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

RO 265

December 5, 2003

Alameda County

DEC 0 9 2003

Environmento de la lace

Ms. Trish Maguire
East Bay Municipal Utility District
EDMUD – Mail Slot #702
P. O. Box 24055
Oakland, CA 94623-1055

Re: 3609 International Boulevard, Oakland, California 94601 Wastewater Discharge Permit No. 504-27421

Dear Ms. Maguire:

As you requested, enclosed is SOMA's "Semi-Annual Technical Report: Treatment System Discharge to EBMUD Sewer from May 2003 to November 2003" for the subject site.

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 Mr. Amir Gholami w/enclosure Alameda County Dept. of Env. Health No. CO42928
EXP. 3.31-OY
EXP. CIVIL OF CALIFORNIA

Alameda County

DEC 0 9 2003

TABLE OF CONTENTS

Environmental Health

TAE	BLE OF CONTENTS	ا
CEF	RTIFICATION	l
LIS	T OF FIGURES	111
LIS	T OF APPENDICES	[]
1.0	INTRODUCTION	1
	Background	
1.2	Site Conditions	3
2.0	TREATMENT SYSTEM OPERATION	4
3.0	CONCLUSIONS AND RECOMMENDATIONS	6
4.0	REPORT LIMITATIONS	8
5.0	REFERENCES	C

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 East Bay Municipal Utility District's requirements for the discharge of extracted and treated groundwater resulting from the cleanup of groundwater polluted by fuel leaks and other related wastes.

Mansour Sepehr, ₱h.D., P.E.

Principal Hydrogeologist



Certification Statement

Chief Executive Officer		
Abolghassem Razi Name	Owner Title	·
3609 International Boulevard Street Address	<u>Oakland</u> City	<u>94601</u> Zip
I certify under penalty of law that this prepared under my direction or superdesigned to assure that the qualified perseinformation submitted. Based on my incommanage the system, or those persons information, the information submitted is, thrue, accurate, and complete. I am aware submitting false information, including the knowing violations.	vision in acco onnel properly quiry of the p s directly res to the best of n that there are	ordance with a system gather and evaluate the person or persons who sponsible for gathering by knowledge and belief, a significant penalties for
Signature		
/2/2/03 Date		

List of Tables

Table 1: Total Volume of Water Treated, Historical Operational Data, and

Effluent and GAC-1 Analytical Results

List of Figures

Figure 1: Site vicinity map.

Figure 2: Site map showing location of groundwater monitoring wells and french

drain.

Figure 3: Schematic of the Groundwater Remediation System.

Figure 4: Cumulative mass of TPH-g and MtBE removed from groundwater since

installation of the treatment system.

List of Appendices

Appendix A: EBMUD Discharge Permit

Appendix B: Laboratory Results and Chain of Custody Forms for the treatment

system

1.0 INTRODUCTION

The purpose of this report is to present a record of the wastewater discharged from the remediation system, operated by SOMA Environmental Engineering, Inc. (SOMA), into the East Bay Municipal Utility District's (EBMUD's) sewer system from May 2003 to November 2003. This report is being submitted on behalf of Mr. Abolghassem Razi, the property owner. The project site is Tony's Express Auto Service, which is located at 3609 International Boulevard, Oakland, California (the "Site", see Figure 1).

The Site is located at the intersection of 36th Avenue and International Boulevard (formerly known as East 14th Street) in Oakland, California (see Figure 1). It is currently used as a gasoline service station and mechanic shop. The Site is relatively flat, and the surrounding properties are primarily commercial businesses and residential housing.

Figure 2 illustrates the location of the service station, dispenser islands, underground storage tanks (USTs), groundwater remediation system, on and offsite groundwater monitoring wells, and surrounding areas. Currently, the groundwater monitoring wells are being monitored on a quarterly basis.

1.1 Background

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

In July 1993, STE removed one single-walled 10,000-gallon gasoline tank and one single-walled 6,000-gallon gasoline tank along with a 550-gallon waste oil tank from the Site. Three double-walled USTs replaced these tanks. As stated earlier, currently, there is one 10,000 gallon double-walled gasoline tank and two 6,000-gallon double-walled gasoline tanks beneath the Site (Figure 2).

In December 1997, Mr. Razi retained Western Geo-Engineers (WEGE) to conduct an additional investigation and perform groundwater monitoring on a quarterly basis. The results of WEGE's groundwater monitoring events indicated that there were elevated levels of petroleum hydrocarbons and Methyl tertiary Butyl Ether (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) and soil and groundwater remediation at the Site. The results of the RBCA study indicated that the Site is a high-risk area, therefore, the soil and groundwater in the on-and off-site areas needs to be remediated. The results of the CAP study indicated that the installation of a French drain coupled with the vapor extraction technique was the most cost effective alternative for the Site's remediation.

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

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

On October 22, 2003, SOMA met with EBMUD representative, Timothy Quane, to determine the efficiency of the remediation system and to collect groundwater samples from the system. Based on the analytical results from the groundwater samples, EBMUD determined the system was in compliance with the discharge permit requirements.

1.2 Site Conditions

The source of the petroleum hydrocarbons in the groundwater is believed to have originated from the former single-walled USTs, which were used to store gasoline at the Site. The former single-walled USTs were replaced with a 10,000-gallon double-walled UST and two 6,000-gallon double-walled USTs.

Monitoring wells MW-1 and MW-3 are located in the vicinity of the USTs. The results of the recent (Fourth Quarter 2003) groundwater monitoring event, conducted on October 22, 2003 are as follows:

- The highest total petroleum hydrocarbons as gasoline (TPH-g) concentration in the groundwater was detected in the vicinity of monitoring well MW-1 at 630,000 μg/L. However, the sample collected from this well may have been misrepresentative due to heavier hydrocarbons contributing to this quantification. The previous TPH-g concentration in well MW-1 was 36,000 μg/L.
- The highest benzene concentration was detected in MW-3 at 4,400 μg/L.
 The next highest benzene concentration was detected in well MW-1 at 3,300 μg/L.
- The highest MtBE concentration, when using EPA Method 8260B, was detected in MW-1 at 15,000 μg/L. The next highest MtBE concentration was detected in well MW-3 at 7,400 μg/L.

Based on the results from the previous monitoring event (Third Quarter 2003) the following concentration trends were observed.

- In well MW-1, TPH-g has shown a decreasing trend since the First Quarter 2003, with the exception of the Fourth Quarter 2003 monitoring event. Benzene and MtBE decreased since the Second Quarter 2003.
- In well MW-3, TPH-g, benzene, and MtBE have all decreased since the Second Quarter 2003.

Further detailed information on the groundwater concentrations encountered throughout the Site is presented in SOMA's "Fourth Quarter 2003 Groundwater Monitoring and Remediation System Operation Report", dated November 11, 2003.

2.0 TREATMENT SYSTEM OPERATION

The operation of the treatment system began on December 6, 1999. Since then, (recording date is November 3, 2003), approximately 2,079,460 gallons of groundwater has been treated and discharged into EBMUD's sewer system, under the wastewater discharge permit.

Appendix A includes the EBMUD Wastewater Discharge Permit; permit number 50427421.

As required by the discharge permit and the Alameda County Environmental Health Services (ACEHS), inspection and sampling of the treatment system has been performed on a routine basis since the system's initial start-up. The samples have been collected from the 550 gallon holding tank (influent), the effluent from the 2,000 pound Granular Activated Carbon (GAC-1) Unit, and the

treatment system effluent (PSP#1). The sample locations can be seen in the schematic diagram of the treatment system, which is shown in Figure 3.

SOMA modified the treatment system during the Fourth Quarter 2002 to prevent PVC piping connection leaks. Scale deposits had built up inside the PVC piping during the operation of the treatment system. The entire effluent line from GAC-1 to the effluent sample port was removed and a new line was installed. A 1-inch ball valve was installed up-gradient of the 55-gallon GAC vessel. This valve was installed to shut-off flow to the 55-gallon carbon vessel during carbon change-outs.

Table 1 shows the total volume of effluent discharged into EBMUD's sewer system. Also included in Table 1 are the laboratory analytical results of the treatment system samples collected from the effluent and the 2,000-pound GAC-1 unit, as well as, pertinent historical maintenance data.

As shown in Table 1, all treatment system effluent samples have maintained in compliance with the discharge permit requirements. In October 2002, 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. This caused a high dilution factor to be used to compensate for the variation in 2-Butanone. Since December 1999, 2-Butanone has not been detected in any of the effluent samples. In the October 2002 sampling event the influent concentration was very low. Therefore, the sample results shown for October 2002 are erroneous and are shown only to depict that sampling was conducted. Also, based on the laboratory data the sample analysis for TPH-g did not resemble a standard fuel pattern. However, the system was turned off upon detection of the TPH-g concentration and a carbon change-out was performed. During this carbon change-out both the carbon in the 2,000-

pound carbon vessel and the carbon in the 55-gallon vessel (GAC-2) were removed and replaced.

Appendix B includes the laboratory reports for the treatment system from May 2003 to November 2003.

The treatment system has removed approximately 137 pounds of hydrocarbons and 76 pounds of MtBE, since the initial start-up in December 1999. Since the previous semi-annual report, approximately 161,190 gallons of chemically impacted groundwater have been treated by the groundwater remediation system (from May 2003 to November 2003).

Figure 4 displays the cumulative mass of both TPH-g and MtBE extracted from the groundwater at the Site since December 1999.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on historical treatment system analytical data and the number of carbon change-out cycles since the initial start-up in December 1999, SOMA recommends that the 55-gallon carbon vessel be replaced every 18 weeks at a minimum. SOMA further recommends that the treatment system monitoring be performed at a minimum of every 3-4 weeks and that the maintenance continues on a weekly basis.

 As of November 3, 2003, approximately 2,079,460 gallons of chemically impacted groundwater has been treated since the treatment system's initial start-up in December 1999.

- The treatment system has removed approximately 137 pounds of hydrocarbons and 76 pounds of MtBE from the Site since the initial startup in December 1999.
- SOMA has installed an additional on-site extraction pump. The pump was installed in the western French drain riser. The installation of this pump has created a better capture zone in the vicinity of the USTs.
- Monitoring wells MW-1 and MW-3, are in the vicinity of the UST cavity.
 The following concentration trends were observed, based on the analytical results from the previous monitoring event (Third Quarter 2003):
 - TPH-g in well MW-1 has shown a decreasing trend since the First Quarter 2003 with the exception of the Fourth Quarter 2003 monitoring event. However, the presence of heavier hydrocarbons may have impacted the final analytical result.
 - 2. Benzene and MtBE decreased in well MW-1.
 - 3. TPH-g, benzene, and MtBE have all decreased in well MW-3.
- Future remediation system modifications will include replacing the present pneumatic system with an electric system. This will include removing the air compressor from the present system and installing electric downhole pumps in the French drain. The change to the electrical driven system should reduce the noise level of the treatment system.

4.0 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, Ltd., as well as the data summaries produced by the 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 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.

5.0 REFERENCES

Soil Tech Engineering, Quarterly Groundwater Monitoring Reports, from 1995 to July 1997.

Western Geo-Engineers, Quarterly Groundwater Monitoring and Sampling Reports from Fourth Quarter 1997 to First Quarter of 1999.

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SOMA Environmental Engineering, Inc., April 8, 2002. "First Quarter 2002 Groundwater Monitoring Report Tony's Express Auto Service Oakland, California".

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SOMA Environmental Engineering, Inc., February 12, 2003. "First Quarter 2003 Groundwater Monitoring Report Tony's Express Auto Service Oakland, California".

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SOMA Environmental Engineering, Inc., August 5, 2003. "Third Quarter 2003 Groundwater Monitoring Report Tony's Express Auto Service Oakland, California".

SOMA Environmental Engineering, Inc., November 11, 2003. "Fourth Quarter 2003 Groundwater Monitoring Report Tony's Express Auto Service Oakland, California".

TABLE

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

		Meter	Lab Result	ts For Efflue	ent ¹ and GA	C-1		
		Reading		tions in ug/				
Month	Date	(gallons)	MtBE ²	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
		Mer of Jerr	Section Section	2003	St. of State .	And Andrews		
November	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
					<u> </u>			
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
	10/1/2003	2,072,610	Carbon	L Change-ou	t of 2000 lb	vessel and	1 55 gallon polis	hing vessel
September		2,056,910	<5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			6	< 50	< 5.0	< 5.0	< 5.0	< 5.0
		<u> </u>	ļ. <u> </u>			<u> </u>		
	9/2/2003	2,040,040	<5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			<5.0	< 50	< 5. <u>0</u>	< 5.0	< 5.0	< 5.0
August	8/19/2003	2,021,040	<5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
	0.70,200	-,,	<5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
				·				
July	7/21/2003	1,995,240	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			40	< 50	< 5.0	< 5.0	< 5.0	< 5.0
	7/0/0003	4 000 000	-50	- 50	1.50		- E O	-50
	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
	ecienta do la		,					
June	6/18/2003	1,978,560					55 gallon polis	
	6/10/2003	1,972,780	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
								ļ
May	5/21/2003	1,951,830	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
	5/1/2003	1,918,270	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
	5 2000	1,010,270	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
April	4/11/2003	1,882,440	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0
			< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0

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

		Meter	Lab Result	s For Efflue	nt ¹ and GA	C-1		
		Reading		tions in ug/L)			
Month	Date	(gallons)	MtBE 2	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
	A	kus sus s				Control of		42454
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	replace	d 55-gallon i	oolishing ve	ssel with ne	ew 55 gallon ca	arbon 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 < 5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 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
			(X) 在 (A) 表演》	10 A-10	全国的现象	The Post of	i diseberati	$g(T_{r}) \sim g(T_{r})$
December	12/10/2002	1,672,870	< 5.0 < 5.0	< 50 < 50	< 5.0 < 5.0	< 5.0 < 5.0	< 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 o	asket on to	p of 2000 II	GAC vess	el, slight leak	was detected
	11/7/2002	1,663,880	Carbon	L Change-out	of 2000 lb v	vessel and I	I 55 gallon polis I	hing vessel
October	10/16/02 ³	1,661,590	< 310 < 0.5	2,000 Y Z < 50	< 310 < 0.5	< 310 < 0.5	< 310 < 0.5	< 310 < 0.5
25/2/2018) Natural	Mark State						
September	9/19/2002	1,653,600	< 5 < 5	< 50 < 50	< 5 < 5	< 5 < 5	< 5 < 5	< 5 < 5
August	8/23/2002	1,641,650	1	< 50	< 0.5	< 0.5	< 0.5	< 0.5
August	0/23/2002	1,041,000	< 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
ŀ	1		< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0

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

		Meter	Lab Result	s For Efflue	nt ¹ and GA	C-1			
		Reading	(concentra	tions in ug/L	_)				
Month	Date	(gallons)	MtBE 2	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes	
Contract of			Language -	to be a second		ian California		40	
June	6/24/2002	1,610,050	1.7	< 50	< 0.5	< 0.5	< 0.5	< 0.5	
			< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5	
May	5/30/2002	1,571,630	< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5	
			< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5	
	5/20/2002	1,548,000	remove	ed newly ins			alled another c	ompressor	
	5/8/2002	1,538,850				ew compre			
	5/1/2002	1,529,650		inst	alled new 5	5 gallon GA	C Vessel		
A mail	4/24/2002	1,528,740	< 0.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5	
April	4/24/2002	1,526,740	< 0.5	< 50 < 50	< 0.5	< 0.5	< 0.5	< 0.5	
	4/1/2002	1,478,500	<u> </u>				on compressor		
	47172002	1,470,300	Mark (natitiv				n compressor		
March	3/25/2002	1,478,420							
WIGICII	3/18/2002	1,470,420 NR	performed carbon change-out on treatment system replaced piston on compressor						
	3/14/2002	1,478,330	compressor not building up pressure						
	0,14,2002	1,470,000		1	100	 		[
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	
STANS CONTRACTOR OF STANSON	elektriker i skier be maanen maanen al'est se	A TO INTERPRETARION OF THE SHEET	< 2.0	< 50	< 0.5	< 0.5	< 0.5	< 0.5	
hen a sab					10.00			*** O2.7 (4.4V) *** *** *** ****	
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	
MOVERTIDE	11/2/2001	1,272,000	0.6	ND	ND	ND:	ND	ND	
CONTRACT LANGUAGE	#* ,								
September	9/28/2001	NA	ND	ND	ND	ND	ND	ND	
September	3/20/2001	NO.	ND	ND	ND	ND	ND	ND	
	<u> </u>		110	140	110	170	145		
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	
		L	NA	NA	NA	NA	NA	NA	

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

		Meter	Lab Results For Effluent ¹ and GAC-1						
	1	Reading	(concentrations in ug/L)						
Month	Date	(gallons)	MtBE ²	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xvienes	
							* 17.25		
June	6/29/2001		NA	NA	NA	NA	NA NA	NA	
	0,20,2001	1,221,000	ND	ND.	ND	ND.	ND	ND	
	6/26/2001	NR	installed new compressor						
	6/16/2001	1,216,580	NΑ	NA	NA	NA	NA I	NA	
			NA	NA	NA	NA	NA	NA	
					ssor not wor	king, repair	ed 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	NΑ	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	
	<u>.</u>		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_	NA	NA NA	
						ļ			
April	4/28/2001	1,135,690	NA	NA	NA	NA	NA	<u>NA</u>	
			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	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	NA	NA	NA	NA NA	
							,		
March	3/29/2001	1,036,330	NA	NA NA	NA NA	NA NA	NA NA	NA NA	
			NA	NA	NA NA	NA NA	NA]	NA	
	0/04/0004	4 000 070	NIA	T		vas re-start	7	818	
	3/21/2001	1,036,070	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	
			NA	NA		NA d an aama		NA NA	
	2/17/2001	1,035,100	N/A	l NA	belt replace	NA	NA NA	NA	
	3/11/2001	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	ND ND	ND ND	ND ND	
	3/13/2001	1,002,000	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	
	3/2/2001	996,520	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	
	0/2/2001	550,020	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	
	3/1/2002	NR	1,1/,				n change-out		
	5,1,2002	·`	l		T				
February	2/28/2002	NR	rbon Chan	ge-out was	performed of	n GAC-1.1	washed algae f	rom holdina ta	
					ned 2000 lb (
		<u> </u>	<u> </u>	7		1			
	2/10/2001	975,490		System s	hut down for	maintenan	ce and cleanin	g.	
					1				
January	1/29/2001	957,880	ND	ND	ND	ND	ND	ND	
			ND	ND	ND	ND	ND	ND	

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

		Meter	Lab Resul	ts For Efflue	ent ¹ and GA	.C-1		
		Reading	(concentrations in ug/L)					
Month	Date	(gallons)	MtBE ²	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
				,2000		Was San A		
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	DИ	ND	ND	ND	ND
			ND	ПИ	ND	ND	ND	ND
					1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			
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		Totaliz	er meter rep	laced at 77	5,000 gallons	
July	7/26/2000		ND	ND	ND	ND	ND	ND
	7/19/2000		_ DN _	ND	ND	ND	ND	ND
	7/13/2000		_ ND	ND	ND	ND	ND	ND
	7/7/2000		ND	ND	ND	ND	ND	ND
	A SAMOO SIA			24.20 S &			Constitution of the	
June	6/29/2000		ND	ND	ND	ND	ND	ND
	6/21/2000		ND	ND	ND	ND	ND	ND
	6/16/2000		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		ND	ND	ND	ND	ND	ND
	5/10/2000	530,400	ND	ND	ND	ND	ND	ND
A:1	4/00/0005	400 000		N/B		—	100	NO
April	4/30/2000	488,300	ND ND	ND	ND_	ND	ND	ND 0.54
	4/18/2000	485,300	ND con	ND enressor sto	ND nned syste	ND m shut dow	ND vn until April 29	0.51
	4/10/2000	440,200	ND	ND	ND	ND	ND	, 2000 ND
	4/4/2000	390,100	ND	ND	ND	ND	ND	ND
	4/2/2000	, , , , , , , , , , , , , , , , , , , ,	1,15				out on GAC-1	

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

		Meter	Lab Resul	ts For Efflu	ent ¹ and GA	.C-1		
		Reading	(concentra	ations in ug.	/L)			
Month	Date	(gallons)	MtBE 2	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
	. Valley and year	A x81. 20	Part of the same	21. 15 Sag. 11.	A Company	S. 12 30 1 1	ar careta	Záchár.
March	3/31/2000		replac	ed GAC-2 v	vith a specia	GAC design	gned for remov	al 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	tran	sfer overhe	ated, repaire	ed pump, re	started system	3/6/00
			ļ					
February	2/25/2000	<u> </u>	ND	ND	ND	ND ND	ND	ND
	2/18/2000	233,000	ND	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
1	4 (00 (0000	420.000	l ND	AID.	ND	NID	ND	ND
January	1/28/2000		ND ND	ND	ND ND	ND		
	1/21/2000		ND	ND	ND	ND ND	ND ND	ND
	1/17/2000	NR					00 lb GAC unit vith 55 gallon G	AC unit
-	1/14/2000	83,500	185	ND	ND ND	ND ND	ND ND	ND ND
December	12/23/1999		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
		F	Pumping be	gan on Dec	ember 6, 19	99		

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

FIGURES

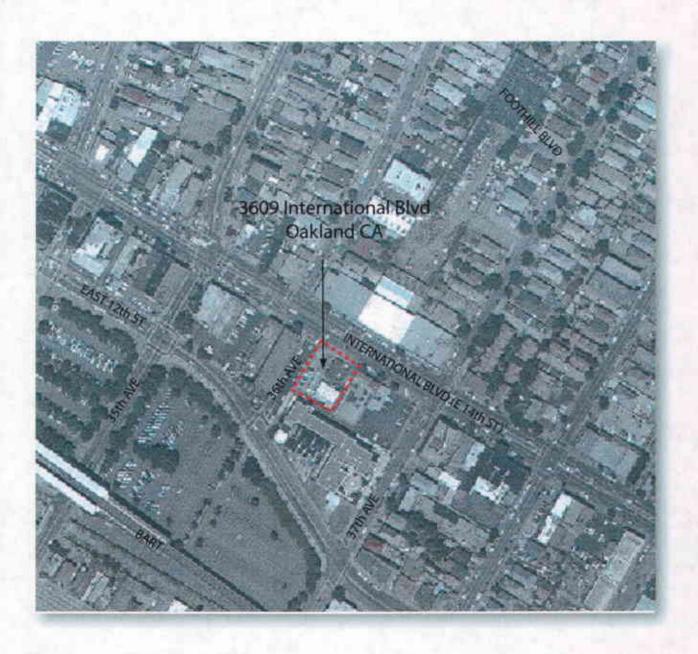
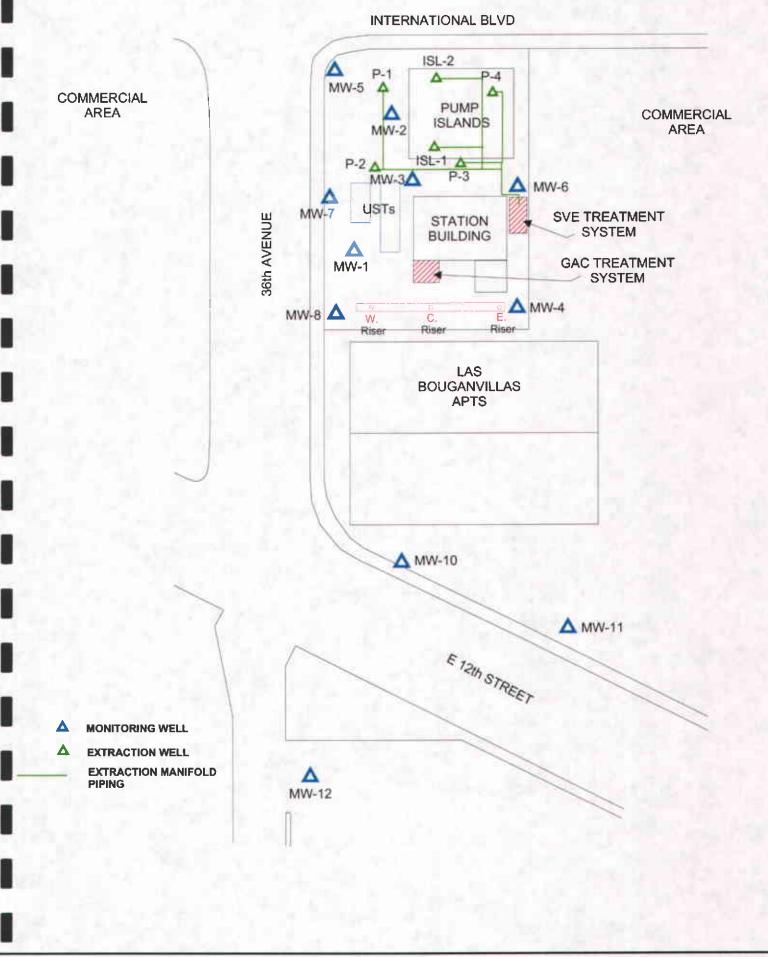




Figure 1: Site vicinity map.



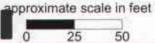


Figure 2: Site map showing location of groundwater monitoring wells and french drain.



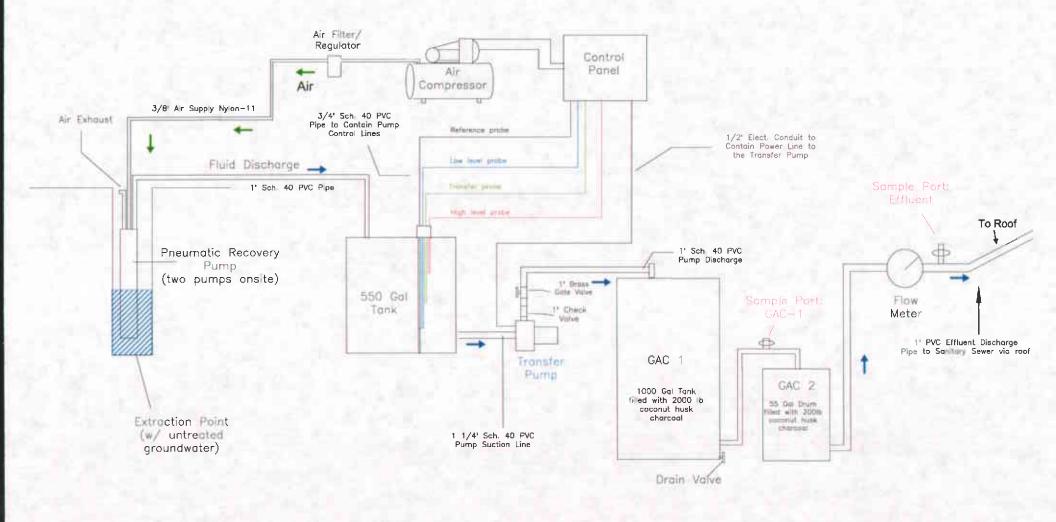
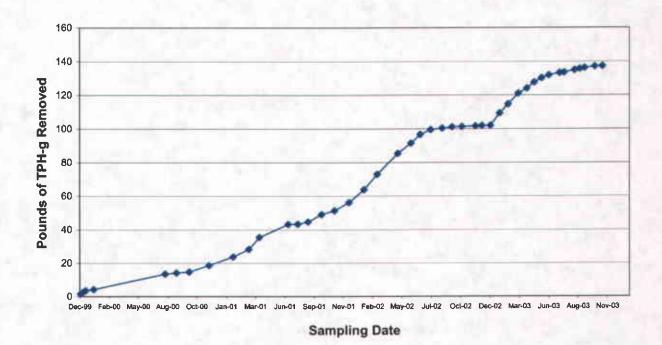


Figure 3: Schematic of the Groundwater Remediation System.





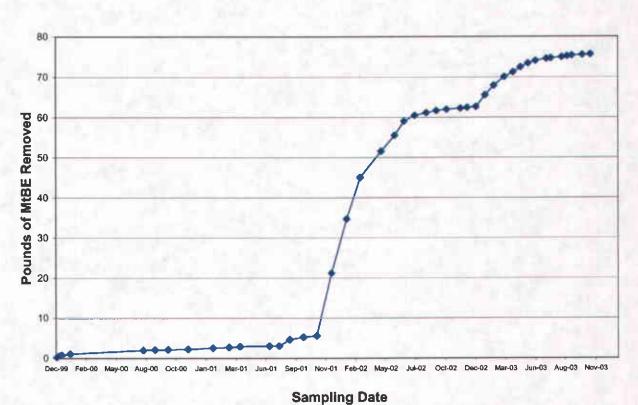


Figure 4. Cumulative mass of TPH-g and MtBE removed from groundwater since the installation of the treatment system.



APPENDIX A

EBMUD DISCHARGE PERMIT



REVISION EFFECTIVE JULY 1, 2000

Terms and Conditions

Tony's Express Auto Service Permit No. 504-27421 Page No. 1

GENERAL CONDITIONS

- I. Title I, Section 5 of EBMUD Ordinance No. 311 prohibits the discharge of groundwater to the community sewer. This Permit to discharge treated groundwater is considered a waiver of the prohibition and is issued based on Tony's Express Auto Service's application that discharge of pollutants to the community sewer will be minimized and methods to reclaim the groundwater, to the extent technically and economically feasible, have been made.
- II. This Permit is granted to Tony's Express Auto Service to discharge treated groundwater from 3609 International Boulevard in Oakland.
- III. Tony's Express Auto Service shall cease discharge of groundwater immediately if not in compliance with any of the Terms and Conditions of this Permit.
- IV. Tony's Express Auto Service shall comply with all items of the attached STANDARD TERMS AND CONDITIONS, July 2000 Edition.

COMPLIANCE REQUIREMENTS

- I. Tony's Express Auto Service shall not discharge any treated wastewater that is known to be, or suspected of, violating wastewater discharge limitations.
- II. Tony's Express Auto Service shall pretreat all groundwater before discharging to the sanitary sewer at 3609 International Boulevard in Oakland. Pretreatment shall consist of a minimum of processes displayed in the Tony's Express Auto Service System Flow Diagram (Figure 3).
- III. Tony's Express Auto Service shall maintain the pretreatment system in proper operating condition.
- IV. Tony's Express Auto Service shall maintain records of operation and maintenance activities on the pretreatment systems. The records shall include, but are not be limited to, meter readings from the flow totalizer at a maximum of monthly intervals; maintenance activities performed; description of operational changes; description of visual observations of the unit for leaks or fouling; and off haul of hazardous wastes. The records shall be available to the District staff upon request.



REVISION EFFECTIVE JULY 1, 2000 Terms and Conditions

Tony's Express Auto Service Permit No. 504-27421 Page No. 2

REPORTING REQUIREMENTS

- Violations shall be reported in accordance with Section B, Paragraph II of I. STANDARD TERMS AND CONDITIONS, July 2000 Edition.
- Tony's Express Auto Service shall submit technical reports due on the following Π. dates:

Date	Due

Reporting Period

June 14, 2000 December 14, 2000 November 15, 1999, through May 14, 2000 May 15, 2000 through November 14, 2000

The technical reports shall contain the following information, at a minimum:

Self-monitoring reports prepared in accordance with the "Self-Monitoring 1. Reporting Requirements" of this Permit.

Monthly readings from the flow totalizer measuring volume of the pretreatment system effluent.

Volume of groundwater pumped and treated during the reporting period, and 3. a total to date.

Description of any operational changes occurred during the reporting period. 4.

Certification and signature prepared in accordance with Section B Part V of 5. STANDARD TERMS AND CONDITIONS, July 2000 Edition, "Signature Requirements".

WASTEWATER DISCHARGE LIMITATIONS

Tony's Express Auto Service shall not discharge wastewater from a side sewer into the community sewer if the strength of the wastewater exceeds the following local limits:

REGULATED PARAMETER	DAILY MAXIMUM
Benzene	$0.005\mathrm{mg/L}$
Toluene	$0.005\mathrm{mg/L}$
Ethylbenzene	$0.005~\mathrm{mg/L}$
Xvlenes total	0:005 mg/L



REVISION EFFECTIVE JULY 1, 2000

Terms and Conditions

Tony's Express Auto Service Permit No. 504-27421 Page No. 3

SELF-MONITORING REPORTING REQUIREMENTS

- I. Tony's Express Auto Service shall monitor and sample the wastewater discharge into the community sewer in accordance with Section C of <u>STANDARD TERMS</u> AND CONDITIONS, July 2000 Edition. The sampling shall be performed at the locations and frequency for the parameters specified below.
- II. Self-monitoring reports shall contain all laboratory results and the corresponding chain of custody documentation, and signatory requirements.
- III. The Sample location shall be the sample tap located on the effluent side of the second (final) Liquid Phase GAC. This sample location shall be referred to as Process Sample Point #1 (PSP #1) in all reports. PSP #1 is shown in Tony's Express Auto Service System Flow Diagram (Figure 3) and Schematic Flow (Figure 4).
- IV. Tony's Express Auto Service shall sample wastewater from PSP #1, at a minimum, quarterly for the following parameters:

	·	7 7 11 . 1
Parameter	Sample Type	EPA Method
Benzene	grab	8020 or 624
	grab	8020 or 624
Toluene		8020 or 624
Ethylbenzene	grab	8020 or 624
Xylenes	grab	8020 01 02-



DAVID R. WILLIAMS
DRESTOR OF WASTEWATER

CERTIFIED MAIL (Return Receipt Requested) Certified Mail No. 7000 1670 0005 9621 445

July 30, 2002

Abolghassem Razi TONY'S EXPRESS AUTO SERVICE 3609 International Blvd. Oakland, CA 94601

Dear Abolghassem Razi:

Re: Wastewater Discharge Permit Revisions - Permit No. 50427421

On June 12, 2001, the EBMUD Board of Directors approved changes in wastewater system rates and charges for two years. New rates and charges for fiscal year 2003 (FY03) are effective July 1, 2002. Wastewater system and testing fees are unchanged. The table below compares the unit rates effective July 1, 2001 (FY02) with the new unit rates effective July 1, 2002 (FY03).

	Rates E	ffective	
	FY02	FY03	% Change
Flow (\$/Cel)	0.408	0.426	1 4.4%
CODF (S/lb)	0.144	0.148	+ 2.8%
TSS (\$/lb)	0.243	0.250	+ 2.9%

The billing conditions for your wastewater discharge permit have been revised to reflect the revised rates and charges. New permit pages incorporating the above revisions are enclosed. Please replace the relevant pages in your Permit with the enclosed pages.

As a Permit holder, you are legally responsible for complying with all Permit conditions and requirements.

If you have any questions regarding the Permit revisions, please contact your Wastewater Control Representative, Trish Maguire at (510) 287-1727.

Sincerely,

BENNETT K. HORENSTEIN

Manager of Source Control Division

BKH:PEM:mcw

Enclosure

P.O. BOX 24055 , OAKLAND . CA 84523-1055 . (510) 287-1405

W:\IDS\Administration\Budget\TY2(K)3\vevision transmittal letter.doc

Pug. 69 2002 69 .euA

EUX NO: :4124215158

FROM : RAZI



REVISION EFFECTIVE JULY 1, 2002

Terms and Conditions

Tony's Express Auto Service Permit No. 504-27421 Page No. 4

MONITORING and TESTING CHARGES

EBMUD Inspections Per Year:

2

@ \$540.00 each =

\$1,080.00 / year

Analyses Per Year:

Tests

Charge

Total Charge

Parameter 1 2 2 2 2 2 2

per year

per test

per year

EPA 624

2

\$146.00

\$292.00

Total Monitoring and Testing Charge =

\$1,372.00 / year \$114.33 / month

WASTEWATER DISPOSAL SERVICE CHARGE

All wastewater discharged will be charged for treatment and disposal service at the Business Classification Code (BCC) unit rate for 4950, Sanitary Collection and Disposal, or 'All other BCC's'. Wastewater charges are determined by multiplying the metered consumption by the percent discharged, adding any fixed volume, and multiplied by the treatment charge.

Unit Rate =

Discharge Volume =

Wastewater Disposal Charge =

\$0.44 /Ccf

61 Ccf/mo.

\$27.02 /mo.

(based on 1,500 gpd average)

Aug. 89 2882 89:23AM P2

FAX NO. :4154572178

FROM : RAZI



REVISION EFFECTIVE JULY 1, 2002 Terr

Terms and Conditions

Tony's Express Auto Service			
Permit No. 504-27421			
Page No. 5	•	•	

FEES AND WASTEWATER CHARGES

The following fees and charges are due when billed by the District:

Permit Fee:
Monthly Monitoring Charge:
Monthly Wastewater Disposal Charge:

\$2,490.00 (PAID)

\$114.33 \$27.02

Total Monthly Charges =

\$141.36

The District may change the terms and conditions of a Wastewater Discharge Permit, including changing the average limits on the elements of wastewater strength and rates and charges, from time to time as circumstances may require. The District shall allow a discharger reasonable time to comply with any District required changes in the permit except that a change in average limits of wastewater strength shall immediately affect calculation of the wastewater disposal charge.

Charges listed in this Permit will be assessed on EBMUD bills in accordance with the EBMUD Meter Reading Schedule.

Authorization

Permit Holder shall report to EBMUD. Wastewater Department any changes, permanent or temporary, to the premises or operations that significantly change the quality or volume of the wastewater discharge or deviation from the terms and conditions under which this permit is granted.

Permit Holder is hereby authorized to discharge wastewater to the community sewer, subject to said Applicant's compliance with EBMUD Wastewater Control Ordinance No. 311 and permit compliance conditions, reporting requirements and billing conditions.

Effective: Expiration: 11/15/01

David R Williams

7/22/2002

Director, Wastewater Department

Date

Revised 7/16/02



WASTEWATER DISCHARGE PERMIT STANDARD TERMS AND CONDITIONS

TABLE OF CONTENTS

SECTION A. GENERAL PROVISIONS

Duty to Comply	
Discharge Location and Process	
Permit Renewal	
Disposal of Hazardous Waste	
Dilution Prohibition	
Bypass of Treatment Facilities	
Closure Plan	
Calibration and Maintenance of Equipment	
Availability of Permit	2
Payment of Permit Fees and Charges	
Continuation of Expired Permits	
Permit Termination	
Transfer of Permit Prohibition	
Severability	
Property Rights	
SECTION B. REPORTING REQUIREMENTS and RECORD KEEPING	ŕ
Spill or Slug Discharge Notification	···········
Twenty-Four Hour Violation Reporting	
Changes in Quantity and Quality of Wastewater	
Hazardous Waste Notification	
Signatory Requirements	
Retention of Records	
Additional Monitoring	
Falsifying Information	
SECTION C. MONITORING and SAMPLING	
Representative Sampling	
Chain of Custody	
Sample Preservation and Analytical Methods	
Laboratory Reports	
Flow Measurements	
Tampering with Equipment	
Access to Facilities	
SECTION D. ENFORCEMENT and PENALTIES	
Annual Publication	
Violations of Permit Terms and Conditions	
Payment of Fines and Violation Fees	
SECTION E. DEFINITIONS	
Definitions	. (
Definitions	
APPENDIX	
EBMUD Table of Approved Test Methods	i - i



SECTION A. GENERAL PROVISIONS

Duty to Comply

The Permit Holder shall comply with all specific and standard terms and conditions of the Wastewater Discharge Permit (Permit).

II. Discharge Location and Process

The Permit Holder shall discharge wastewater only from the location(s) and process(es) described in the Permit.

III. Permit Renewal

The Permit Holder shall submit an application for Permit renewal at least 60 days prior to expiration of the existing Permit.

IV. Disposal of Hazardous Waste

The Permit Holder shall handle and dispose of hazardous waste in accordance with all local, state, and federal laws and regulations.

V. Dilution Prohibition

The Permit Holder shall not in any way dilute the wastewater discharge as a substitute for treatment to achieve compliance with the Permit Terms and Conditions.

VI. Bypass of Treatment Facilities

The Permit Holder shall not bypass treatment facilities unless:

- a) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production).
- b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
- c) The Permit Holder submitted advance notice of the need for a bypass to the District. If the Permit Holder knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.

The Permit Holder shall submit notice of an unanticipated bypass as required in Section B, Paragraph II. Twenty-four Hour Violation Reporting.



VII. Closure Plan

The District may require a facility that intends to close or cease a regulated process to provide a written Closure Plan.

The plan shall include the following four items:

- a) date of proposed work or production stoppage
- b) date of proposed final closure (after cleaning and demobilizing activities are complete)
- c) description of cleaning activities, and
- d) description of disposal of inventoried process material and waste

VIII. Calibration and Maintenance of Equipment

The Permit Holder shall calibrate, inspect, and maintain all flow measuring, discharge sampling, monitoring, and pretreatment equipment to ensure the equipment accuracy and reliability.

IX. Availability of Permit

The Permit Holder shall maintain a copy of the current Permit at the permitted site and make the Permit available to both facility and District staff at all times.

X. Payment of Permit Fees and Charges

The Permit Holder shall pay all Permit fees, monitoring and testing charges, and wastewater treatment charges.

XI. Continuation of Expired Permits

An expired Permit will continue to be effective and enforceable until the Permit is reissued if:

- a) The Permit Holder has submitted a complete permit application at least 60 days prior to the expiration date of the Permit Holder's existing Permit.
- b) The delay in reissuing the expired Permit is not due to any act or failure to act on the part of the Permit Holder.

XII. Permit Termination

The District may terminate the Permit for violation of the terms and conditions of the Permit or for violation of the provisions of EBMUD Ordinance No. 311, unless waived by the Permit.

XIII. Transfer of Permit Prohibition

The Permit Holder shall not assign or transfer the Permit.



XIV. Severability

If any provision of the Permit, EBMUD Ordinance No. 311, or the application thereof to any person or circumstance, is held invalid, the remainder of the Permit or EBMUD Ordinance No. 311, or the application of such provision to other persons or circumstances, shall not be affected thereby.

XV. Property Rights

The issuance of the Permit does not convey to the Permit Holder any property rights of any sort or any exclusive privileges. Nor does such issuance authorize any injury to private property, any invasion of property rights, or any violation of federal, state or local laws.

SECTION B. REPORTING AND RECORD KEEPING

I. Spill or Slug Discharge Notification

Immediately upon discovering any spill or slug discharge to the sanitary sewer, the Permit Holder shall notify EBMUD Source Control Division at (510) 287-1651 during business hours or (510) 287-1458 during non-business hours.

The Permit Holder shall submit to the District within five days of the occurrence a formal written notification describing:

- a) the circumstances of discharge
- b) what was discharged
- c) volume of discharge
- d) duration of discharge including beginning and end times and dates
- e) corrective actions to prevent recurrence
- f) whether discharge violates the terms and conditions of the Permit

II. Twenty-Four Hour Violation Reporting

- a) The Permit Holder shall notify the District within 24 hours of becoming aware of any of the following violations:
 - 1. discharges prohibited by EBMUD Ordinance No. 311, Title II, except where authorized by the Permit
 - 2. exceedence of Categorical Pretreatment Standards
 - 3. exceedence of wastewater discharge limits as established in the Permit
 - 4. bypass of any part of a required pretreatment system
- b) The Permit Holder shall submit a written report to the District within five days of becoming aware of a violation. The report shall include the following information:
 - 1. the date and time of the violation



- 2. the cause of the violation
- 3. a description of the violation, including what was discharged
- 4. the volume of the discharge
- 5. the duration of the discharge violation including start and end times and dates
- 6. analytical results, if available, with chain of custody and other pertinent documentation
- 7. measures taken to correct the violation
- 8. measures taken to prevent recurrence
- c) If analytical results of a sample collected by the Permit Holder indicate a violation, the Permit Holder shall repeat the sampling and analysis, and submit the results to the District within 30 days of becoming aware of the violation, unless:
 - 1. the District collects samples of the permitted discharge at a frequency of at least once per month, or
 - 2. the District collects samples for the same parameter between the time the Permit Holder performs its initial sampling and the time when the Permit Holder receives the results of the sampling

III. Changes in Quantity and Quality of Wastewater

The Permit Holder shall immediately report to the District any significant change to the quality or volume of the wastewater discharge or any deviation from the terms and conditions of the Permit.

IV. Hazardous Waste Notification

The Permit Holder shall submit to the District a written notification in accordance with 40 CFR 403.12(p) of any discharge, which, if otherwise disposed of, would be a hazardous waste under 40 CFR 261. Pollutants reported as part of the Self-Monitoring Reporting Requirements are not subject to this notification requirement.

V. <u>Signatory Requirements</u>

The Permit Holder shall submit in accordance with the signatory requirements of 40 CFR 403.12 (l) all applications, self-monitoring reports, violation response reports, compliance reports, and other reports or documents required by the District. The submittal shall include the following certification statement and shall be signed by the duly authorized representative:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant



penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

VI. Retention of Records

- a) The Permit Holder shall retain all of the following documents:
 - 1. all records used to complete the Permit Application
 - 2. copies of reports required by the Permit
 - 3. all records of monitoring information, including calibration and maintenance records, and original strip chart recordings of continuous monitoring instrumentation
- b) The Permit Holder shall retain all documents for a period of at least three years from the date of the application, report, or monitoring event. The District may extend the document retention period. The Permit Holder shall make all retained records and documents available in a timely manner for inspection.
- c) The Permit Holder shall retain and preserve all records pertaining to special orders or any other enforcement or litigation activities brought by the District until all enforcement activities have concluded and all periods of limitation with respect to any appeals have expired.

VII. Additional Monitoring

If the Permit Holder monitors any pollutant at the compliance point more frequently than required by this Permit, using test methods specified in the Permit, the results of such monitoring shall be reported on a monthly basis to the District.

VIII. Falsifying Information

Knowingly making any false statement on any report or other document required by the Permit or knowingly rendering any monitoring device or method inaccurate, is a crime, and may result in administrative, civil and criminal enforcement action.

SECTION C. MONITORING AND SAMPLING

I. Representative Sampling

Samples and measurements taken, as required in the Permit or those submitted with the application, shall be representative of the volume and nature of the monitored discharge. The Permit may require that a sample be representative of certain, specific, discharge periods.

Detection limits shall be sufficient to determine compliance with the Permit terms and conditions.

II. Chain of Custody

- a) The Permit Holder shall submit a Chain of Custody record for each sample that documents the following:
 - 1. the location, the type of sample(s) (grab or composite), the date(s) and time, or span of time the sample was taken
 - 2. the number of containers, and type (glass, plastic, vial, etc.)
 - 3. preservation techniques (ice, refrigeration at 4°C, chemicals added, etc.)
 - 4. sample collector's name, legibly written
 - 5. sample ID number (to cross-reference with the sample ID number on the Laboratory results)
 - 6. all persons handling the sample and the individual receiving the sample at the laboratory, including their signature, printed name, company, date and time the sample was relinquished and accepted
- b) The Permit Holder shall ensure that samples transported or handled by a courier, delivery service (public or private) or shipper, shall include the company or individual's name, and the method of packaging the samples, on the Chain of Custody record.
- c) The Permit Holder shall show all sample analyses performed in the field on the Chain of Custody record (e.g. pH field test).
- d) The District may require resampling of the wastewater for an incomplete or incorrect Chain of Custody record.

III. Sample Preservation and Analytical Methods

Unless the Permit requires otherwise, the Permit Holder shall use sampling methods, sample preservation, and analytical methods for each parameter in accordance with applicable sections of:

- a) EBMUD Table of Approved Test Methods
- b) Standard Methods of Water and Wastewater Analysis, Edition used in the EBMUD Table of Approved Test Methods
- c) EPA 40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, latest edition

IV. <u>Laboratory Reports</u>

The Permit Holder shall use a laboratory certified by the California Department of Health Services for each sample analysis required by the Permit. The laboratory report for each sample shall include:

- a) the name and address of the laboratory performing the analyses
- b) sample ID number (to cross reference with the sample ID number on the Chain of Custody)
- c) the analytical result(s)

- d) the date of sampling, the date the sample(s) was received at the laboratory, and the date of analysis
- e) the Standard Method or EPA Method used for analyses
- f) the detection limit
- g) the signature and title of an authorized representative of the Laboratory, who reviewed the laboratory results

V. Flow Measurements

The Permit Holder shall use appropriate flow measurement devices and methods when required by the District. Flow measurement devices and methods are subject to approval by the District.

VI. Tampering with Equipment

The Permit Holder shall not tamper with monitoring equipment or treatment units.

VII. Access to Facilities

The Permit Holder shall provide access to facilities by District staff in order to ascertain compliance with the Ordinance and Permit.

SECTION D. ENFORCEMENT AND PENALTIES

I. <u>Annual Publication</u>

The Permit Holder shall be subject to annual publication in the largest daily newspaper published within the SD-1 service area if at any time during the previous 12 months, the Permit Holder was in Significant Noncompliance with the terms and conditions of the Permit.

II. Violations of Permit Terms and Conditions

The Permit Holder shall be subject to District actions for failure to comply with the terms and conditions of the Permit. The actions may include violation follow-up inspections and fees, issuance of Cease and Desist Orders, Administrative Civil Liability penalties, and other actions as authorized by Ordinance No. 311, Title VI.

III. Payment of Fines and Violation Fees

The Permit Holder shall pay the District any fines and violation fees that are assessed.

SECTION E. DEFINITIONS

BMPs - Best Management Practices (also known as Pollution Prevention Practices) are guidelines and procedures that include maintenance procedures, management practices and prohibition of practices that focus on the reduction or elimination of pollutants or wastes at the source.

Bypass - The diversion of wastestreams from any portion of a treatment facility.

Chain of Custody - A Chain-of-Custody is a legal record of each person who had possession of a sample. It is included with an analytical report.

Combined Wastestream Formula - Formula defined in 40 CFR 403.6(e)

Director - Refers to the term "Manager", as defined in EBMUD Ordinance No. 311, the Director of the District's Wastewater Department, or his/her designated representative.

Discharge Minimization Permit - Permits issued for the purpose of regulating the discharge of wastewater to the sanitary sewer. Discharge Minimization Permits generally include monitoring and reporting requirements and District inspections.

District - Refers to East Bay Municipal Utility District (EBMUD). EBMUD is a publicly owned water district formed in 1923 under the Municipal Utility District Act of 1921.

Hazardous Waste - Listed and characterized wastes under the Section 3001 of the Resource Conservation and Recovery Act, as described in the Code of Federal Regulations (40 CFR Part 261) or as defined in California Health and Safety Code Section 25117. VII.

Permit Holder - Any individual, partnership, firm, association, corporation, or public agency issued a Wastewater Discharge Permit.

Pollution Prevention Permits - Permits issued to businesses in specific commercial categories. Pollution Prevention Permits are based on pollution prevention or waste minimization at sources, and the implementation of specific BMPs.

POTW - Publicly Owned Treatment Works, e.g., EBMUD SD-1.

Prohibition - Prohibited discharges of wastewater as defined in EPA 40 CFR Part 403.5 or EBMUD Ordinance No. 311, Title I, Section 5, and Title II, Section 2.

Pretreatment Program - A program administered by a POTW that meets the criteria established in EPA 40 CFR Part 403.8, 403.9 and 403.11.

Regional Water Quality Control Board - The California Regional Water Quality Control Board, San Francisco Bay Region, is the approval authority for the District's Pretreatment Program.

Sample - A portion of wastewater that is representative of a larger volume of wastewater being discharged. The two types of samples are:

a) Grab - an individual sample collected in a short period of time not exceeding fifteen minutes.



b) Composite – a sample consisting of a number of discrete aliquots combined into a single sample, representative of a period of time.

SD-1 - EBMUD Special District No. 1, a district established to provide treatment of wastewater from the following East Bay Communities: Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, and the Stege Sanitary District that includes the City of El Cerrito, the Richmond Annex, and the Kensington area. [Ref. MUD Act, Division 6, Chapter 8, Section 13451].

Significant Noncompliance – The status of a Permit Holder when one or more of the following conditions exist:

- a) Chronic violations of wastewater discharge limits, defined as those in which sixty-six percent or more of all of the measurements taken during a six-month period exceed (by any magnitude) the daily maximum limit or the average limit for the same pollutant parameter.
- b) Technical Review Criteria (TRC) violations, defined as those in which thirty-three percent or more of all of the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of the daily maximum limit or the average limit multiplied by the applicable TRC.

TRC = 1.4 for Oil and Grease.

TRC = 1.2 for all other pollutants (except pH).

- c) Any violation of a discharge limit, maximum or average, that the District determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of District personnel or the general public).
- d) Any discharge of a pollutant that has caused imminent endangerment to human health, welfare or to the environment or has resulted in the exercise of emergency authority.
- e) Failure to meet, within 90 days after the schedule date, a compliance schedule milestone contained in this Permit or Manager's order for starting construction, completing construction, or attaining final compliance.
- f) Failure to provide, within 30 days after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, self-monitoring reports, and reports on compliance with compliance schedules.
- g) Failure to accurately report noncompliance.
- h) Any other violation or group of violations, which the District determines, will adversely affect the operation or implementation of the local pretreatment program.

Slug Discharge - Any non-routine batch discharge that may cause problems to the POTW including interference [40 CFR 403.3(i)] or pass-through [40 CFR 403.3(n), or that may result in the Permit Holder being in violation of the General Prohibitions or Specific Prohibitions contained in 40 CFR 403.5.

Spill - An accidental discharge of a substance that may pose an environmental, public health, or wastewater quality concern.

Total Metals - The sum of the concentrations of copper, chromium, nickel, and zinc (40 CFR 413.02,e)

Total Toxic Organics (TTO)- The sum of the concentrations of specific toxic organic compounds found in the wastewater discharge at a concentration greater than 10 ug/L. Each categorical standard (40 CFR 405 - 471) lists the specific toxic organic compounds that are to be included in the summation.

Total Identifiable Chlorinated Hydrocarbons (TICH) - The sum of the concentrations of all quantifiable values equal to or greater than the detection limit for all chlorinated hydrocarbons identified by EPA Method 624.

Wastewater Discharge Limits - A wastewater discharge limit is the maximum concentration of a pollutant allowed to be discharged during a specific period of time. Wastewater discharge limits may be of three types: Monthly Average, 4-day Average, and Maximum.

Monthly Average - The maximum arithmetic average value of all samples taken in a calendar month.

4-day Average - The maximum arithmetic average value of four consecutive samples taken on different days.

Maximum - The maximum concentration of a pollutant allowed to be discharged at any time, as determined from the analysis of a grab or composite sample.

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APPENDIX: TABLE OF APPROVED TEST METHODS Required Preservation & Holding Times

The District has approved the following test methods for wastewater analysis. These methods are generally used for District and self-monitoring. Other methods not listed in this table may be required. Refer to the self-monitoring section of your wastewater discharge permit for required specific test methods.

Parameter	Preservative	Maximum Hold Time	EPA Method	STD Methods* 18 th Ed.		
Arsenic (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	206.3 200.7	3114 B 3120 B		
Cadmium (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	213.2 200.7	3113 B 3120 B		
CODF, using a Whatman 934AH Glass Microfiber filter, or equivalent	Preserve with H ₂ SO ₄ to pH <2 Cool to 4°C	28 days		5220 D		
Chromium (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	218.2 200.7	3113 B 3120 B		
Copper (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	220.2 200.7	3113 B 3120 B		
Cyanide (Amenable)	NaOH to pH>12 Ascorbic acid if Cl ₂ present Cool to 4°C	14 days	335.1	4500-CN G		
Cyanide (Total)	NaOH to pH>12, ascorbic acid if Cl ₂ present Cool to 4°C	14 days	335.2	4500-CN B-E		
Iron (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	200.7	3113 B 3120 B		
Lead (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	239.2 200.7	3113 B 3120 B		
Mercury (Total)	HNO ₃ to pH<2 Cool to 4°C	28 days	245.1 245.2	3112 B		
Nickel (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	249.2 200.7	3113 B 3120 B		
Oil & Grease (Total) Oil & Grease (HC)	H₂SO₄ to pH<2 Cool to 4°C	28 days	1664 HEM 1664 HEM- SGT			
Phenolic Compounds	H ₂ SO ₄ to pH<2 Cool to 4°C	28 days	420.1	5530-D		
pH, Hydrogen Ion	None	Analyze Immediately	150.1	4500-H+ B		
Silver (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	272.2 200.7	3113 B 3120 B		
Temperature (°C)	None	Analyze immediately	170.1	2550 B		

Parameter	Preservative	Maximum Hold Time	EPA Method	STD Methods* 18 th Ed.
Total Suspended Solids TSS, filtered with Whatman 934 AH Glass Microfiber filter, or equivalent	Cool to 4°C	7 days	160.2	
Zinc (Total)	HNO ₃ to pH<2 Cool to 4°C	6 months	289.2 200.7	_
Organochlorine Pesticides & Poly Chlorinated Biphenyls (PCBs)	Cool to 4°C	7 days until extraction; 40 days after extraction	608	6630B & C
Purgeable Organics (BTEX)	HCI to pH <2, add ascorbic acid if Cl₂ is present. VOA vials, No headspace. Cool to 4°C	14 days	624 ¹ 8021 B 8260 B	
Semi-Volatile Organics (BNA's)	Cool to 4°C	7 days until extraction; 40 days after extraction	625	
Total Identifiable Chlorinated Hydrocarbon (Volatile Organics)	HCl to pH<2, add ascorbic acid if Cl ₂ is present. VOA vials, No headspace. Cool to 4°C	14 days	624 8260 B	

EPA Method 624 table in 40CFR Part 136 does not list xylenes, however, EBMUD may accept xylenes detected by this method.

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^{*} Standard Methods for the Examination of Water and Wastewater

APPENDIX B

Laboratory Results and Chain of Custody Forms for the Treatment System



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

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

ANALYTICAL REPORT

Prepared for:

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

Date: 19-NOV-03 Lab Job Number: 168577

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:

Reviewed by:

Operations Manager

This package may be reproduced only in its entirety.

NELAP # 01107CA

Page 1 of <u>2</u>

Sampler:

Curtis & Tompkins, Ltd.

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

C&T LOGIN # 168577

Analyses

Project No:	2333	•	

Project Name:3609 International Blvd., Oakland Company:

Turnaround Time: Standard

Report To: **Tony Perini**

SOMA Environmental

Mehran Now Cook

Telephone: 925-244-6600

Fax: 925-244-6601

		1 6000					١	12	1 1	1 1		1 1			1 1
		· ·	Matrix	<u> </u>	Preser	vative	8015	& MtBE							.
Lab No.	Sample ID.	Sampling Date Time	Soil Water Waste	# of Containers	H2SO ₄	30	TPH-a 80	BTEX &		,	-				
- (Influent	11,3,03 11,20 AM		3-VOAs	X		\geq								
-2	GAC-1	11,3,03 11:25 AM	X	3-VOAs	\times		\geq	\mathbb{X}							
-3	PSP#1	11.3. 63 11:30 AM		3-VOAs	$\times \Box$		\times	X							
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	·						L								
Notes	EDF OUTPUT REQUIR	ED	RELING	UISHED BY			R	ECE	IVED	BY:					

Notes: EDF OUTPUT REQUIRED **Grab Sample Totalizer Reading:**

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☑ Cold		bient	3-Intact

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RECEIVED BY:	
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DATE/TIME

8021B

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11-7-03	2:50r	
		DATE/TIM
		DATE/TIME

DATE/TIME



Curtis & Tompkins Laboratories Analytical Report

Lab #: 168577 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333

 Matrix:
 Water
 Sampled:
 11/03/03

 Units:
 ug/L
 Received:
 11/03/03

Batch#: 85870

Field ID:

INFLUENT

Lab ID:

168577-001

Type:

SAMPLE

Analyte	Result	RL	Diln Fac	Analyzed	Analysis
Gasoline C7-C12	3,900	50	1.000	11/04/03	8015B
MTBE	1,700	10	2.000	11/05/03	EPA 8021B
Benzen e	180	5.0	1.000	11/04/03	EPA 8021B
Toluene	150	5.0	1.000	11/04/03	EPA 8021B
	ND	5.0	1.000	11/04/03	EPA 8021B
m,p-Xylenes	390	10	2.000	11/05/03	EPA 8021B
o-Xylene	230	5.0	1.000	11/04/03	EPA 8021B

Surrogate	%REC	Limits	Diln J	Fac Analyzed	Analysis
Trifluorotoluene (FID)	134	57-150	1.000	11/04/03	8015B
Bromofluorobenzene (FID)	120	65-144	1.000	11/04/03	8015B
Trifluorotoluene (PID)	88	54-149	1.000	11/04/03	EPA 8021B
Bromofluorobenzene (PID)	94	58-143	1.000	11/04/03	EPA 8021B

Field ID:

GAC-1

Type:

SAMPLE

ab ID:

168577-002

Diln Fac:

1.000

Analyzed:

11/04/03

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	101	57-150	8015B
Bromofluorobenzene (FID)	116	65-144	8015B
Trifluorotoluene (PID)	76	54-149	EPA 8021B
Bromofluorobenzene (PID)	88	58-143	EPA 8021B

D= Not Detected

RL= Reporting Limit

Page 1 of 2



Curtis & Tompkins Laboratories Analytical Report

Lab #: 3609 International Blvd 168577 Location:

SOMA Environmental Engineering Inc. EPA 5030B Client: Prep:

Project#: 2333

Matrix: Water Sampled: 11/03/03 Units: ug/L Received: 11/03/03

Batch#: 85870

Field ID:

PSP#1

ype:

SAMPLE

Diln Fac:

1.000

Analyzed:

11/05/03

ab ID: 168577-003

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	101	57-150	8015B
Bromofluorobenzene (FID)	115	65-144	8015B
Trifluorotoluene (PID)	76	54-149	EPA 8021B
Bromofluorobenzene (PID)	89	58-143	EPA 8021B

BLANK

ab ID:

QC231012

Diln Fac:

1.000

Analyzed:

11/04/03

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	104	57-150	8015B
Bromofluorobenzene (FID)	116	65-144	8015B
Trifluorotoluene (PID)	81	54-149	EPA 8021B
Bromofluorobenzene (PID)	92	58-143	EPA 8021B

D= Not Detected

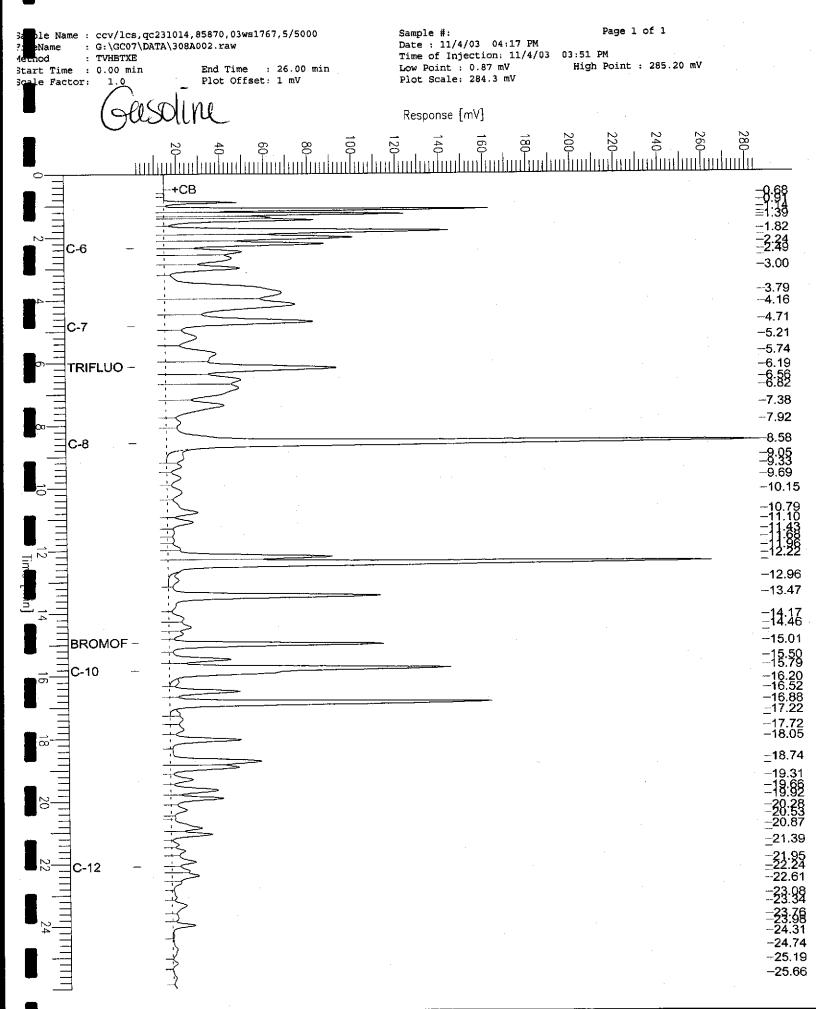
L= Reporting Limit

Page 2 of 2

GC07 TVH 'A' Data File RTX 502

mple Name : 168577-001,85870,eff leName : G:\GC07\DATA\308A007 Sample #: al.0 Page 1 of 1 : G:\GC07\DATA\308A007.raw Date: 11/4/03 07:29 PM thod : TVHBTXE Time of Injection: 11/4/03 07:03 PM End Time : 26.00 min Low Point : -38.00 mV High Point : 1066.95 mV Start Time : 0.00 min Scale Factor: 1.0 Plot Offset: -38 mV Plot Scale: 1104.9 mV Response [mV] -+CB 3:97 =1.28 =1.67 -2.06 2.50 3:00 3.35 C-6 -4.72 C-7 -5.25TRIFLUO --6.19-6.85-7.33-7.72 -8.10-8.58 C-8 --9.06 --9.36 --9.71 -10.16=18:53 -11.46-11.88-12.43-13.45-14:33 -15.00**BROMOF** --=15.49 =15.78 C-10 -16.51 -16.87 -17.74 -18.05 -18.38 -18.75 -19.29**-19:65** -20.28 _20.86 -21.39-21.94C-12 =22.92 -23.31 -23.68 -23.97 -24.32

GC07 TVH 'A' Data File RTX 502





	Curtis &	Tompkins Labor	atories Ana	lytical Report
Lab #:	168577		Location:	3609 International Blvd
Lab #: Client: Project#:	SOMA Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		Analysis:	EPA 8021B
Type:	LCS		Diln Fac:	1.000
Lab ID:	QC231013		Batch#:	85870
Type: Lab ID: Matrix:	Water		Analyzed:	11/04/03
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12]	AV.		
MTBE	20.00	18.97	95	63-133
Benzene	20.00	20.45	102	78-123
Toluene	20.00	19.06	95	79-120
Ethylbenzene	20.00	18.03	90	80-120
<u> </u>	40.00	40.22	101	76-120
m,p-Xylenes b-Xylene	20.00	18.96	95	80-121

Surrogate	Kesult	*REC	Limits
Frifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		71	54-149
Bromofluorobenzene (PID)		79	58-143



		Grantin c	Wannisina Inhan	abawiaa Maa	letical Papart
		CUICIS &	Tompkins Labor	acories Ana	Tytical Report
Lab #:	1685	77	'	Location:	3609 International Blvd
Client:			Engineering Inc.	Prep:	EPA 5030B
Project#:	2333			Analysis:	8015B
Type:		LCS		Diln Fac:	1.000
Lab ID:		QC231014		Batch#:	85870
Type: Lab ID: Matrix:		Water		Analyzed:	11/04/03
Units:		ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,020	101	80-120
MTBE		. NA		
Benzene	•	NA		
Toluene		NA		
_Ethylbenzene		NA		
m,p-Xylenes b-Xylene		NA		
b-Xylene		NA		

Resul	t %REC	Limits
	118	57-150
	114	65-144
NA		
NA	<u></u>	
		118 114 NA



Curtis & Tompkins Laboratories Analytical Report Lab #: 168577 Location: 3609 International Blvd EPA 5030B SOMA Environmental Engineering Inc. Client: Prep: Project#: 2333 Analysis: 8015B Field ID: ZZZZZZZZZZ Diln Fac: 1.000 MSS Lab ID: 168575-001 Batch#: 85870 11/03/03 Matrix: Sampled: Water Received: 11/03/03 Units: ug/L

ab ID:

MS

QC231015

Analyzed:

11/04/03

Analyte	MSS Result	Spiked	Result	%RE	C Limits
Gasoline C7-C12	<18.00	2,000	1,977	99	76-120
MTBE			NA		
Benzene			NA		
Toluene			NA		
Ethylbenzene			NA		
Ethylbenzene m,p-Xylenes			NA		
lo-Vylene			NA		

Surrogate	Resi	ılt %REC	Limits	
Trifluorotoluene (FID)		119	57-150	
Bromofluorobenzene (FID)		119	65-144	
Trifluorotoluene (PID)	NA			
Bromofluorobenzene (PID)	NA			

ype:

ab ID:

MSD

QC231016

Analyzed:

11/05/03

Analyte	Spiked	Result	%RE(] Limits	RPD	Lim
Gasoline C7-C12	2,000	1,965	98	76-120	1	20
MTBE		NA				
Benzene		NΑ				
Toluene		NA				
Ethylbenzene m,p-Xylenes o-Xylene		AN				
m,p-Xylenes		NА				
_o-Xylene		AN				

Surrogate	Resul	t %RBC	Limits	
Trifluorotoluene (FID)		125	57-150	
Bromofluorobenzene (FID)		126	65-144	
Trifluorotoluene (PID)	NA			
Bromofluorobenzene (PID)	NA			

NA= Not Analyzed

PD= Relative Percent Difference

Page 1 of 1



	Purgeable Aro	matics by	GC/MS
Lab #:	168577	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Field ID:	INFLUENT	Batch#:	86000
Lab ID:	168577-001	Sampled:	11/03/03
Matrix:	Water	Received:	11/03/03
Units:	ug/L	Analyzed:	11/08/03
Diln Fac:	12.50	_	

Analyte		Result	RL	
MTBE		1,700	6.3	
Surrogate	%REC	Limits		
1,2-Dichloroethane-d4	107	77-129		
Toluene-d8	96	80-120		
Bromofluorobenzene	97	80-123		



Purgeable Aromatics by GC/MS

Lab #: 168577 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B Project#: 2333 Analysis: EPA 8260B

Type: BLANK Diln Fac: 1.000
Lab ID: QC231522 Batch#: 86000
Matrix: Water Analyzed: 11/08/03

Units: ug/L

Analyte	Result	RL .	-
MTBE	ND	0.5	

Toluene-d8 97 80-120	Surrogate	%REC	Limits	
	1,2-Dichloroethane-d4	110	77-129	
Bromofluorobenzene 106 80-123	Toluene-d8	97	80-120	
	Bromofluorobenzene	106	80-123	



Purgeable Aromatics by GC/MS

Lab #: 168577

Location:

3609 International Blvd

Client: SOMA Environmental Engineering Inc.

Prep:

EPA 5030B

Project#: 2333

Matrix:

Analysis:

EPA 8260B

Units:

Water ug/L

86000

Diln Fac:

1.000

Batch#: 11/08/03 Analyzed:

Type:

BS

Lab ID:

QC231514

Analyte	Spiked	Result	%RI	C Limits	
MTBE	50.00	48.17	96	69-124	

Surrogate	*KEC	: Limits
1,2-Dichloroethane-d4	104	77-129
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-123

BSD

Lab ID:

QC231515

Analyte	Spiked	Result	%REC	! Limits	RPD	Lim
MTBE	50.00	48.16	96	69-124	0	20

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



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

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

ANALYTICAL REPORT

Prepared for:

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

Date: 27-OCT-03

Lab Job Number: 168184 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:

Reviewed by:

retations Manager

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NELAP # 01107CA

Page 1 of _______

Curtis & Tompkins, Ltd.

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

C&T LOGIN # 168/84

Analyses

8021B

Sampler: Mehran Project No: 2333

Tony Perini Report To:

Project Name:3609 International Blvd., Oakland Company:

SOMA Environmental

Novecozi

Turnaround Time: Standard

Telephone: 925-244-6600

025-244-6601

		Fax:				925-244-66	01							Щ									·	·	
		: . · · ·		Mat	rix	:		Pres	ег	ativ	/e		8015	뿔											
Lab No.	Sample ID.	Sampling Date Time	Soil	Water	Waste	# of Containers	克	H ₂ SO ₄	HNO3	ICE			TPH-9 80	BTEX & MIBE								·	İ		
01	Influent	10/13/03 HIOSAN		X		3-VOAs	区	1		X			X	X	-		· .								
02	GAC-1	10/13/03 Elito AM		X		3-VOAs	X			X			\boxtimes	X											
03	PSP#1	10/13/03 11:20 AM		X		3-VOAs	X			X			\times	\boxtimes				<u>. </u>							
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Curtis & Tompkins Laboratories Analytical Report

Lab #: 168184 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333

Matrix: Water Sampled: 10/13/03

 Matrix:
 Water
 Sampled:
 10/13/03

 Units:
 ug/L
 Received:
 10/13/03

 Batch#:
 85298
 Analyzed:
 10/14/03

Field ID:

INFLUENT

Lab ID:

168184-001

ype: SAMPLE

Diln Fac:

5.000

Analyte	Result	RL	Analysis	
Gasoline C7-C12	6,100	250	8015B	
MTBE	1,400	25	EPA 8021B	
Benzene	640	25	EPA 8021B	
Toluene	200	25	EPA 8021B	
Ethylbenzene m,p-Xylenes o-Xylene	200	25	EPA 8021B	
m,p-Xylenes	390	25	EPA 8021B	1
o-Xylene	230	25	EPA 8021B	

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Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	127	57-150	8015B
Bromofluorobenzene (FID)	107	65-144	8015B
Trifluorotoluene (PID)	110	54-149	EPA 8021B
Bromofluorobenzene (PID)	111	58-143	EPA 8021B

Field ID:

GAC-1

Lab ID:

168184-002

kme ·

SAMPLE

Diln Fac:

1.000

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	103	57-150	8015B
Bromofluorobenzene (FID)	103	65-144	8015B
Frifluorotoluene (PID)	103	54-149	EPA 8021B
Bromofluorobenzene (PID)	104	58-143	EPA 8021B

P≈ Not Detected kL= Reporting Limit Page 1 of 2

GC19 TVH 'X' Data File (FID)

Sample #: cl.3

mple Name : 168184-001,85298

Page 1 of 1

; G:\GC19\DATA\287X011.raw Date: 10/14/03 04:18 PM leName Time of Injection: 10/14/03 03:51 PM : TVHBTXE thod Low Point : -1.90 mV High Point : 305.16 mV. Start Time : 0.00 min End Time : 26.80 min ale Factor: 1.0 Plot Offset: -2 mV Plot Scale: 307.1 mV INFLUENT Response [mV] †Ç₿ 1.40 1.56 --1.78 **≥** 2.19 -2.50-3.61 4.06 C-7 -5.53 6.07 TRIFLUO --7.047.72 -8.21 8.99 C-8 -9.47-9.98 -11.02-11.40 -11.82 -13.34-14.38 15.05 --15.39 BROMOF --15.93 -16.42 ==16.886.73 ----17 47 --17.84 $\overline{\alpha}$ 18:39 18.69 -19.02 19.35 -19.75 -<u>20</u> 61 --20.88 --21.27 22.52 22.97 --23.24 C-12 23.62 23.86 24,70



Curtis & Tompkins Laboratories Analytical Report

3609 International Blvd Location: 168184

EPA 5030B Client: SOMA Environmental Engineering Inc. Prep:

Project#: 2333

10/13/03 Sampled: Matrix: Water 10/13/03 Received: Units: ug/L

10/14/03 Analyzed: Batch#: 85298

Field ID:

o-Xylene

168184-003 Lab ID: PSP#1 1,000 SAMPLE Diln Fac: ype:

ND

Analysis Result RL Analyte 8015B 50 Gasoline C7-C12 EPA 8021B 5.0 5.3 MTBE EPA 8021B 5.0 ND Benzene EPA 8021B 5.0 ND Toluene 5.0 EPA 8021B Ethylbenzene ND EPA 8021B 5.0 ND m,p-Xylenes

Surrogate Analysis %REC Limits Trifluorotoluene (FID) 106 57-150 8015B 65-144 8015B Bromofluorobenzene (FID) 107 Trifluorotoluene (PID) 105 54-149 EPA 8021B Bromofluorobenzene (PID) 109 58-143 EPA 8021B

Type:

BLANK

Diln Fac:

1.000

5.0

EPA 8021B

ab ID:

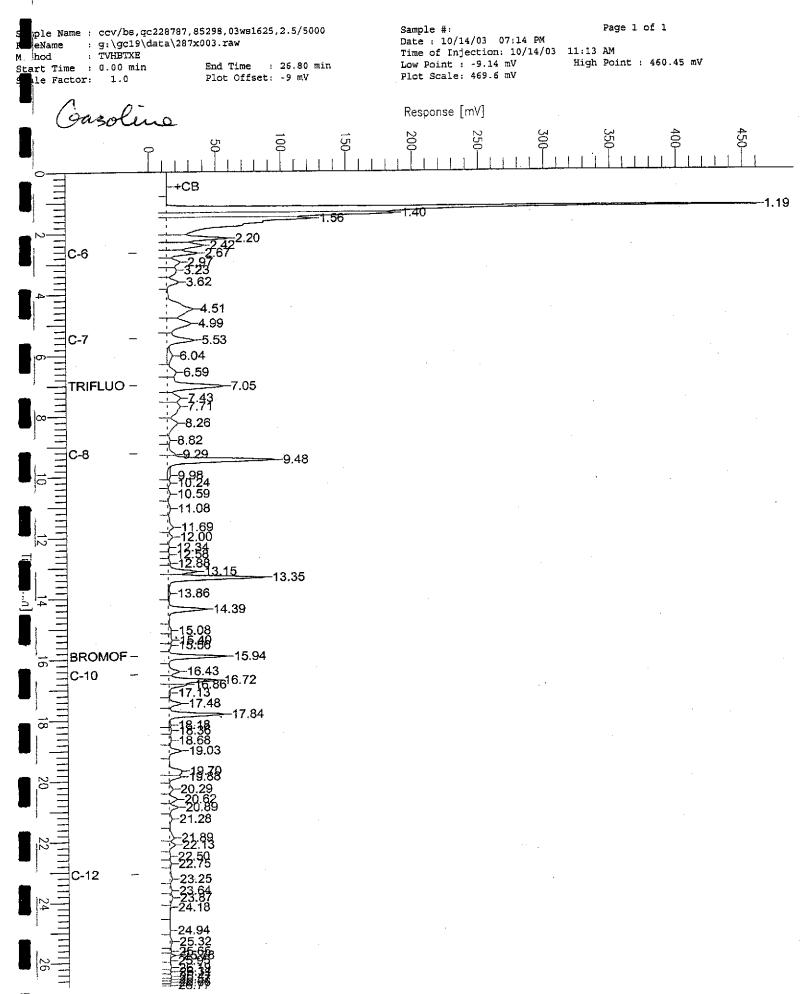
QC228786

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

Surrogate	%REC	' Limits	Analysis
Trifluorotoluene (FID)	94	57-150	8015B
Bromofluorobenzene (FID)	96	65-144	8015B
Trifluorotoluene (PID)	94	54-149	EPA 8021B
Bromofluorobenzene (PID)	97	58-143	EPA 8021B

D= Not Detected L= Reporting Limit Page 2 of 2

GC19 TVH 'X' Data File (FID)





Curtis & Tompkins Laboratories Analytical Report

Lab #: 168184 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:
 QC228788
 Batch#:
 85298

 Matrix:
 Water
 Analyzed:
 10/14/03

Analyte Spiked Result %REC Limits Gasoline C7-C12 NA 63-133 96 10.00 9.582 MTBE 78-123 10.72 107 10.00 Benzene 10.21 102 79-120 10.00 Toluene 99 80-120 9.904 10.00 Ethylbenzene 76-120 20.66 103 20.00 n,p-Xylenes 80-121 100 10.00 10.04 b-Xylene

Surrogate	Resul	t %REC	Limits	
Trifluorotoluene (FID)	. NA	·		ļ
Bromofluorobenzene (FID)	NA			
Trifluorotoluene (PID)		101	54-149	
Bromofluorobenzene (PID)		102	58-143	

Units:

ug/L



ĺ	Curtis & Tompkins Labor	atories Ana	lytical Report
Lab #:	168184	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:		Analysis:	8015B
Type:	BS	Diln Fac:	1.000
Lab ID:	. QC228787	Batch#:	85298
Matrix:	Water	Analyzed:	10/14/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,058	106	80-120
MTBE		NA		
Benzene		NA	-	
Toluene		АИ		
Ethylbenzene		NA		
Ethylbenzene m,p-Xylenes b-Xylene		NA		
b-Xylene		NA		

				300000000000000000000000000000000000000
Surrogate	Resi	ilt %REC	Limits	
Frifluorotoluene (FID)		121	57-150	Ì
Bromofluorobenzene (FID)		106	65-144	
Trifluorotoluene (PID)	NA			
Bromofluorobenzene (PID)	NA			



Curtis & Tompkins Laboratories Analytical Report

Lab #: 168184 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: . EPA 5030B Project#: 2333 Analysis: 8015B

 Project#: 2333
 Analysis:
 8015B

 Type:
 BSD
 Diln Fac:
 1.000

 Lab ID:
 QC228881
 Batch#:
 85298

Matrix: Water Analyzed: 10/14/03

Units: ug/L

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,089	104	80-120	1	20
MTBE		NA				
Senzene		NA				
Toluene		NA				
Ethylbenzene		NA				
m,p-Xylenes		NA				
Ethylbenzene m,p-Xylenes b-Xylene		NA				

Surrogate	Result &R	EC Limits	
[rifluorotoluene (FID)	123	57-150	
Bromofluorobenzene (FID)	110	65-144	
Trifluorotoluene (PID) NA			·
Bromofluorobenzene (PID) NA	•		



		Curtis &	Tompkins Labor	atories And	alytical Report
Lab #:	16818	4		Location:	3609 International Blvd
	SOMA :	Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#:	2333			Analysis:	EPA 8021B
Field ID:		ZZZZZZZZZZ		Batch#:	85298
MSS Lab ID) :	168216-007		Sampled:	10/14/03
. Matrix:		Water		Received:	10/14/03
Units:		uq/L		Analyzed:	10/14/03
Diln Fac:		1.000			

ype:

MS

Lab ID:

QC228844

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12		N	A		
MTBE	1.310	20.00	18.97	88	38-149
Benzene	<0.06500	20.00	21.02	105	75-128
Toluene	<0.03700	20.00	20.49	102	79-127
Ethylbenzene	<0.04500	20.00	19.52	98	78-124
m,p-Xylenes	<0.07200	40.00	41.49	104	67-121
p-Xylene	<0.05700	20.00	20.54	103	77-131

Surrogate	Re	sult %RBC	Limits	
Trifluorotoluene (FID)	NA			
Bromofluorobenzene (FID)	NA			
Trifluorotoluene (PID)		103	54-149	
Bromofluorobenzene (PID)		107	58-143	

'ype:

 ${\tt MSD}$

Lab ID:

QC228845

Analyte	Spiked	Result	%rec	Limits	RPD	Lim
Gasoline C7-Cl2	Ţ	JA				
MTBE	20.00	19.10	89	38-149	1	38
Benzene	20.00	21.24	106	75-128	1	20
Toluene	20.00	19.77	99	79-127	4	20
Ethylbenzene	20.00	20.44	102	78-124	5	20
m,p-Xylenes	40.00	40.83	102	67-121	2	20
o-Xylene	20.00	20.45	102	77-131	0	20

Surrogate	Resu	lt %REC	Limits	
Trifluorotoluene (FID)	NA			
Bromofluorobenzene (FID)	NA			
Trifluorotoluene (PID)		104	54-149	
Bromofluorobenzene (PID)		107	58-143	

NA= Not Analyzed

RPD= Relative Percent Difference

Page 1 of 1



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

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

ANALYTICAL REPORT

Prepared for:

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

Date: 22-SEP-03 Lab Job Number: 167576

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:

Reviewed by:

Operations Manager

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NELAP # 01107CA

Page 1 of 9

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Page / of /

DATE/TIME

DATE/TIME

Curtis & Tompkins, Ltd.

Analytical Laboratory Since 1878 2323 Fifth Street Berkeley, CA 94710 (510)486-0900 Phone (510)486-0532 Fax C&T LOGIN# 167576

Analyses

121B

DATE/TIME

DATE/TIME

Project No: 2333 Re

Report To: Tony Perini

Sampler:

Project Name:3609 International Blvd., Oakland Company:

Company: SOMA Environmental

Turnaround Time: Standard

Telephone: 925-244-6600

			Fax:	• .		925-244-66	01					8										
				Matrix				Preservative				MtBE										
Lab No.	Sample ID.	Sampling Time		Soil Water	Waste	# of Containers	HCL	H ₂ SO ₄	S S	ב ה	TPH-9 8015	اتحا							,			
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Curtis & Yompkins Laboratories Analytical Report 3609 International Blvd Location: 167576 EPA 5030B Client: SOMA Environmental Engineering Inc. Prep: | Project#: 2333 09/15/03 Sampled: Water Matrix: 09/15/03 Received: Units: ug/L 09/17/03 Batch#: 84579 Analyzed:

Field ID:

INFLUENT

Lab ID:

167576-001

уре:

SAMPLE

Analyte	Result	RL	Diln Fa	c Analysis
Gasoline C7-C12	4,200	50	1.000	8015B .
MTBE	1,100	10	2000	EPA 8021B
Benzene	460	10	2.000	EPA 8021B
Toluene	210	5.0.	1.000	EPA 8021B
Ethylbenzene	69	5.0	1.000	EPA 8021B
m,p-Xylenes	360	5.0	1.000	EPA 8021B
o-Xylene	200	5.0	1.000	EPA 8021B

Surrogate	%REC	Limits	Diln I	Pac Analysis
Trifluorotoluene (FID)	144	57-150	1.000	8015B
Bromofluorobenzene (FID)	143	65-144	1.000	8015B
Trifluorotoluene (PID)	93	54-149	1.000	EPA 8021B
Bromofluorobenzene (PID)	106	58-143	1.000	EPA 8021B

Field ID:

GAC-1

Lab ID:

167576-002

ype: SAMPLE Diln Fac:

1.000

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	6.0	5.0	EPA 8021B
Benzene	ND	5.0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
{Ethylbenzene	ND	5.0	EPA 8021B
	ND	5.0	EPA 8021B
m,p-Xylenes o-Xylene	ND	5.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	100	57-150	8015B
Bromofluorobenzene (FID)	128	65-144	8015B
Trifluorotoluene (PID)	81	54~149	EPA 8021B
Bromofluorobenzene (PID)	106	58-143	EPA 8021B

D= Not Detected RL= Reporting Limit Rage 1 of 2



Curtis & Tompkins Laboratories Analytical Report

Lab #: 167576 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333

 Matrix:
 Water
 Sampled:
 09/15/03

 Units:
 ug/L
 Received:
 09/15/03

 Batch#:
 84579
 Analyzed:
 09/17/03

ield ID:

ype:

ID: PSP#1 SAMPLE

Lab ID:

167576-003

Diln Fac:

1.000

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

)			
Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	57-150	8015B
Bromofluorobenzene (FID)	117	65-144	8015B
Trifluorotoluene (PID)	74	54-149	EPA 8021B
Bromofluorobenzene (PID)	95	58-143	EPA 8021B

Type:

BLANK

Diln Fac:

1.000

ab ID:

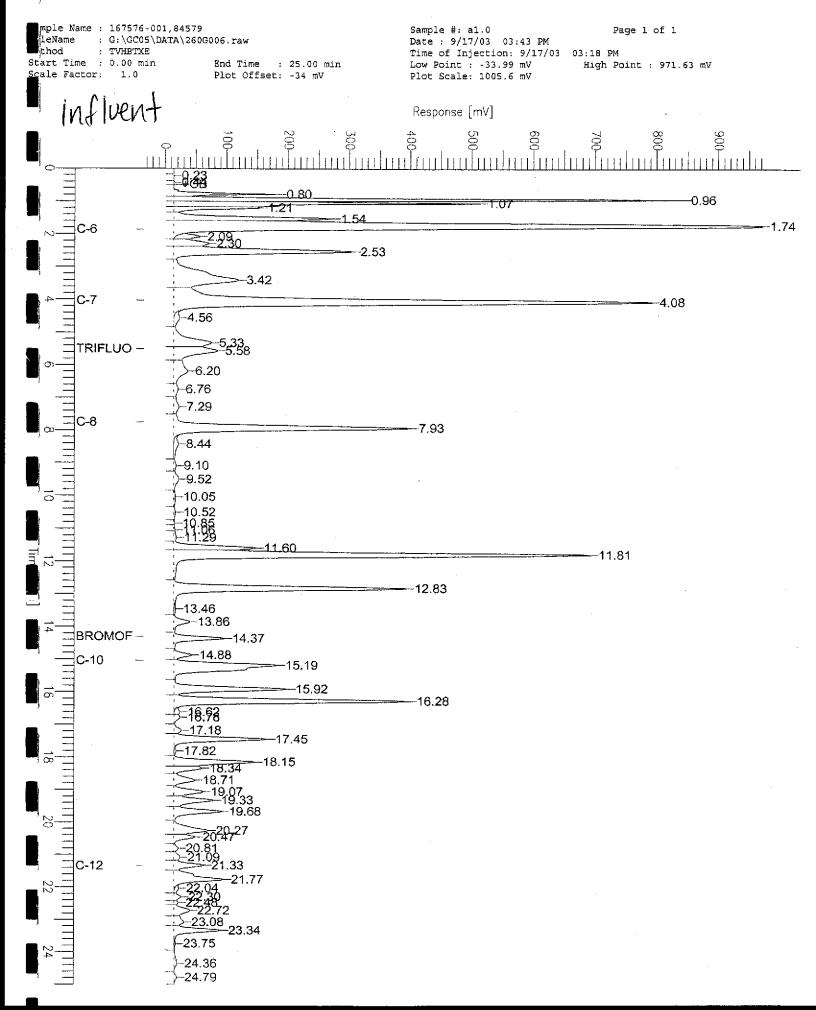
QC225976

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

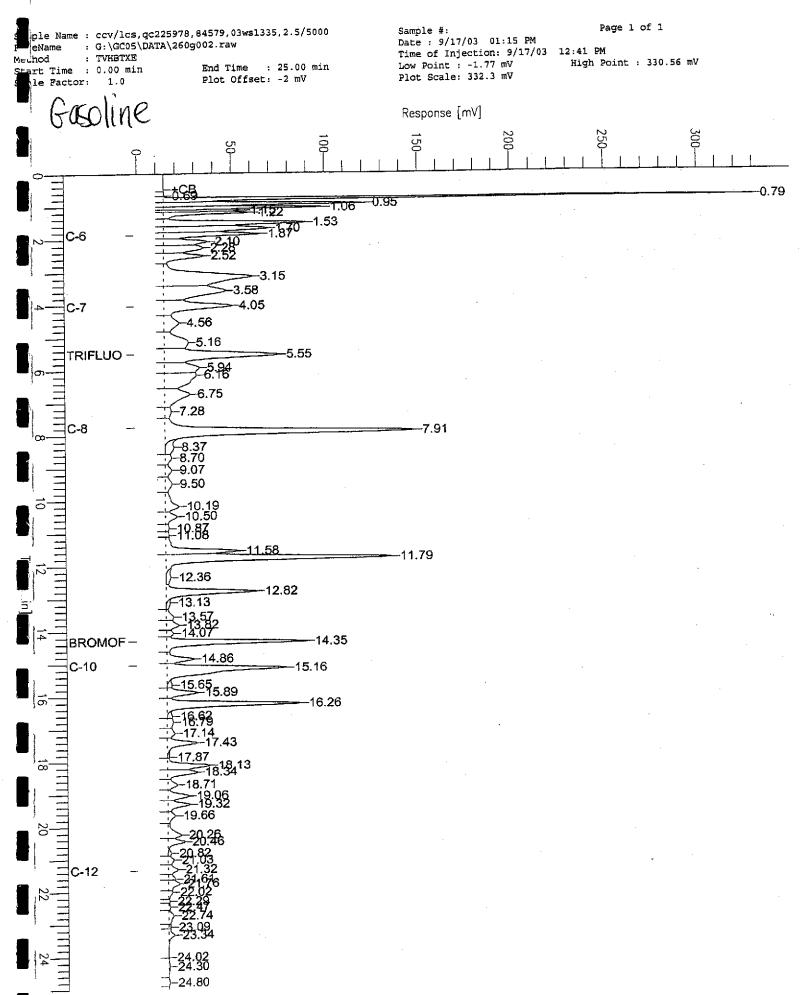
Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	97	57-150	8015B
Bromofluorobenzene (FID)	118	65-144	8015B
Trifluorotoluene (PID)	76	54-149	EPA 8021B
Bromofluorobenzene (PID)	93	58-143	EPA 8021B

p= Not Detected RL= Reporting Limit Rage 2 of 2

Chromatogram



Chromatogram





Total Volatile Hydrocarbons

Lab #: 167576 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B Project#: 2333 Analysis: 8015B

Type: LCS Diln Fac: 1.000

 Lab ID:
 QC225978
 Batch#:
 84579

 Matrix:
 Water
 Analyzed:
 09/17/03

Units: ug/L

Analyte	Spiked	Result	%REC	Limits	
Gasoline C7-C12	1,000	1,151	115	80-120	

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	57-150
Bromofluorobenzene (FID)	130	65-144



	Benzene, Toluene, E	thylbenzene	, Xylenes
Lab #:	167576	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:		Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	OC225977	Batch#:	84579
Matrix:	Water	Analyzed:	09/17/03
Units:	ug/L		

		Result	%REC	Limits
Analyte	Spiked 10.00	8.881	89	63-133
MTBE	10.00	10.12	101	78-123
Benzene Toluene	10.00	9.573	96	79-120
Erhvlbenzene	10.00	9.941	99	80-120
m,p-Xylenes p-Xylene	20.00	21.03	105	76-120
p-Xylene	10.00	10.36	104	80-121

Surrogate	%RI	BC Limits	
Trifluorotoluene (PID)	77	54-149	
Bromofluorobenzene (PID)	95	58-143	



		Total Volatil	.e Hydrocarbo	ons
Lab #: 167	576		Location:	3609 International Blvd
Client: SOM	A Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#: 233		-	Analysis:	8015B
Field ID:	PSP#1		Batch#:	84579
MSS Lab ID:	167576-003		Sampled:	09/15/03
Matrix:	Water		Received:	09/15/03
Units:	ug/L		Analyzed:	09/17/03
Diln Fac:	1.000		-	

ype:

MS

Lab ID:

QC226019

Analyte	MSS Result	Spiked	Result	%RE	C Limits
Gasoline C7-C12	17.50	2,000	2,193	109	76-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	57-150
Bromofluorobenzene (FID)	139	65-144

Type:

MSD

Lab ID:

QC226020

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,246	111	76-120	2	20

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	123	57-150	
Bromofluorobenzene (FID)	140	65-144	•



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

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

ANALYTICAL REPORT

Prepared for:

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

Date: 18-SEP-03 Lab Job Number: 167282 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 Manage:

Reviewed by:

Operations Manager

This package may be reproduced only in its entirety.

NELAP # 01107CA

Page 1 of ______

CHAIN OF CUSTODY C&T LOGIN # 167282

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Page	/ 01	ĺ	

Curtis & Tompkins, Ltd.

Analytical Laboratory Since 1878 2323 Fifth Street Berkeley, CA 94710 (510)48(510)

Analyses

8021B

BTEX & MIBE

Project No: 2333	Report To: Tony Perini	•
(510)486-0900 Phone (510)486-0532 Fax	Sampler: Mehran Nowsoozi	

Project Name:3609 International Blvd., Oakland Company:

SOMA Environmental

Turnaround Time: Standard

Telephone: 925-244-6600

Fax: 925-244-6601

						trix		F	Preservative						
Lab No.	Sample ID.	1 -	Sampling Date			Sampling Date Time		Water	Waste	# of Containers	H	H ₂ SO ₄	HNOS	밀	
-1	Influent	812.03	12:00 RM		X		3-VOAs	X			Z				
-2	GAC-1	912 103	12:05 RM		X		3-VOAs	X		7	X	[
-3	PSP#1	912/13	12:10 Pm		X		3-VOAs	又			Z	i			
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DATE/TIME

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DATE/TIME



Curtis & Tompkins Laboratories Analytical Report 3609 International Blvd 167282 Location: Lab #: EPA 5030B SOMA Environmental Engineering Inc. Prep: Client: Project#: 2333 09/02/03 Matrix: Water Sampled: ug/L 84173 Received: 09/02/03 Units: Batch#:

ਮੈield ID:

INFLUENT SAMPLE

Diln Fac: Analyzed:

5.000 09/04/03

Type: ab ID:

167282-001

Analizate	Result	RT	Analysis	
Gasoline C7-C12	5,000	250	8015B	
MTBE	1,500	25	EPA 8021B	
Benzene	660	25	. EPA 8021B	
Toluene	320	25	EPA 8021B	
Ethylbenzene	100	25	EPA 8021B	
m,p-Xylenes	520	25	EPA 8021B	
o-Xylene	270	25	EPA 8021B	

Surrogate
Trifluorotoluene (FID) Analysis %REC Limits 8015B 57-150 65-144 121 8015B Bromofluorobenzene (FID) 141 Trifluorotoluene (PID) 91 54-149 EPA 8021B EPA 8021B 113 Bromofluorobenzene (PID) 58-143

ield ID:

GAC-1

ype: Lab ID: SAMPLE Diln Fac:

1.000

Analyzed:

09/03/03

167282-002

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	5.0	EPA 8021B
Benzene	ND	5 <i>.</i> 0	EPA 8021B
Toluene	ND	5.0	EPA 8021B
Ethylbenzene	ND	5.0	EPA 8021B
m, p-Xylenes	ND	5.0	EPA 8021B
o-Xylene	ND	5.0	EPA 8021B

Trifluorotoluene (FID)	İ	Surrogate	%REC	Limits	Analysis
Trifluorotoluene (PID) 79 54-149 EPA 8021B	ľ	Trifluorotoluene (FID)	96	57-150	8015B
1 11111401060140016 (1115)	ı	Bromofluorobenzene (FID)	124	65-144	8015B
	ıI.	Trifluorotoluene (PID)	79	54-149	EPA 8021B
Bromoriuorobenzene (PID) 102 58-143 EPA 80215	ľ	Bromofluorobenzene (PID)	102	58-1 <u>43</u>	EPA 8021B

Chromatogram

Page 1 of 1 Sample #: al.0 nple Name : 167282-001,84173,btxe only Date: 9/4/03 11:28 AM : g:\gc05\data\245g022.raw eName Time of Injection: 9/4/03 12:22 AM thod : TVHBTXE Low Point : 0.47 mV High Point : 280.81 mV End Time : 25.00 min Start Time : 0.00 min Plot Scale: 280.3 mV Plot Offset: 0 mV ale Factor: 1.0 INFLUENT Response [mV] 1.52 -1.73C-6 $\frac{2.96}{2}$ -2.50>-3.37 -4.02 C-7 4.50 **~**5.28_ TRIFLUO -5.51 -6.156.69 -7.227.87 }-8.36 9.03 -9.47 -10.10 -10.45 - 11.54 -11.75 12.77 13.48 ⊱13.80 14.31 **BROMOF-**14.82 C-10 15.12 15.85 16.21 16:59 17.11 17.38 17.74 -18.28 -18.65 C-12 -21.71

> 23.65 -24.27 -24.72



Curtis & Tompkins Laboratories Analytical Report

Lab #: 167282 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333

Matrix: Water Sampled: 09/02/03

Units: ug/L Received: 09/02/03

Units: ug/L Batch#: 84173

Field ID:

PSP#1 SAMPLE Diln Fac: Analyzed:

1.000 09/03/03

Type: lab ID:

167282-003

	₽eult		7m=lwefs	
Gasoline C7-C12	ND	50	8015B	::::::::::::::::::::::::::::::::::::::
MTBE	ND	5.0	EPA 8021B	
Benzene	ND	5.0	EPA 8021B	
Toluene	ND	5.0	EPA 8021B	
'Ethylbenzene	ND	5.0	EPA 8021B	
m,p-Xylenes	ND	5.0	EPA 8021B	
o-Xylene	ND	5.0	EPA 8021B	

Analysis Surrogate *REC Limits Trifluorotoluene (FID) 99 57-150 8015B 8015B 127 Bromofluorobenzene (FID) 65-144 Trifluorotoluene (PID) 80 54-149 EPA 8021B EPA 8021B <u>Bromofluorobenzene (PID)</u> 105 58-143

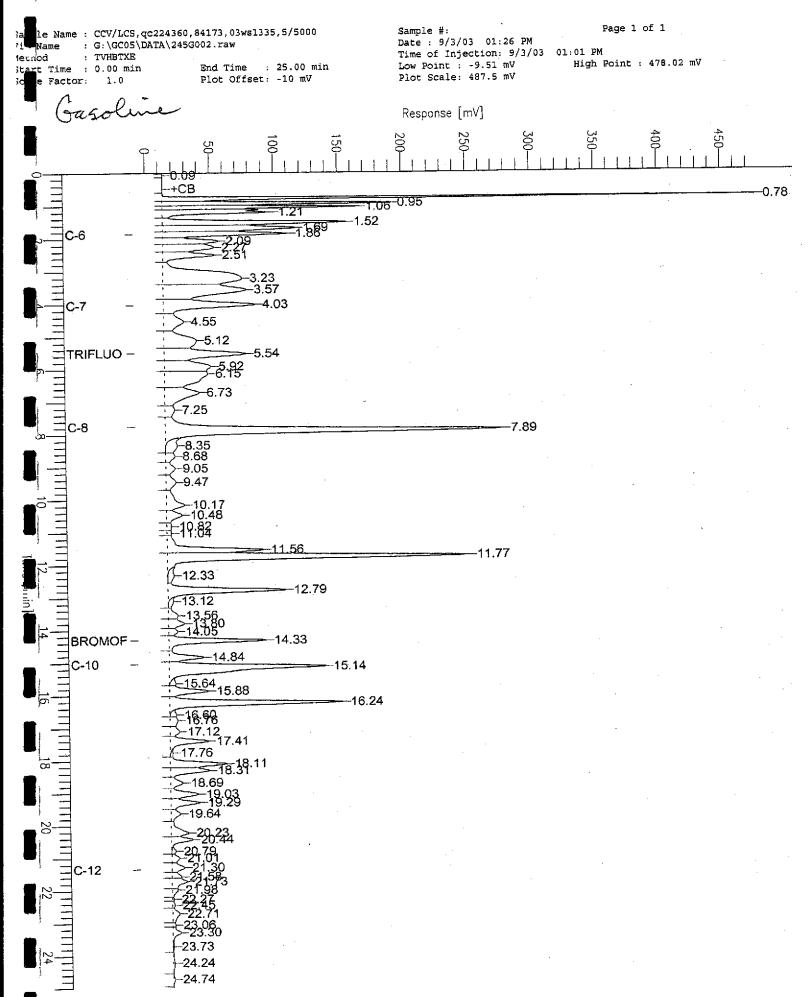
ype: lab ID: BLANK QC224358 Diln Fac: Analyzed:

1.000

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	102	57-150	8015B
Bromofluorobenzene (FID)	125	65-144	8015B
Trifluorotoluene (PID)	82	54-149	EPA 8021B
Bromofluorobenzene (PID)	103	58-143	EPA 8021B

Chromatogram





	Benzene, Toluene, F	Ithylbenzene,	Xylenes
1	167282	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:	QC224359	Batch#:	84173
Matrix:	Water	Analyzed:	09/03/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	18.37	92	63-133
Benzene	20.00	20.39	102	78-123
Foluene	20.00	18.96	95	79-120 ⁻
Ethylbenzene	20.00	19.64	98	80-120
m,p-Xylenes	40.00	41.00	102	76-120
b-Xylene	20.00	20.07	100	80-121

Surrogate	%REC	Limits	
Trifluorotoluene (PID)	73	54-149	
Bromofluorobenzene (PID)	91	58-143	



Total Volatile Hydrocarbons

Lab #: 167282 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: 8015B

Type: LCS Diln Fac: 1.000
Lab ID: QC224360 Batch#: 84173
Matrix: Water Analyzed: 09/03/03

Units: ug/L

Analyte		Result		Limits
Gasoline C7-C12	2,000	2,226	111	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	123	57-150
Bromofluorobenzene (FID)	136	65-144



li .			Total Vole	ıtile	Hydrocarbe	ons
Lab #:	16728	32			Location:	3609 International Blvd
Client:	SOMA	Environmental	Engineering I	nc.	Prep:	EPA 5030B
Project#:	2333			1	Analysis:	8015B
Field ID:		ZZZZZZZZZ]	Batch#:	84173
MSS Lab II) :	167298-001			Sampled:	09/02/03
Matrix:		Water]	Received:	09/02/03
Units:		ug/L		j	Analyzed:	09/04/03
Diln Fac:		1.000				

ype:

MS

Lab ID:

QC224404

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	33.24	2,000	2,135	105	76-120

Surrogate	*RBC	Limits
Trifluorotoluene (FID)	116	57-150
Bromofluorobenzene (FID)	137	65-144

.vpe:

MSD

Lab ID:

QC224405

Analy	rte .	Spiked	Result	*REC	Limita	RPD	Lim
Gasoline C7-C12	<u> </u>	2,000	2,165	107	76-120	1	20
	•						

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	57-150
Bromofluorobenzene (FID)	140	65-144



		Purgeable Aro	matics by G	C/MS
Lab #:	167282		Location:	3609 International Blvd
Client:	SOMA Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#:		- - - -	Analysis:	EPA 8260B
Field ID:	INFLUENT		Batch#:	84307
Lab ID:	167282-001		Sampled:	09/02/03
Matrix:	Water		Received:	09/02/03
Units:	ug/L		Analyzed:	09/09/03
Diln Fac:	10.00			

MTGT) CE				
MTBE		1,200	5.0	
Surrogate	*RBC	Limits		
1,2-Dichloroethane-d4	107	77-129		

80-120

80-123

101

95

Toluene-d8

Bromofluorobenzene



Purgeable Aromatics by GC/MS

Lab #: 167282 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: EPA 8260B Type: BLANK Diln Fac: 1.000

Type: BLANK Diln Fac: 1.000
Lab ID: QC224878 Batch#: 84307

Matrix: Water Analyzed: 09/08/03
Units: ug/L

Analyte	Result	RL	
MTBE	ND	0.5	

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



Purgeable Aromatics by GC/MS

Lab #: 167282 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: EPA 8260B Type: BLANK Diln Fac: 1.000

Lab ID: QC224977 Batch#: 84307

Matrix: Water Analyzed: 09/08/03
Units: ug/L

Analyte Result RL MTBE ND 0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	106	80-123



Purgeable Aromatics by GC/MS

Lab #: 167282 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: EPA 8260B

Matrix: Water Batch#: 84307 Units: ug/L Analyzed: 09/08/03

Diln Fac: 1.000

Type:

BS

Lab ID:

QC224876

Analyte		Result	%REC	? Limits
MTBE	50.00	47.73	95	69-124

1,2-Dichloroethane-d4 105 77-129 Toluene-d8 102 80-120 Bromofluorobenzene 104 80-123	Surrogate	%REC	Limits		
	1,2-Dichloroethane-d4	105			
Bromofluorobenzene 104 80-123	Toluene-d8	102	80-120		
	Bromofluorobenzene	104	80~123	·	

ype:

BSD

Lab ID:

QC224877

Analyte	Spiked		ARE(Limits	RPD	Lim
MTBE	50.00	48.19	96	69-124	1	20

,		
Q.,	U.D.D.O.	Limits
		DIMILOS
1,2-Dichloroethane-d4	105	77-129
SEE N		, , 123
■ Toluene - d8	102	80-120
<u>, L</u>	-	
Bromofluorobenzene	102	80-123



			Dungashis	N was	matics by	ed/ nc
			Furgeauxe	: ALU	matics by	GC/ NO
Lab #: Client:	16728	32			Location:	3609 International Blvd
Client:	SOMA	Environmental	Engineering	Inc.	Prep:	EPA 5030B
Project#:	2333				Analysis:	EPA 8260B
Field ID:		ZZZZZZZZZ			Batch#:	84307
MSS Lab II):	167227-003			Sampled:	08/28/03
Matrix:		Water			Received:	08/28/03
Units:		\mathtt{ug}/\mathtt{L}			Analyzed:	09/08/03
Diln Fac:		1.000				

MS

Lab ID: QC224958

Analyte	MSS Result	Spiked	Result	* A.L.	C Limits
MTBE	<0.1100	50.00	43.99	88	67-127
		<u> </u>			

Surrogate	%REC	Limits	
1,2-Dichloroethane-d4	107	77-129	
Toluene-d8	105	80-120	
Bromofluorobenzene	94	80-123	

ype:

MSD

Lab ID:

QC224959

MTBE		50.00	46.11	92	67-127	5	20
Surrogate	*570	' Limits					
1,2-Dichloroethane-d4	104	77-129					
Toluene-d8	100	80-120	·				
Bromofluorobenzene	100	80-123					



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

2323 Fifth Street, Berkeley, CA 9471O. Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

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

Date: 03-SEP-03 Lab Job Number: 167027

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

Page 1 of 13



Laboratory Number:

167027

Client:

SOMA Environmental Engineering Inc.

Project: .

3609 International Blvd

Request Date:

08/19/2003

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for three water samples requested from the above referenced project on August 19, 2003. The samples were received cold and intact.

TVH/BTXE:

In the influent sample, the recovery for the surrogate trifluorotoluene is outside control limits due to the coelution of the surrogate peak with other hydrocarbon peaks. The associated surrogate recoveries are acceptable.

No other analytical problems were encountered.

Sampler:

Fax:

Curtis & Tompkins, Ltd.

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

C&T LOGIN #	11	7	n	2	7
C&T LOGIN #	((0		_	_	

Analyses

8021B

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Project No:	2333	<u> </u>

Project Name:3609 International Blvd., Oakland Company:

Turnaround Time: Standard

Report To: Tony Perini

ompany: SOMA Environmental

Mehran Nowroo

Telephone: 925-244-6600

925-244-6601

			Matrix		Pres	ervative	8015	₹								
Lab No.	Sample ID.	Sampling Date Time	Soil Water Waste	# of Containers	HCL H ₂ SO ₄	HNOS	TPHg 80	BTEX &				,				
	Influent	2/19/03 11:30 AM		3-VOAs	X		$ \times $	X				_	_	\dashv		
	GAC-1	8,19,07 11:35 AM		3-VOAs	\times		\succeq	X								
<u> </u>	PSP#1			3-VOAs	X		\succeq	\bowtie							 -	<u> </u>
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Notes: EDF OUTPUT REQUIRED
Grab Sample
Confirm MtBE by EPA Method 8260B
Totalizer Reading:

RELINQUISHED BY:		RECEIVED BY:
12:25 BM	8,19,03	5
Mehran Newroozi	DATE/TIME	
M. Nources	DATE/TIME	

DATE/TIME

DATE/TIME DATE/TIME



Curtis & Tompkins Laboratories Analytical Report

Lab #: 167027 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333

 Matrix:
 Water
 Sampled:
 08/19/03

 Units:
 ug/L
 Received:
 08/19/03

 Batch#:
 83853
 Analyzed:
 08/20/03

Field ID: INFLUENT Lab ID: 167027-001

Type: SAMPLE Diln Fac: 5.000

Analysis Result Analyte 8015B 250 Gasoline C7-C12 6,700 EPA 8021B 25 MTBE 1,600 EPA 8021B 710 25 Benzene EPA 8021B 25 370 Toluene EPA 8021B 25 130 Ethylbenzene EPA 8021B 25 m,p-Xylenes 710 25 EPA 8021B 370 o-Xylene

Surrogate	%REC_	Limits	Analysis
Trifluorotoluene (FID)	152 *	57-150	8015B
Bromofluorobenzene (FID)	107	65-144	8015B .
Trifluorotoluene (PID)	132	54-149	EPA 8021B
Bromofluorobenzene (PID)	106	58-143	EPA 8021B

Field ID: GAC-1 Lab ID: 167027-002

Expe: SAMPLE Diln Fac: 1.000

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	117	57-150	8015B
Bromofluorobenzene (FID)	104	65-144	8015B
Trifluorotoluene (PID)	115	54-149	EPA 8021B
Bromofluorobenzene (PID)	102	58-143	EPA 8021B

*= Value outside of QC limits; see narrative

D= Not Detected

kL= Reporting Limit

Page 1 of 2

GC04 TVH 'J' Data File FID

mple Name : 167027-001,83853 leName : G:\GC04\DATA\232J011.raw chod : TVHBTXE Sample #: a1.0 Date : 8/21/03 08:02 AM Page 1 of 1 leName thod Time of Injection: 8/20/03 06:43 PM Start Time : 0.00 min End Time : 26.00 min Low Point : 41.44 mV High Point: 403.03 mV Plot Scale: 361.6 mV Plot Offset: 41 mV INFLUENT Response [mV] -1.46 1.61 2.45 C-6 3.50€3.91 4.30 4.56 5.27C-7 6.55 TRIFLUO -C-8 -9.08⊱9.59 10.19 10.67 11.57 11.90 12.49 12.69 -12.91-13.93 14.93 15.19 BROMOF--15.46 -15.96 C-10 ---16.4216.27 -17.01-17.3917:68 -18.23 -18.57==-19.29 -19.82 -20 18 -20 44 --20.81 21.97 22.35 --22.66 -23.02.23 __C-12 24.59 25.19

>-25.69



Curtis & Tompkins Laboratories Analytical Report

3609 International Blvd Location:

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

| Project#: 2333

08/19/03 Water Sampled: Matrix: 08/19/03 Units: ug/L Received: 08/20/03 Batch#: 83853 Analyzed:

Field ID:

PSP#1

Lab ID:

167027-003

1.000

Diln Fac: SAMPLE ype:

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

)		Andread are and bod bod bob 650.00		
Surrogate	%rec	Limits	Analysis	
Trifluorotoluene (FID)	119	57-150	8015B	
Bromofluorobenzene (FID)	106	65-144	8015B	
Trifluorotoluene (PID)	117	54-149	EPA 8021B	
Bromofluorobenzene (PID)	105	58-143	EPA 8021B	

Type:

BLANK

Diln Fac: 1.000

ab ID: QC223003

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

Surrogate	%RBC	Limits	Analysis
Trifluorotoluene (FID)	102	57-150	8015B
Bromofluorobenzene (FID)	89	65-144	8015B
Trifluorotoluene (PID)	101	54-149	EPA 8021B
Bromofluorobenzene (PID)	88	58-143	EPA 8021B

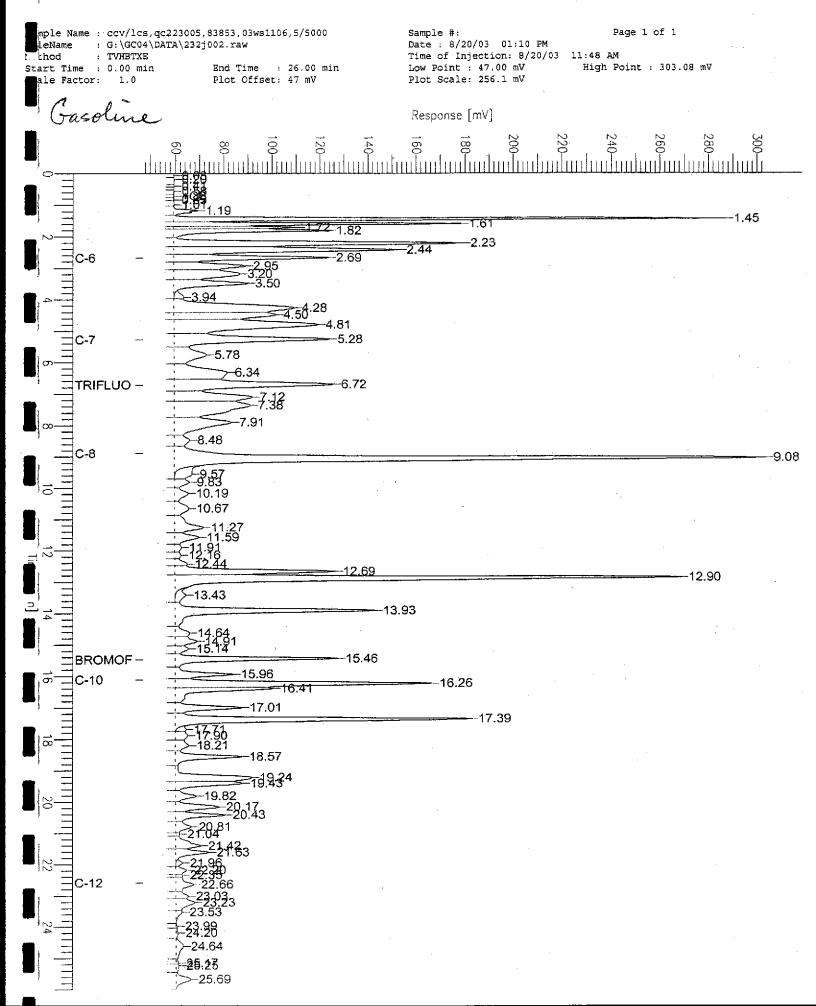
^{*=} Value outside of QC limits; see narrative

D= Not Detected

L= Reporting Limit

Page 2 of 2

GC04 TVH 'J' Data File FID





	Curtis & Tompkins Labor	atories Anal	ytical Report
Lab #:	167027	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	-	Analysis:	EPA 8021B
	LCS	Diln Fac:	1.000
Type: Lab ID:	QC223004	Batch#:	83853
Matrix	Mater	Analyzed:	08/20/03

Gasoline C7-C12		NA		
MTBE	10.00	9.322	93	63-133
Benzene	10.00	10.27	103	78-123
Toluene	10.00	9.655	97	79-120
Ethylbenzene	10.00	9.663	97	80-120
	20.00	20.64	103	76-120
n,p-Xylenes o-Xylene	10.00	9.936	99	80-121

Surrogate	Resul	t %REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		107	54-149
Bromofluorobenzene (PID)		96	58-143

Units:

ug/L



Curtis & Tompkins Laboratories Analytical Report

Lab #: 167027 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

 Project#: 2333
 Analysis:
 8015B

 Type:
 LCS
 Diln Fac:
 1.000

Matrix: Water Units: ug/L

Analyte	Spiked	Result	*REC	Limits
Gasoline C7-C12	2,000	2,157	108	80-120
MTBE		NA		
Benzene		NA		
Toluene		NA		
Ethylbenzene		NA		
m,p-Xylenes		AN		•
Ethylbenzene m.p-Xylenes o-Xylene		NA		<u> </u>

Resul	t %REC	Limits	
	135	57-150	
•	101	65-144	
NA			
NA			
		101 NA	101 65-144 NA



	Curtis &	Tompkins Labor	atories Anal	ytical Report
	.67027 SOMA Environmental	Engineering Inc.	Location: Prep: Analysis:	3609 International Blvd EPA 5030B 8015B
Field ID: MSS Lab ID: Matrix: Units: Diln Fac:	ZZZZZZZZZZZZ		Batch#: Sampled: Received: Analyzed:	83853 08/18/03 08/19/03 08/20/03

ype:

MS

Lab ID:

QC223018

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	40.55	2,000	2,192	108	76-120
MTBE			NA		
Benzene			AK		
			NA		
Toluene			NA		
Ethylbenzene m,p-Xylenes			NA		
m,p-Xylenes			NA		i
ρ-Xylene					

			Limits		
Surrogate	R		Andrew Control of the		
Trifluorotoluene (FID)		137	57-150	-	
Bromofluorobenzene (FID)		103	65-144		1
Trifluorotoluene (PID)	AN				
Bromofluorobenzene (PID)	NA				

Type:

MSD

Lab ID:

QC223019

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,177	107	76-120	1	20
MTBE		NA				
Benzene		NA				
Toluene		NA				
		NA				
m n-Xvlenes		NA				
Ethylbenzene m,p-Xylenes o-Xylene		NA		<u></u>		

Surrogate		Result %REC Limits
Trifluorotoluene (FID)		135 57-150
Bromofluorobenzene (FID)		102 65-144
Trifluorotoluene (PID)	NA	
Bromofluorobenzene (PID)	NA	

NA= Not Analyzed KPD= Relative Percent Difference Page 1 of 1



		Purgeable Aro	matics by C	GC/MS
љаb #:	167027		Location:	3609 International Blvd
Client:	SOMA Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		Analysis:	EPA 8260B
Field ID:	INFLUENT		Batch#:	83890
Lab ID:	167027-001		Sampled:	08/19/03
Matrix:	Water		Received:	08/19/03
Units:	ug/L		Analyzed:	08/22/03
Diln Fac:	12.50		-	

- E				
	Analyte			RL
	MTBE		1,300	6.3
-	Surrogate	%REC	Limits	
	1,2-Dichloroethane-d4	114	77-129	
	1,2-Dichloroethane-d4 Toluene-d8	101	80-120	
ī	Bromofluorobenzene	114	80-123	



Purgeable Arcmatics by GC/MS

Lab #: 167027 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: EPA 8260B Type: BLANK Diln Fac: 1.000

 Lab ID:
 QC223145
 Batch#:
 83890

 Matrix:
 Water
 Analyzed:
 08/21/03

Units: ug/L

J	Analyte	Result	
Г	MTBE	ND	0.5

}	Surrogate	%REC	Limits
1	1,2-Dichloroethane-d4	104	77-129
ď,	Toluene-d8	100	80-120
	Bromofluorobenzene	113	80-123
•			



Purgeable Aromatics by GC/MS 167027 Lab #: Location: 3609 International Blvd Client: SOMA Environmental Engineering Inc. EPA 5030B Prep: Project#: 2333 Analysis: EPA 8260B Matrix: Water 83890

Batch#: Units: ug/L 08/21/03 Analyzed:

Diln Fac: 1.000

Type:

BS

Lab ID:

QC223143

Analyte	Spiked	Result	533,153	C Limite
MTBE	50.00	48.40	97	69-124

Bromofluorobenzene	97	80-123
Toluene-d8	98	80-120
1,2-Dichloroethane-d4	106	77-129
Surrogate	%REC	Limits

BSD

Lab ID:

QC223144

Analyte	Spiked	RAEN F		Limite		0000000 TOP 0000000
MTBE	50.00	50.30	101	69-124	4	20
•						

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	77-129
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-123



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

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

ANALYTICAL REPORT

Prepared for:

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

Date: 30-JUL-03 Lab Job Number: 166439

Project ID: 2333

Location: 3609 International Blvd

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

Reviewed by:

roject Manager

Reviewed by:

perations Manager

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NELAP # 01107CA

Page 1 of ______

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Sampler:

Fax:

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

C&T LOGIN # 166 439

Analyses

8021B

Project No:	2333	

Project Name:3609 International Blvd., Oakland Company:

Turnaround Time: Standard

Report To: **Tony Perini**

SOMA Environmental

925-244-6600 Telephone:

925-244-6601

Mehran NowrooZ

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	Sample ID.	Comple ID		Sampling Date										7 g W 00			Matrix Preservative Sample ID. Sampling Date Time Sampling Date Time Sampling Date Containers # of Containers	

Grab Sample

Confirm MtBE by EPA Method 8260B

Totalizer Reading:

3:10 PM 7/2403 DATE/TIME

7/-21/03 3;10 DATE/TIME

DATE/TIME

DATE/TIME DATE/TIME

DATE/TIME



Curtis & Tompkins Laboratories Analytical Report

Lab #: 166439 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333

 Matrix:
 Water
 Sampled:
 07/21/03

 Units:
 ug/L
 Received:
 07/21/03

Units: ug/L Received: 07/21/03 |Batch#: 83036 Analyzed: 07/22/03

Field ID:

INFLUENT

Lab ID:

166439-001

ype:

SAMPLE

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

Surrogate	%REC	Limits	Diln 1	Pac Analysis
Trifluorotoluene (FID)	117	57-150	10.00	8015B
Bromofluorobenzene (FID)	127	65-144	10.00	8015B
Trifluorotoluene (PID)	121	54-149	1.000	EPA 8021B
Bromofluorobenzene (PID)	111	58-143	1.000	EPA 8021B

Field ID:

ype:

GAC-1

SAMPLE

o -

Lab ID:

166439-002

Diln Fac:

1.000

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

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

D= Not Detected

ÅL= Reporting Limit

age 1 of 2



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

ield ID:

PSP#1

Lab ID:

166439-003

SAMPLE

Diln Fac:

1.000

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

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

BLANK

Diln Fac:

1.000

ab ID:

QC219800

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

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

p= Not Detected

L= Reporting Limit

Page 2 of 2



Curtis & Tompkins Laboratories Analytical Report

Lab #: 166439 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333

Type: LCS Diln Fac: 1.000
Lab ID: QC219801 Batch#: 83036
Matrix: Water Analyzed: 07/22/03

Units: ug/L

			%REC	Lamits	Analysis
Analyte	Spiked N.	Result	**************************************	<u> </u>	
Gasoline C7-C12	20.00	19.68	98	63-133	EPA 8021B
MTBE Benzene	20.00	19.96	100	78-123	EPA 8021B
Toluene	20.00	19.07	95	79-120	EPA 8021B
Ethylbenzene	20.00	19.33	97	80-120	EPA 8021B
-	40.00	38.73	97	76-120	EPA 8021B
m.p-Xylenes .o-Xylene	20.00	19.38	97	80-121	EPA 8021B

Surrogate	%prc	Loim: Es	Analysis
Trifluorotoluene (FID)	98		8015B
Bromofluorobenzene (FID)	107	65-144	8015B
Trifluorotoluene (PID)	99		EPA 8021B
Bromofluorobenzene (PID)	108	58-143	EPA 8021B
Bromofluorobenzene (PID)	108	20143	EFA 0021D



Curtis & Tompkins Laboratories Analytical Report

Lab #: 166439 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: 8015B

Type: LCS Diln Fac: 1.000 Lab ID: QC219802 Batch#: 83036

Matrix: Water Analyzed: 07/22/03

Units: ug/L

Analyte	Spiked	Result	¥REC	Limits	
∐Gasoline C7-Cl2	2,000	2,012	101	80-120	
MTBE		NA			
Benzene	·	NA			
Toluene		NA	•		
		NA			
m.p-Xylenes		NA			
Ethylbenzene m,p-Xylenes o-Xylene		NA		<u></u>	

Surrogate	Resu	it %kac	: Limits	3233233333
Trifluorotoluene (FID)		117	57-150	j
Bromofluorobenzene (FID)		116	65-144	
Trifluorotoluene (PID)	NA			
Bromofluorobenzene (PID)	NA			



		Curtis &	Tompkins Labor	atories Ana	lytical Report
Lab #:	16643	3 9		Location:	3609 International Blvd
Client:	SOMA	Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#:	2333			Analysis:	8015B
Field ID:		ZZZZZZZZZZ		Batch#:	83036
MSS Lab II):	166471-001		Sampled:	07/22/03
Matrix:		Water		Received:	07/22/03
Units:		ug/L	•	Analyzed:	07/23/03
Diln Fac:		1.000	<u> </u>		

MS

Lab ID:

QC219815

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

Surrogate	Res	ult %REC	Limits	
Trifluorotoluene (FID)		112	57-150	
Bromofluorobenzene (FID)		118	65-144	
Trifluorotoluene (PID)	NA			
Bromofluorobenzene (PID)	NA		<u></u>	

MSD

Lab ID:

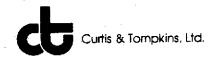
QC219816

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

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

NA= Not Analyzed RPD= Relative Percent Difference

Page 1 of 1



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

Analyte	Result	RL	
MTBE	2,900	10	
Surrogate	%RBC Limits		

1,2-Dichloroethane-d4 93 77-129	Surrogate	B
T 1 10 00 100	1,2-Dichloroethane-d4	9
Toluene-d8 88 80-120	Toluene-d8	0
Bromofluorobenzene 101 80-123	Bromofluorobenzene	3.



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

Analyte		Result	RL	
MTBE		34	0.5	
Surrogate	%RBC	Limits		
1,2-Dichloroethane-d4	96	77-129		
Toluene-d8	92	80-120		
Bromofluorobenzene	104	80-123		÷



Purgeable Aromatics by GC/MS

166439 Lab #: Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 EPA 8260B Analysis: BLANK 1.000

Lab ID: QC220066 Batch#: 83122

07/24/03 Matrix: Water Analyzed: Units: ug/L

Analyte Result RL MTBE ND0.5

Diln Fac:

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

Type:



Purgeable Aromatics by GC/MS

Lab #: 166439 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Broject#: 2333 Analysis: EPA 8260B

Project#: 2333 Analysis: EPA 82601

Matrix: Water Batch#: 83122

Units: ug/L Analyzed: 07/24/03
Diln Fac: 1.000

. Type : BS

Lab ID:

QC220063

Analyte	Spiked	Result		C Limits
MTBE .	50.00	45.11	90	69-124

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

Fype:

Toluene-d8

Bromofluorobenzene

BSD

Lab ID:

QC220064

Analyte		Spiked	Result	%RE	C Limits	RE)	Lim
MTBE		50.00	46.60	93	69-124	3	20
						2000000000000	
Surrogate	%RE	C Limits					
1.2-Dichloroethane-d4	97	77-129					

80-120

80-123

95

96



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2323 Fifth Street, Berkeley, CA 9471O, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

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

Date: 22-JUL-03 Lab Job Number: 166254

Project ID: 2333

Location: 3609 International Blvd

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

Reviewed by:

Project Manager

Reviewed by:

grations Manager

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NELAP # 01107CA

Page 1 of ________

Curtis & Tompkins, Ltd.

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

C&T LOGIN#	16625	4

Analyses

8021B

出

(510)486-0532 Fax	Sampler: Ne	Aran Nowrooz
Project No: 2333	Report To:	Tony Perini

Project Name:3609 International Blvd., Oakland Company:

Turnaround Time: Standard

SOMA Environmental

925-244-6600 Telephone:

925-244-6601 Fax:

				Ма	tri	X		F	res	erv	ativ	e		<u>8</u>	ΣI			- }			ı	- 1	1	ĺ
Lab No.	Sample ID.	Sampling Date Time	Soil	Water	Waste		# of Containers	FC.	H ₂ SO ₄	HNO3	ICE				BTEX &									ļ
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Notes: EDF OUTPUT REQUIRED **Grab Sample** Confirm MtBE by EPA Method 8260B **Totalizer Reading:**

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		DATE/TIME
,		DATE/TIME

19/02	3 30 PM
>	DATE/IM

DATE/TIME

DATE/TIME



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

Field ID:

INFLUENT

Lab ID:

166254-001

SAMPLE

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

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

Field ID:

Type:

Lab ID:

GAC-1

SAMPLE

166254-002

Diln Fac:

1.000

Batch#:

82840

Analyzed:

07/13/03

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

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

ND= Not Detected

RL= Reporting Limit

Page 1 of 3

GC04 TVH 'J' Data File FID

Sample #: al

mple Name : 166254-001,82810

Page 1 of 1

Date: 7/12/03 12:31 PM ; G:\GC04\DATA\192J006.raw leName Time of Injection: 7/11/03 12:52 PM thod : TVHBTXE Low Point : 8.06 mV High Point : 1094.43 mV Start Time : 0.00 min End Time : 26.00 min Plot Scale: 1086.4 mV Plot Offset: 8 mV ale Factor: 1.0 INFLUENT Response [mV] -1.15 -1.45 1,60 1.80 **≠**1.98 -2.44C-6 -3.433.81 51 2-4.21 3-4.47 C-7 -5.69 TRIFLUO -8.09 -8.47 C-8 -8.95 9:45 10.07 10.49 12.57 -12.79-13.81BROMOF -15.84 C-10 16.29 16.15 ---16.90 17.27 17.75 18.14 -18.45 18.78 --19.18 -19.70 -20.05 --20.32 ---20.70 22.57 23.08 23.84 24.66 24.41 25.02 >-25.49



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

Field ID:

PSP#1

Type:

SAMPLE

Lab ID:

166254-003

Diln Fac:

1.000

Batch#:

82810

Analyzed:

07/11/03

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

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

Type:

BLANK

DITHIAL

Batch#:

82810

QC218944

Analyzed:

07/11/03

Lab ID: Diln Fac:

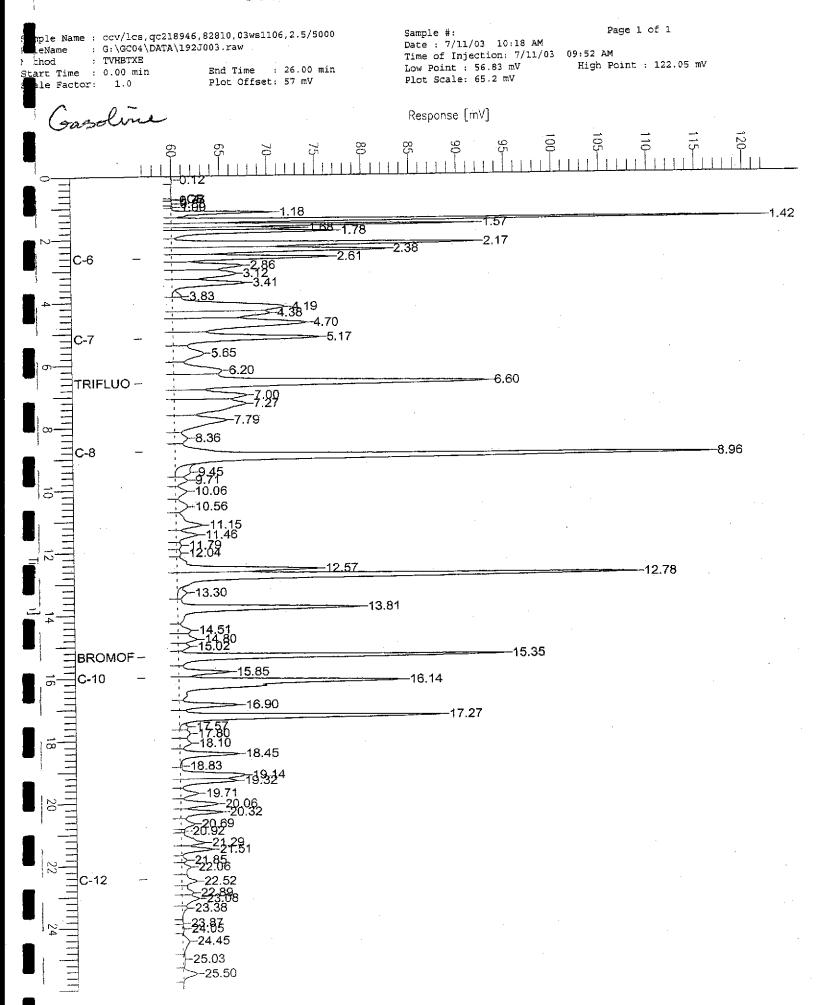
1.000

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

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

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

GC04 TVH 'J' Data File FID





	Curtis & Tompkins Labor	catories An	alytical Report
Lab #:	166254	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		
Matrix:	Water	Sampled:	07/09/03
Units:	ug/L	Received:	07/09/03

Type: Lab ID:

BLANK

Diln Fac:

QC219069

1.000

Batch#:

82840

Analyzed:

07/12/03

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

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



Total Volatile Hydrocarbons

Lab #: 166254 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B Project#: 2333 Analysis: 8015B

 Project#: 2333
 Analysis:
 8015B

 Type:
 LCS
 Diln Fac:
 1.000

Lab ID: QC218946 Batch#: 82810
Matrix: Water Analyzed: 07/11/03

Matrix: Water Analyzed:
Units: ug/L

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

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



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

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

1			••
Bromofluorobenzene (PID)	89	58-143	
Trifluorotoluene (PID)	91	54-149	
Surrogate	%REC	Limits	



Total Volatile Hydrocarbons

Lab #: 166254 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

 Project#: 2333
 Analysis:
 8015B

 Type:
 LCS
 Diln Fac:
 1.000

 Type:
 LCS
 Diln Fac:
 1.000

 Lab ID:
 QC219070
 Batch#:
 82840

Matrix: Water Analyzed: 07/12/03

Units: ug/L

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

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



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Lab #: 166254 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B Project#: 2333 Analysis: EPA 8021B

Type: LCS Diln Fac: 1.000
Lab ID: QC219071 Batch#: 82840
Matrix: Water Analyzed: 07/12/03

Units: ug/L

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	19.35	97	63-133
Benzene	20.00	20.67	103	78-123
Toluene	20.00	20.35	102	79-120
¹ Ethylbenzene	20.00	18.70	93	80-120
m,p-Xylenes	40.00	37.44	94	76-120
o-Xylene	20.00	19.54	98	80-121

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



			Total Volatil	e Hydrocarb	ons
Lab #:	16625	54		Location:	3609 International Blvd
Client:	AMOS	Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#:	2333			Analysis:	8015B
Field ID:		PSP#1		Batch#:	82810
MSS Lab ID) :	166254-003		Sampled:	07/09/03
Matrix:		Water		Received:	07/09/03
Units:		ug/L		Analyzed:	07/11/03
Diln Fac:		1.000			

ype:

MS

Lab ID:

QC218996

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

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

 ${\rm Type}:$

MSD

Lab ID:

QC218997

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

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



	Benzene, Toluene,	Ethylbenzene,	Xylenes
Lab #: 166254		Location:	3609 International Blvd
	nvironmental Engineering Inc	:. Prep:	EPA 5030B
Project#: 2333	<u> </u>	Analysis:	EPA 8021B
Field ID:	ZZZZZZZZZ	Batch#:	82840
MSS Lab ID:	166274-003	Sampled:	07/09/03
Matrix:	Water	Received:	07/10/03
Units:	ug/L	Analyzed:	07/12/03
Diln Fac:	1.000		

MS

Lab ID: QC219078

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

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

MSD

Lab ID:

QC219079

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

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



		Purgeable Aro	matics by G	С\ма
Lab #:	166254		Location:	3609 International Blvd
Client:	SOMA Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#:		-	Analysis:	EPA 8260B
Field ID:	INFLUENT		Batch#:	82849
Lab ID:	166254-001		Sampled:	07/09/03
Matrix:	Water		Received:	07/09/03
Units:	ug/L		Analyzed:	07/14/03
Diln Fac:	33.33		_	

MTBE		3,400		17	
		•			
Surrogate	*REC	Limits			
1,2-Dichloroethane-d4 Toluene-d8	108	77-129	<u> </u>		İ
Toluene-d8	97	80-120			

80-123

102

Bromofluorobenzene



Purgeable Aromatics by GC/MS

3609 International Blvd 166254 Lab #: Location: Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B EPA 8260B | Project#: 2333 Analysis: GAC-1 Batch#: 82849 Field ID: 07/09/03 Lab ID: 166254-002 Sampled: 07/09/03 Matrix: Water Received: Units: ug/L Analyzed: 07/14/03 Diln Fac: 1.000

Analyte	Result	RL	
MTBE	27	0.5	

Surrogate	*REC	Limits
1,2-Dichloroethane-d4	108	77-129
Toluene-d8	97	80-120
Bromofluorobenzene	104	80-123



Purgeable Aromatics by GC/MS

Lab #: 166254 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: EPA 8260B

Type: BLANK Diln Fac: 1.000 Lab ID: QC219110 Batch#: 82849

Matrix: Water Analyzed: 07/14/03

Units: ug/L

Analyte Result RL
MTBE ND 0.5

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



Purgeable Aromatics by GC/MS

Lab #: 166254 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B | Project#: 2333 Analysis: EPA 8260B

Matrix: Water Batch#: 82849
Units: ug/L Analyzed: 07/14/03
Diln Fac: 1.000

Type:

BS

Lab ID:

QC219108

Analyte	Spiked	Result		Limits	
MTBE	50.00	53.98	108	69-124	

Surrogate	%REC	Limits	
1,2-Dichloroethane-d4	113	77-129	
Toluene-d8	102	80-120	
Bromofluorobenzene	101	80-123	
(* <u> </u>			

уре:

BSD

Lab ID:

QC219109

Analyte	Spiked	Result	2. P. F. C		RPD	Lim
MTBE	50.00	52.18	104	69-124	3	20
		<u> </u>				

	Surrogate	%REC	Limits
	1,2-Dichloroethane-d4	107	77-129
	Toluene-d8	97	80-120
L	Bromofluorobenzene	100	80-123



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

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

ANALYTICAL REPORT

Prepared for:

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

Date: 23-JUN-03 Lab Job Number: 165746

Project ID: 2333

Location: 3609 International Blvd

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

Reviewed by:

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Reviewed by:

rations Manager

This package may be reproduced only in its entirety.

NELAP # 01107CA

Page 1 of 12

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Page _/_of _/__

Analyses

8260 GCMS

TBE

Curtis & Tompkins, Ltd.

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

C&T LOGIN # 165746

Mehran Nowroozi Sampler:

Tony Perini Report To:

Project No: 2333 **SOMA Environmental** Project Name: 3609 International Blvd., Oakland Company:

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

925-244-6601 Fax:

			• []		Matrix			·	Preservative					8015	ľ≥	-	1	
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Notes: EDF OUTPUT REQUIRED Grab Sample

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DATE/TIME

DATE/TIME DATE/TIME



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

rield ID: ype:

INFLUENT

SAMPLE

Lab ID: Analyzed:

165746-001 06/12/03

Result Analyte 9,500 Gasoline C7-C12

Limits 57-150 65-144 Surrocate Trifluorotoluene (FID) Bromofluorobenzene (FID) 134 90

rield ID: Type:

GAC-1 SAMPLE

Lab ID:

Analyzed:

165746-002 06/12/03

Analyte	Result	RE	
Gasoline C7-C12	ND	50	
Surrogate Trifluorotoluene (FID) Bromofluorobenzene (FID)	**************************************		

ield ID:

PSP#1 SAMPLE Lab ID: Analyzed:

165746-003

06/11/03

	Analyte		Kesye E	PL
ľ	Gasoline C7-C12	ND		50
4	Surrogate	%REC	Famers	
- 	Trifluorotoluene (FID) Bromofluorobenzene (FID)	89 88	57-150 65-144	

Туре: Lab ID:

BLANK

Analyzed:

06/11/03

QC216164

}			
ALALVIE	100000		
Gasoline C7-C12	ND	<u> </u>	
- Gasorine C7 CII			

Surrogate	%RE	(c. Limits	
Trifluorotoluene (FID)	87	57-150	•
Bromofluorobenzene (FID)	88	65-144	

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

Chromatogram

Sample #: c1

Page 1 of 1

ple Name : 165746-001,82102 Date: 6/12/03 02:22 AM : G:\GC05\DATA\162G022.raw eName Time of Injection: 6/12/03 01:57 AM thod : TVHBTXE High Point : 907.60 mV Start Time : 0.00 min End Time : 25.00 min Low Point : -30.28 mV Plot Offset: -30 mV Plot Scale: 937.9 mV le Factor: 1.0 MFLUENT Response [mV] -3.31 C-7 7-4.50 TRIFLUO -6.07 -6.57 -7.16 C-8 7.808.29 8.57 -8.98 9.41 -9.78 --10.12 -10.48 -11.29 -11.6212.95 14.06 BROMOF ---14.62 15.18 C-10 -15.52 -16.3216.73 17.26 17.71 -18.02 18.40 -18.79 > 19.00 -19.40 -19.81 >-20.11 -20.48 21:38 1.74 2.06 --22.32 C-12 -22.81

Chromatogram

Page 1 of 1 ble Name : CCV/LCS,qc216165,82102,03ws0819,2.5/5000 : G:\GC05\DATA\162G002.raw Date: 6/11/03 01:28 PM eName Time of Injection: 6/11/03 01:03 PM nod : TVHBTXĒ End Time : 25.00 min High Point : 69.76 mV Start Time : 0.00 min Low Point : 11.75 mV Plot Offset: 12 mV Plot Scale: 58.0 mV Scale Factor: 1.0 Gasoline Response [mV] 1.15...1.26 -1.72 1.89 C-6 -3.65 C-7 4.10 4.53 -5.05 TRIFLUO --5.45 **>>−6.62** 7.16 <u>∃</u>c-8 -7.82 ⊆8.25 8.60 -8.99 9.44 >--10.15 >--10.48 11.06 11.63 11.86 12.46 12.96 BROMOF -14.63 15.19 C-10 15.52 -16.34 -16.74 -17.30 -17.69 -18.03 <u>_____19.02</u>18.80 -19.4420.49 20.80 21,769 21,999 C-12 -22.33-22.81 23.62 -23.89 24.26



Total Volatile Hydrocarbons

Lab #: 165746 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: 8015B

 Type:
 LCS
 Diln Fac:
 1.000

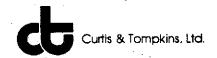
 Lab ID:
 QC216165
 Batch#:
 82102

Matrix: Water Analyzed: 06/11/03

Units: ug/L

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

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



		Total Volati	le Hydrocarbo	BRC
Lab #: 16	55746		Location:	3609 International Blvd
Client: SC	MA Environmental	Engineering Inc	. Prep:	EPA 5030B
Project#: 23			Analysis:	8015B
Field ID:	PSP#1		Batch#:	82102
MSS Lab ID:	165746-003		Sampled:	06/10/03
Matrix:	Water		Received:	06/10/03
Units:	ug/L		Analyzed:	06/11/03
Diln Fac:	1.000			

vpe:

MS

Lab ID:

QC216202

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

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

Type:

MSD

Lab ID:

QC216203

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

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



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

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

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



	Purgeable Arc	omatics by G	-/ B3
Lab #:	165746	Location:	3609 International Blvd
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:		Analysis:	EPA 8260B .
Field ID:	GAC-1	Batch#:	82091
Tab ID.	165746-000	Sampled.	06/10/03

Field ID: GAC-1 Batch#: 82091
Lab ID: 165746-002 Sampled: 06/10/03
Matrix: Water Received: 06/10/03
Units: ug/L Analyzed: 06/11/03
Diln Fac: 1.000

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

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



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

Analyte	Result	RL .	
MTBE	ND	5.0	
Benzene	ND	5.0	
Toluene	ND	5.0	1
LEthylbenzene	ND	5.0	
Toluene Ethylbenzene m,p-Xylenes ,o-Xylene	ND	5.0	
o-Xylene	. ND	5.0	

1,2-Dichloroethane-d4 100 77-129 Toluene-d8 91 80-120	
Toluene-d8 91 80-120	·
Bromofluorobenzene 103 80-123	



Purgeable Aromatics by GC/MS

Lab #: 165746 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: EPA 8260B
Type: BLANK Diln Fac: 1.000

 Type:
 BLANK
 Diln Fac:
 1.000

 Lab ID:
 QC216131
 Batch#:
 82091

 Matrix:
 Water
 Analyzed:
 06/11/03

Units: ug/L

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

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



Purgeable Aromatics by GC/MS

Lab #: 165746 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B Project#: 2333 Analysis: EPA 8260B

 Project#: 2333
 Analysis:
 EPA 82601

 Matrix:
 Water
 Batch#:
 82091

Units: ug/L Analyzed: 06/11/03
Diln Fac: 1.000

Type:

BS

Lab ID:

QC216128

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

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

_ype:

BSD

Lab ID:

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

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



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

ANALYTICAL REPORT

Prepared for:

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

Date: 29-MAY-03 Lab Job Number: 165379

Project ID: 2333

Location: 3609 International Blvd

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

Reviewed by:

Project (Manage

Reviewed by:

perations Manager

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NELAP # 01107CA

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Analyses

Curtis & Tompkins, Ltd.

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

C&T LOGIN# 165379

Sampler:

Mehran Nowroozi

	(010)400 000=	· ·	Report	То:		•	Tony Perini							SIN SIN		-	1		1					Ì	
Project	No: 2333 Name:3609 International	Blvd Oaklan				s	OMA Enviro	nm	enta	al		_		GCMS											
	•	Divai,	Telepho	one:		9	25-244-660	0						8260						.					
Turnar	ound Time: Standard	:	Fax:	Ma		_	25-244-660		rese	rva	tive	j	15	品					·]			-			
Lab	Sample ID.	Sampling	Date	Water			# of Containers			\prod	빌		TPHg 8015	BTEX &											
No.		\$/21,03	lo'Co AM		┸	+	3VoAS	_			X		X	XX		lacksquare				$\left \cdot \right $	$\vdash \downarrow$	-	-	\dashv	
-1	Influent GAC-1	5/21/03	10:55 AM	X	-	-	3 VoAS				×××		XX		_	1								$\overline{}$	
- 3	PSP#1	5/21,03	H:00 AA					-	-			-	\vdash	+	1				上						
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Notes: EDF OUTPUT REQUIRED Grab Sample

REL	INQL	JISH	ED	BY:	

2:35/015/21/03 4. Mouro-2

ATE/TIME	J-6
ATE/TIME	

21,35 pm DATE/TIME DATE/TIME

DATE/TIME DATE/TIME



Total Volatile Hydrocarbons

3609 International Blvd EPA 5030B Location: Lab #: 165379

Client: SOMA Environmental Engineering Inc. Prep: 8015B

Project#': 2333 <u> Analysis:</u> 05/21/03 Matrix: Water Sampled: 05/21/03

.ug/L Received: Units: Batch#: 81639

rield ID: Type: ab ID:

INFLUENT SAMPLE

165379-001

Diln Fac: Analyzed:

- 5.000 05/23/03

Analyte Result Gasoline C7-C12 9,100 250

Surrogate Trifluorotoluene (FID) 135 68-145

66-143

Field ID:

Type:

| Bromofluorobenzene (FID)

GAC-1 SAMPLE Diln Fac: Analyzed:

1.000 05/23/03

1.000

05/22/03

ab ID: 165379-002

Analyte Result RL Gasoline C7-C12 50

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

ield ID: Type:

PSP#1 SAMPLE

Diln Fac: Analyzed:

165379-003 Lãb ID:

Result Analyte Gasoline C7-C12 50

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

ype: Lab ID: BLANK QC214307 Diln Fac: Analyzed:

1.000 05/22/03

Analyte Result Gasoline C7-C12 ND 50

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

GCO4 TVH 'J' Data File FID

nple Name : 165379-001,81639,tvh only LeName : G:\GC04\DATA\142J028.raw thod : TVHBTXE Start Time : 0.00 min End Time : 26.00 min ale Factor: 1.0 INFLUENT

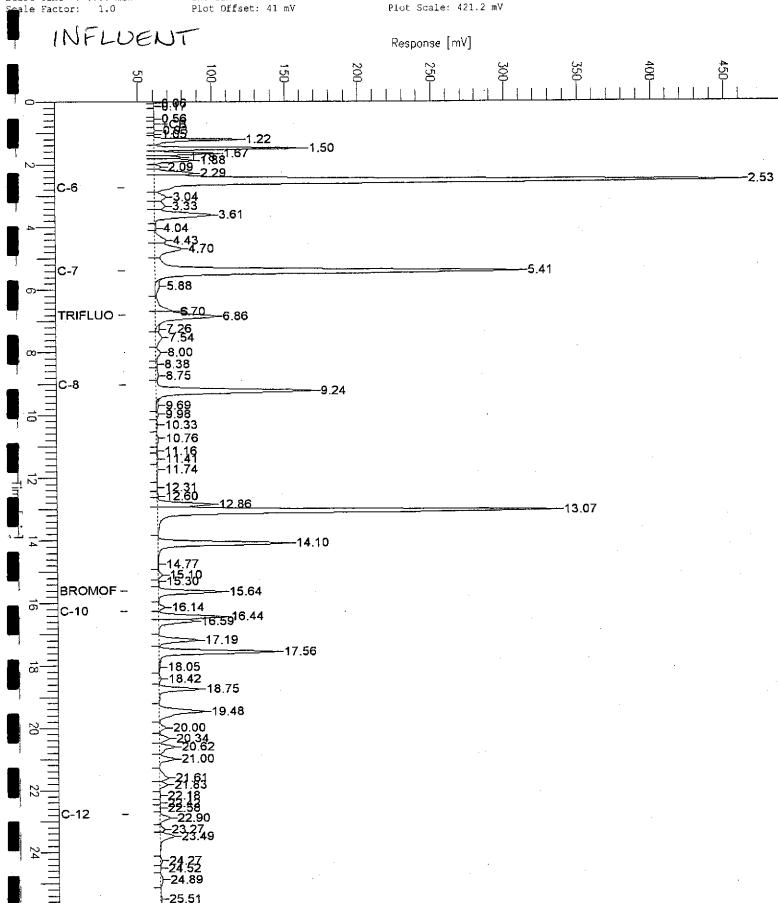
Sample #: al Date: 5/23/03 11:08 AM

Time of Injection: 5/23/03 10:53 AM

High Point : 462.02 mV Low Point : 40.82 mV

Page 1 of 1

Plot Scale: 421.2 mV



GCO4 TVH 'J' Data File FID

Page 1 of 1 mple Name : ccv/lcs,qc214309,81639,03ws0682,5/5000 Sample #: : G:\GC04\DATA\142J002.raw Date: 5/23/03 11:08 AM leName Time of Injection: 5/22/03 12:53 PM : TVHBTXE ethod Low Point : 51.13 mV Plot Scale: 195.5 mV High Point : 246.61 mV End Time : 26.00 min Start Time : 0.00 min ale Factor: 1.0 Plot Offset: 51 mV Gasoline. Response [mV] 8.39 8.39 1.29 -1.50 -1.66 -1.78-1.88 -2.29 2.51 C-6 -4.05 4.94 -5.41 C-7 -5.91 TRIFLUO -6.86 -7:26 >-8.06 8.63 C-8 9.24 -9.73 -9.98 -10.34 -10.84 >-11.42 >-11.73 12.07 12.33 -12.60 <u> 12,85</u> 13.07 -13.58 -14,10 BROMOF --15.64 -16.13 C-10 -16.43 ---16.58 7-16.85 -17.19 -17.56 -18.99 -18.38 ---18.75 -20.00 -20.35 -20.61 27290 22,17 22,59 –22,89 C-12 -23.278 -23.78 -23.78 24.48 -24.92 -25.51



Total Volatile Hydrocarbons

Lab #: 165379 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B
Project#: 2333 Analysis: 8015B

 Project#: 2333
 Analysis:
 8015B

 Type:
 LCS
 Diln Fac:
 1.000

 Lab ID:
 QC214309
 Batch#:
 81639

 Matrix:
 Water
 Analyzed:
 05/22/03

Units: ug/L

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

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



	Total Vola	tile Hydrocarbons	
Lab #: 165379		Location:	3609 International Blvd
	nvironmental Engineering I	nc. Prep:	EPA 5030B
Project#: 2333		Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Batch#:	81639
MSS Lab ID:	165391-001	${\tt Sampled:}$	05/21/03
Matrix:	Water	Received:	05/22/03
Units:	ug/L	Analyzed:	05/23/03
Diln Fac:	1.000		

voe:

MS

Lab ID:

QC214327

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

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

rype:

MSD

Lab ID:

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

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



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

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

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



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

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

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



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

Analyte	Result	RI.	
MTBE	ND ·	5.0	
Benzene	ND.	5.0	
Toluene	ND	5.0	l
Ethylbenzene	ND	5.0	1
m,p-Xylenes	ND	5.0	
m,p-Xylenes o-Xylene	ND	5.0	

Surrogate	%REC	Limits			
1,2-Dichloroethane-d4	91	77-130	·		
Toluene-d8	84	80-120		4	
Bromofluorobenzene	92	80-120			



Purgeable Aromatics by GC/MS

Lab #: 165379 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B Project#: 2333 Analysis: EPA 8260B

Type: BLANK Diln Fac: 1.000

Lab ID: QC214213 Batch#: 81616

Matrix: Water Analyzed: 05/21/03

Units: ug/L

Analyte	Result	RL	
MTBE	ND	5.0	
Benzene	ND	. 5.0	
Toluene	ND.	5.0	
Ethylbenzene	ND	5.0	
<pre>"Ethylbenzene m,p-Xylenes o-Xylene</pre>	ND	5.0	
o-Xylene	ND	5.0	

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



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

Anal who	Pagit I F	RL	
MTBE	ND	5.0	
L	ND	5.0	
Benzene Toluene	ND	5.0	,
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	· ·
Ethylbenzene m,p-Xylenes o-Xylene	ND.	5.0	

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



Purgeable Aromatics by GC/MS

Lab #: 165379 Location: 3609 International Blvd

Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B

Project#: 2333 Analysis: EPA 8260B Matrix: Water Batch#: 81616

Units: ug/L Analyzed: 05/21/03 Diln Fac: 1.000

<u>Ґ</u>уре:

BŞ

Lab ID:

QC214211

Analyte	Spiked		%RE(1 Limits
Benzene	50.00	47.72	95	76-120
Toluene	50.00	46.97	94	79-120

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

 $_{1}$ ype:

BSD

Lab ID:

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

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



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

Type:

BS

Lab ID:

QC214279

Benzene 50.00 49.76 100 76-120 Toluene 50.00 54.95 110 79-120	Analyte		Result		Limits	
Toluene 50.00 54.95 110 79-120	Benzene		49.76	100	76-120	
	Toluene	50.00	54.95	110	72 120	

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

.ype:

BSD

Lab ID:

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

					10.00
%REC	Limits				
111	77-130				,
99	80-120				
90	80-120				
	111 99	111 77-130 99 80-120	111 77-130 99 80-120	111 77-130 99 80-120	99 80-120



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

ANALYTICAL REPORT

Prepared for:

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

Date: 15-MAY-03 Lab Job Number: 165046

Project ID: 2333

Location: 3609 International Blvd

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

Reviewed by:

roject Manager

Reviewed by:

ations Manager

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Page 1 of 12

CHAIN OF CUSTODIFURM **Analyses** gol. Tur Curtis & Tompkins, Ltd. C&T 165046 Analytical Laboratory Since 1878 2323 Fifth Street Berkeley, CA 94710 (510)486-0900 Phone Sampler: Mehron Niwrooz (510)486-0532 Fax Tony Perini Report To: Project No: 2333 Company: Project Name: Oaklan's Int 35 X X Telephone: 925 - 244-6600 Project P.O.: v 925-244-6601 Turnaround Time: 5-And ARS Fax: (M P Preservative Matrix ô Sampling. H₂SO HNO₃ # of # of | 당 Containers エ Laboratory Field Notes Sample ID. Date Number Time Grab Sample 3-V04s 5,1,03 INFLUENT 5,1,03 PM <u>.</u> O فيبيو ø OGO 0 Ω Œ. __i **RECEIVED BY: RELINQUISHED BY:** Notes: 3/1/03 5:30pm 5.30 PMDATE/TIME

M. DOWGOTZ

DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME

Signature

EPF- out enl

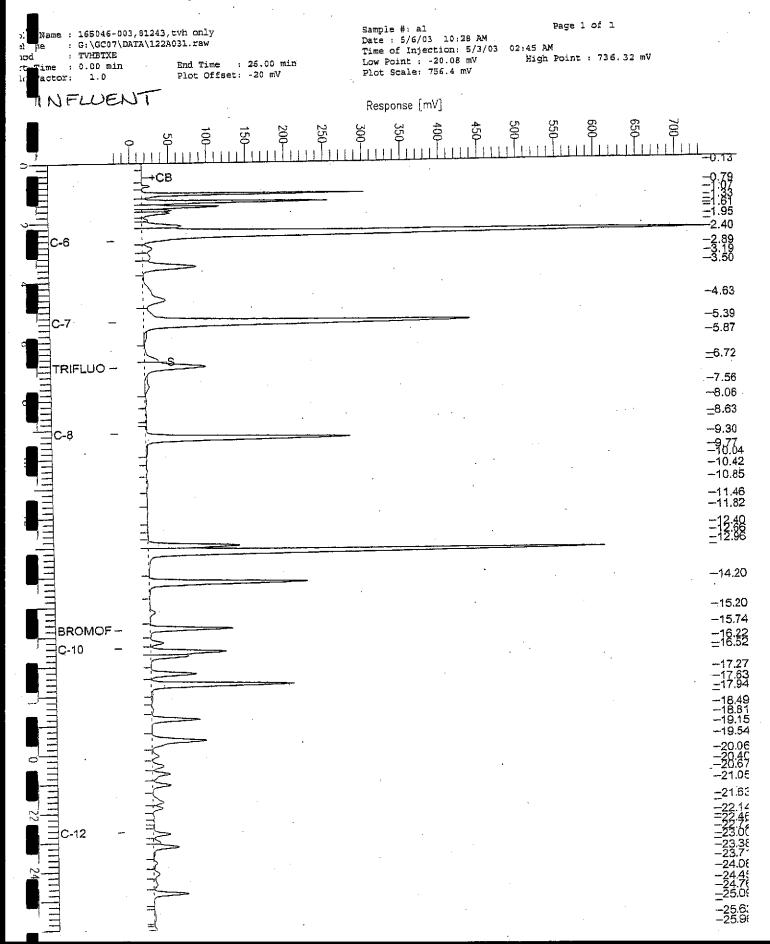


	Total Volatil	e Hydrocarb	ons	
lb #: 165046 Client: SOMA Environme Project#: 2333 trix: Water .its: ug/L	ntal Engineering Inc.	Location: Prep: Analysis: Sampled: Received:	3609 Internati EPA 5030B 8015B 05/01/03 05/01/03	Onal Blvd
eatch#: 81243				
Id ID: PSP-1 ype: SAMPLE Lab ID: 165046-0	01	Diln Fac: Analyzed:	1.000 05/02/03	
Analyte soline C7-C12	Result ND		RL 50	
Surrogate ifluorotoluene (FID) omofluorobenzene (FID)	97 68-145			
寸				
e: SAMPLE 165046-0	002	Diln Fac: Analyzed:	1.000 05/02/03	
Analyte soline C7-C12	Result ND		R. 50	
Surrogate Trifluorotoluene (FID) Comofluorobenzene (FID)	######################################			
rield ID: INFLUENT De: SAMPLE DID: 165046-0	,	Diln Fac: Analyzed:	5.000 05/03/03	
Anelyte Gasoline C7-C12	Result 12,000		RD 250	
Surrogate rifluorotoluene (FID) Bromofluorobenzene (FID)	109 68-145			
lybe: BLANK		Diln Faç:	1.000	
<u>ab</u> ID: QC21277:	2	Analyzed:	05/02/03	
			D	
Anslyte Asoline C7-C12	Result ND		FCL 50	

Not Detected
Reporting Limit
age 1 of 1

1.

GC07 TVH 'A' Data File RTX 502



Data File RTX 502 'A' GC07 TVH Page 1 of 1 Sample #: Date: 5/2/03 10:40 AM ccv/lcs,qc212774,81243,03ws0682,2.5/5000 : G:\GC07\DATA\122A003.raw Time of Injection: 5/2/03 10:14 AM : TVHBTXE High Point : 154.65 mV Low Point : 8.89 mV þ¢ End Time : 26.00 min me : 0.00 min Plot Scale: 145.8 mV Plot Offset: 9 mV Gasoline Response [mV] -3.51 -4.41 -4.80-5.37-5.88-6.41 -6.88 -7.25 -7.53 TRIFLUO --8.08 -8.64 -9.31 C-8 -9.79 -10.05 -10.41 -10.88-11.50 -11.82 -12.46 -12.26 -12.26 -12.26 -12.26 -13.67-14.2-15.7 BROMOF -☐C-10 <u>–</u>21.6 -22.1



		Tetal Volatil	a Hydrocarbon	
<pre>imp #: C_ient: Project#:</pre>	165046 SOMA Environmental 2333	Engineering Inc.	Location: Prep: Analysis:	3609 International Blvd EPA 5030B 8015B
Project#: Tibe: [b ID: Matrix: Ulits:	LCS QC212774 Water ug/L		Diln Fac: Batch#: Analyzed:	1.000 81243 05/02/03

Casaline C7-C12	<u> </u>	1,000	1,011	101 /9-1	20
GABOLINE C7-C12	· · · · · · · · · · · · · · · · · · ·		·	2000	
	Ser Risk	Limits			
intelligence (FTD)	108	68-145			

66-143

104

omofluorobenzene (FID)



	Total Vols	ile Hydrocarbo	
	165046	Location:	3609 International Blvd
ient: 8	SOMA Environmental Engineering Ir	ıc. Prep:	EPA 5030B 8015B
roject#: 2	2333	Analysis:	
eld ID:	PSP-1	Batch#:	81243
S Lab ID:	: 165046-001	Sampled:	05/01/03
atrix:	Water	Received:	05/01/03
atiix: nits:	ug/L	Analyzed:	05/02/03
ln Fac:	1.000		

e:

MS

Lab ID:

QC212775

7	WCC E	esult	Sniked	Result	\$PE	Limits
soline C7-C12	******	:18.00	2,000	1,917	96	67-120
Surrogate Tifluorotoluene (FID)	114	1 Lamuts 68-145				
comofluorobenzene (FID)	116	66-143				

he:

MSD

Lab ID:

		Spiked	 Result	%REC	Lamits	RPD	Lin
Analyte asoline C7-C12		2,000	1,831	92	67-120	5	20
		Limits					
Surrogete rifluorotoluene (FID)	112	68-145					
romofluorobenzene (FID)	113	66-143	 			<u> </u>	



#: 165046 Location: 3609 International Blvd ent: SOMA Environmental Engineering Inc. Prep: EPA 5030B oject#: 2333 Analysis: EPA 8260B eld ID: PSP-1 Batch#: 81241 b ID: 165046-001 Sampled: 05/01/03 trix: Water Received: 05/01/03		Purgeable Arc	matics by G	I/MS
Doct#: 2333 Batch#: 81241 Sampled: 05/01/03 Doct#: Water Received: 05/01/03 Doct#: Water Received: 05/01/03 Doct#: 05/02/03 Doct#: 2335 Doct#: 81241 Doct#: 05/01/03 Doct#: 2335 Doct#: 81241 Doct#: 05/01/03 Doct#: 2335 Doct#: 81241 Doct#: 2335 Doct#: 81241 Doct#: 2335 Doct#: 81241 Doct#: 2335 D	lent:	165046 SOMA Environmental Engineering Inc.	Location: Prep:	3609 International Blvd EPA 5030B
	roject#: eld ID: b ID: trix: nits:	PSP-1 165046-001	Batch#: Sampled:	81241 05/01/03 05/01/03

		D.F.	
ADALYLE	ND	5.0	
M BE E hzene	ND	5.0	
Enzene 1 luene Ethylbenzene D-Xylenes Kylene	ND .	5.0	
Ethylbenzene	ND	5.0	
m p-Xylenes	ND	5.0	
c Kylene	ZVD	5.0	

Surrogate	*REC	Limits	
2-Dichloroethane-d4	117	77-130	
luene-d8	109	80-120	•
Bromofluorobenzene	98	80-120	



			Purgeal	ole Arc	omatics by	GC/MS		
ab #:	1650	46			Location:	3609	International Blvd	
lient:	SOMA	Environmental	Engineeri	ng Inc.	Prep:	EPA	5030B	
roject#	2333				Analysis:	EPA	8260B	
Field ID		GAC-1			Batch#:	8124	11	
ab ID:		165046-002			Sampled:	05/0	01/03 .	
atrix:		Water			Received:	05/0	01/03	
Units:		ug/L			Analyzed:	05/0	02/03	
Diln Fac	· · · · · · · · · · · · · · · · · · ·	1.000						
	Ana	Lyte	5	esult		RL		
MTBE			ND			5.0	•	
enzene		, .	ND			5.0		•
bluene			ND			5.0	•	
Ethylben:	zene		ND			5.0		
\underline{m} , p-Xyler	1es		ND			5.0	•	
-Xylene			ND			5.0		
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	gate	%REC	Limits				
, 2-Dichi		nane-d4	108	77-130				
oluene-d		•	103	80-120			-	
Tromoflu			96	80-120				



4		Purgeable Arb	matics by GC/3	18
b #:	165046		Location:	3609 International Blvd
ient:	SOMA Environmental	Engineering Inc.	Prep:	EPA 5030B
Project#:	2333		Analysis:	EPA 8260B .
Field ID:	INFLUENT		Batch#:	81241
D ID:	165046-003	•	Sampled:	05/01/03
latrix:	Water		Received:	05/01/03
U <u>n</u> its:	ug/L		Analyzed:	05/02/03
In Fac:	25.00			· · · · · · · · · · · · · · · · · · ·

Analyte	Result	PL	
MEBE	4,200	130	
nzene	1,400	·130	•
LJluene	760	130	•
Ethylbenzene	310	130	
- Pp-Xylenes	1,600	130 ·	·
Xylene	500	130	

Surrogate	SREC	Limits	
2-Dichloroethane-d4	110	77-130	
Tluene-d8	99	80-120	•
Bromofluorobenzene	97	80-120	



	P	urgeable Aromatics by	GC/MS
J b #:	165046	Location:	3609 International Blvd
(H ient:	SOMA Environmental Eng	ineering Inc. Prep:	EPA 5030B
Project#:	2333	Analysis:	EPA 8260B
Tope:	BLANK	Diln Fac:	1.000
l b ID:	QC212767	Batch#:	81241
trix:	Water	Analyzed:	05/02/03
Units:	ug/L	· · · · · · · · · · · · · · · · · · ·	

Analyte	Result	:RL	
M1BE	ND	5.0	
Benzene	ND	5.0 /	
Luene	ND	5.0	}
hylbenzene	ND	5.0	•
hylbenzene m,p-Xylenes	·ND	5.0	
Xylene	ND .	5.0	

Surrogate	*REC	Limits	
1-2-Dichloroethane-d4	103	77-130	
: luene-d8	101	80-120	
omofluorobenzene	98	80-120	

Not Detected
Reporting Limit
Je 1 of 1



		Purgeable Arc	matics by G	
b #: ient: ?roject#:	165046 SOMA Environmental 2333	Engineering Inc.	Location: Prep: Analysis:	3609 International Blvd EPA 5030B EPA 8260B
trix: lits: ln Fac:	Water ug/L 1.000		Batch#: Analyzed:	81241 05/02/03

me:

BS

Lab ID:

QC212764

ana ^t wha	Spiked	Result	MREC	Limits
nzene	50.00	48.65	97	76-120
Toluene	50.00	52.23	104	79-120

D	2077	TAMARE	
1,2-Dichloroethane-d4	91	77-130	
Dluene-d8	98	80-120	
romofluorobenzene	92	80-120	

þe:

BSD

Lab IĎ:

Analyte	Spiked	Result	MEEC	Limits	RPD	Lim
	50.00	48.16	96 .	76-120	1	20
enzene	50.00	52.83	106	79-120	1	20
-pruene						

Surrogate	%REC	Limits	
,2-Dichloroethane-d4	90	77-130	
_bluene-d8	99	80-120	
Promofluorobenzene	92	80-120	