.53	350,000	20,000	42,000	5,800	36,000	NA
	Oct-95	97.78	84.87	150,000	510	410	210	65	NA
	Jan-96	97.78	87.23	150,000	510	410	210	650	NA
	Apr-96	97.78	89.02	NA	NA	NA	NA	NA	NA
	Dec-96	97.78	85.76	NA	NA	NA	NA	NA	NA
	Apr-97	97.78	86.05	NA	NA	NA	NA	NA	NA
	Dec-97	97.78	NM	NA	NA	NA	NA	NA	NA
	Sep-98	97.78	83.10	NA	NA	NA	NA	NA	NA
	Dec-98	97.78	86.23	51,000	5,700	3,900	1,200	6,300	410
	Mar-99	97.78	89.34	45,000	4,100	6,400	1,000	6,100	470
	Jun-99	97.78	85.98	46,000	8,245	6,425	1,015	7,173	274
	Aug-99	97.78	83.93	64,000	7,484	8,052	1,744	9,749	141
	Nov-99	97.78	83.08	26,000	3,218	1,319	<5	6,697	126
	Feb-00	97.78	86.83	44,000	6,090	3,360	<5	5,780	276
	May-00	97.78	86.10	68,000	15,000	8,900	1,500	7,400	<5
	Aug-00	97.78	84.05	76,000	8,900	5,636	883	7,356	176
	Nov-00	97.78	84.38	48,000	6,789	4,816	676	7,258	83
	Mar-01	97.78	88.35	14,754	2,250	140	ND	1,284	110
	May-01	97.78	85.97	44,000	5,400	3,100	1,400	6,400	200
	Aug-01	97.78	83.68	41,750	3,485	2,670	1,255	5,420	52
	Nov-01	97.78	83.46	NA	NA	NA	NA	NA	NA
	Feb-02	97.78	87.77	62,000	6,000	7,600	1,900	9,200	12,000
	May-02	97.78	86.50	54,000	6,700	3,200	1,800	7,100	9,100
	Jul-02	40.91	27.66	45,000	8,900	1,700	1,600	5,600	2,600
	Oct-02	40.91	25.93	70,000	4,900	5,100	2,100	11,900	21,000
	Jan-03	40.91	31.12	35,000	2,900	1,300	860	5,200	13,000
	May-03	40.91	30.90	48,000	5,800	1,400	1,600	7,400	5,900
	Jul-03	40.91	27.97	31,000	4,700	990	1,400	5,200	16,000
	Oct-03	40.91	26.62	30,000	4,400	930	1,600	5,400	7,400
	Jan-04	40.91	30.34	45,000	2,100	850	1,500	5,700	2,900
	Apr-04	40.91	29.07	31,000	4,200	590	1,600	4,370	900
	Aug-04	40.91	26.67	21,000	3,400	370	1,000	2,350	1,100
MW-4	Jan-96	97.85	87.74	9,300	230	110	10	29	NA
	Apr-96	97.85	89.50	1,900	12	8	5	14	NA
	Dec-96	97.85	86.27	4,000	14	6	4	12	ND
	Apr-97	97.85	86.62	ND	ND	ND	ND	ND	ND
	Dec-97	97.85	88.42	2,300	410	270	100	1,500	NA
	Jun-98	97.85	NM	1,700	780	160	54	200	NA
	Sep-98	97.85	84.21	6,200	910	77	68	200	18
	Dec-98	97.85	86.72	1,400	590	33	28	94	24
	Mar-99	97.85	89.39	600	200	35	19	56	11
	Jun-99	97.85	86.55	1,000	298	44	19	64	13
	Aug-99	97.85	84.65	660	497	41	54	145	6
	Nov-99	97.85	83.75	<50	<5	<5	<5	<5	<5
	Feb-00	97.85	86.60	7,800	1,200	61	<5	781	<5
	May-00	97.85	86.39	552	42	19	16	67	<5
	Aug-00	97.85	84.50	370	5.08	<5	<5	<5	<5
	Nov-00	97.85	84.80	ND	5.30	ND	ND	8	ND
	Mar-01	97.85	88.61	62	ND	ND	3.2	8.7	ND
	May-01	97.85	86.35	80	12	1.9	4.1	9.8	ND
	Aug-01	97.85	84.05	133	12	2.2	3.9	9	ND
	Nov-01	97.85	84.17	670	180	5	17	53	ND
	Feb-02	97.85	87.88	450	63	4.1	22	28.7	<2
	May-02	97.85	87.04	570	72	29	27	74	<2
	Jul-02	40.01	27.39	450	20	24	19	74	<2.0
	Oct-02	40.01	25.67	320	69	0.99	9	5.49	<2.0
	Jan-03	40.01	30.22	310	49	2.5	13	26.7	<2.0
	May-03	40.01	30.23	120	27	1.8	9	14.6	<2.0
	Jul-03	40.01	27.57	<50	1	<0.5	<0.5	<0.5	<0.5
	Oct-03	40.01	26.29	70	12	<0.5	4.7	3.0	<2.0
	Jan-04	40.01	29.46	230	18	2.1	8.1	17.1	<2.0
	Apr-04	40.01	28.62	<50	3.8	<0.5	1.6	1.9	<2.0
	Aug-04	40.01	26.33	<50	1.6	<0.5	0.66	0.53	<2.0

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3609 International Boulevard, Oakland, California

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MW-5	Oct-95	99.04	85.47	1,500	1	1	4	5	NA
	Jan-96	99.04	89.01	1,500	1	1	4	5	NA
	Apr-96	99.04	90.80	780	1	1	5	4	NA
	Dec-96	99.04	87.56	NA	NA	NA	NA	NA	NA
	Apr-97	99.04	87.69	NA	NA	NA	NA	NA	NA
	Dec-97	99.04	89.89	790	82	66	59	160	NA
	Jun-98	99.04	NM	400	<5	<5	15	<10	NA
	Sep-98	99.04	85.22	270	2	1	3	3	<.5
	Dec-98	99.04	87.84	1,400	1	1	ND	2	ND
	Mar-99	99.04	91.31	650	3	1	16	2	10
	Jun-99	99.04	87.54	270	4	3	6	4	ND
	Aug-99	99.04	85.49	120	ND	4	ND	4	ND
	Nov-99	99.04	84.74	<50	<5	<5	<5	<5	<.5
	Feb-00	99.04	89.19	70	<5	<5	<5	7	<.5
	May-00	99.04	88.01	627.4	7.4	24	12	32.4	<.5
	Aug-00	99.04	85.82	<50	<5	<5	<5	<.5	<.5
	Nov-00	99.04	85.49	ND	ND	ND	ND	ND	ND
	Mar-01	99.04	90.37	382	6.1	1.9	6.6	5.9	ND
	May-01	99.04	87.92	180	ND	ND	2.1	0.57	4.4
	Aug-01	99.04	85.25	258	1	1.1	3.4	7.3	1.4
	Nov-01	99.04	85.32	920	17	160	26	135	40
	Feb-02	99.04	90.00	290	3.5	2	6.2	6.2	<.5
	May-02	99.04	88.35	160	<0.5	0.78 C	2	2.15	2.3
	Jul-02	41.16	28.22	110	<0.5	<0.5	0.77	<0.5	<0.5
	Oct-02	41.16	26.65	77	<0.5	<0.5	<0.5	<0.5	<2.0
	Jan-03	41.16	32.43	450 Y	<0.5	<0.5	4	0.54	2.1
	May-03	41.16	31.92	130	<0.5	<0.5	1	<0.5	3.1
	Jul-03	41.16	28.71	300	<0.5	1.9 C	0.76	<0.5	<2.0
	Oct-03	41.16	27.27	460 H	<0.5	<0.5	<0.5	<0.5	1.9
	Jan-04	41.16	31.56	160	<0.5	<0.5	0.55 C	<0.5	<5.0
	Apr-04	41.16	30.10	280	<0.5	0.74C	0.62	<0.5	2.1
	Aug-04	41.16	27.41	250	<0.5	<0.5	<0.5	<0.5	2

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MW-6	Oct-95	98.77	84.83	NA	NA	NA	NA	NA	NA
	Jan-96	98.77	88.22	120,000	350	310	200	610	NA
	Apr-96	98.77	90.01	NA	NA	NA	NA	NA	NA
	Dec-96	98.77	86.73	NA	NA	NA	NA	NA	NA
	Apr-97	98.77	87.01	NA	NA	NA	NA	NA	NA
	Dec-97	98.77	89.47	NA	NA	NA	NA	NA	NA
	Sep-98	98.77	84.67	NA	NA	NA	NA	NA	NA
	Dec-98	98.77	87.17	NA	NA	NA	NA	NA	NA
	Mar-99	98.77	90.37	37,000	3,800	4,300	1,600	7,000	180
	Jun-99	98.77	86.87	18,500	2,060	1,650	735	3,170	ND
	Aug-99	98.77	84.87	42,000	3,806	3,649	1,554	7,996	10
	Nov-99	98.77	84.02	40,000	1,084	130	<5	10,940	<5
	Feb-00	98.77	87.82	17,000	1,360	521	<5	4,150	6
	May-00	98.77	87.07	21,700	1,700	1,200	17	3,600	<5
	Aug-00	98.77	84.99	24,000	1,306	870	<5	5,162	<5
	Nov-00	98.77	85.37	19,000	1,387	618	ND	5,250	ND
	Mar-01	98.77	89.28	15,637	713	459	238	2,363	ND
	May-01	98.77	86.95	27,000	760	450	1,600	4,270	ND
	Aug-01	98.77	NM	NA	NA	NA	NA	NA	NA
	Nov-01	98.77	NM	NA	NA	NA	NA	NA	NA
	Feb-02	98.77	88.85	14,000	440	180	750	1,020	<10
	May-02	98.77	87.44	10,000	400	160	470	970	<2
	Jul-02	40.92	27.64	24,000	1,000	410	1,400	3,770	<20
	Oct-02	40.92	25.99	22,000	1,200	620	1,300	2,800	<20
	Jan-03	40.92	31.14	12,000	730	230	740	1,690	<20
	May-03	40.92	31.00	150,000 H	1,400	780	2,500	8,700	<40
	Jul-03	40.92	27.94	29,000	1,600	520	1,500	4,400	<200
	Oct-03	40.92	26.57	36,000	1,300	430	1,600	4,570	<40
	Jan-04	40.92	30.32	50,000	1,300	320	1,500	3,040	<50
	Apr-04	40.92	29.12	99,000	1,700	580 C	2,200	5,200	<50
	Aug-04	40.92	26.56	12,000	580	130	520	1,020	<10
MW-7	Oct-95	97.83	84.88	NA	10	12	17	NA	3,300
	Jan-96	97.83	88.26	3,300	9	12	17	45	NA
	Apr-96	97.83	90.08	1,900	2	3	5	7	NA
	Dec-96	97.83	86.86	NA	NA	NA	NA	NA	NA
	Apr-97	97.83	84.88	NA	NA	NA	NA	NA	NA
	Dec-97	97.83	89.18	1,400	130	98	75	200	NA
	Jun-98	97.83	NM	620	4	<5	9	<10	NA
	Sep-98	97.83	84.74	1,800	1	1	1	2	68
	Dec-98	97.83	87.31	990	5	10	5	20	160
	Mar-99	97.83	90.83	300	3	1	1	1	62
	Jun-99	97.83	87.13	320	3	7	4	3	26
	Aug-99	97.83	85.03	570	5	10	ND	ND	ND
	Nov-99	97.83	84.58	290	<5	9	<5	<5	12
	Feb-00	97.83	88.33	80	<5	<5	<5	<5	23
	May-00	97.83	87.31	494.9	4.9	22	4.2	21.9	29
	Aug-00	97.83	85.20	80	<5	<5	<5	<5	11.7
	Nov-00	97.83	85.88	50	ND	ND	ND	ND	9.1
	Mar-01	97.83	89.79	82	0.97	ND	0.76	ND	78
	May-01	97.83	87.23	370	ND	9.1	1.3	2.3	28
	Aug-01	97.83	84.81	610	3.7	3	6.2	18.9	10
	Nov-01	97.83	85.00	1,700	24	220	41	205	69
	Feb-02	97.83	88.92	380	<0.5	2.5	2	3.8	78
	May-02	97.83	87.70	560	15	28.0	9.2	44.0	37
	Jul-02	39.94	27.79	270	5.3	1.3 C	2.3	8.1	46
	Oct-02	39.94	26.20	350	<0.5	2.1 C	<0.5	3.1 C	43
	Jan-03	39.94	31.49	220 Y	<0.5	<0.5	0.78	0.55	19
	May-03	39.94	32.25	280	<0.5	<0.5	<0.5	<0.5	11
	Jul-03	39.94	28.22	230	<0.5	1.3 C	<0.5	0.63	5.9
	Oct-03	39.94	26.84	460	<0.5	<0.5	<0.5	<0.5	5.0
	Jan-04	39.94	30.71	380	<0.5	1.4 C	<0.5	<0.5	<5.0
	Apr-04	39.94	29.54	480	<0.5	2.5 C	<0.5	0.90	0.62
	Aug-04	39.94	27.02	410	<0.5	.81 C	<0.5	<0.5	1.70

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3609 International Boulevard, Oakland, California

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MW-8	Oct-95	97.25	84.39	NA	NA	NA	NA	NA	NA
	Jan-96	97.25	87.46	94,000	310	250	180	480	NA
	Apr-96	97.25	89.27	58,000	250	170	140	330	NA
	Dec-96	97.25	86.12	27,000	88	43	44	80	ND
	Apr-97	97.25	84.30	24,000	86	55	50	100	ND
	Dec-97	97.25	88.30	28,000	6,000	1,600	2,100	4,700	NA
	Jun-98	97.25	NM	54,000	4,600	2,800	3,500	7,300	NA
	Sep-98	97.25	84.23	NA	NA	NA	NA	NA	NA
	Dec-98	97.25	86.50	61,000	6,300	1,700	2,200	4,400	1,300
	Mar-99	97.25	69.67	22,000	1,800	470	2,000	2,000	820
	Jun-99	97.25	86.45	39,500	3,610	1,635	2,175	5,913	968
	Aug-99	97.25	84.50	58,000	5,379	2,438	3,001	6,960	639
	Nov-99	97.25	83.60	10,500	92	<5	<5	3,414	769
	Feb-00	97.25	86.40	44,200	1,080	617	<5	4,160	240
	May-00	97.25	86.10	25,940	940	130	1,600	3,960	75
	Aug-00	97.25	84.38	22,000	632	5.38	<5	2,666	37.3
	Nov-00	97.25	84.70	3,000	278	350	209	980	21
	Mar-01	97.25	88.50	2,360	81	16	71	270	221
	May-01	97.25	86.10	3,100	110	28	140	194	410
	Aug-01	97.25	84.28	5,620	153	46	373	345	174
	Nov-01	97.25	84.06	13,000	600	270	750	1,200	400
	Feb-02	97.25	87.37	240,000	1,400	<25	4,200	6,560	<100
	May-02	97.25	86.93	9,000	360	56	560	622	2,100
	Jul-02	39.38	27.59	8,400	340	78	530	517	1,200
	Oct-02	39.38	25.58	18,000	950	75	1,400	1,269	700
	Jan-03	39.38	29.90	8,100	300	29	370	302	1,100
	May-03	39.38	29.90	18,000	380	53 C	1,000	516	540
	Jul-03	39.38	27.46	12,000	460	54 C	910	435	890
	Oct-03	39.38	26.29	16,000	830	87	2,000	675	280
	Jan-04	39.38	29.06	18,000	330	37 C	860	239	500
	Apr-04	39.38	28.15	12,000	240	26 C	650	128.8 C	<4
	Aug-04	39.38	26.36	6,000	310	27	660	56.8 C	<4

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MW-10	Dec-96	94.54	84.10	NA	NA	NA	NA	NA	NA
	Apr-97	94.54	84.47	1,000	21	9	3	3	ND
	Dec-97	94.54	85.76	10,000	5,300	76	1,100	780	NA
	Sep-98	94.54	82.61	9,900	5,400	66	970	620	2,600
	Dec-98	94.54	84.35	8,700	3,800	51	790	420	1,800
	Mar-99	94.54	87.24	4,100	15	28	420	250	2,800
	Jun-99	94.54	84.59	4,200	1,168	34	264	154	1,195
	Aug-99	94.54	82.94	3,250	2,135	97	600	248	1,800
	Nov-99	94.54	82.04	2,950	1,134	20	<5	70	652
	Feb-00	94.54	85.29	<50	<5	<5	<5	<5	448
	May-00	94.54	85.09	4,400	1,500	25	390	107.1	580
	Aug-00	94.54	83.02	6,800	1,055	26	54	53.8	1,283
	Nov-00	94.54	83.19	ND	ND	ND	ND	ND	145
	Mar-01	94.54	86.47	4,935	969	18	41	72	630
	May-01	94.54	84.74	2,900	630	11	200	31	270
	Aug-01	94.54	82.90	242	35	1	11	2	64
	Nov-01	94.54	82.48	3,500	900	260	310	258	410
	Feb-02	94.54	86.26	4,700	1,100	20	370	63.7	500
	May-02	94.54	85.05	3,400	660	13	260	48.0	270
	Jul-02	36.71	25.78	160	26	0.55	8.1	1.0	72
	Oct-02	36.71	24.17	550	130	3.00	31.0	2.7	70
	Jan-03	36.71	28.48	17,000	870	11	290	27	270
	May-03	36.71	28.41	2,500	650	10	190	15.81 C	180
	Jul-03	36.71	25.95	750	160	4	58	6.66 C	79
	Oct-03	36.71	24.80	2,000	410	11	170	9.14 C	110
	Jan-04	36.71	27.80	4,000	600	15	280	15.3 C	110
	Apr-04	36.71	27.09	5,100	580	<1	330	26.4	160
	Aug-04	36.71	25.21	3,400	550	13	240	17.0	100
MW-11	Dec-96	95.94	83.95	NA	NA	NA	NA	NA	NA
	Apr-97	95.94	84.47	NA	NA	NA	NA	NA	NA
	Dec-97	95.94	85.54	710	66	87	59	190	NA
	Jun-98	95.94	NM	1,100	45	24	71	100	NA
	Sep-98	95.94	82.70	170	7	1	4	9	22
	Dec-98	95.94	84.36	650	27	4	25	33	>0.5
	Mar-99	95.94	87.13	710	30	6	53	84	8
	Jun-99	95.94	84.44	4,600	1,240	35	290	159	1,291
	Aug-99	95.94	83.19	170	4	4	ND	6	ND
	Nov-99	95.94	82.09	<50	<5	<5	<5	<5	<5
	Feb-00	95.94	82.34	700	20	15	<5	35	<5
	May-00	95.94	82.14	477	27	13	9.5	29.0	<5
	Aug-00	95.94	81.07	590	10.5	5.94	<5	7.75	<5
	Nov-00	95.94	83.39	60	ND	ND	ND	ND	ND
	Mar-01	95.94	86.33	273	8.6	2.1	10	14	ND
	May-01	95.94	84.79	280	12	8.3	3.3	9.8	12
	Aug-01	95.94	82.90	NA	NA	NA	NA	NA	NA
	Nov-01	95.94	82.46	300	7.9	26	5.1	28.9	ND
	Feb-02	95.94	86.25	560	34	20	32	37.3	<0.5
	May-02	95.94	84.95	280	16	3	7.6	7.6	<2
	Jul-02	NS	NM	120	5.6	<0.5	0.61	0.53	<2.0
	Oct-02	NS	NM	NA	NA	NA	NA	NA	NA
	Jan-03	NS	NC	700	32	5.7	25	14.10	<2.0
	May-03	NS	NC	280	17	1.5 C	8	4.10	<2.0
	Jul-03	NS	NC	340	19 C	3.2	0.58	0.89	<2.0
	Oct-03	NS	NC	210	5.0 C	<0.5	<0.5	<0.5	<0.5
	Jan-04	NS	NC	NA	NA	NA	NA	NA	NA
	Apr-04	NS	NC	NA	NA	NA	NA	NA	NA
	Aug-04	NS	NC	NA	NA	NA	NA	NA	NA

Table 1
Historical Groundwater Elevation Data & Analytical Results
3609 International Boulevard, Oakland, California

Monitoring Well	Date	Top Of Casing Elevation (feet)	Groundwater Elevations (feet)	TPH-g ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl-Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	MtBE ¹ EPA 8260B ($\mu\text{g/L}$)
MW-12	Nov-99	94.84	81.64	80	<5	<5	<5	<5	229
	Feb-00	94.84	84.64	4,000	351	37	<5	24	513
	May-00	94.84	84.36	3,930	230	10	34	12	200
	Aug-00	94.84	82.77	1,730	15.4	12.4	<5	<5	185
	Nov-00	94.84	82.79	1,010	9.3	19.0	ND	7.40	215
	Mar-01	94.84	85.80	1,517	13	5.6	5.5	11	214
	May-01	94.84	84.32	31,000	1,200	ND	95	165	1,900
	Aug-01	94.84	82.60	2,090	71	1.8	3	4	142
	Nov-01	94.84	82.08	3,000	81	69	13	73	120
	Feb-02	94.84	86.06	2,500	77	<0.5	5.7	7.4	95
	May-02	94.84	84.58	2,700	74	<0.5	20	5.1	94
	Jul-02	36.84	25.91	2,200	57	<0.5	11	2.6	100
	Oct-02	36.84	23.71	2,600	71	<0.5	<0.5	10.3	84
	Jan-03	36.84	27.61	2,300	65	<0.5	1	4.00	86
	May-03	36.84	27.60	2,200	58	<0.5	4.2 C	4.1 C	96
	Jul-03	36.84	25.40	2,200	32 C	16 C	<0.5	9.20	66
	Oct-03	36.84	24.34	2200 H	31 C	<0.5	<0.5	3.5 C	49
	Jan-04	36.84	27.28	1,700	24 C	14 C	3	5.00	72
	Apr-04	36.84	26.63	2,000	11 C	<0.5	<0.5	5 C	36
	Aug-04	36.84	24.84	1,900	8.9 C	<0.5	<0.5	1.1 C	26
FDC	Feb-00	97.10	81.70	NA	NA	NA	NA	NA	NA
	May-00	97.10	84.69	NA	NA	NA	NA	NA	NA
	Aug-00	97.10	81.40	NA	NA	NA	NA	NA	NA
	Nov-00	97.10	80.25	NA	NA	NA	NA	NA	NA
	Mar-01	97.10	87.71	NA	NA	NA	NA	NA	NA
	May-01	97.10	81.25	NA	NA	NA	NA	NA	NA
	Aug-01	97.10	83.80	NA	NA	NA	NA	NA	NA
	Nov-01	97.10	79.28	NA	NA	NA	NA	NA	NA
	Feb-02	97.10	80.36	NA	NA	NA	NA	NA	NA
	May-02	97.10	86.74	NA	NA	NA	NA	NA	NA
	Jul-02	39.35	27.42	NA	NA	NA	NA	NA	NA
	Oct-02	39.35	25.61	NA	NA	NA	NA	NA	NA
	Jan-03	39.35	24.17	NA	NA	NA	NA	NA	NA
	May-03	39.35	23.15	NA	NA	NA	NA	NA	NA
	Jul-03	39.35	22.90	NA	NA	NA	NA	NA	NA
	Oct-03	39.35	22.82	NA	NA	NA	NA	NA	NA
	Jan-04	39.35	25.61	NA	NA	NA	NA	NA	NA
	Apr-04	39.35	23.05	NA	NA	NA	NA	NA	NA
	Aug-04	39.35	23.30	NA	NA	NA	NA	NA	NA
FDE	May-00	97.90	84.68	NA	NA	NA	NA	NA	NA
	Aug-00	97.90	NM	NA	NA	NA	NA	NA	NA
	Nov-00	97.90	85.15	NA	NA	NA	NA	NA	NA
	Mar-01	97.90	88.76	NA	NA	NA	NA	NA	NA
	May-01	97.90	84.85	NA	NA	NA	NA	NA	NA
	Aug-01	97.90	84.21	NA	NA	NA	NA	NA	NA
	Nov-01	97.90	83.98	NA	NA	NA	NA	NA	NA
	Feb-02	97.90	84.72	NA	NA	NA	NA	NA	NA
	May-02	97.90	86.72	NA	NA	NA	NA	NA	NA
	Jul-02	40.06	27.25	NA	NA	NA	NA	NA	NA
	Oct-02	40.06	25.53	NA	NA	NA	NA	NA	NA
	Jan-03	40.06	26.93	NA	NA	NA	NA	NA	NA
	May-03	40.06	28.27	NA	NA	NA	NA	NA	NA
	Jul-03	40.06	26.96	NA	NA	NA	NA	NA	NA
	Oct-03	40.06	26.21	NA	NA	NA	NA	NA	NA
	Jan-04	40.06	26.79	NA	NA	NA	NA	NA	NA
	Apr-04	40.06	26.86	NA	NA	NA	NA	NA	NA
	Aug-04	40.06	25.09	NA	NA	NA	NA	NA	NA

Table 1
Historical Groundwater Elevation Data & Analytical Results
3609 International Boulevard, Oakland, California

Monitoring Well	Date	Top Of Casing Elevation (feet)	Groundwater Elevations (feet)	TPH-g ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl-Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	MtBE ¹ EPA 8260B ($\mu\text{g/L}$)
FDW	May-00	96.90	84.70	NA	NA	NA	NA	NA	NA
	Aug-00	96.90	NM	NA	NA	NA	NA	NA	NA
	Nov-00	96.90	81.40	NA	NA	NA	NA	NA	NA
	Mar-01	96.90	86.78	NA	NA	NA	NA	NA	NA
	May-01	96.90	83.40	NA	NA	NA	NA	NA	NA
	Aug-01	96.90	83.82	NA	NA	NA	NA	NA	NA
	Nov-01	96.90	82.59	NA	NA	NA	NA	NA	NA
	Feb-02	96.90	84.12	NA	NA	NA	NA	NA	NA
	May-02	96.90	86.76	NA	NA	NA	NA	NA	NA
	Jul-02	39.16	27.37	NA	NA	NA	NA	NA	NA
	Oct-02	39.16	25.66	NA	NA	NA	NA	NA	NA
	Jan-03	39.16	27.03	NA	NA	NA	NA	NA	NA
	May-03	39.16	28.32	NA	NA	NA	NA	NA	NA
	Jul-03	39.16	27.04	NA	NA	NA	NA	NA	NA
	Oct-03	39.16	25.68	NA	NA	NA	NA	NA	NA
	Jan-04	39.16	25.58	NA	NA	NA	NA	NA	NA
	Apr-04	39.16	25.26	NA	NA	NA	NA	NA	NA
	Aug-04	39.16	23.47	NA	NA	NA	NA	NA	NA

Notes:

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

C: Presence confirmed, but confirmation concentration differed by more than a factor of two.

H: Heavier hydrocarbons may have contributed to the quantitation.

NA: Not Analyzed

ND, < : Not Detected above laboratory reporting limits.

NS: Not Surveyed.

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

² Top of casing elevations were re-surveyed to comply with the EDF requirements for electronic reporting of data to the State Water Resources Control Board Database on August 9, 2002.

NA: Not Applicable, Well/Drain did not exist at time of sampling

NC: Not calculated. No top of casing elevation was available for MW-11.

NM: Not Measured

FDC: French drain center riser.

FDE: French drain east riser.

FDW: French drain west riser.

Table 2
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

Month	Date	Meter (gallons)	Lab Results For Effluent ¹ and GAC-1 (concentrations in ug/L)					
			MtBE ²	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
2004								
September	9/13/2004	2,594,390	< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
			< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
August	8/25/2004	2,586,010			55 Gallon Drum Changed Out			
	8/9/2004	2,581,250	< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
			< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
July	7/21/2004	2,572,810			55 Gallon Drum Changed Out			
	7/13/2004	2,568,830	< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
			< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
June	6/14/2004	2,549,470	< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
			< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
May	5/26/2004	2,530,000			Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel			
	5/10/2004	2,488,760			Semi Annual Treatment System Meeting With EBMUD			
	5/17/2004	2,518,910			Replaced 55-gallon polishing vessel and restarted the system			
	5/5/2004	2,500,650			Carbon Changed Out and 55 Gallon Drum Changed Out			
	5/3/2004	2,497,350	< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
			< 2.0	< 50	<0.5	<0.5	<0.5	<0.5
April	4/15/2004	2,436,190	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
March	3/17/2004	2,376,200			Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel			
February	2/24/2004	2,276,770	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			<5.0	<50	<5.0	<5.0	<5.0	<5.0
January	1/27/2004	2,165,220	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			<5.0	<50	<5.0	<5.0	<5.0	<5.0
	1/13/2004	2,116,720	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			<5.0	<50	<5.0	<5.0	<5.0	<5.0
2003								
December	12/8/2003	2,092,330	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			<5.0	<50	<5.0	<5.0	<5.0	<5.0
November	11/17/2003	2,087,670	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			<5.0	<50	<5.0	<5.0	<5.0	<5.0
	11/3/2003	2,079,460	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			<5.0	<50	<5.0	<5.0	<5.0	<5.0
October	10/13/2003	2,073,060	5.3	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			<5.0	<50	<5.0	<5.0	<5.0	<5.0

Table 2
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

Month	Date	Meter	Lab Results For Effluent ¹ and GAC-1					
		Reading (concentrations in ug/L)	MtBE ²	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
2003								
December	12/8/2003	2,092,330	< 5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
November	11/17/2003	2,087,670	< 5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
	11/3/2003	2,079,460	< 5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
October	10/13/2003	2,073,060	5.3 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
	10/1/2003	2,072,610	Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
September	9/15/2003	2,056,910	<5.0 6	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
	9/2/2003	2,040,040	<5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
August	8/19/2003	2,021,040	<5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
July	7/21/2003	1,995,240	< 5.0 40	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
	7/9/2003	1,990,260	< 5.0 36	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
June	6/18/2003	1,978,560	Carbon Change-out of 2000 lb vessel and 55 gallon polishing vessel					
	6/10/2003	1,972,780	< 5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
May	5/21/2003	1,951,830	< 5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
	5/1/2003	1,918,270	< 5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0
April	4/11/2003	1,882,440	< 5.0 <5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0

Table 2
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

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

Table 2
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

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

Table 2
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

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

Table 2
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3609 International Boulevard, Oakland, California

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

Table 2
Total Volume of Water Treated, Historical Operational Data, and Effluent and GAC-1 Analytical Results
3609 International Boulevard, Oakland, California

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

Notes:

1 Effluent is equivalent to PSP#1

2 MTBE was analyzed using EPA Method 8260B, prior to the September 2003. After September 2003, MTBE was only analyzed by EPA Method 8021B.

3 Lab data as shown for Oct. 2002 is erroneous data. During lab analysis a high detection of 2-Butanone was detected in only the effluent sample. The influent sample for 2-Butanone was at only 20 ppb. This caused a high dilution factor causing a high non-detectable value. The high TPH-g value was misrepresentative due to the Y and Z flags.

ND, < : Not Detected above laboratory reporting limits

NA: Not Analyzed

NR: Not recorded. Totalizer reading not recorded.

Y: Sample exhibits fuel pattern which does not resemble standard

Z: Sample exhibits unknown single peak or peaks

Table 3
Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System
3609 International Boulevard, Oakland, California

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

Table 3
Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System
3609 International Boulevard, Oakland, California

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

Table 3
Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System
3609 International Boulevard, Oakland, California

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Mass Removed ¹ (Pounds)
		Influent	Effluent				
8/15/2002 ¹¹	15:00	7.0	1	80	144.11	19,575,902	0.30
8/23/2002 ¹³	15:20	NA	NA	NA	NA	NA	NA
8/26/2002	11:15	14.0	2.0	80	71.83	9,757,387	0.30
9/11/2002	10:10	34.4	0	80	383.95	52,156,428	3.95
9/19/2002	10:55	8.8	1.1	80	192.75	26,183,160	0.51
9/25/2002	10:30	18.8	1.8	80	144.75	19,662,840	0.81
<hr/>							
10/2/2002	8:10	17.1	2.5	80	168.75	22,923,000	0.86
10/9/2002		PID malfunction		80	168.75	22,923,000	NA
10/16/2002	13:45	17.0	4.0	80	168.75	22,923,000	0.86
10/24/2002		16.5	6.4	80	192.75	26,183,160	0.95
11/1/2002		21.1	0.0	85	192.75	27,819,608	1.29
11/6/2002	10:12	PID malfunction		87	120.75	17,837,915	NA
11/7/2002		17.5	0.0	85	24.75	3,572,168	0.14
11/13/2002	11:30	15.0	0.0	85	144.75	20,891,768	0.69
11/22/2002	14:30	6.6	0.0	80	219.00	29,748,960	0.43
system shut-down due to rainy season and low influent readings							
<hr/>							
2003							
5/9/2003	10:30	0.1	0.0	82	0	0	0
5/12/2003	10:30	0.4	0.3	85	72.00	10,391,760	0.01
5/21/2003	11:00	2.2	2.2	83	216.50	30,512,211	0.15
6/4/2003	10:30	2.5	0.1	82	335.50	46,713,678	0.26
6/10/2003	10:30	2.2	0.08	82	144.00	20,049,984	0.10
6/16/2003	12:15	2.1	0.07	82	148.25	20,363,265	0.09
6/24/2003	16:55	2.6	0.08	82	196.75	27,394,683	0.16
6/30/2003	11:30	2.2	0.1	82	138.50	19,284,186	0.09
<hr/>							
7/16/2003	12:00	2.2	0.22	82	384.50	53,536,242	0.26
7/21/2003	10:50	2.1	0.21	82	119.00	16,569,084	0.08
7/28/2003	11:15	2.2	0.22	82	168.25	23,426,457	0.11
8/11/2003	12:15	2.1	0.21	82	337.00	46,922,532	0.22
8/19/2003	10:05	2.1	0.22	82	190.00	26,454,840	0.12
8/25/2003	11:30	2.2	0.23	81	145.30	19,984,271	0.10
9/2/2003	10:50	2.1	0.21	80	190.30	25,850,352	0.12
9/8/2003	2:10	9.1	3.19	83	147.30	20,759,578	0.42
9/11/2003	10:00				All 4 SVE carbon drums changed-out		
9/22/2003	1:30	7	0.2	88	335.25	50,094,396	0.77
<hr/>							
10/1/2003	10:30	6.5	0.2	85	213.00	30,742,290	0.44
10/6/2003	11:00	7	0.3	85	120.50	17,391,765	0.27
10/13/2003	11:15	5	0.2	85	168.25	24,283,523	0.27
10/29/2003	10:00	2.4	0	85	382.75	55,242,308	0.29
11/3/2003	11:30	3	0	85	121.50	17,536,098	0.12
11/10/2003	11:10	3.5	0	85	167.67	24,199,330	0.19
11/17/2003	13:50	4.1	0	85	170.70	24,637,131	0.22
11/24/2003	11:00	3.8	0	85	165.20	23,843,316	0.20
system shut-down due to rainy season and low influent readings							

Table 3
Total Mass of Petroleum Hydrocarbons Removed by Vapor Extraction System
3609 International Boulevard, Oakland, California

Date	Time	PID (ppmv)		Flow Rate (ft^3/min)	Time Elapsed (Hours)	Air Flow (Liters)	Mass Removed ¹ (Pounds)
		Influent	Effluent				
2004							
4/5/2004	13:00	5.6	0.11	85	0	2405.5	0
4/12/2004	10:30 AM	6.5	0.2	83	165.5	23,324,577	0.33
4/20/2004	12:00 PM	7.1	0.9	84	193.5	27,599,292	0.43
4/23/2004	11:00PM	7.2	2.3	80	59	8,014,560	0.13
5/3/2004	12:00 PM	7.1	3.4	80	241	32,737,440	0.51
5/5/2004	11:00 PM				All 4 SVE carbon drums changed-out		
5/17/2004	12:00 PM	2.7	0.8	82	336	46,783,296	0.28
5/26/2004	11:00 AM	3.8	0.5	82	215	29,935,740	0.25
6/1/2004	1:00 PM	3.6	0.9	82	122	16,986,792	0.13
6/7/2004	11:50 AM	3.2	0	82	142.9	19,896,824	0.14
6/14/2004	11:50 AM	10.9	0	86	168	24,532,704	0.59
6/21/2004	10:50: AM	13.5	0	83	167	23,535,978	0.70
6/28/2004	11:50 AM	10.9	0.5	85	169	24,391,770	0.58
7/2/2004	11:30 AM	8.7	0	85	95.8	13,826,814	0.26
7/13/2004	2:00 PM	9.1	0.22	85	266.5	38,463,945	0.77
7/21/2004	12:00 PM	8.9	0.5	85	262	37,814,460	0.74
7/26/2004	11:50 AM	8.5	0.4	85	119.5	17,247,435	0.32
8/2/2004	11:30 AM	4.9	0.1	85	167.8	24,218,574	0.26
8/9/2004	11:50 AM	5.6	0.2	85	144.2	20,812,386	0.26
8/16/2004	12:00 PM	6	0.4	85	168.1	24,261,873	0.32
8/24/2004	11:50 AM	6.2	1.2	85	191.9	27,696,927	0.38
8/30/2004	11:30 AM	6	0.4	85	143.66	20,734,448	0.27
9/7/2004	1:05 PM	5.5	0.8	85	193.5	27,927,855	0.34
9/13/2004	12:05 PM	5.3	0.9	85	143	20,639,190	0.24
Total Mass of Petroleum Hydrocarbons Removed =							422.20
Average Daily Removal Rate (pounds / day)=							0.28

Notes:

- ¹ The representative molecular weight of hydrocarbons was assumed to be 78 gram/mole and used the measured temperature of Vapor (36 °C) in converting ppm-v to ppm on mass basis.
- ² System accidentally shut down from main box, readings taken 30 minutes after startup.
- ³ GAC Replaced
- ⁴ GAC-1 removed, new GAC installed at effluent end
- ⁵ SVE System turned off for rainy season due to low influent concentrations
- ⁶ system down, hoses disconnected and GAC moved for replacement
- ⁷ system down for electrical repair
- ⁸ Carbon change-out of three drums, moved new effluent drum on 10/25/01 to GAC-1
- ⁹ system shut-down due to high effluent value
- ¹⁰ System re-started (since November 21, 2001), installed new 4-55 gallon vapor phase carbon vessels, repaired blower
- ¹¹ System was shut-down due to low influent reading
- ¹² System was restarted on 6/12/02
- ¹³ System was re-started but no readings were taken

FIGURES



approximate scale in feet

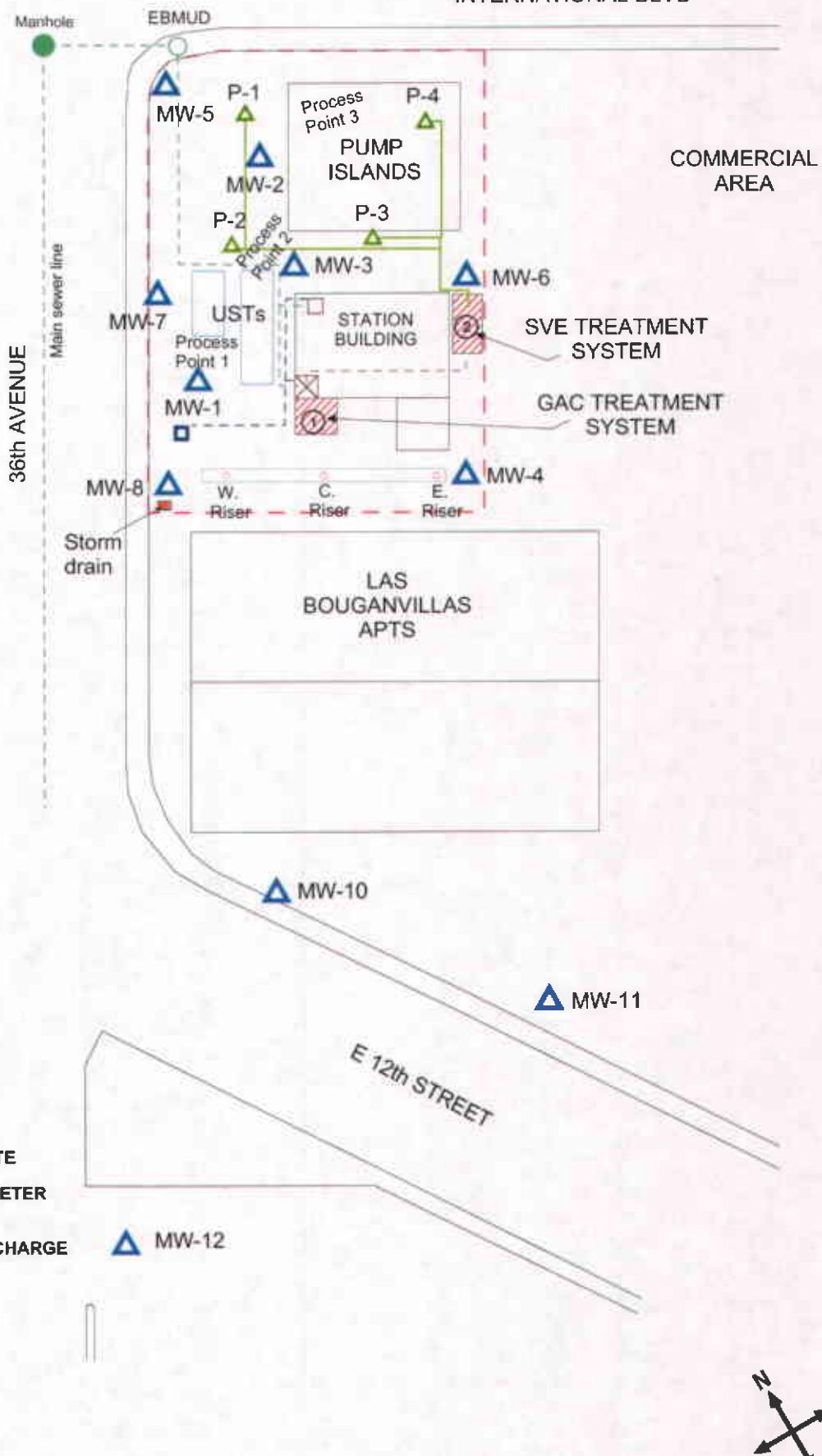
0 250 500

Figure 1: Site vicinity map.

SOMA
ENVIRONMENTAL ENGINEERING, INC.

COMMERCIAL AREA

COMMERCIAL AREA



(Discharge permit No: 504-27421)
Tony's Express Auto Service

approximate scale in feet

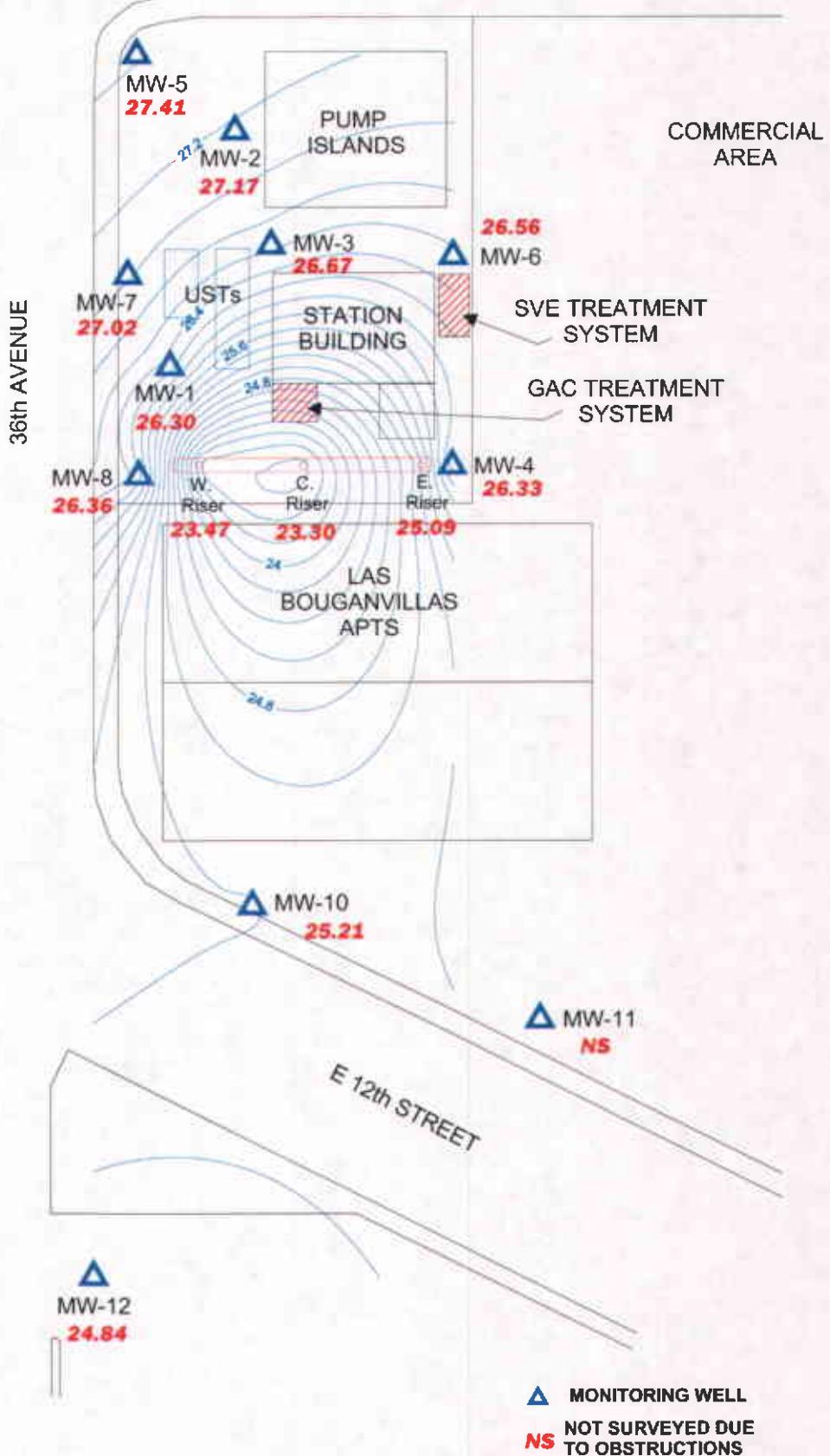
0 25 50

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

INTERNATIONAL BLVD

COMMERCIAL AREA

COMMERCIAL AREA



approximate groundwater flow direction is towards French Drain Risers

approximate scale in feet

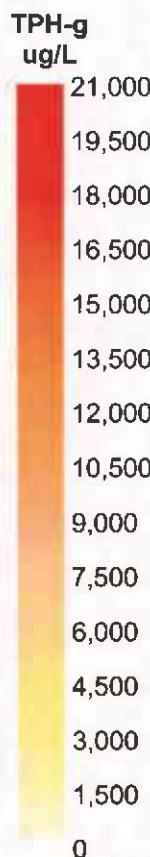
0 25 50

Figure 3: Groundwater elevation contour map in feet.
August, 2004.

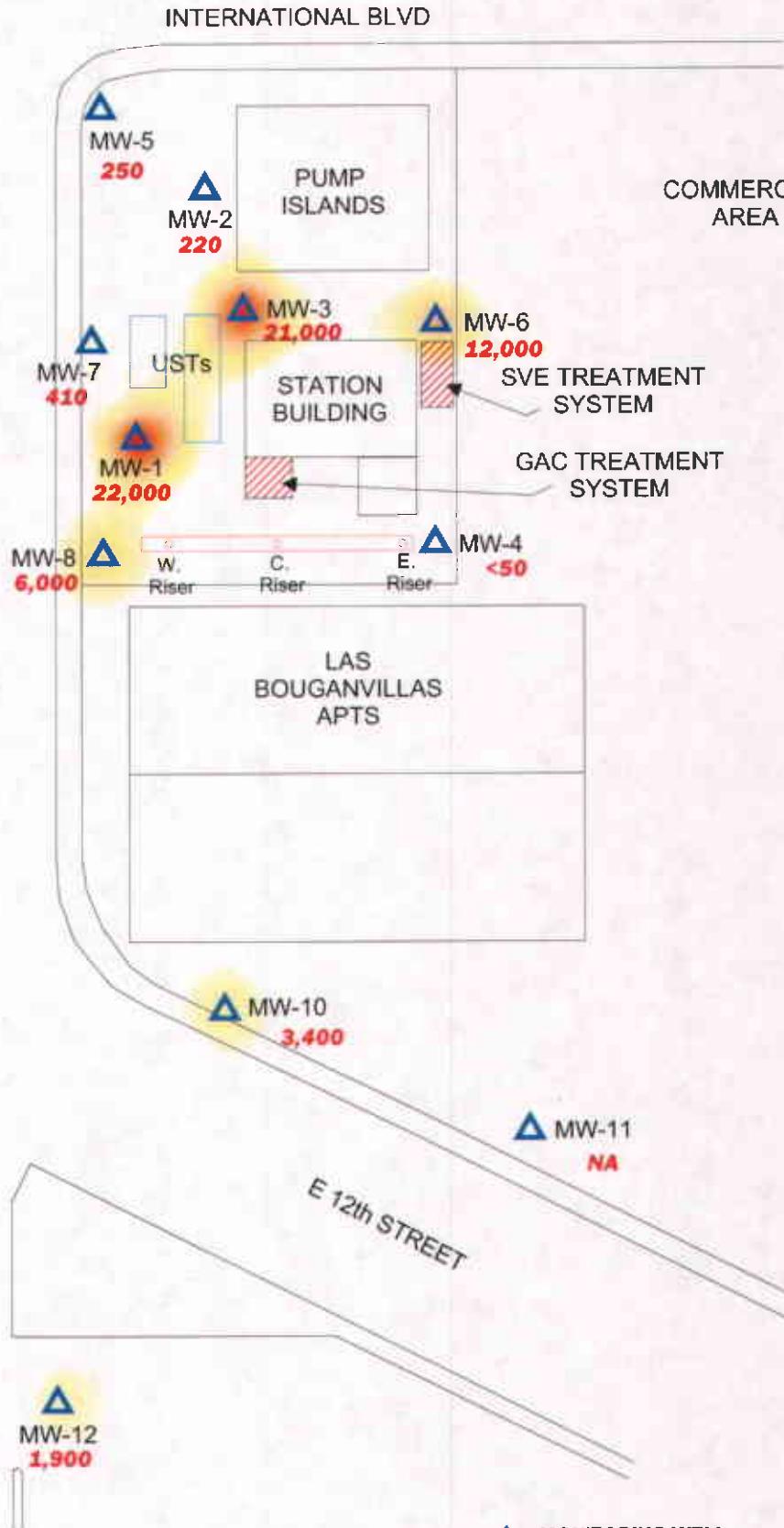
INTERNATIONAL BLVD

COMMERCIAL AREA

COMMERCIAL AREA



36th AVENUE



approximate groundwater flow direction is towards French Drain Risers

approximate scale in feet

0 25 50

Figure 4: Contour map of TPH-g concentrations in the groundwater.
August, 2004.

COMMERCIAL AREA

INTERNATIONAL BLVD

COMMERCIAL AREA

Benzene
ug/L

3,400
3,200
3,000
2,800
2,600
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0

36th AVENUE

MW-5 <0.5

MW-2 2.2

PUMP ISLANDS

MW-7 <0.5

USTs

MW-1 2,000

MW-8 310

MW-3 3,400

STATION BUILDING

MW-6 580

SVE TREATMENT SYSTEM

GAC TREATMENT SYSTEM

LAS BOUGANVILLAS APTS

MW-10 550

MW-11 NA

E 12th STREET

MW-12 8.9



approximate groundwater flow direction is towards French Drain Risers

approximate scale in feet

0 25 50

△ MONITORING WELL

< LESS THAN LAB REPORTING LIMITS

NA NOT ANALYZED

Figure 5: Contour map of Benzene concentrations in the groundwater.
August, 2004.

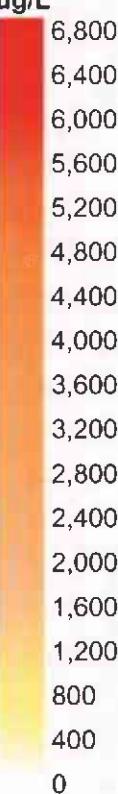
INTERNATIONAL BLVD

COMMERCIAL AREA

COMMERCIAL AREA

MtBE

ug/L



36th AVENUE

MW-5

2.0

MW-2

<0.5

PUMP
ISLANDS

MW-3

1,100

STATION
BUILDING

MW-6

<10

SVE TREATMENT
SYSTEM

GAC TREATMENT
SYSTEM

MW-7

1,70

USTs

MW-1

6,900

MW-8

<4

W.
Riser

LAS
BOUGANVILLAS
APTS

MW-4

<2.0

MW-10

100

MW-11

NA

E 12th STREET

MW-12

26



approximate groundwater
flow direction is towards
French Drain Risers

approximate scale in feet

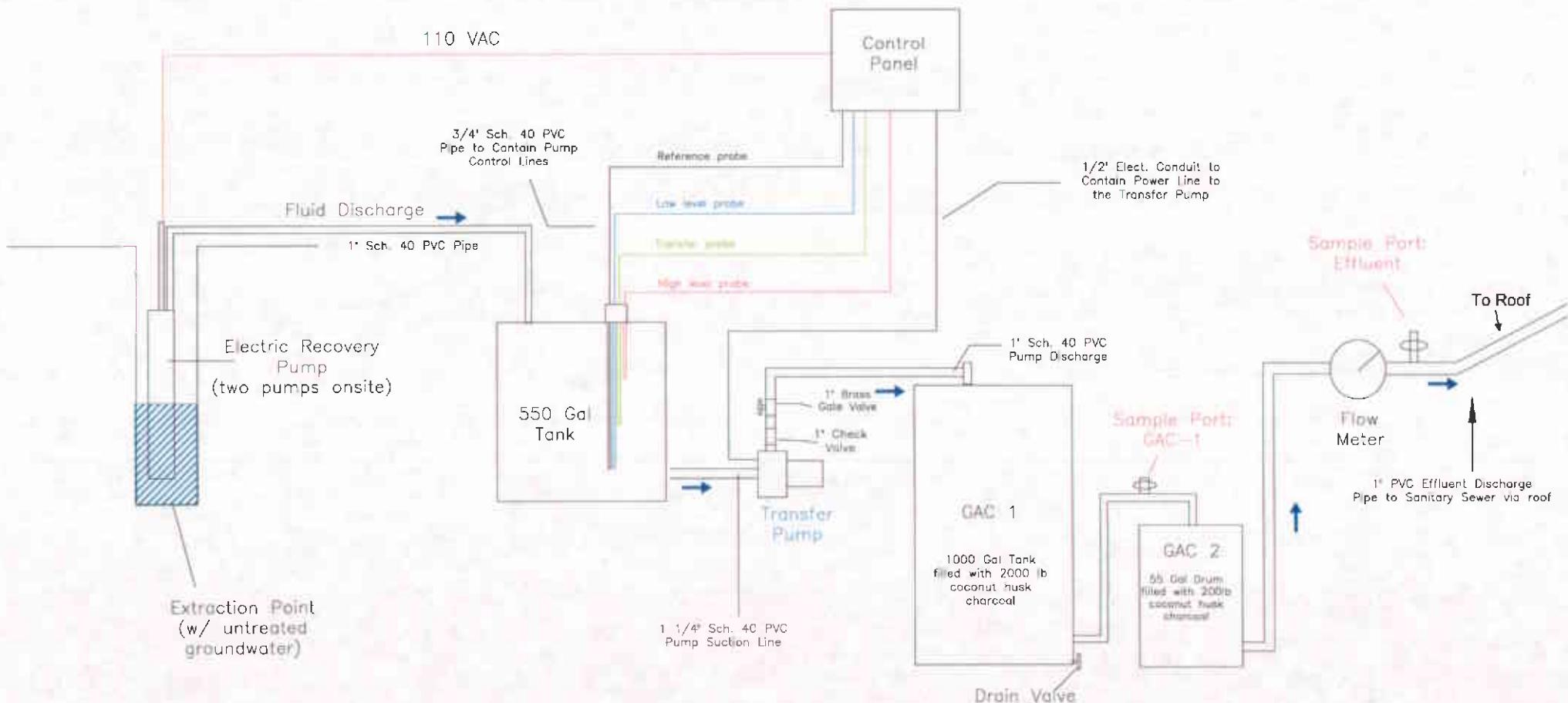
0 25 50

△ MONITORING WELL

< LESS THAN LAB
REPORTING LIMITS

NA NOT ANALYZED

Figure 6: Contour map of MtBE concentrations in the groundwater.
(EPA Method 8260B). August, 2004.



(Discharge permit No: 504-27421)
Tony's Express Auto Service. September 1, 2004

Figure 7: Schematic of the Groundwater Remediation System.

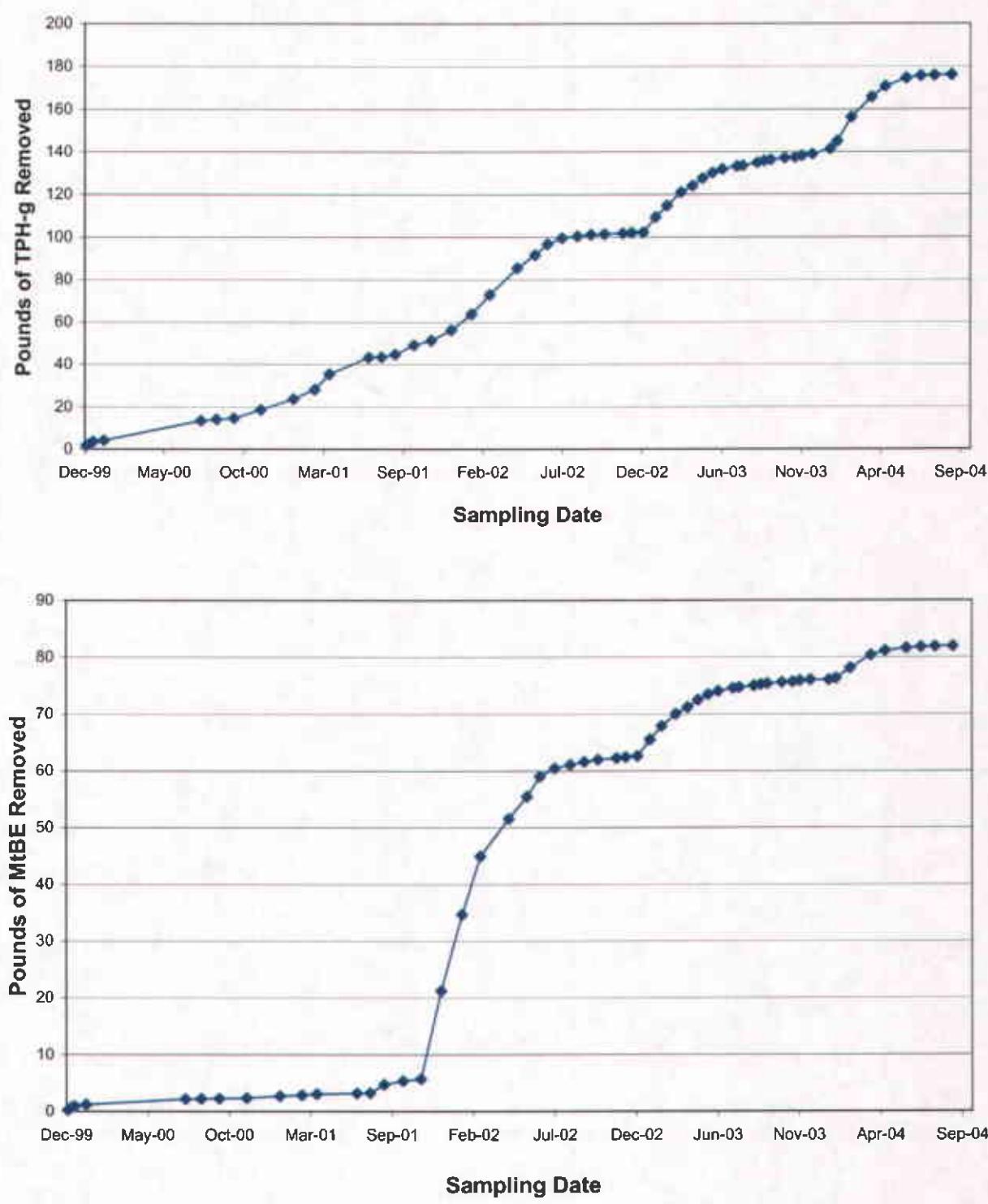


Figure 8. Cumulative mass of TPH-g and MtBE removed from groundwater since the installation of the treatment system.

APPENDIX A

SOMA's Groundwater Monitoring Procedures

Field Activities

On August 19 and 20, 2004, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the RWQCB, San Francisco Bay Region. During this groundwater monitoring event a total of eight on-site monitoring wells (MW-1 to MW-8), two off-site monitoring wells (MW-10 and MW-12), and three on-site French drain risers were measured for depth to groundwater. Well MW-11 was inaccessible during this monitoring event, therefore, no field measurements were taken and no groundwater sample was collected from this well. However, additional field measurements, and grab groundwater samples were collected from all other on and off-site monitoring wells.

The depth to groundwater in each monitoring well and riser was measured from the top of the casing to the nearest 0.01 foot using an electric sounder. The top of the casing elevation data and the depth to groundwater in each monitoring well and riser were used to calculate the groundwater elevation.

Kier and Wright Civil Engineers Surveyors, Inc. surveyed the wells and risers on August 9, 2002. At the time of the survey, monitoring well MW-11 could not be accessed due to obstacles preventing the proper use of surveying equipment; therefore, this well was not surveyed. The top of casing elevations were based on the survey data measured at this time. The elevation data was based on a datum of 14.20 NAVD88. The new survey was conducted to comply with an Electronically Deliverable Format (EDF) request made by the State Water Resources Control Board (SWRCB) Database.

The survey data measured by Kier and Wright is presented in Appendix B.

Prior to the collection of samples, each well was purged using a battery operated 2-inch diameter pump (Model ES-60 DC). During the purging activities, in order to obtain accurate measurements of groundwater parameters and especially to avoid the intrusion of oxygen from ambient air into the groundwater samples, field measurements were conducted in-situ (i.e., down-hole inside each monitoring well). The pH, temperature, electric conductivity (EC), dissolved oxygen (DO), turbidity, and Oxygen Reduction Potential (ORP) were measured in-situ using a Horiba, Model U-22 multi-parameter instrument. The Horiba, Model U-22 was calibrated at the Site using standard solutions and procedures provided by the manufacturer.

Detailed field measurements are shown in Appendix B.

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

(NO₃⁻), and sulfate (SO₄²⁻) concentrations once stabilization occurred. Ferrous iron, nitrate, and sulfate were measured colorimetrically using the Hach Colorimeter Model 890.

For sampling purposes, after purging, a disposable polyethylene bailer was used to collect sufficient samples from each monitoring well for laboratory analyses. The groundwater sample was transferred into three 40-mL VOA vials and preserved with hydrochloric acid. The vials were then sealed to prevent development of air bubbles within the headspace. After the groundwater samples were collected, they were placed on ice and maintained at 4°C in a cooler. A chain of custody (COC) form was written and placed along with the samples in the cooler. On August 20, 2004, SOMA's field crew delivered the groundwater samples to Curtis & Tompkins, Ltd. Laboratory in Berkeley, California.

Laboratory Analysis

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

Appendix B

Table of Elevations & Coordinates on Monitoring Wells
Surveyed by Kier Wright Civil Engineers Surveyors, Inc.,
and
Field Measurements of Physical, Chemical, and
Biodegradation Parameters of Groundwater

DATE: 08/27/02
JOB# A02576

TABLE OF ELEVATIONS & COORDINATES
ON MONITORING WELLS
SOMA ENVIRONMENTAL
Oakland-E. 14 the St. "International Blvd"

WELL NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
FD-C	2109299.85	6064039.85	39.35 40.25	Notch on north side of PVC Punch north rim of box
FD-E	2109281.13	6064067.87	40.06 40.55	Notch on north side of PVC Punch north rim of box
FD-W	2109314.99	6064017.59	39.16 39.95	Notch on north side of PVC Punch north rim of box
MW-1	2109338.74	6064025.97	40.11 40.76	Notch on north side of PVC Punch north rim of box
MW-2	2109383.20	6064073.06	40.71 41.61	Notch on north side of PVC Punch north rim of box
MW-3	2109351.11	6064064.63	40.91 41.68	Notch on north side of PVC Punch north rim of box
MW-4	2109278.18	6064076.40	40.01 40.67	Notch on north side of PVC Punch north rim of box
MW-5	2109410.84	6064058.46	41.16 41.60	Notch on south side of PVC Punch south rim of box
MW-6	2109320.46	6064105.06	40.92 41.52	Notch on north side of PVC Punch north rim of box
MW-7	2109368.19	6064025.54	39.94 40.54	Notch on north side of PVC Punch north rim of box
MW-8	2109321.68	6064000.46	39.38 39.72	Notch on north side of PVC Punch north rim of box

DATE: 08/27/02
JOB# A02576

TABLE OF ELEVATIONS & COORDINATES
ON MONITORING WELLS
SOMA ENVIRONMENTAL
Oakland-E. 14 the St. "International Blvd"

WELL NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
MW-10	2109193.97	6063957.39	36.71 37.70	Notch on north side of PVC Punch north rim of box
MW-11	2109125.26	6064007.52	XXXX	NO ELEVATION , BOAT ON TOP
MW-12	2109121.85	6063865.00	36.84 36.87	Notch on north side of PVC

Bench mark: NGS Bench mark No.M 554. To reach the station from the intersection of Interstate Highway 880 and Hegenberger Rd in South Oakland go northeast on Hegenberger Rd for 0.5 MI to a side road right Baldwin St. Turn right and go south on Baldwin St for 0.35 MI to a T-Intersection, 85th Ave. for 0.1 MI to a side road right, Railroad Ave. Turn right and go south on Railroad Ave. for 0.1 MI to the station on the left, east, side of the road in a large concrete headwall for a culvert.

Elevation = 14.20 NAVD88 Datum

Coordinate values are based on the California Coordinate System, Zone III NAD 83 Datum.



ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-1</u>
Casing Diameter:	<u>2</u> inches
Depth of Well:	<u>30</u> feet
Top of Casing Elevation:	<u>40.11</u> feet
Depth to Groundwater:	<u>13.81</u> feet
Groundwater Elevation:	<u>26.30</u> feet
Water Column Height:	<u>16.49</u> feet
Purged Volume:	<u>13</u> gallons

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: cloudy

Sheen: No Yes Describe: slight rainbow sheen

Odor: No Yes Describe: petro odor

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µS/cm)	D.O. (mg/L)	Turbidity (NTU)	ORP (mV)	Fe ⁺² (mg/L)	NO ₃ ⁻¹ (mg/L)	SO ₄ ⁻² (mg/L)
9:32 AM	start to	purify well								
9:34 AM	1.5	6.89	20.52	712	8.18	200	-80			
9:36 AM	4.0	6.78	20.85	738	6.92	199	-99			
9:38 AM	7.0	6.76	20.66	581	6.30	999	-103			
9:42 AM	11	6.83	20.61	652	7.16	218	-93			
9:45 AM	13	6.91	20.67	559	6.13	54.2	-89			
9:47 AM	Samples							2.0	0	0



ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-2</u>
Casing Diameter:	<u>4</u> inches
Depth of Well:	<u>31.00</u> feet
Top of Casing Elevation:	<u>40.71</u> feet
Depth to Groundwater:	<u>13.54</u> feet
Groundwater Elevation:	<u>27.17</u> feet
Water Column Height:	<u>17.46</u> feet
Purged Volume:	<u>15</u> gallons

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: **No** **Yes** **Describe:**

Sheen: No Yes **Describe:**

Odor: No Yes **Describe:**

Field Measurements:

ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-3</u>	Project No.:	2331
Casing Diameter:	<u>4</u> inches	Address:	3609 International Blvd. Oakland, CA
Depth of Well:	<u>31.50</u> feet	Date:	August 18 -20, 2004
Top of Casing Elevation:	<u>40.91</u> feet	Sampler:	Tony Perini
Depth to Groundwater:	<u>14.24</u> feet		Mehran Namroodi <i>Rouzbeh Alavi</i>
Groundwater Elevation:	<u>26.67</u> feet		
Water Column Height:	<u>17.26</u> feet		
Purged Volume:	<u>16</u> gallons		

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: **No** **Yes** **Describe:**

Sheen: No Yes **Describe:** _____

Odor: No Yes **Describe:** _____

Field Measurements:

ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-4 Project No.: 2331
 Casing Diameter: 2 inches Address: 3609 International Blvd.
 Depth of Well: 26 feet Oakland, CA
 Top of Casing Elevation: 40.01 feet Date: August 19~~20~~, 2004
 Depth to Groundwater: 13.68 feet Sampler: Tony Perini
 Groundwater Elevation: 26.33 feet Mehran Nowroozi
 Water Column Height: 12.32 feet
 Purged Volume: 9 gallons

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: _____

Sheen: No Yes Describe: _____

Odor: No Yes Describe: _____

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µS/cm)	D.O. (mg/L)	Turbidity (NTU)	ORP (mV)	Fe ⁺² (mg/L)	NO ₃ ⁻¹ (mg/L)	SO ₄ ⁻² (mg/L)
2:17 PM	Starts purging well									
2:19 PM	2.0	6.91	19.77	521	NR	163	92			
2:21 PM	4.0	6.71	19.62	529	9.90	106	92			
2:23 PM	7.0	6.66	19.54	530	8.20	62.5	77			
2:25 PM	9.0	6.66	19.53	530	7.53	47.6	71			
2:28 PM	Samples							0	29.7	2

(D.O. reading erroneous on first purge 12.60)

ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-5</u>	Project No.:	2331
Casing Diameter:	<u>2</u> inches	Address:	3609 International Blvd.
Depth of Well:	<u>26.50</u> feet		Oakland, CA
Top of Casing Elevation:	<u>41.16</u> feet	Date:	August 19 20 , 2004
Depth to Groundwater:	<u>13.75</u> feet	Sampler:	Tony Perini
Groundwater Elevation:	<u>22.41</u> feet		Mehran Nowroozi
Water Column Height:	<u>12.75</u> feet		
Purged Volume:	<u>7</u> gallons		

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: yellowish

Sheen: No Yes **Describe:** _____

Odor: No Yes Describe: _____

Field Measurements:

ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-6</u>
Casing Diameter:	<u>2</u> inches
Depth of Well:	<u>25</u> feet
Top of Casing Elevation:	<u>40.92</u> feet
Depth to Groundwater:	<u>14.36</u> feet
Groundwater Elevation:	<u>26.56</u> feet
Water Column Height:	<u>10.64</u> feet
Purged Volume:	<u>9</u> gallons

Mehran Nourrozi
Rouzbeh Alavi

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: blackish

Sheen: No Yes **Describe:** *slight rainbow sheen*

Odor: No Yes Describe: slight petro odor

Field Measurements:



ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-7</u>
Casing Diameter:	<u>2</u> inches
Depth of Well:	<u>26</u> feet
Top of Casing Elevation:	<u>39.94</u> feet
Depth to Groundwater:	<u>12.92</u> feet
Groundwater Elevation:	<u>27.02</u> feet
Water Column Height:	<u>13.08</u> feet
Purged Volume:	<u>8</u> gallons

Project No.: 2331
Address: 3609 International Blvd.
Oakland, CA
Date: August 19~~03~~, 2004
Sampler: Tony Perini
Mehran Nowroozi

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes **Describe:**

Sheen: No Yes **Describe:**

Odor: No Yes **Describe:** _____

Field Measurements:



ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-8</u>
Casing Diameter:	<u>2</u> inches
Depth of Well:	<u>27</u> feet
Top of Casing Elevation:	<u>39.38</u> feet
Depth to Groundwater:	<u>13.02</u> feet
Groundwater Elevation:	<u>26.36</u> feet
Water Column Height:	<u>13.98</u> feet
Purged Volume:	<u>4.5</u> gallons

Mehran Nowroozi
Rouzbeh Alasti

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe: *slackish*

Sheen: No Yes **Describe:** *rainbow sheen*

Odor: No Yes Describe: petro odore

Field Measurements:

ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-10</u>
Casing Diameter:	<u>2</u> inches
Depth of Well:	<u>23.40</u> feet
Top of Casing Elevation:	<u>36.71</u> feet
Depth to Groundwater:	<u>11.50</u> feet
Groundwater Elevation:	<u>25.21</u> feet
Water Column Height:	<u>11.90</u> feet
Purged Volume:	<u>9</u> gallons

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe:

Sheen: No Yes **Describe:**

Odor: No Yes Describe: _____

Field Measurements:

ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MW-12</u>	Project No.:	2381
Casing Diameter:	<u>4</u> inches	Address:	3609 International Blvd.
Depth of Well:	<u>30</u> feet		Oakland, CA
Top of Casing Elevation:	<u>36.84</u> feet	Date:	August 19 20 , 2004
Depth to Groundwater:	<u>12.00</u> feet	Sampler:	Tony Perini
Groundwater Elevation:	<u>24.84</u> feet		Mehran Nowroozi
Water Column Height:	<u>18.00</u> feet		
Purged Volume:	<u>14</u> gallons		

Purging Method: Bailer Pump

Sampling Method: Bailer ■ Pump □

Color: No Yes **Describe:**

Sheen: No Yes **Describe:**

Odor: No Yes **Describe:** _____

Field Measurements:

Appendix C

Chain of Custody Form and Laboratory Report
for the
Third Quarter 2004 Monitoring Event



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

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

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

Prepared for:

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

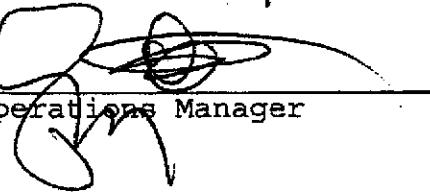
Date: 10-SEP-04
Lab Job Number: 174134
Project ID: 2331
Location: 3609 Int'l Blvd., Oakland

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

Reviewed by:


Project Manager

Reviewed by:


Operations Manager

This package may be reproduced only in its entirety.

NELAP # 01107CA

Page 1 of 38



Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number: 174134
Client: SOMA Environmental Engineering Inc.
Project: 2331
Location: 3609 Int'l Blvd., Oakland
Request Date: 08/20/04
Samples Received: 08/20/04

This hardcopy data package contains sample and QC results for ten water samples, requested for the above referenced project on 08/20/04. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):

High surrogate recoveries were observed for trifluorotoluene (FID) in MW-6 (lab # 174134-006), MW-7 (lab # 174134-007), and MW-12 (lab # 174134-010), due to interference from coeluting hydrocarbon peaks; the corresponding bromofluorobenzene (FID) surrogate recoveries were within limits. High surrogate recoveries were observed for trifluorotoluene (PID) in MW-8 (lab # 174134-008) and MW-12 (lab # 174134-010), due to interference from coeluting hydrocarbon peaks; the corresponding bromofluorobenzene (PID) surrogate recoveries were within limits. High surrogate recoveries were observed for trifluorotoluene (FID) in the LCS/MS for batch 93952, due to interference from coeluting hydrocarbon peaks; the corresponding bromofluorobenzene (FID) surrogate recoveries were within limits. No other analytical problems were encountered.

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

No analytical problems were encountered.

CHAIN OF CUSTODY

Page 1 of 1

Analyses

Curtis & Tompkins, Ltd.

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

Project No: 2331

C&T LOGIN # 114134

Sampler: Mehran
Nawrooz
2024 PERIN/Lourieh Alani

Report To: **Tony Perini**

Project Name:3609 International Blvd, Oakland **Company :** SOMA Environmental

Turnaround Time: Standard **Telephone:** 925-244-6600

Fax: 925-244-6601

Lab No.	Sample ID.	Sampling Date	Time	Matrix			Preservative			
				Soil	Water	Waste	# of Containers	HCl	H ₂ SO ₄	HNO ₃
-1	MW-1	8/20/04	1947A	✓			3-VR93	✓		✓
-2	MW-2	8/19/04	1238					✓		
-3	MW-3	8/20/04	1030A							
-4	MW-4	8/19/04	228P							
-5	MW-5	8/19/04	1145A							
-6	MW-6	8/20/04	1058A							
-7	MW-7	8/19/04	2PM							
-8	MW-8	8/20/04	915A							
-9	MW-10	8/19/04	1115A	✓				✓		
-10	MW-11									
-10	MW-12	8/19/04	1045A	✓			3-VR93	✓		✓

Notes: EDE OUTPUT REQUIRED

RELINQUISHED BY:

RECEIVED BY:

Tony Perini 12 AM
Sony Feinte 8:30 AM DATE/TIME

E *Karen H.* 8/29/04 11:53
DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water ug/L	Received:	08/20/04

Field ID: MW-1 Batch#: 93919
Type: SAMPLE Sampled: 08/20/04
Lab ID: 174134-001 Analyzed: 08/21/04
Diln Fac: 20.00

Compound	Result	Unit	Method
Gasoline C7-C12	22,000	1,000	EPA 8015B
MTBE	6,500	40	EPA 8021B
Benzene	2,000	10	EPA 8021B
Toluene	220	10	EPA 8021B
Ethylbenzene	560	10	EPA 8021B
m,p-Xylenes	2,300	10	EPA 8021B
o-Xylene	790	10	EPA 8021B

Compound	Result	Unit	Method
Trifluorotoluene (FID)	131	70-141	EPA 8015B
Bromofluorobenzene (FID)	103	80-143	EPA 8015B
Trifluorotoluene (PID)	112	59-133	EPA 8021B
Bromofluorobenzene (PID)	102	76-128	EPA 8021B

Field ID: MW-2 Batch#: 93919
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-002 Analyzed: 08/20/04
Diln Fac: 1.000

Compound	Result	Unit	Method
Gasoline C7-C12	220	50	EPA 8015B
MTBE	6.4	2.0	EPA 8021B
Benzene	2.2	0.50	EPA 8021B
Toluene	1.9	0.50	EPA 8021B
Ethylbenzene	7.0	0.50	EPA 8021B
m,p-Xylenes	9.3	0.50	EPA 8021B
o-Xylene	2.4	0.50	EPA 8021B

Compound	Result	Unit	Method
Trifluorotoluene (FID)	112	70-141	EPA 8015B
Bromofluorobenzene (FID)	105	80-143	EPA 8015B
Trifluorotoluene (PID)	105	59-133	EPA 8021B
Bromofluorobenzene (PID)	105	76-128	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit
Page 1 of 6



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Received:	08/20/04
Units:	ug/L		

Field ID: MW-3 Batch#: 93952
Type: SAMPLE Sampled: 08/20/04
Lab ID: 174134-003 Analyzed: 08/21/04
Diln Fac: 20.00

Analyte	Result	RL	Method
Gasoline C7-C12	21,000	1,000	EPA 8015B
MTBE	1,200	40	EPA 8021B
Benzene	3,400	10	EPA 8021B
Toluene	370	10	EPA 8021B
Ethylbenzene	1,000	10	EPA 8021B
m,p-Xylenes	1,900	10	EPA 8021B
c-Xylene	450	10	EPA 8021B

Analyte	Result	RL	Method
Trifluorotoluene (FID)	117	70-141	EPA 8015B
Bromofluorobenzene (FID)	99	80-143	EPA 8015B
Trifluorotoluene (PID)	118	59-133	EPA 8021B
Bromofluorobenzene (PID)	101	76-128	EPA 8021B

Field ID: MW-4 Batch#: 93919
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-004 Analyzed: 08/20/04
Diln Fac: 1.000

Analyte	Result	RL	Method
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	1.6	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	0.66	0.50	EPA 8021B
m,p-Xylenes	0.53	0.50	EPA 8021B
c-Xylene	ND	0.50	EPA 8021B

Analyte	Result	RL	Method
Trifluorotoluene (FID)	99	70-141	EPA 8015B
Bromofluorobenzene (FID)	104	80-143	EPA 8015B
Trifluorotoluene (PID)	99	59-133	EPA 8021B
Bromofluorobenzene (PID)	103	76-128	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit
Page 2 of 6



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		

Matrix: Water Received: 08/20/04
Units: ug/L

Field ID: MW-5 Batch#: 93919
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-005 Analyzed: 08/20/04
Diln Fac: 1.000

ANALYTE	RESULT	RPD	TEST ID
Gasoline C7-C12	250	50	EPA 8015B
MTBE	8.2	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

ANALYTE	RESULT	RPD	TEST ID
Trifluorotoluene (FID)	139	70-141	EPA 8015B
Bromofluorobenzene (FID)	108	80-143	EPA 8015B
Trifluorotoluene (PID)	115	59-133	EPA 8021B
Bromofluorobenzene (PID)	106	76-128	EPA 8021B

Field ID: MW-6 Batch#: 93952
Type: SAMPLE Sampled: 08/20/04
Lab ID: 174134-006 Analyzed: 08/21/04
Diln Fac: 5.000

ANALYTE	RESULT	RPD	TEST ID
Gasoline C7-C12	12,000	250	EPA 8015B
MTBE	ND	10	EPA 8021B
Benzene	580	2.5	EPA 8021B
Toluene	130	2.5	EPA 8021B
Ethylbenzene	520	2.5	EPA 8021B
m,p-Xylenes	830	2.5	EPA 8021B
o-Xylene	190	2.5	EPA 8021B

ANALYTE	RESULT	RPD	TEST ID
Trifluorotoluene (FID)	150 *	70-141	EPA 8015B
Bromofluorobenzene (FID)	102	80-143	EPA 8015B
Trifluorotoluene (PID)	116	59-133	EPA 8021B
Bromofluorobenzene (PID)	101	76-128	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit
Page 3 of 6



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Received:	08/20/04
Units:	ug/L		

Field ID: MW-7 Batch#: 93919
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-007 Analyzed: 08/20/04
Diln Fac: 1.000

Analyst	REC	RL	Method
Gasoline C7-C12	410	50	EPA 8015B
MTBE	8.3 C	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	0.81 C	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Analyst	REC	RL	Method
Trifluorotoluene (FID)	142 *	70-141	EPA 8015B
Bromofluorobenzene (FID)	111	80-143	EPA 8015B
Trifluorotoluene (PID)	119	59-133	EPA 8021B
Bromofluorobenzene (PID)	105	76-128	EPA 8021B

Field ID: MW-8 Batch#: 93919
Type: SAMPLE Sampled: 08/20/04
Lab ID: 174134-008 Analyzed: 08/20/04
Diln Fac: 2.000

Analyst	REC	RL	Method
Gasoline C7-C12	6,000	100	EPA 8015B
MTBE	ND	4.0	EPA 8021B
Benzene	310	1.0	EPA 8021B
Toluene	27	1.0	EPA 8021B
Ethylbenzene	660	1.0	EPA 8021B
m,p-Xylenes	53	1.0	EPA 8021B
o-Xylene	3.8 C	1.0	EPA 8021B

Analyst	REC	RL	Method
Trifluorotoluene (FID)	92	70-141	EPA 8015B
Bromofluorobenzene (FID)	100	80-143	EPA 8015B
Trifluorotoluene (PID)	139 *	59-133	EPA 8021B
Bromofluorobenzene (PID)	99	76-128	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit
Page 4 of 6



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Received:	08/20/04
Units:	ug/L		

Field ID: MW-10 Batch#: 93919
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-009 Analyzed: 08/20/04
Diln Fac: 2.000

ANALYTE	REPORT	RPD	TEST METHOD
Gasoline C7-C12	3,400	100	EPA 8015B
MTBE	150	4.0	EPA 8021B
Benzene	550	1.0	EPA 8021B
Toluene	13	1.0	EPA 8021B
Ethylbenzene	240	1.0	EPA 8021B
m,p-Xylenes	17	1.0	EPA 8021B
o-Xylene	ND	1.0	EPA 8021B

Surrogate	REF	NAME	TEST METHOD
Trifluorotoluene (FID)	131	70-141	EPA 8015B
Bromofluorobenzene (FID)	104	80-143	EPA 8015B
Trifluorotoluene (PID)	130	59-133	EPA 8021B
Bromofluorobenzene (PID)	103	76-128	EPA 8021B

Field ID: MW-12 Batch#: 93919
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-010 Analyzed: 08/20/04
Diln Fac: 1.000

ANALYTE	REPORT	RPD	TEST METHOD
Gasoline C7-C12	1,900	50	EPA 8015B
MTBE	39	2.0	EPA 8021B
Benzene	8.9 C	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	1.1 C	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	REF	NAME	TEST METHOD
Trifluorotoluene (FID)	161 *	70-141	EPA 8015B
Bromofluorobenzene (FID)	116	80-143	EPA 8015B
Trifluorotoluene (PID)	152 *	59-133	EPA 8021B
Bromofluorobenzene (PID)	104	76-128	EPA 8021B

* = Value outside of QC limits; see narrative
C = Presence confirmed, but RPD between columns exceeds 40%

ND= Not Detected

RL= Reporting Limit

Page 5 of 6



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331		
Matrix:	Water	Received:	08/20/04
Units:	uq/L		

Type: BLANK Batch#: 93919
Lab ID: QC261900 Analyzed: 08/20/04
Diln Fac: 1.000

Polymer	Result	RL	Method
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
c-Xylene	ND	0.50	EPA 8021B

Polymer	Result	RL	Method
Trifluorotoluene (FID)	98	70-141	EPA 8015B
Bromofluorobenzene (FID)	99	80-143	EPA 8015B
Trifluorotoluene (PID)	96	59-133	EPA 8021B
Bromofluorobenzene (PID)	97	76-128	EPA 8021B

Type: BLANK Batch#: 93952
Lab ID: QC262046 Analyzed: 08/21/04
Diln Fac: 1.000

Polymer	Result	RL	Method
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
c-Xylene	ND	0.50	EPA 8021B

Polymer	Result	RL	Method
Trifluorotoluene (FID)	99	70-141	EPA 8015B
Bromofluorobenzene (FID)	101	80-143	EPA 8015B
Trifluorotoluene (PID)	95	59-133	EPA 8021B
Bromofluorobenzene (PID)	98	76-128	EPA 8021B

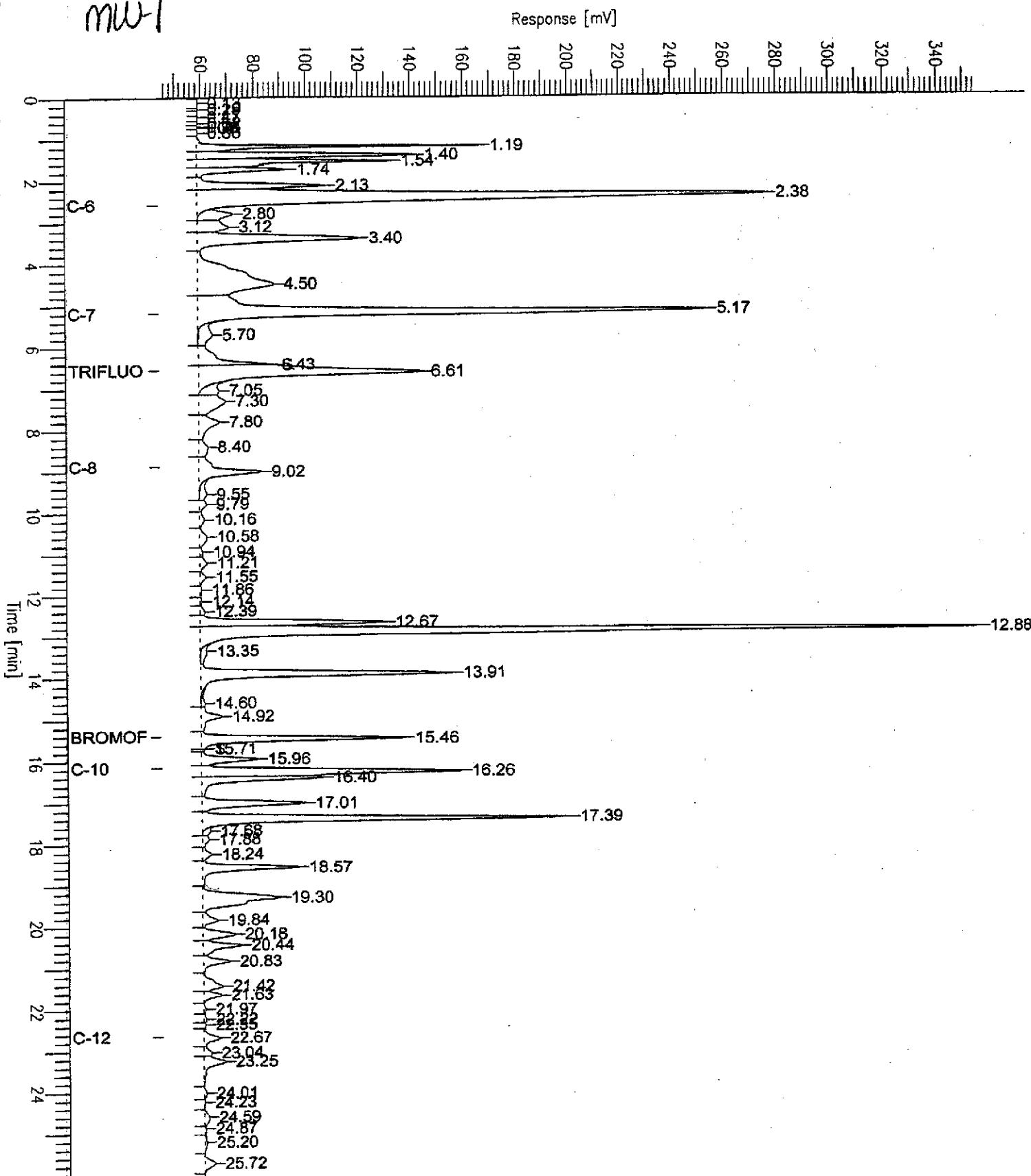
*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit
Page 6 of 6

GC04 TVH 'J' Data File FID

Sample Name : 174134-001,93919
 FileName : G:\GC04\DATA\233J024.raw
 Method : TVHBTEX
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 44 mV

Sample #: a1.3 Page 1 of 1
 Date : 8/21/04 02:57 PM
 Time of Injection: 8/21/04 12:07 AM
 Low Point : 44.03 mV High Point : 355.57 mV
 Plot Scale: 311.5 mV

MW-1

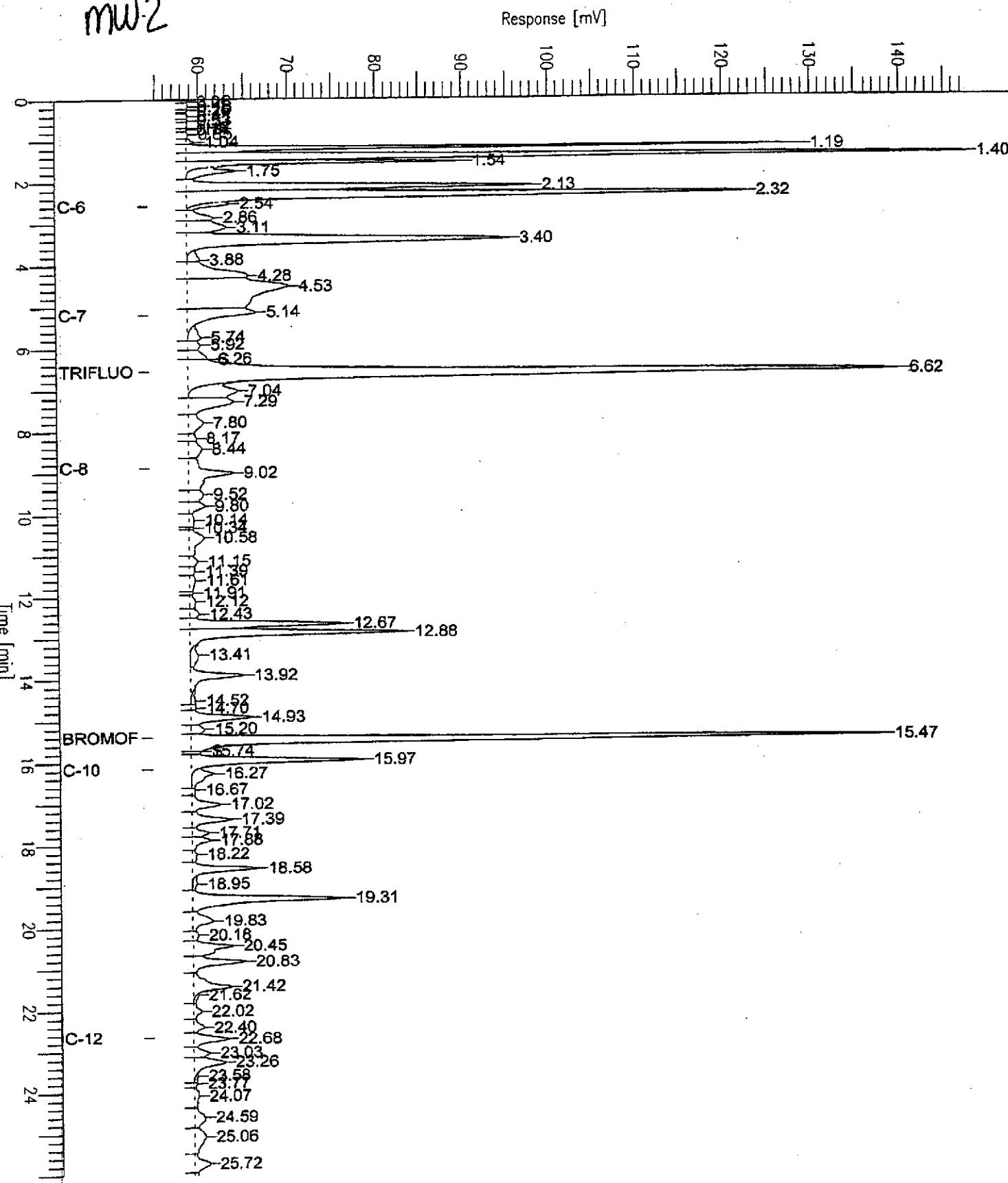


GC04 TVH 'J' Data File FID

Sample Name : 174134-002,93919
 FileName : G:\GC04\DATA\233J015.raw
 Method : TVHBTKE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 54 mV

Sample #: a1.0 Page 1 of 1
 Date : 8/20/04 08:08 PM
 Time of Injection: 8/20/04 06:44 PM
 Low Point : 54.21 mV High Point : 147.68 mV
 Plot Scale: 93.5 mV

MW2

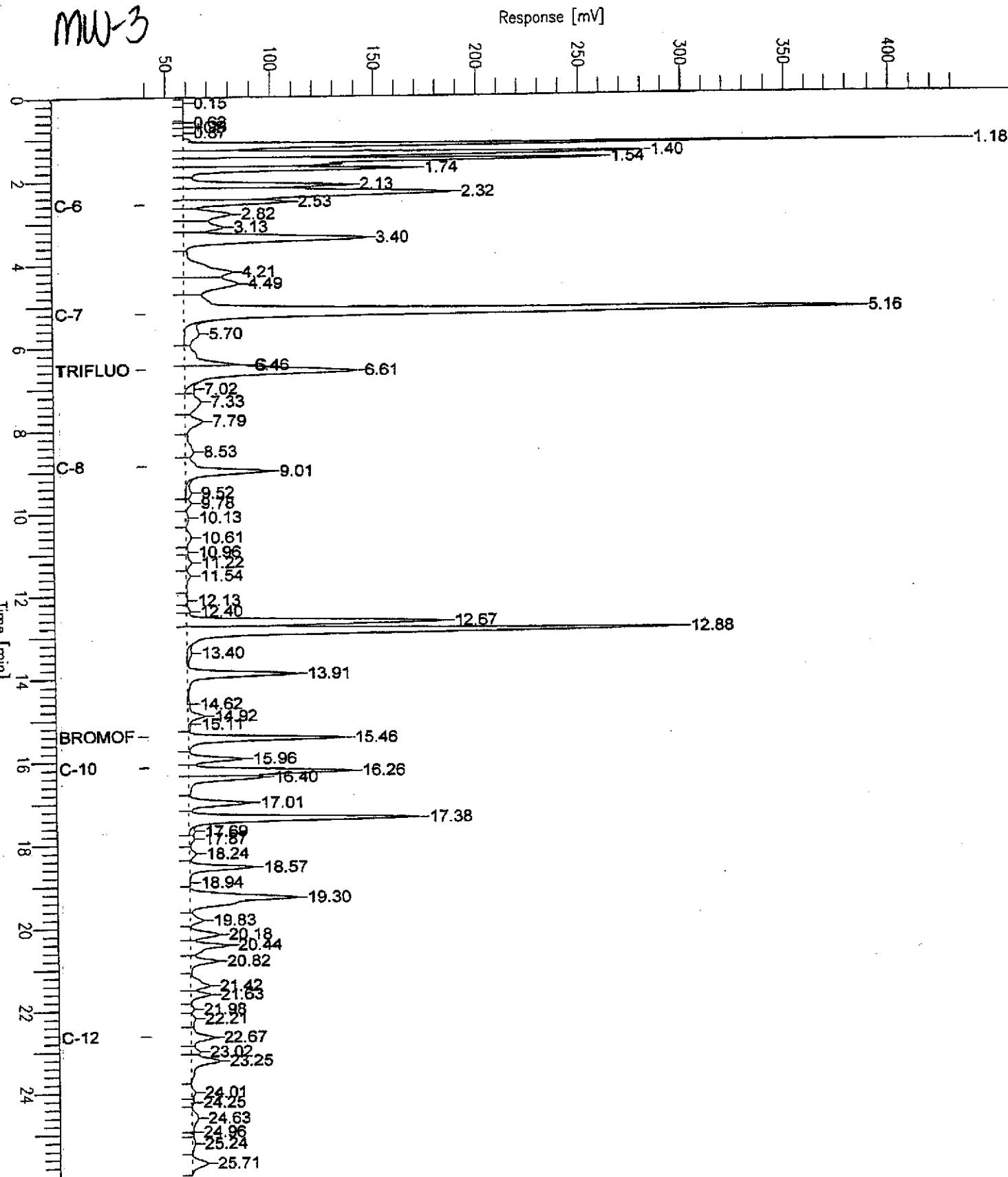


GC04 TVH 'J' Data File FID

Sample Name : 174134-003,93952
 FileName : G:\GC04\DATA\234J006.raw
 Method : TVHETKE
 Start Time : 0.00 min
 Scale Factor: 1.0

Sample #: b1.0 Page 1 of 1
 Date : 8/23/04 02:10 PM
 Time of Injection: 8/21/04 04:28 PM
 Low Point : 39.87 mV High Point : 435.92 mV
 Plot Offset: 40 mV Plot Scale: 396.0 mV

MW-3

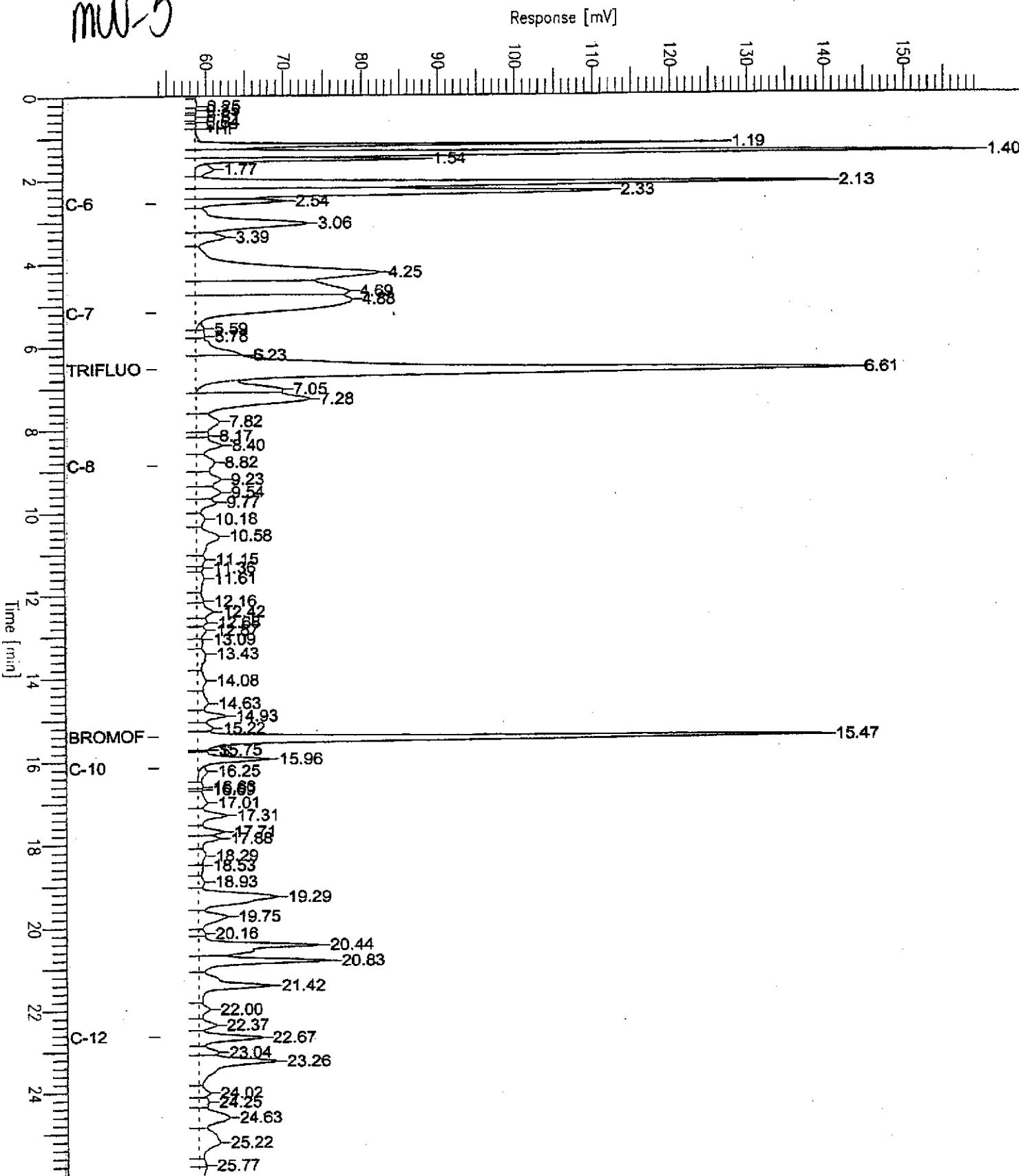


GC04 TVH 'J' Data File FID

Sample Name : 174134-005,93919
 FileName : G:\GC04\DATA\233J017.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 54 mV

Sample #: a1.0 Page 1 of 1
 Date : 8/21/04 02:57 PM
 Time of Injection: 8/20/04 07:56 PM
 Low Point : 53.65 mV High Point : 159.31 mV
 Plot Scale: 105.7 mV

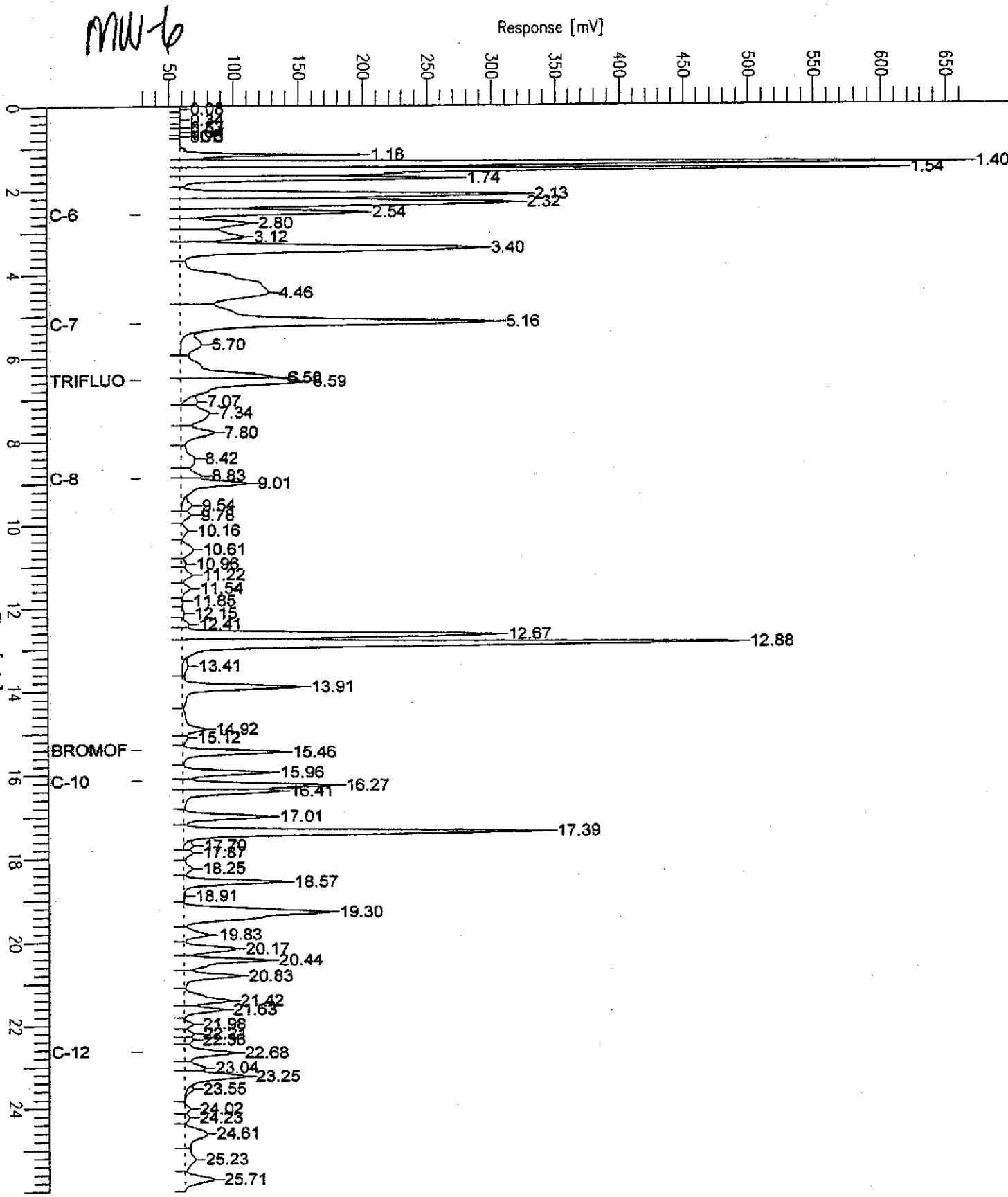
MW-5



GC04 TVH 'J' Data File FID

Sample Name : 174134-006,93952
 FileName : G:\GC04\DATA\234J007.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 28 mV

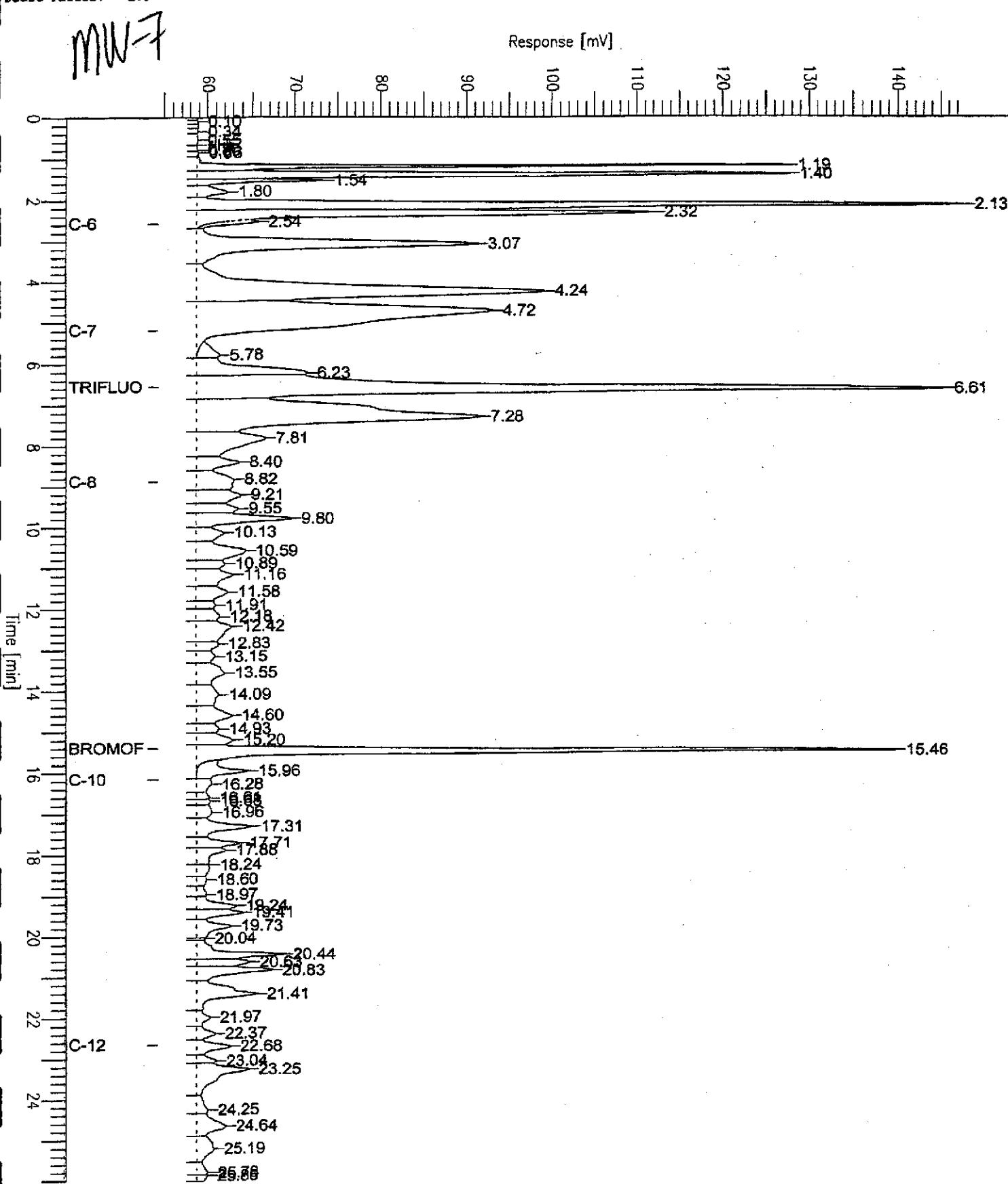
Sample #: b1.0 Page 1 of 1
 Date : 8/23/04 02:10 PM
 Time of Injection: 8/21/04 05:04 PM
 Low Point : 28.41 mV High Point : 665.18 mV
 Plot Scale: 636.8 mV



GC04 TVH 'J' Data File FID

Sample Name : 174134-007,93919
 FileName : G:\GC04\DATA\233J018.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 54 mV

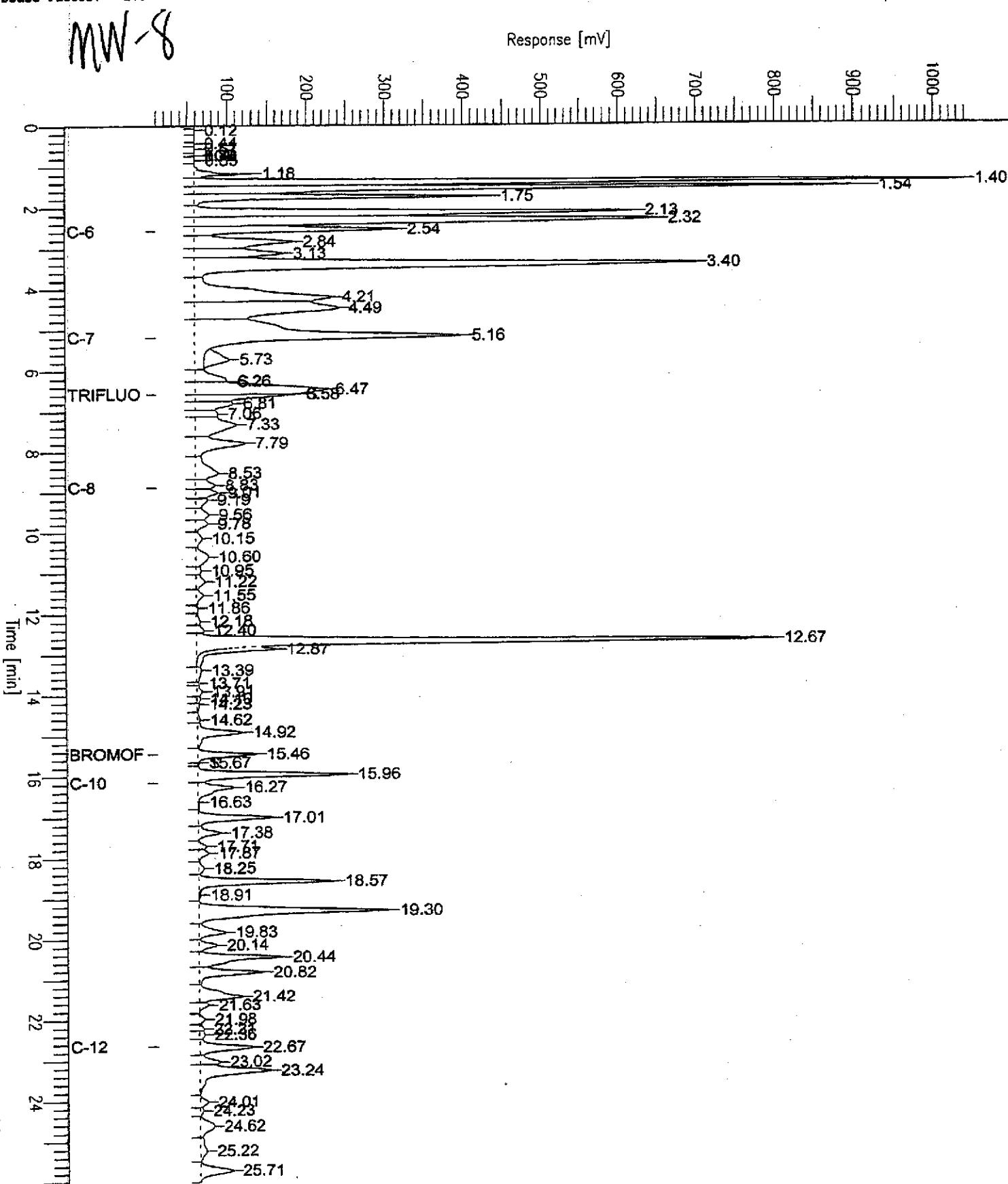
Sample #: a1.0 Page 1 of 1
 Date : 8/21/04 02:57 PM
 Time of Injection: 8/20/04 08:32 PM
 Low Point : 54.24 mV High Point : 147.86 mV
 Plot Scale: 93.6 mV



GC04 TVH 'J' Data File FID

Sample Name : 174134-008,93919
 FileName : G:\GC04\DATA\233J020.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 10 mV

Sample #: a1.0 Page 1 of 1
 Date : 8/21/04 02:57 PM
 Time of Injection: 8/20/04 09:44 PM
 Low Point : 9.70 mV High Point : 1041.18 mV
 Plot Scale: 1031.5 mV

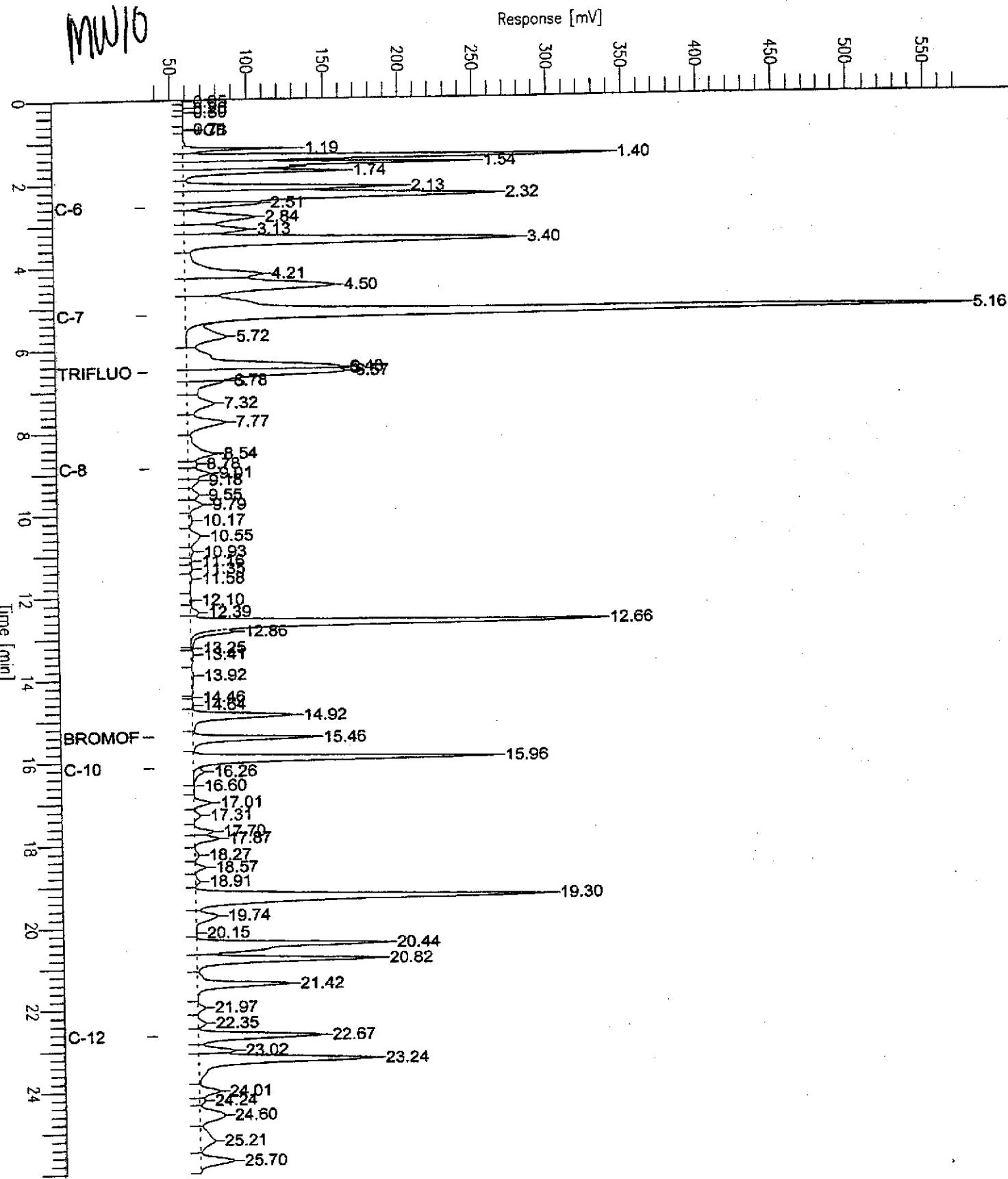


GC04 TVH 'J' Data File FID

Sample Name : 174134-009,93919
 FileName : G:\GC04\DATA\233J021.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: 1.0

Sample #: a1.9
 Date : 8/21/04 02:57 PM
 Time of Injection: 8/20/04 10:19 PM
 Low Point : 33.06 mV High Point : 574.80 mV
 Plot Offset: 33 mV Plot Scale: 541.7 mV

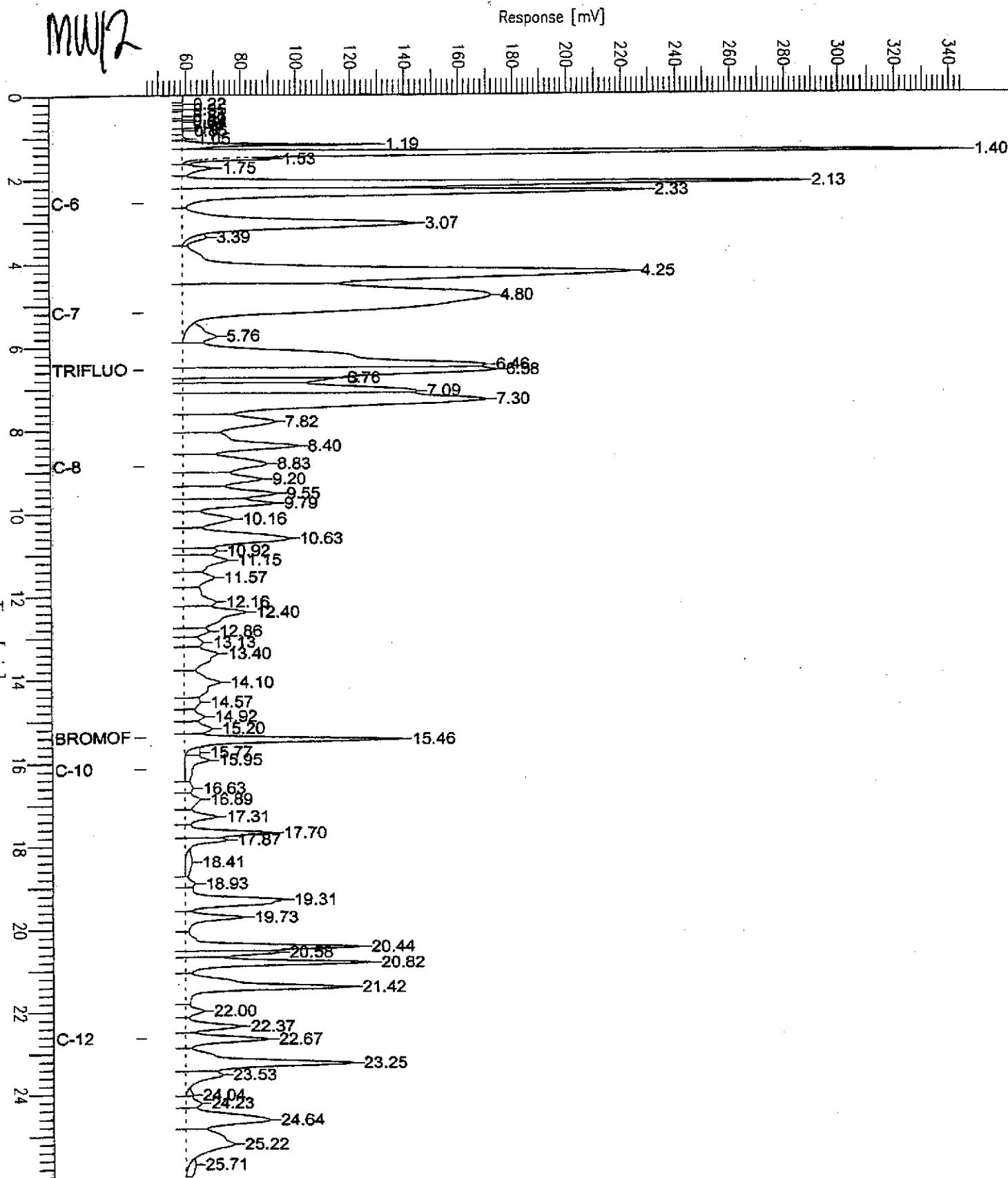
Page 1 of 1



GC04 TVH 'J' Data File FID

Sample Name : 174134-010,93919
 FileName : G:\GC04\DATA\233J019.raw
 Method : TVHETXE
 Start Time : 0.00 min
 Scale Factor: 1.0

Sample #: a1.0 Page 1 of 1
 Date : 8/21/04 02:57 PM
 Time of Injection: 8/20/04 09:08 PM
 Low Point : 44.48 mV High Point : 345.57 mV
 Plot Offset: 44 mV Plot Scale: 301.1 mV

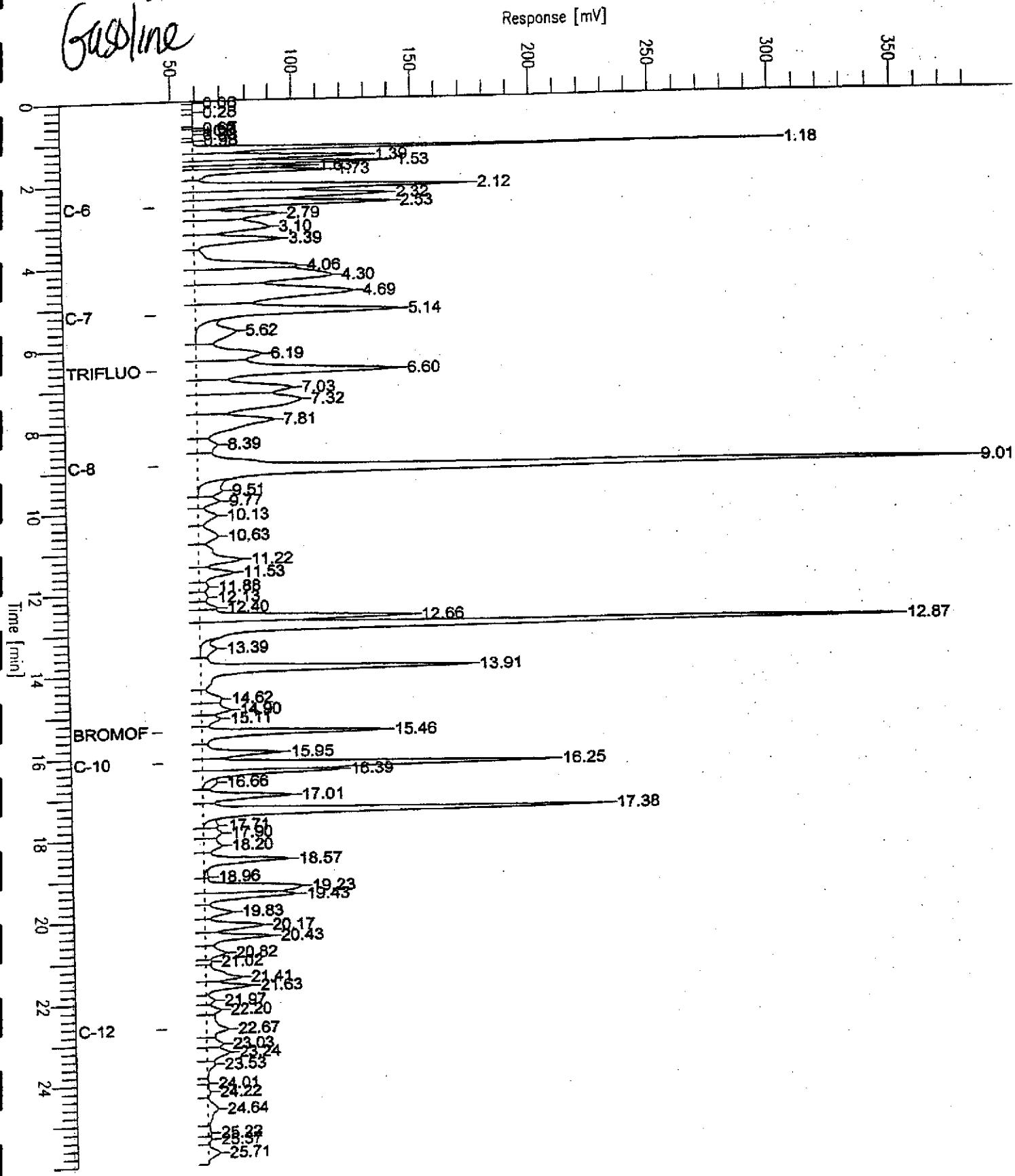


GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs.qc261902, 93919, 04ws1486, 5/5000
FileName : G:\GC04\DATA\233j002.raw
Method : TVHBRTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 43 mV

Sample #: Page 1 of 1
Date : 8/20/04 12:30 PM
Time of Injection: 8/20/04 10:03 AM
Low Point : 43.08 mV High Point : 380.61 mV
Plot Scale: 337.5 mV

Page 1 of 1





Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC261901	Batch#:	93919
Matrix:	Water	Analyzed:	08/20/04
Units:	ug/L		

Analyst	Spiked	Result	PPM	Result
MTBE	20.00	20.40	102	67-124
Benzene	20.00	20.56	103	80-120
Toluene	20.00	21.42	107	80-120
Ethylbenzene	20.00	21.14	106	80-120
m,p-Xylenes	20.00	20.89	104	80-120
o-Xylene	20.00	21.09	105	80-120

Surrogate	TRFC	Calibration
Trifluorotoluene (PID)	98	59-133
Bromofluorobenzene (PID)	98	76-128

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC261902	Batch#:	93919
Matrix:	Water	Analyzed:	08/20/04
Units:	ug/L		

Analyte	Spiked	Result	Qlty. Estimate
Gasoline C7-C12	2,000	2,113	106 80-120

Surrogate	Spiked	Result	Qlty. Estimate
Trifluorotoluene (FID)	137	70-141	
Bromofluorobenzene (FID)	105	80-143	



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC262047	Batch#:	93952
Matrix:	Water	Analyzed:	08/21/04
Units:	ug/L		

Analyte	Spiked	Result	ERMC	Range
Gasoline C7-C12	2,000	2,160	108	80-120

Surrogate	ERMC	Range
Trifluorotoluene (FID)	143 *	70-141
Bromofluorobenzene (FID)	107	80-143

*= Value outside of QC limits; see narrative
Page 1 of 1



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC262048	Batch#:	93952
Matrix:	Water	Analyzed:	08/21/04
Units:	ug/L		

Analyte	Added	Result	Spec	Actual
MTBE	20.00	18.30	91	67-124
Benzene	20.00	19.44	97	80-120
Toluene	20.00	21.60	108	80-120
Ethylbenzene	20.00	21.24	106	80-120
m,p-Xylenes	20.00	21.36	107	80-120
o-Xylene	20.00	21.55	108	80-120

Surrogate	XREQ	Found
Trifluorotoluene (PID)	95	59-133
Bromofluorobenzene (PID)	98	76-128



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8015B
Field ID:	MW-2	Batch#:	93919
MSS Lab ID:	174134-002	Sampled:	08/19/04
Matrix:	Water	Received:	08/20/04
Units:	ug/L	Analyzed:	08/21/04
Diln Fac:	1.000		

Type: MS Lab ID: QC262020

Analyte	MSS Result	Spiked	Result	SPEC	Target
Gasoline C7-C12	216.9	2,000	2,279	103	80-120
<hr/>					
Surrogate	SPEC	Target			
Trifluorotoluene (FID)	125	70-141			
Bromofluorobenzene (FID)	103	80-143			

Type: MSD Lab ID: QC262021

Analyte	Spiked	Result	SPEC	Target	RPD	Units
Gasoline C7-C12	2,000	2,270	103	80-120	0	20
<hr/>						
Surrogate	SPEC	Target				
Trifluorotoluene (FID)	123	70-141				
Bromofluorobenzene (FID)	106	80-143				



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	93952
MSS Lab ID:	174135-003	Sampled:	08/19/04
Matrix:	Water	Received:	08/20/04
Units:	ug/L	Analyzed:	08/22/04
Diln Fac:	1.000		

Type: MS Lab ID: QC262053

Analyte	MSS Retention Time	Spiked	Result	RPE	Percent	RPD
Gasoline C7-C12	122.3	2,000	2,211	103	80-120	104

Surrogate	SRPC	Retention Time	Spiked	Result	RPE	Percent	RPD
Trifluorotoluene (FID)	142	*	70-141				
Bromofluorobenzene (FID)	105		80-143				

Type: MSD Lab ID: QC262054

Analyte	MSS Retention Time	Retained	Result	RPE	Percent	RPD
Gasoline C7-C12	2,000		2,176	103	80-120	2

Surrogate	SRPC	Retention Time	Spiked	Result	RPE	Percent	RPD
Trifluorotoluene (FID)	138		70-141				
Bromofluorobenzene (FID)	102		80-143				

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Page 1 of 1



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Matrix:	Water	Received:	08/20/04
Units:	ug/L		

Field ID: MW-1 Batch#: 94003
Type: SAMPLE Sampled: 08/20/04
Lab ID: 174134-001 Analyzed: 08/24/04
Diln Fac: 83.33

Analyte	Result	Unit
MTBE	6,900	42

Surrogate: Dibromofluoromethane 98 80-120

Field ID: MW-2 Batch#: 94003
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-002 Analyzed: 08/24/04
Diln Fac: 1.000

Analyte	Result	Unit
MTBE	ND	0.50

Surrogate: Dibromofluoromethane 99 80-120

Field ID: MW-3 Batch#: 94003
Type: SAMPLE Sampled: 08/20/04
Lab ID: 174134-003 Analyzed: 08/24/04
Diln Fac: 16.67

Analyte	Result	Unit
MTBE	1,100	8.3

Surrogate: Dibromofluoromethane 96 80-120

Field ID: MW-5 Batch#: 94003
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-005 Analyzed: 08/24/04
Diln Fac: 1.000

Analyte	Result	Unit
MTBE	2.0	0.50

Surrogate: Dibromofluoromethane 98 80-120

ND= Not Detected
RL= Reporting Limit
Page 1 of 3



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Matrix:	Water	Received:	08/20/04
Units:	ug/L		

Field ID: MW-7 Batch#: 94035
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-007 Analyzed: 08/25/04
Diln Fac: 1.000

Analyte Results RL
MTBE 1.7 0.50

Surrogate Dibromofluoromethane 90 80-120

Field ID: MW-10 Batch#: 94035
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-009 Analyzed: 08/25/04
Diln Fac: 2.000

Analyte Results RL
MTBE 100 1.0

Surrogate Dibromofluoromethane 95 80-120

Field ID: MW-12 Batch#: 94035
Type: SAMPLE Sampled: 08/19/04
Lab ID: 174134-010 Analyzed: 08/25/04
Diln Fac: 1.000

Analyte Results RL
MTBE 26 0.50

Surrogate Dibromofluoromethane 102 80-120

Type: BLANK Batch#: 94003
Lab ID: QC262264 Analyzed: 08/24/04
Diln Fac: 1.000

Analyte Results RL
MTBE ND 0.50

Surrogate Dibromofluoromethane 98 80-120

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



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Matrix:	Water	Received:	08/20/04
Units:	ug/L		

Type: BLANK Batch#: 94035
Lab ID: QC262419 Analyzed: 08/25/04
Diln Fac: 1.000

Analyte: MTBE Result: ND R3: 0.50

Surrogate: Dibromofluoromethane REC: 101 80-120

Type: BLANK Batch#: 94035
Lab ID: QC262420 Analyzed: 08/25/04
Diln Fac: 1.000

Analyte: MTBE Result: ND R3: 0.50

Surrogate: Dibromofluoromethane REC: 102 80-120

ND= Not Detected
RL= Reporting Limit
Page 3 of 3



Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	94003
Units:	ug/L	Analyzed:	08/24/04
Diln Fac:	1.000		

Type: BS Lab ID: QC262262

Analyte	Spiked	Result	SPRC	Lim/ICP	RPD	SEM
MTBE	50.00	58.84	118	74-128		
Surrogate	SPRC Lim/ICP					
Dibromofluoromethane	98	80-120				

Type: BSD Lab ID: QC262263

Analyte	Spiked	Result	SPRC	Lim/ICP	RPD	SEM
MTBE	50.00	59.56	119	74-128	1	20
Surrogate	SPRC Lim/ICP					
Dibromofluoromethane	97	80-120				



Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC262418	Batch#:	94035
Matrix:	Water	Analyzed:	08/25/04
Units:	ug/L		

Analyte	Added	Result	GRPC	Retrieval
---------	-------	--------	------	-----------

MTBE	50.00	51.04	102	74-128
------	-------	-------	-----	--------

Surrogate	GRPC	Retrieval
-----------	------	-----------

Dibromofluoromethane	102	80-120
----------------------	-----	--------



Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174134	Location:	3609 Int'l Blvd., Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2331	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	94035
MSS Lab ID:	174181-003	Sampled:	08/23/04
Matrix:	Water	Received:	08/23/04
Units:	ug/L	Analyzed:	08/25/04
Diln Fac:	1.000		

Type: MS Lab ID: QC262421

Analyte	MSS Result	Spiked	Result	SPRC	Lim/mt
MTBE	<0.05900	50.00	52.18	104	73-120
<hr/>					
Surrogate	SPRC Lim/mt				
Dibromofluoromethane	103	80-120			

Type: MSD Lab ID: QC262422

Analyte	Spiked	Result	SPRC	Lim/mt	RPD	%mt
MTBE	50.00	50.93	102	73-120	2	20
<hr/>						
Surrogate	SPRC Lim/mt					
Dibromofluoromethane	103	80-120				

20-AUG-2004 13:12

Curtis & Tompkins Laboratories

Login Number: 174134

Project: 2331
 Site: 3609 Int'l Blvd., Oakland
 Account #: SOMA
 Logged By: PJP
 PO#:
 Proj. Mgr: LJB
 Rpt Level: II

Report To: SOMA Environmental Engineering Inc.
 2680 Bishop Dr.
 Suite 203
 San Ramon, CA 94583
 ATTN: Tony Perini
 (925) 244-6600

Bill To: SOMA Environmental Engineering Inc. SOMA
 2680 Bishop Dr.
 Suite 203
 San Ramon, CA 94583
 ATTN: Tony Perini
 (925) 244-6600

Sample #:	Alias:	Client ID:	Sampled:	Ord:	Recv:	Held:	Due:	Matrix:	Loc:	Analyses:	CCN Number:
174134-001	MW-1		08/20 09:47	08/20 08/20	COMMENTS: Confirm MTBE by 8260						
			08/26	08/26	Water	BK	EDF				
			08/26	08/26	Water	BK	TVH/MBTXE		Mtbe Confirm by 8260		
			09/03	08/26	Water	BK	MBTXE		Mtbe Confirm by 8260		
			09/03	08/26	Water	BK	TVH		Mtbe Confirm by 8260		
174134-002	MW-2		08/19 13:23	08/20 08/20	COMMENTS: Confirm MTBE by 8260						
			08/26	08/26	Water	BK	TVH/MBTXE		Mtbe Confirm by 8260		
			09/02	08/26	Water	BK	MBTXE		Mtbe Confirm by 8260		
			09/02	08/26	Water	BK	TVH		Mtbe Confirm by 8260		
174134-003	MW-3		08/20 10:30	08/20 08/20	COMMENTS: Confirm MTBE by 8260						
			08/26	08/26	Water	BK	TVH/MBTXE		Mtbe Confirm by 8260		
			09/03	08/26	Water	BK	MBTXE		Mtbe Confirm by 8260		
			09/03	08/26	Water	BK	TVH		Mtbe Confirm by 8260		
174134-004	MW-4		08/19 14:28	08/20 08/20	COMMENTS: Confirm MTBE by 8260						
			08/26	08/26	Water	BK	TVH/MBTXE		Mtbe Confirm by 8260		
			09/02	08/26	Water	BK	MBTXE		Mtbe Confirm by 8260		
			09/02	08/26	Water	BK	TVH		Mtbe Confirm by 8260		
174134-005	MW-5		08/19 11:45	08/20 08/20	COMMENTS: Confirm MTBE by 8260						
			08/26	08/26	Water	BK	TVH/MBTXE		Mtbe Confirm by 8260		
			09/02	08/26	Water	BK	MBTXE		Mtbe Confirm by 8260		
			09/02	08/26	Water	BK	TVH		Mtbe Confirm by 8260		
174134-006	MW-6		08/20 10:58	08/20 08/20	COMMENTS: Confirm MTBE by 8260						
			08/26	08/26	Water	BK	TVH/MBTXE		Mtbe Confirm by 8260		
			09/03	08/26	Water	BK	MBTXE		Mtbe Confirm by 8260		
			09/03	08/26	Water	BK	TVH		Mtbe Confirm by 8260		

20-AUG-2004 13:12

Curtis & Tompkins Laboratories

Login Number: 174134

Project: 2331
Site: 3609 Int'l Blvd., Oakland
Account #: SOMA
Logged By: PJP
PO#:
Proj. Mgr: LJB
Rpt Level: II

Report To: SOMA Environmental Engineering Inc.
2680 Bishop Dr.
Suite 203
San Ramon, CA 94583
ATTN: Tony Perini
(925) 244-6600

Bill To: SOMA Environmental Engineering Inc. SOMA
2680 Bishop Dr.
Suite 203
San Ramon, CA 94583
ATTN: Tony Perini
(925) 244-6600

Sample #	Alias	Client ID	Sampled	Ord	Recv	Hold	Due	Matrix	Loc	Analyses	COC Number
174134-007	MW-7		08/19 14:00	08/20	08/20			COMMENTS: Confirm MTBE by 8260			
					08/26	Water		BK TVH/MBTXE		Mtbe Confirm by 8260	
					09/02	08/26	Water	BK MBTXE		Mtbe Confirm by 8260	
					09/02	08/26	Water	BK TVH		Mtbe Confirm by 8260	
174134-008	MW-8		08/20 09:15	08/20	08/20			COMMENTS: Confirm MTBE by 8260			
					08/26	Water		BK TVH/MBTXE		Mtbe Confirm by 8260	
					09/03	08/26	Water	BK MBTXE		Mtbe Confirm by 8260	
					09/03	08/26	Water	BK TVH		Mtbe Confirm by 8260	
174134-009	MW-10		08/19 11:15	08/20	08/20			COMMENTS: Confirm MTBE by 8260			
					08/26	Water		BK TVH/MBTXE		Mtbe Confirm by 8260	
					09/02	08/26	Water	BK MBTXE		Mtbe Confirm by 8260	
					09/02	08/26	Water	BK TVH		Mtbe Confirm by 8260	
174134-010	MW-12		08/19 10:45	08/20	08/20			COMMENTS: Confirm MTBE by 8260			
					08/26	Water		BK TVH/MBTXE		Mtbe Confirm by 8260	
					09/02	08/26	Water	BK MBTXE		Mtbe Confirm by 8260	
					09/02	08/26	Water	BK TVH		Mtbe Confirm by 8260	

20-AUG-2004 13:12

Curtis & Tompkins Laboratories

Login Number: 174134

Project: 2331
 Site: 3609 Int'l Blvd., Oakland
 Account #: SOMA
 Logged By: DJP
 PO#:
 Proj. Mgr: LJB
 Rpt Level: II

Report To: SOMA Environmental Engineering Inc.
 2680 Bishop Dr.
 Suite 203
 San Ramon, CA 94583
 ATTN: Tony Perini
 (925) 244-6600

Bill To: SOMA Environmental Engineering Inc. SOMA
 2680 Bishop Dr.
 Suite 203
 San Ramon, CA 94583
 ATTN: Tony Perini
 (925) 244-6600

Sample #	Alias	Client ID	Sampled	Ord	Recv	Hold	Due	Matrix	Loc	Analytes	COC Number
174134-007	MW-7		08/19 14:00 08/20 08/20	COMMENTS: Confirm MTBE by 8260							
			08/26 Water		BK	TVH/MBTXE				Mtbe Confirm by 8260	
			09/02 08/26 Water		BK	MBTXE				Mtbe Confirm by 8260	
			09/02 08/26 Water		BK	TVH				Mtbe Confirm by 8260	
174134-008	MW-8		08/20 09:15 08/20 08/20	COMMENTS: Confirm MTBE by 8260							
			08/26 Water		BK	TVH/MBTXE				Mtbe Confirm by 8260	
			09/03 08/26 Water		BK	MBTXE				Mtbe Confirm by 8260	
			09/03 08/26 Water		BK	TVH				Mtbe Confirm by 8260	
174134-009	MW-10		08/19 11:15 08/20 08/20	COMMENTS: Confirm MTBE by 8260							
			08/26 Water		BK	TVH/MBTXE				Mtbe Confirm by 8260	
			09/02 08/26 Water		BK	MBTXE				Mtbe Confirm by 8260	
			09/02 08/26 Water		BK	TVH				Mtbe Confirm by 8260	
174134-010	MW-12		08/19 10:45 08/20 08/20	COMMENTS: Confirm MTBE by 8260							
			08/26 Water		BK	TVH/MBTXE				Mtbe Confirm by 8260	
			09/02 08/26 Water		BK	MBTXE				Mtbe Confirm by 8260	
			09/02 08/26 Water		BK	TVH				Mtbe Confirm by 8260	

Curtis & Tompkins Laboratories
DRAFT INVOICE

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

ATTN: Tony Perini

DEPT DESCRIPTION	MATRIX	#	PRICE	PREMIUM	EXTENDED
4525 EDF / GeoTracker EDD	Water	1	\$50.00		\$50.00
4502 TVH/BTXE & MTBE	Water	10	\$65.00		\$650.00

TOTAL:					\$700.00

Project : 2331
Login : 174134
Contact : Tony Perini
Location: 3609 Int'l Blvd., Oakland

Page 1 of 1

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 V
(510) 486-0532 F

FACSIMILE TRANSMISSION
FACSIMILE TRANSMISSION
FACSIMILE TRANSMISSION

TO: Tony Perini
SOMA Environmental Engineering Inc.
San Ramon, CA
jbobek@somaenv.com

FAX #: (925) 244-6601

FROM: Lisa Brooker

SUBJECT: Analytical Results for Login 174134

DATE: _____
PAGE 1 of ____

*** If you would like to receive your reports via email (PDF format), please contact your project manager for details.

This facsimile contains CONFIDENTIAL INFORMATION which may be LEGALLY PRIVILEGED and which is intended only for the use of the addressee(s) named above. If you received this facsimile in error, please notify us immediately by telephone at (510) 486-0900. Thank you.

PURGEABLE ORGANICS
DATA PACKAGE NARRATIVE & REVIEW CHECKLIST

Job No: 174134 Product: NH MSLC Due Date: 8-28

Matrix: Soil Water Misc. TCLP Leachate Wipe Air Other _____

SAMPLE RESULTS

Yes No NA

- 1. All requested samples analyzed
- 2. All samples analyzed within hold
- 3. Units correct for sample matrix
- 4. All matrix interferences documented
- 5. All samples properly preserved -- pH?
- 6. All samples analyzed without headspace
- 7. Data transcribed correctly from raw to forms
- 8. All results within calibration range
- 9. All dilutions in upper half of curve. If no, dilution due to
 - high hydrocarbons *1/20m ccmo 1,3,6*
 - other non-target compounds
 - problem matrix (described in 'Comments')
- 10. All surrogate/ IS recoveries within QC limits
- 11. All positive target hits within RT windows
- 12. All positive target hits confirmed by spectra (GC/MS only)

Peer Reviewed

GL Review

<input checked="" type="checkbox"/>	<input type="checkbox"/>

BATCH QC & CALIBRATION CHECKS

Yes No NA

- 13. Method Blank(s) clean
 - Target compound(s) <1/2 RL
 - Target compound(s) >1/2 RL < RL
 - Target compound(s) > RL
- 14. LCS (BS/BSD) recoveries (RPD) within QC limits
- 15. MS/MSD performed on a sample in this batch? If not,
 - Not enough sample available
 - Matrix/ Site history indicated MS/MSD would be "N"
 - Other (describe) *not applicable*
- 16. MS/MSD recoveries & RPD within QC limits
- 17. LCSS within QC limits
- 18. CCSS within QC limits
- 19. Mr tune criteria met (GC/MS only)

Peer Reviewed

GL Review

<input checked="" type="checkbox"/>	<input type="checkbox"/>

CONTENTS & DOCUMENTATION

Yes No NA

- 20. Correct reporting level (I, III/ IV) assembled
- 21. Corrective Action Report included (if necessary)
- 22. Sample raw data, where required, present
- 23. Sample raw data initialed and dated by analyst
- 24. Internal QA/QC summaries present & complete
- 25. Sample prep information & runlogs present & complete
- 26. Standards documented (including LIMS ID)
- 27. Analyst entries complete, legible, initialed

Peer Reviewed

GL Review

<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comments:

- (1) 174134-006, -007, -008, -012 f⁴ L-works
 (2) 174134-CW f⁴ L- TPTde Lde
 (3) 174134 f⁴ L- TPT de to d
 (4) 174134 CW RA G- TPTde Lde

Selected Edited Printed

Additional comments attached

Analyst: ✓ Date: 8-28 Peer Reviewed by: _____ Date: _____

Group Leader Approved: ✓ Date: 8/24/09

20-AUG-2004

13:12

CURTIS & TOMPKINS, BERKELEY ** ANALYSIS REQUEST

LOGIN: 174134

PRODUCT: TVH

MATRIX: Water

Client: SOMA Environmental Engineer
 Account Code: SOMA
 Site: 3609 Int'l Blvd., Oakland
 Projectnum: 2331
 Contact: Tony Perini

Proj Mgr: LJB
 Logged By: PJP
 Report Dry Wt: N
 Report Level: II
 Order Date: 08/20

*** Confirm MTBE by 8260

Sample	Client ID	Date	SmpId	Hold	Due	Total # Analyses				Cont
						OEXT	VOA	MET	WET	
174134-001	MW-1 ✓	08/20	09:47	09/03	08/26	0	1	0	0	3
174134-002	MW-2 ✗	08/19	13:23	09/02	08/26	0	1	0	0	3
174134-003	MW-3 ✓	08/20	10:30	09/03	08/26	0	1	0	0	3
174134-004	MW-4 ✗	08/19	14:28	09/02	08/26	0	1	0	0	3
174134-005	MW-5 ✗	08/19	11:45	09/02	08/26	0	1	0	0	3
174134-006	MW-6 ✗	08/20	10:58	09/03	08/26	0	1	0	0	3
174134-007	MW-7 ✗	08/19	14:00	09/02	08/26	0	1	0	0	3
174134-008	MW-8 ✗	08/20	09:15	09/03	08/26	0	1	0	0	3
174134-009	MW-10 ✗	08/19	11:15	09/02	08/26	0	1	0	0	3
174134-010	MW-12 ✗	08/19	10:45	09/02	08/26	0	1	0	0	3
						Mtbe Confirm by 8260				

Total count: 10

94583
 CURTIS & TOMPKINS, BERKELEY ** ANALYSIS REQUEST
 SOMA Environmental Engineer
 Tony Perini
 Environmental Engineer
 3609 International Boulevard
 Oakland, CA 94608

Appendix D

Chain of Custody Forms and Laboratory Reports
for the
Groundwater Extraction Treatment System



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

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

Prepared for:

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

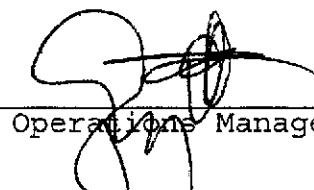
Date: 27-SEP-04
Lab Job Number: 174584
Project ID: 2333
Location: 3609 International Blvd

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

Reviewed by:


Project Manager

Reviewed by:


Operations Manager

This package may be reproduced only in its entirety.

NELAP # 01107CA

Page 1 of 11



Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number: 174584
Client: SOMA Environmental Engineering Inc.
Project: 2333
Location: 3609 International Blvd
Request Date: 09/13/04
Samples Received: 09/13/04

This hardcopy data package contains sample and QC results for three water samples, requested for the above referenced project on 09/13/04. The samples were received on ice and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
No analytical problems were encountered.

CHAIN OF CUSTODY

Page 1 of 1

Curtis & Tompkins, Ltd.

Analytical Laboratory Since 1878

2323 Fifth Street

Berkeley, CA 94710

(510)486-0900 Phone

(510)486-0532 Fax

Project No: 2333

C&T LOGIN # 174584

Sampler: Mehran Nowroozi

Report To: Tony Perini

Project Name:3609 International Blvd., Oakland

Company : SOMA Environmental

Turnaround Time: Standard

Telephone: 925-244-6600

Fax: 925-244-6601

Notes: EDE OUTPUT REQUIRED

Grab Sample

Totalizer Reading:

rec'd ambient, intact

RELINQUISHED BY:

11:35 AM 9/13/04
Heron Newrock DATE/TIME

RECEIVED BY:

J. Larissa Curtis 9-13-04
DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME

卷之三

DATE/TIME

www.ijerpi.org



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	174584	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Batch#:	94542
Units:	ug/L	Sampled:	09/13/04
Diln Fac:	1.000	Received:	09/13/04

Field ID: INFLUENT Lab ID: 174584-001
Type: SAMPLE Analyzed: 09/14/04

Analyte	Result	RL	Analysis
Gasoline C7-C12	1,500	50	EPA 8015B
MTBE	260	2.0	EPA 8021B
Benzene	180	0.50	EPA 8021B
Toluene	23	0.50	EPA 8021B
Ethylbenzene	13	0.50	EPA 8021B
m,p-Xylenes	120	0.50	EPA 8021B
o-Xylene	62	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	132	70-141	EPA 8015B
Bromofluorobenzene (FID)	107	80-143	EPA 8015B
Trifluorotoluene (PID)	108	59-133	EPA 8021B
Bromofluorobenzene (PID)	101	76-128	EPA 8021B

Field ID: GAC-1 Lab ID: 174584-002
Type: SAMPLE Analyzed: 09/13/04

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	96	70-141	EPA 8015B
Bromofluorobenzene (FID)	103	80-143	EPA 8015B
Trifluorotoluene (PID)	91	59-133	EPA 8021B
Bromofluorobenzene (PID)	99	76-128	EPA 8021B

ND= Not Detected

RL= Reporting Limit

Page 1 of 2



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	174584	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Batch#:	94542
Units:	ug/L	Sampled:	09/13/04
Diln Fac.:	1.000	Received:	09/13/04

Field ID: PSP#1 Lab ID: 174584-003
Type: SAMPLE Analyzed: 09/13/04

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

Surrogate	REC	Limits	Analysis
Trifluorotoluene (FID)	97	70-141	EPA 8015B
Bromofluorobenzene (FID)	104	80-143	EPA 8015B
Trifluorotoluene (PID)	85	59-133	EPA 8021B
Bromofluorobenzene (PID)	94	76-128	EPA 8021B

Type: BLANK Analyzed: 09/13/04
Lab ID: QC264415

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

Surrogate	REC	Limits	Analysis
Trifluorotoluene (FID)	90	70-141	EPA 8015B
Bromofluorobenzene (FID)	94	80-143	EPA 8015B
Trifluorotoluene (PID)	87	59-133	EPA 8021B
Bromofluorobenzene (PID)	91	76-128	EPA 8021B

ND= Not Detected

RL= Reporting Limit

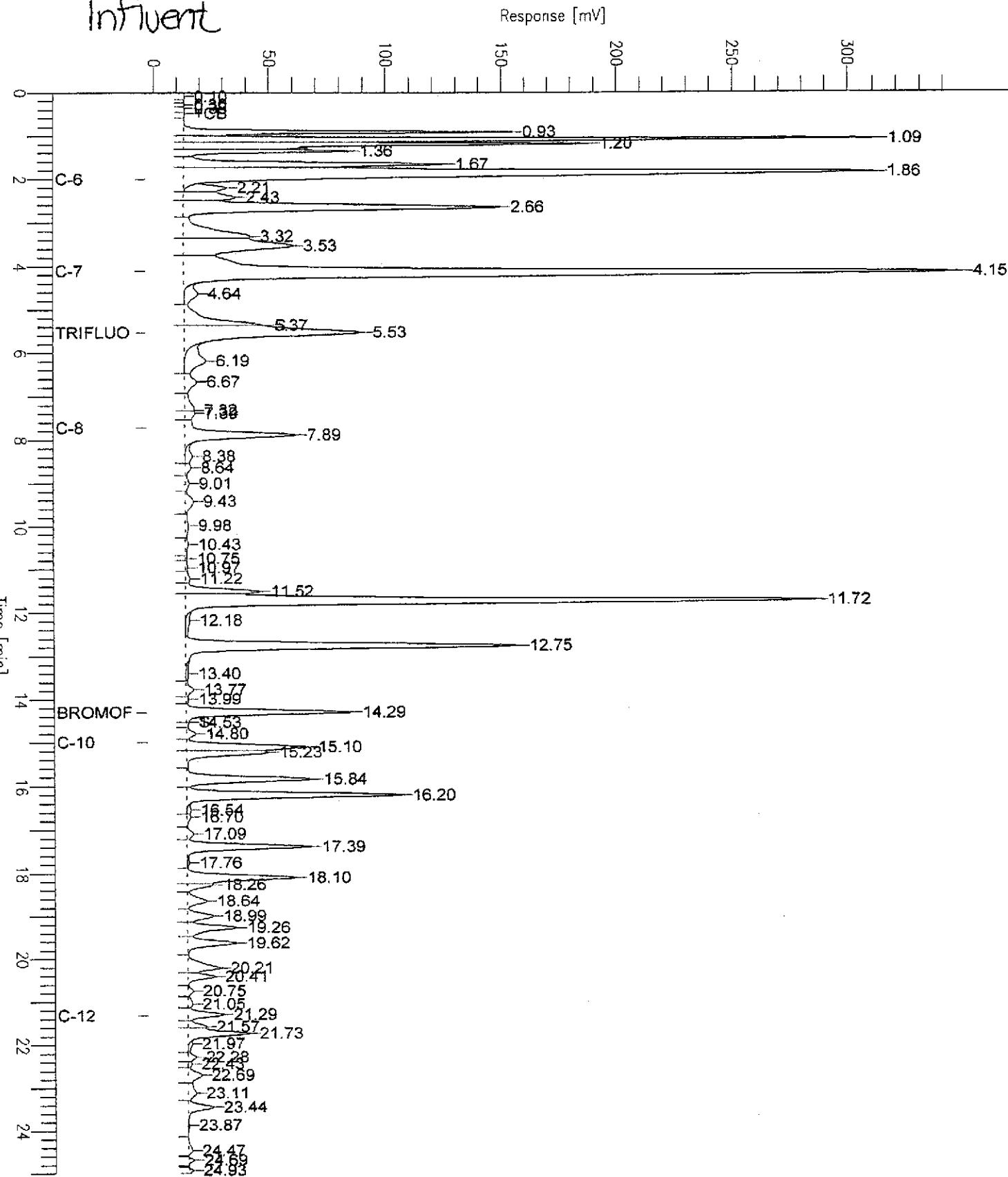
Page 2 of 2

Chromatogram

Sample Name : 174584-001.94542
 File Name : G:\GC05\DATA\257G025.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 25.00 min
 Scale Factor: 1.0 Plot Offset: -3 mV

Sample #: a1.0 Page 1 of 1
 Date : 9/14/04 11:35 AM
 Time of Injection: 9/14/04 12:16 AM
 Low Point : -3.40 mV High Point : 349.10 mV
 Plot Scale: 352.5 mV

Influent



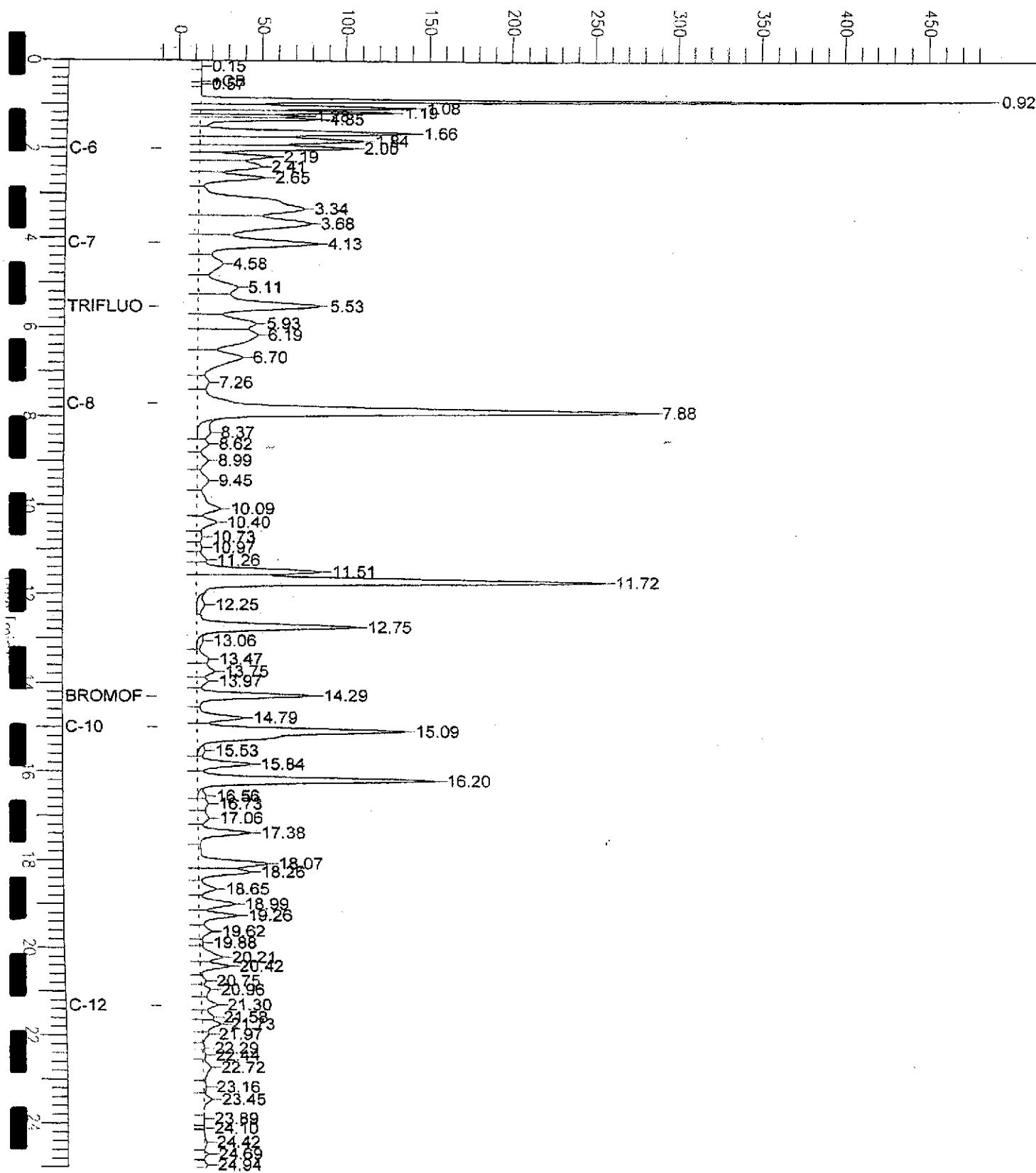
Chromatogram

Sample Name : ccv/lcs qc264417, 94542, 04ws1636, 5/5000
 File Name : g:\gc05\data\257g003.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 25.00 min
 Scale Factor: 1.0 Plot Offset: -10 mV

Sample #: Page 1 of 1
 Date : 9/13/04 01:23 PM
 Time of Injection: 9/13/04 11:11 AM
 Low Point : -10.18 mV High Point : 487.29 mV
 Plot Scale: 497.5 mV

Gasoline

Response [mV]





Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174584	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8021B
Type:	BS	Diln Fac:	1.000
Lab ID:	QC264416	Batch#:	94542
Matrix:	Water	Analyzed:	09/13/04
Units:	ug/L		

Analyte	Spiked	Result	SPEC	Limits
MTBE	20.00	18.48	92	67-124
Benzene	20.00	20.25	101	80-120
Toluene	20.00	18.44	92	80-120
Ethylbenzene	20.00	17.86	89	80-120
m,p-Xylenes	20.00	17.32	87	80-120
o-Xylene	20.00	17.36	87	80-120

Surrogate	SPEC	Limits
Trifluorotoluene (PID)	88	59-133
Bromofluorobenzene (PID)	92	76-128



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174584	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8021B
Type:	BSD	Diln Fac:	1.000
Lab ID:	QC264449	Batch#:	94542
Matrix:	Water	Analyzed:	09/13/04
Units:	ug/L		

Analyte	Applied	Result	SRPC	LSL/USL	RPD	Item
MTBE	20.00	18.57	93	67-124	0	27
Benzene	20.00	19.89	99	80-120	2	20
Toluene	20.00	19.13	96	80-120	4	20
Ethylbenzene	20.00	17.31	87	80-120	3	20
m,p-Xylenes	20.00	18.86	94	80-120	9	20
o-Xylene	20.00	17.99	90	80-120	4	20

Surrogate	SRPC	Limits
Trifluorotoluene (PID)	89	59-133
Bromofluorobenzene (PID)	95	76-128

RPD= Relative Percent Difference

Page 1 of 1

6.0



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174584	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC264417	Batch#:	94542
Matrix:	Water	Analyzed:	09/13/04
Units:	ug/L		

Analyte	Spiked	Result	SREG	Limit
Gasoline C7-C12	2,000	1,949	97	80-120

Surrogate	SREG	Limit
Trifluorotoluene (FID)	128	70-141
Bromofluorobenzene (FID)	109	80-143



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	174584	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8015B
Field ID:	PSP#1	Batch#:	94542
MSS Lab ID:	174584-003	Sampled:	09/13/04
Matrix:	Water	Received:	09/13/04
Units:	ug/L	Analyzed:	09/14/04
Diln Fac:	1.000		

Type: MS Lab ID: QC264447

Analyte	MSS Result	Spiked	Result	GRPC	Limits
Gasoline C7-C12	23.38	2,000	1,988	98	80-120
<hr/>					
Surrogate	GRPC	Limits			
Trifluorotoluene (FID)	136	70-141			
Bromofluorobenzene (FID)	115	80-143			

Type: MSD Lab ID: QC264448

Analyte	Spiked	Result	GRPC	Limits	KPD	Item
Gasoline C7-C12	2,000	2,033	100	80-120	2	20
<hr/>						
Surrogate	GRPC	Limits				
Trifluorotoluene (FID)	134	70-141				
Bromofluorobenzene (FID)	117	80-143				



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

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

Prepared for:

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

Date: 25-AUG-04
Lab Job Number: 173891
Project ID: 2333
Location: 3609 International Blvd

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

Reviewed by: John D. Wohl
Project Manager

Reviewed by: John D. Wohl
Operations Manager

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NELAP # 01107CA

Page 1 of 9

CHAIN OF CUSTODY

Page 1 of 1

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

Project No: 2333

Project Name: 3609 International Blvd., Oakland

Turnaround Time: Standard

C&T LOGIN # 17389

Sampler: Mehran Nowroozi

Report To: Tony Perlini

Company : SOMA Environmental

Fax: 925-244-6601

Notes: EDE OUTPUT REQUIRED

Grab Sample

Totalizer, Beathuy

Child Adolescent Adult
 Rec'd by On file

RELINQUISHED BY-

1:50 PM 8/9/09
Mehran Nowrooz DATE/TIME
Al-Naseefi DATE/TIME

RECEIVED BY:

Tray or 8/19/04 DATE/TIME

DATE/TIME

DATE/TIME



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	173891	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	08/09/04
Units:	ug/L	Received:	08/09/04
Batch#:	93574		

Field ID: INFLUENT Lab ID: 173891-001
Type: SAMPLE

Analyte	Result	RL	Diln Fac	Analyzed	Analysis
Gasoline C7-C12	3,100	50	1.000	08/09/04	EPA 8015B
MTBE	660	2.0	1.000	08/09/04	EPA 8021B
Benzene	530	1.0	2.000	08/10/04	EPA 8021B
Toluene	82	0.50	1.000	08/09/04	EPA 8021B
Ethylbenzene	34	0.50	1.000	08/09/04	EPA 8021B
m,p-Xylenes	340	0.50	1.000	08/09/04	EPA 8021B
c-Xylene	200	0.50	1.000	08/09/04	EPA 8021B

Surrogate	REC	Limits	Diln Fac	Analyzed	Analysis
Trifluorotoluene (FID)	116	70-141	1.000	08/09/04	EPA 8015B
Bromofluorobenzene (FID)	106	80-143	1.000	08/09/04	EPA 8015B
Trifluorotoluene (PID)	123	59-133	1.000	08/09/04	EPA 8021B
Bromofluorobenzene (PID)	110	76-128	1.000	08/09/04	EPA 8021B

Field ID: GAC-1 Diln Fac: 1.000
Type: SAMPLE Analyzed: 08/09/04
Lab ID: 173891-002

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

Surrogate	REC	Limits	Analyzed
Trifluorotoluene (FID)	96	70-141	EPA 8015B
Bromofluorobenzene (FID)	110	80-143	EPA 8015B
Trifluorotoluene (PID)	92	59-133	EPA 8021B
Bromofluorobenzene (PID)	107	76-128	EPA 8021B

ND= Not Detected

RL= Reporting Limit

Page 1 of 2



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	173891	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	08/09/04
Units:	ug/L	Received:	08/09/04
Batch#:	93574		

Field ID: PSP#1 Diln Fac: 1.000
Type: SAMPLE Analyzed: 08/10/04
Lab ID: 173891-003

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

Surrogate	REC	Limits	Analysis
Trifluorotoluene (FID)	89	70-141	EPA 8015B
Bromofluorobenzene (FID)	103	80-143	EPA 8015B
Trifluorotoluene (PID)	83	59-133	EPA 8021B
Bromofluorobenzene (PID)	96	76-128	EPA 8021B

Type: BLANK Diln Fac: 1.000
Lab ID: QC260508 Analyzed: 08/09/04

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

Surrogate	REC	Limits	Analysis
Trifluorotoluene (FID)	91	70-141	EPA 8015B
Bromofluorobenzene (FID)	100	80-143	EPA 8015B
Trifluorotoluene (PID)	89	59-133	EPA 8021B
Bromofluorobenzene (PID)	99	76-128	EPA 8021B

ND= Not Detected

RL= Reporting Limit

Page 2 of 2



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	173891	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC260509	Batch#:	93574
Matrix:	Water	Analyzed:	08/09/04
Units:	ug/L		

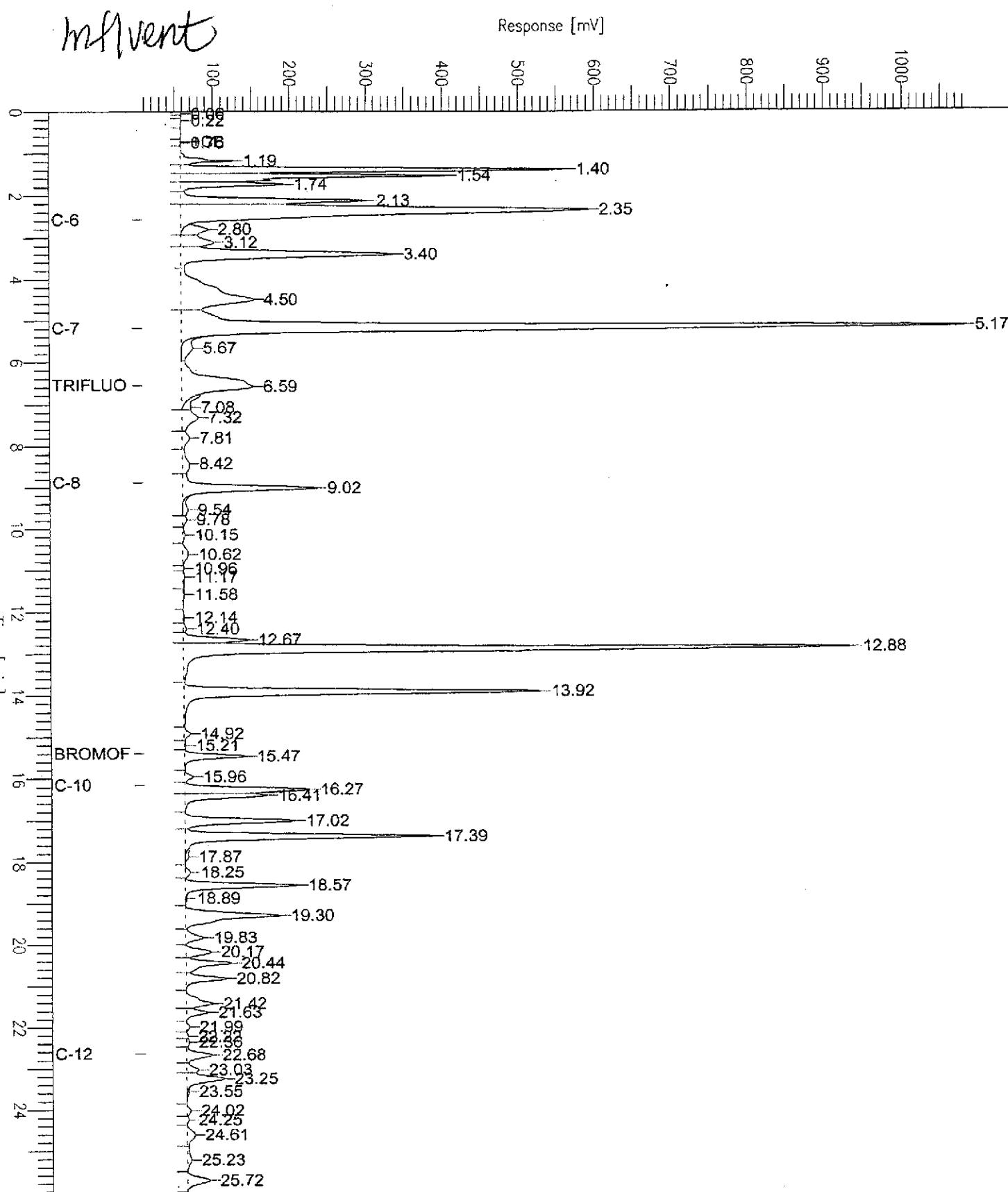
Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	17.88	89	67-124
Benzene	20.00	18.05	90	80-120
Toluene	20.00	19.22	96	80-120
Ethylbenzene	20.00	18.93	95	80-120
m,p-Xylenes	20.00	19.21	96	80-120
o-Xylene	20.00	19.32	97	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	84	59-133
Bromofluorobenzene (PID)	92	76-128

GC04 TVH 'J' Data File FID

Sample Name : 173891-001, 93574
 FileName : G:\GC04\DATA\222j007.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 8 mV

Sample #: a1.0 Page 1 of 1
 Date : 8/10/04 10:46 AM
 Time of Injection: 8/9/04 04:53 PM
 Low Point : 7.55 mV High Point : 1082.53 mV
 Plot Scale: 1075.0 mV

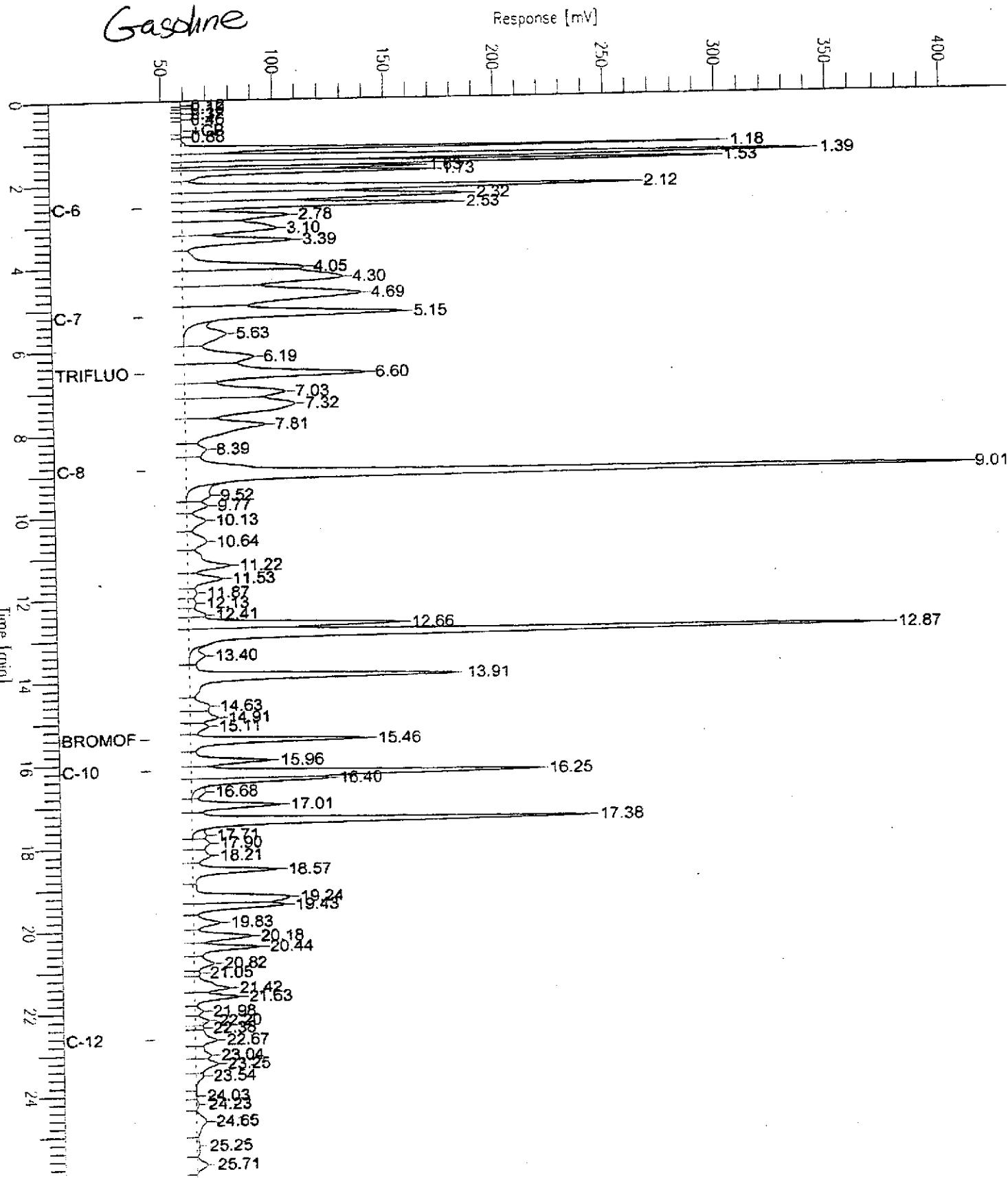


GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs,qc260510,93574,04ws1386,5/5000
 fileName : G:\GC04\DATA\222J002.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 42 mV

Sample #: Page 1 of 1
 Date : 8/9/04 10:45 AM
 Time of Injection: 8/9/04 10:19 AM
 Low Point : 41.74 mV High Point : 408.62 mV
 Plot Scale: 366.9 mV

Gasoline





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Batch QC Report

Total Volatile Hydrocarbons

Lab #:	173891	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC260510	Batch#:	93574
Matrix:	Water	Analyzed:	08/09/04
Units:	ug/L		

Analyte	Spiked	Result	SRM	Limits
Gasoline C7-C12	2,000	2,278	114	80-120

Surrogate	SRM	Limits
Trifluorotoluene (FID)	139	70-141
Bromofluorobenzene (FID)	109	80-143



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	173891	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	93574
MSS Lab ID:	173892-001	Sampled:	08/09/04
Matrix:	Water	Received:	08/09/04
Units:	ug/L	Analyzed:	08/09/04
Diln Fac:	1.000		

Type: MS Lab ID: QC260615

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	17.92	2,000	2,189	109	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	136	70-141
Bromofluorobenzene (FID)	117	80-143

Type: MSD Lab ID: QC260616

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,115	105	80-120	3	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	136	70-141
Bromofluorobenzene (FID)	116	80-143

RPD= Relative Percent Difference

Page 1 of 1

5.0



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

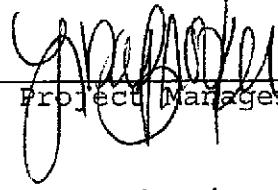
Prepared for:

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

Date: 27-JUL-04
Lab Job Number: 173376
Project ID: 2333
Location: 3609 International Blvd

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

Reviewed by:


Project Manager

Reviewed by:


Operations Manager

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NELAP # 01107CA

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Page 1 of 1

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

Project No: 2333

Project Name:3609 International Blvd., Oakland **Company :** SOMA Environmental

Turnaround Time: Standard **Telephone:** 925-244-6600

Fax: 925-244-6601

Fax: 925-244-6601

Fax: 925-244-6601

Fax: 925-244-6601

Fax: 925-244-6601

Notes: EDF OUTPUT REQUIRED

Received cold & moist

RELINQUISHED BY:

2:35 P.M. 7/13/04
Mehran Nowroozi DATE/TIME
The Weatherman DATE/TIME

RECEIVED BY:

Troy Bahr 7-13-04
3 DATE/TIME

DATE/TIME _____
DATE/TIME _____



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	173376	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA-5030B
Project#:	2333		
Matrix:	Water	Sampled:	07/13/04
Units:	ug/L	Received:	07/13/04
Batch#:	92776	Analyzed:	07/13/04

Field ID: INFLUENT Lab ID: 173376-001
Type: SAMPLE Diln Fac: 5.000

Analyte	Result	RL	Analysis
Gasoline C7-C12	6,700	250	EPA 8015B
MTBE	1,200	10	EPA 8021B
Benzene	410	2.5	EPA 8021B
Toluene	300	2.5	EPA 8021B
Ethylbenzene	160	2.5	EPA 8021B
m,p-Xylenes	830	2.5	EPA 8021B
o-Xylene	440	2.5	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	124	74-142	EPA 8015B
Bromofluorobenzene (FID)	102	80-139	EPA 8015B
Trifluorotoluene (PID)	113	55-139	EPA 8021B
Bromofluorobenzene (PID)	108	62-134	EPA 8021B

Field ID: GAC-1 Lab ID: 173376-002
Type: SAMPLE Diln Fac: 1.000

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	92	74-142	EPA 8015B
Bromofluorobenzene (FID)	101	80-139	EPA 8015B
Trifluorotoluene (PID)	93	55-139	EPA 8021B
Bromofluorobenzene (PID)	103	62-134	EPA 8021B

ND= Not Detected

RL= Reporting Limit

Page 1 of 2



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	173376	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	07/13/04
Units:	ug/L	Received:	07/13/04
Batch#:	92776	Analyzed:	07/13/04

Field ID: PSP#1 Lab ID: 173376-003
Type: SAMPLE Diln Fac: 1.000

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

Surrogate	REC	limits	Analysis
Trifluorotoluene (FID)	93	74-142	EPA 8015B
Bromofluorobenzene (FID)	102	80-139	EPA 8015B
Trifluorotoluene (PID)	94	55-139	EPA 8021B
Bromofluorobenzene (PID)	102	62-134	EPA 8021B

Type: BLANK Diln Fac: 1.000
Lab ID: QC257452

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

Surrogate	REC	limits	Analysis
Trifluorotoluene (FID)	92	74-142	EPA 8015B
Bromofluorobenzene (FID)	99	80-139	EPA 8015B
Trifluorotoluene (PID)	93	55-139	EPA 8021B
Bromofluorobenzene (PID)	99	62-134	EPA 8021B

ND= Not Detected

RL= Reporting Limit

Page 2 of 2

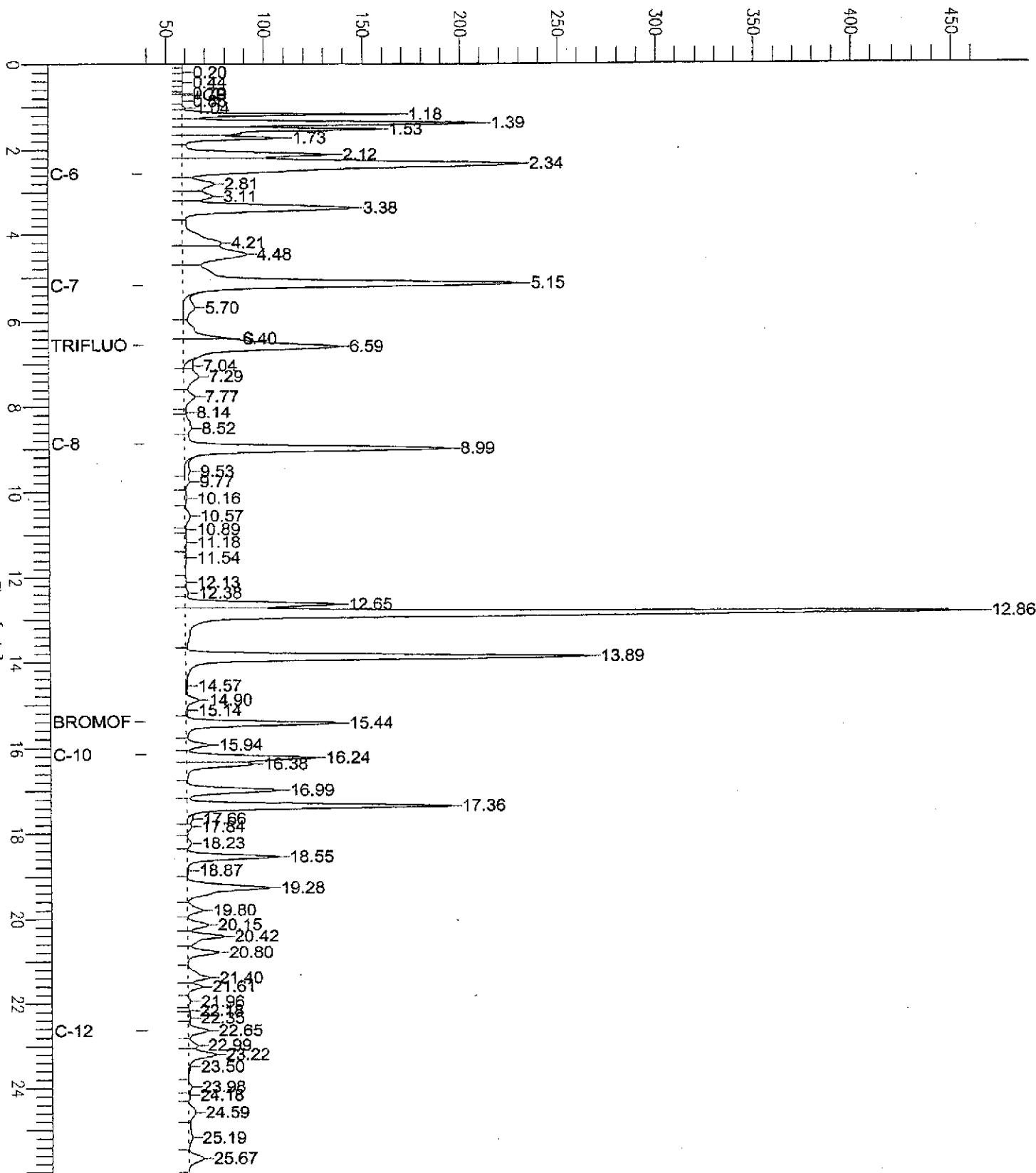
GC04 TVH 'J' Data File FID

Sample Name : 173376-001,92776
 File Name : G:\GC04\DATA\195J009.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 38 mV

Sample #: a1.0 Page 1 of 1
 Date : 7/14/04 11:18 AM
 Time of Injection: 7/13/04 07:29 PM
 Low Point : 38.23 mV High Point : 464.33 mV
 Plot Scale: 426.1 mV

Influent

Response [mV]



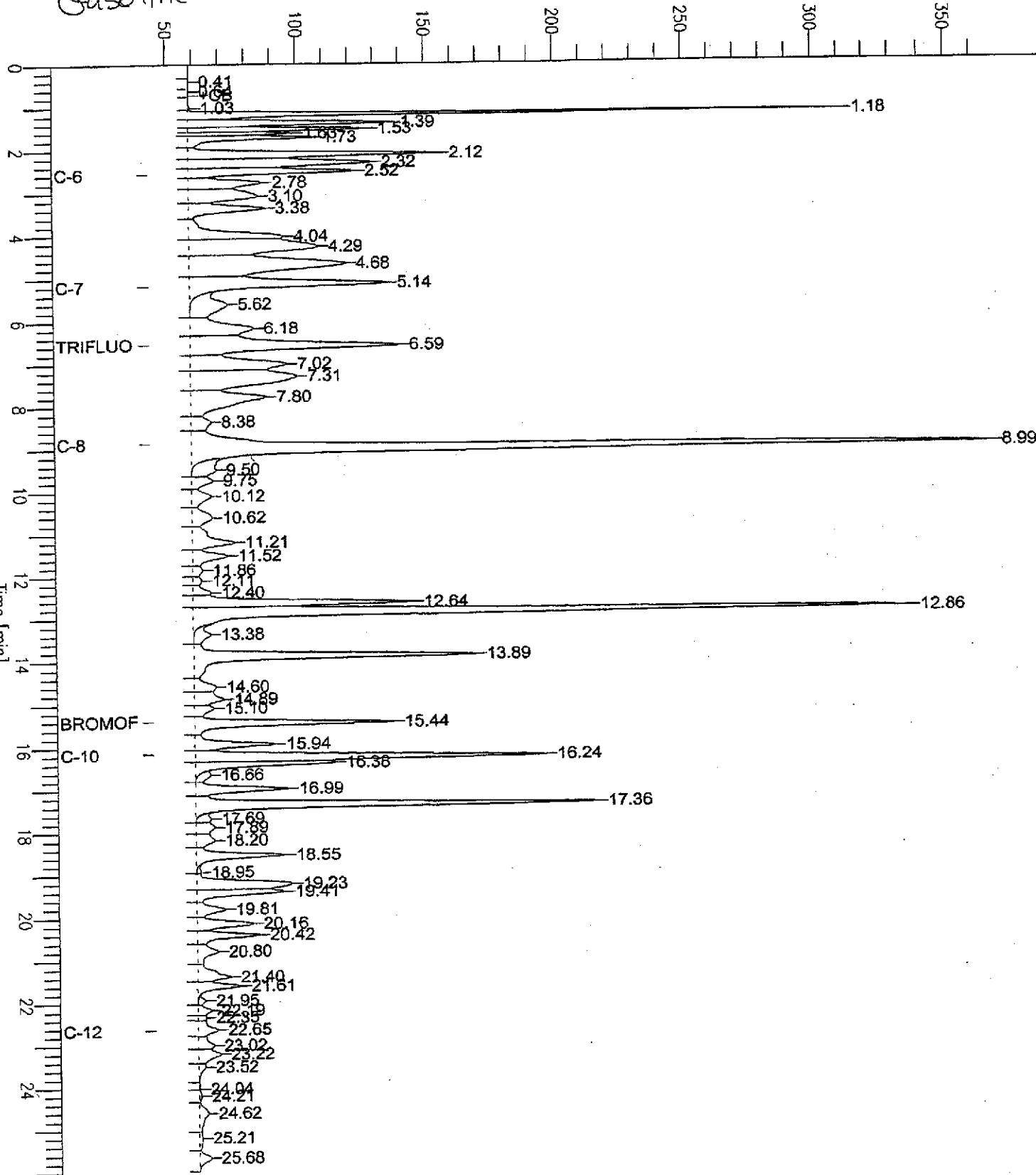
GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs,gc257454,92776,04ws1079,5/5000
 fileName : G:\GC04\DATA\195J002.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 43 mV

Sample #: Page 1 of 1
 Date : 7/13/04 03:45 PM
 Time of Injection: 7/13/04 03:19 PM
 Low Point : 43.27 mV High Point : 367.50 mV
 Plot Scale: 324.2 mV

Gasoline

Response [mV]





Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	173376	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC257453	Batch#:	92776
Matrix:	Water	Analyzed:	07/13/04
Units:	ug/L		

Analyte	Spiked	Result	REC	Limits
MTBE	20.00	20.26	101	59-131
Benzene	20.00	17.70	89	80-120
Toluene	20.00	18.98	95	80-120
Ethylbenzene	20.00	20.46	102	80-120
m,p-Xylenes	20.00	20.44	102	80-120
o-Xylene	20.00	20.22	101	80-120

Surrogate	REC	REMBDS
Trifluorotoluene (PID)	88	55-139
Bromofluorobenzene (PID)	95	62-134



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	173376	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	92776
MSS Lab ID:	173379-002	Sampled:	07/13/04
Matrix:	Water	Received:	07/13/04
Units:	ug/L	Analyzed:	07/14/04
Diln Fac:	1.000		

Type: MS Lab ID: QC257455

Analyte	MSS Result	Spiked	Result	%REC	Units	RPD	Lim
Gasoline C7-C12	22.60	2,000	2,094	104	80-120		

Surrogate	%REC	Units
Trifluorotoluene (FID)	127	74-142
Bromofluorobenzene (FID)	109	80-139

Type: MSD Lab ID: QC257456

Analyte	Spiked	Result	%REC	Units	RPD	Lim
Gasoline C7-C12	2,000	2,052	101	80-120	2	20

Surrogate	%REC	Units
Trifluorotoluene (FID)	127	74-142
Bromofluorobenzene (FID)	110	80-139



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

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

Prepared for:

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

Date: 25-JUN-04
Lab Job Number: 172836
Project ID: 2333
Location: 3609 International Blvd

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

Reviewed by: Tracy Baca for LO
Project Manager

Reviewed by: Mark Morrison
Operations Manager

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

Project No: 2333

Project Name:3609 International Blvd., Oakland

C&T LOGIN #: 172836

Sampler: Melvin Newell

Report To: Tony Perini

Project Name: 3609 International Blvd., Oakland Company : SOMA Environmental

Turnaround Time: Standard **Telephone:** 925-244-6600

Telephone. 323-244-0000

Fax: 925-244-6601

Notes: EDE OUTPUT REQUIRED

Grab Sample

Totalizer Reading:

Reading:	<input checked="" type="checkbox"/> Received	<input checked="" type="checkbox"/> On Ice
<input checked="" type="checkbox"/> Cold	<input type="checkbox"/> Ambient	<input checked="" type="checkbox"/> Intact

RELINQUISHED BY:

3:00 Pm
Nehran Nowroz

H. Newell

RECEIVED BY:

Diannia Curtis

1000-10000 m.s⁻¹

Digitized by srujanika@gmail.com

1. *What is the relationship between the two concepts?*

DATE/TIME

10 of 10

DATE/TIME



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	172836	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	06/14/04
Units:	ug/L	Received:	06/14/04
Batch#:	91936	Analyzed:	06/14/04

Field ID: INFLUENT Lab ID: 172836-001
Type: SAMPLE Diln Fac: 5.000

Analyte	Result	RL	Analysis
Gasoline C7-C12	8,800	250	EPA 8015B
MTBE	1,100	10	EPA 8021B
Benzene	690	2.5	EPA 8021B
Toluene	360	2.5	EPA 8021B
Ethylbenzene	310	2.5	EPA 8021B
m,p-Xylenes	1,000	2.5	EPA 8021B
o-Xylene	490	2.5	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	120	74-142	EPA 8015B
Bromofluorobenzene (FID)	109	80-139	EPA 8015B
Trifluorotoluene (PID)	120	55-139	EPA 8021B
Bromofluorobenzene (PID)	118	62-134	EPA 8021B

Field ID: GAC-1 Lab ID: 172836-002
Type: SAMPLE Diln Fac: 1.000

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	99	74-142	EPA 8015B
Bromofluorobenzene (FID)	108	80-139	EPA 8015B
Trifluorotoluene (PID)	106	55-139	EPA 8021B
Bromofluorobenzene (PID)	117	62-134	EPA 8021B

ND= Not Detected

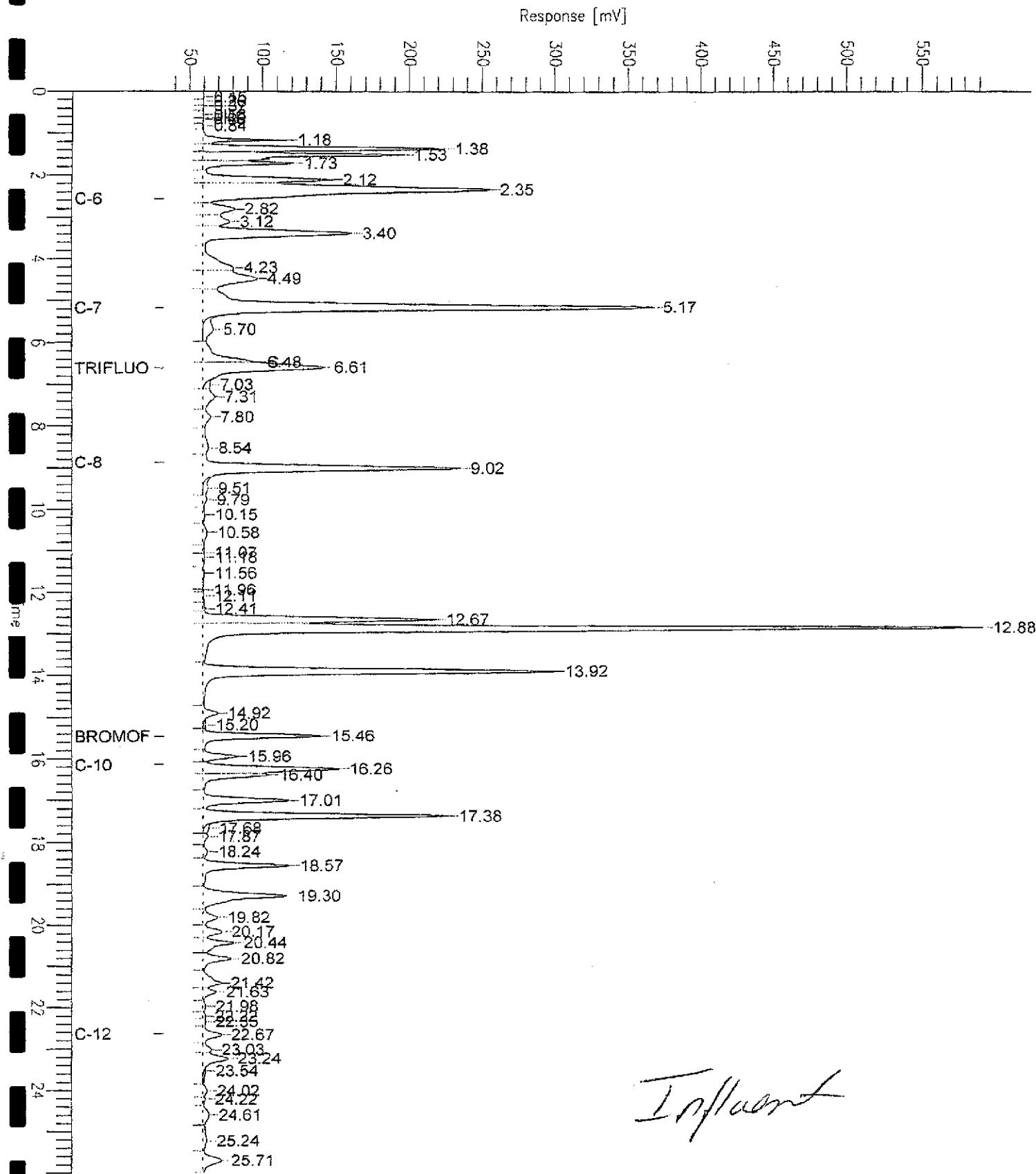
RL= Reporting Limit

Page 1 of 2

GC04 TVH 'J' Data File FID

Sample Name : 172836-001,91936
 File Name : G:\GC04\DATA\166J010.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 33 mV

Sample #: a1.0 Page 1 of 1
 Date : 6/15/04 08:51 AM
 Time of Injection: 6/14/04 07:21 PM
 Low Point : 32.84 mV High Point : 591.49 mV
 Plot Scale: 558.7 mV

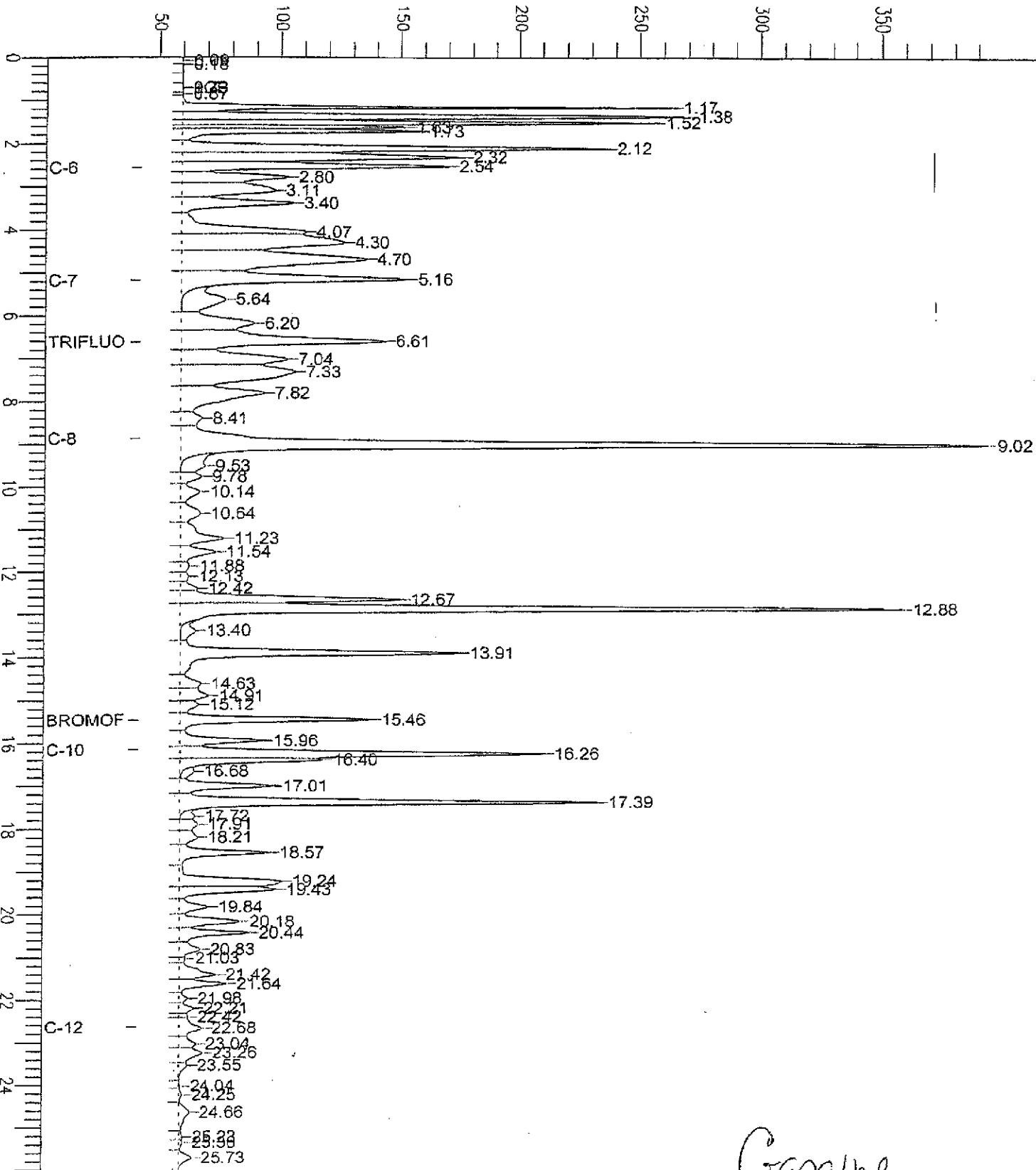


GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs qc254116, 91936, 04ws10²⁶, 5/5000
 fileName : G:\GC04\DATA\166J002.raw
 Method : TVHETXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor: 1.0 Plot Offset: 43 mV

Sample #: Page 1 of 1
 Date : 6/14/04 12:42 PM
 Time of Injection: 6/14/04 12:16 PM
 Low Point : 42.77 mV High Point : 393.14 mV
 Plot Scale: 350.4 mV

Response [mV]



Gasoline



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	172836	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	06/14/04
Units:	ug/L	Received:	06/14/04
Batch#:	91936	Analyzed:	06/14/04

Field ID: PSP#1 Lab ID: 172836-003
Type: SAMPLE Diln Fac: 1.000

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	102	74-142	EPA 8015B
Bromofluorobenzene (FID)	111	80-139	EPA 8015B
Trifluorotoluene (PID)	106	55-139	EPA 8021B
Bromofluorobenzene (PID)	118	62-134	EPA 8021B

Type: BLANK Diln Fac: 1.000
Lab ID: OC254114

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	101	74-142	EPA 8015B
Bromofluorobenzene (FID)	108	80-139	EPA 8015B
Trifluorotoluene (PID)	107	55-139	EPA 8021B
Bromofluorobenzene (PID)	115	62-134	EPA 8021B

ND= Not Detected

RL= Reporting Limit

Page 2 of 2



Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	172836	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC254116	Batch#:	91936
Matrix:	Water	Analyzed:	06/14/04
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,159	108	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	141	74-142
Bromofluorobenzene (FID)	109	80-139



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Batch QC Report

Total Volatile Hydrocarbons

Lab #:	172836	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	91936
MSS Lab ID:	172837-001	Sampled:	06/14/04
Matrix:	Water	Received:	06/14/04
Units:	ug/L	Analyzed:	06/16/04
Diln Fac:	1.000		

Type: MS Lab ID: QC254175

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	21.62	2,000	1,908	94	80-120
<hr/>					
Surrogate					
Trifluorotoluene (FID)	104	74-142			
Bromofluorobenzene (FID)	96	80-139			

Type: MSD Lab ID: QC254176

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,904	94	80-120	0	20
<hr/>						
Surrogate						
Trifluorotoluene (FID)	103	74-142				
Bromofluorobenzene (FID)	96	80-139				

RPD= Relative Percent Difference

Page 1 of 1