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Alameda County Environmental Health

Groundwater Monitoring Report for the Period from January 1 through March 31, 2009 Former Pacific Electric Motors Site 1009 66th Avenue, Oakland, California (Fuel Leak Case Number RO0000411)

May 15, 2009 003-09155-05

Prepared for: Aspire Public Schools 1001 22<sup>nd</sup> Avenue Suite 100 Oakland, California 94606



May 15, 2009 003-09155-05

Mr. Paresh Khatri Alameda County Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Subject: Groundwater Monitoring Report for the Period from January 1 through March 31,

2009, Former Pacific Electric Motors Site, 1009 66th Avenue, Oakland, California

(Fuel Leak Case Number RO0000411)

Dear Mr. Khatri:

LFR Inc. (LFR) has prepared this groundwater monitoring report, on behalf of Aspire Public Schools, to summarize the activities conducted during the monitoring period from January 1, 2009 through March 31, 2009 at the former Pacific Electric Motors site located at 1009 66th Avenue, Oakland, California ("the Site").

The periodic groundwater monitoring was performed in accordance with the Groundwater Monitoring Plan (GMP) prepared for the Site and submitted to Alameda County Environmental Health (ACEH) on March 4, 2009. The GMP was approved by ACEH in an e-mail message transmitted to Ron Goloubow of LFR on March 10, 2009. The purpose of the periodic groundwater monitoring and reporting is to provide data that will assess the groundwater quality over time and the effectiveness of the groundwater remediation that is proposed to take place at the Site.

If you have any questions or comments, please contact me at (916) 786-8129 or Ron at (510) 652-4500.

Sincerely,

Alan D. Gibbs, P.G. C.HG.

Vice President/Principal Hydrogeologist

Ron Goloubow

Senior Associate Geologist

Attachments

cc: Mr. Charles P. Robitaille - Aspire Public Schools

Mr. Paresh Khatri Alameda County Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Subject: Groundwater Monitoring Report for the Period from January 1through March 31,

2009, Former Pacific Electric Motors Site, 1009 66th Avenue, Oakland, California

(Fuel Leak Case Number RO0000411)

Dear Mr. Khatri:

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the 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.

If you have any questions or comments, please call me at (925) 698-1118 or Alan Gibbs (916-786-8129) or Ron Goloubow (510-596-9550) of LFR Inc.

Sincerely,

Charles P. Robitaille Director of Real Estate Aspire Public Schools

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#### **CERTIFICATION**

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by an LFR Inc. California Professional Geologist.\*

Alan D. Gibbs, P.G., C.HG.

Principal Hydrogeologist

California Professional Geologist (4827)

5-14-09 Date

\* A professional geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

#### 1.0 INTRODUCTION

## 1.1 Purpose of the Report

LFR Inc. (LFR) has prepared this periodic groundwater monitoring report on behalf of Aspire Public Schools ("Aspire") to summarize the activities conducted during the monitoring period from January 1, 2009 through March 31, 2009 ("the reporting quarter") at the former Pacific Electric Motors (PEM) site located at 1009 66th Avenue, Oakland, California ("the Site"; Alameda County Environmental Health [ACEH] Fuel Leak Case Number RO0000411).

The periodic groundwater monitoring was performed in accordance with the Groundwater Monitoring Plan (GMP) prepared for the Site and submitted to ACEH on March 4, 2009. The GMP was approved by ACEH in an e-mail message transmitted to Mr. Ron Goloubow of LFR on March 10, 2009. The purpose of the periodic groundwater monitoring and reporting is to provide data that will assess the groundwater quality over time and the effectiveness of the groundwater remediation that is proposed to take place at the Site.

As presented in previous reports, chemicals of concern (COC) at the Site include total petroleum hydrocarbons (TPH) as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary-butyl ether (MTBE), tertiary butyl alcohol (TBA), polychlorinated biphenyls (PCBs), lead, arsenic, and polynuclear aromatic hydrocarbons (PAHs). The GMP for the Site does not attempt to address all of these COCs, but focuses on the fuel related compounds (TPHg, BTEX, and MTBE).

# 1.2 Background

The Site is located on the northwestern side of 66<sup>th</sup> Avenue between East 14<sup>th</sup> Street and San Leandro Street (Figure 1). The area around the Site is developed with a mixture of commercial, industrial, government, and multi-family residential buildings. The Site is currently owned by Aspire.

Additional historical land use information for the Site was presented in LFR's report entitled "Corrective Action Plan, Proposed Aspire School Site, 1009 66th Avenue, Oakland, California," dated February 20, 2009 ("the CAP"; LFR 2009).

The first industrial development of the property was in about 1948 when the two buildings currently present on the Site were constructed by PEM. PEM occupied the Site from 1948 to 2001. Activities conducted at the Site by PEM included manufacturing specialty magnets, power supplies, and components; and repairing motors, generators, transformers, and magnets. A 2,000-gallon gasoline underground storage tank (UST) was reportedly installed at the Site by PEM in 1975. In addition,

the gasoline shed in the fueling area may have stored vehicle lubricants and oil for vehicle maintenance.

The on-site buildings were occupied by Bay Area Powder Coatings in 2001. Bay Area Powder Coatings declared bankruptcy and ceased operations at the Site; however, some equipment belonging to this company was still present on the Site in 2005. No details are available as to the specific processes of Bay Area Powder Coatings.

Landeros Iron Works ("Landeros"), which subleased the property from Bay Area Powder Coatings, conducted its operations in and around the warehouse until December 2008. Landeros' operation was primarily welding and metal structure fabrication. Landeros is currently in the process of moving its equipment off site.

## 1.3 Previous Investigations

Several phases of investigation have been completed at the Site. According to descriptions of soil samples collected during the drilling of soil borings for groundwater monitoring wells installed at the Site, three groundwater-bearing zones designated as the "shallow zone," "intermediate zone," and "deep zone" have been identified at the Site (LFR 2008b). The sediments from the ground surface to approximately 8 feet below ground surface (bgs) consist of an interval of fine-grained sediment (silt and clay) with relatively thin intervals of coarser grained sediments (sand, less than 1 foot thick). These coarser grained sediments represent the interval of "shallow zone." This is the interval in which the soil-vapor system is to be operated. Groundwater has been observed in this interval during the winter months of any year that has normal or above normal rainfall. The presence of groundwater in this interval may impede the operation of the soil-vapor extraction (SVE) system during the months of November through February.

Discontinuous intervals of relatively thin, more permeable fine- to coarse-grained sand and gravels have generally been encountered between approximately 12 and 17 feet bgs. This interval of sediments contains the first groundwater at the Site, and represents the interval of "intermediate-zone" groundwater at the Site.

An interval of poorly graded, coarser grained sediments comprised of fine sand and gravel was consistently encountered from approximately 21 to 34 feet bgs. This interval of coarser grained sediments contains groundwater and represents the "deep zone."

The investigations conducted at the Site have also included the following:

• Collection of approximately 280 soil samples throughout the Site. The majority of these samples were collected from 0.5 or 5 feet bgs and analyzed for petroleum hydrocarbons, semivolatile organic compounds (SVOCs), PCBs, and/or metals.

- Installation and monitoring of four shallow groundwater monitoring wells (MW-1 through MW-4) and three shallow/intermediate/deep monitoring well clusters (nested wells NW-1 through NW-3), and collection of grab groundwater samples from 20 soil borings. Monitoring of MW-1 through MW-4 has been performed intermittently since 1997.
- Completion of two investigations to assess soil-gas quality at the Site in March and August 2008. The results of these investigations were presented in the CAP (LFR 2009).
- Completion of an air sparging and soil-vapor extraction (AS/SVE) pilot test at the Site in accordance with LFR's "Work Plan to Conduct an Air Injection and Soil-Vapor Extraction Pilot Test," dated September 23, 2008 (LFR 2008a).

## **1.4** Groundwater Monitoring Wells

The current groundwater monitoring well network at the Site includes 21 groundwater monitoring wells.

- Three shallow-zone groundwater monitoring wells (NW-1S, NW-2, and NW-3S; part of the triple-nested groundwater monitoring wells) are completed with screens at approximately 3 to 5 feet bgs.
- Four intermediate-zone groundwater monitoring wells (ASMW-1I through ASMW-4I) are screened from approximately 10 to 17 feet bgs.
- Three intermediate-zone groundwater monitoring wells (NW-1I, NW-2I, and NW-3I; part of the triple-nested groundwater monitoring wells) are screened from approximately 15 to 18 feet bgs.
- Four groundwater monitoring wells (MW-1 through MW-4) are screened from approximately 5 to 20 feet bgs.
- Three deep-zone groundwater monitoring wells (NW-1D, NW-2D and NW-3D; part of the triple-nested groundwater monitoring wells) are completed with screens at approximately 25 to 30 feet bgs.
- Four deep-zone groundwater monitoring wells (ASMW-2D, ASMW-3D, ASMW-4D, and ASMW-5D) are screened from approximately 19 to 27 feet bgs.

The locations of these wells are illustrated on Figure 2.

#### 2.0 GROUNDWATER MONITORING REPORT

The following activities were performed during this reporting quarter:

• Conducted groundwater monitoring on March 11 and 13, 2009.

• Followed up with the Bay Area Air Quality Management District to determine the status of the air discharge permit associated with the AS/SVE system that is proposed to be installed at the Site.

#### 2.1 Groundwater Elevation and Gradient

Depth to groundwater was measured in four intermediate-zone and nine deep-zone groundwater monitoring wells on March 11, 2009. The groundwater elevation in each well was calculated using the surveyed top of casing elevation; results are summarized in Table 1. Groundwater elevation data and contours for the intermediate and deep zones are presented on Figures 2 and 3, respectively. The depth to groundwater in the wells measured on March 11, 2009 ranged from 2.06 to 5.86 feet bgs (Table 1).

The groundwater elevation contours indicate that the groundwater flow direction in the intermediate zone was toward the west-southwest on March 11, 2009, with a horizontal groundwater gradient of approximately 0.004 foot per foot measured between wells ASMW-2D and ASMW-4D.

The groundwater elevation contours indicate that the groundwater flow direction in the deep zone was toward the west-northwest on March 11, 2009, with a horizontal groundwater gradient of approximately 0.002 foot per foot measured between wells ASMW-5D and ASMW-3D and 0.008 foot per foot measured between wells MW-1 and ASMW-3D.

These gradients and flow directions are generally consistent with the historical gradient and flow direction previously observed at the Site by previous consultants. The gradients and flow directions will be further assessed during future monitoring events.

# 2.2 Groundwater Sampling

Groundwater samples were collected from 16 groundwater monitoring wells on March 11 and 13, 2009, using low-flow groundwater sampling techniques. The intake of the low-flow pump was placed in the middle of the screened interval and purged continuously until the basic groundwater parameters stabilized, or until the well had been purged for approximately 30 minutes or of two gallons. Samples could not be collected from nested groundwater monitoring wells NW-3S, NW3-I, or NW3-D because the traffic-rated well box cover could not be removed. Field parameters were recorded on log sheets and are presented in Table 2.

Groundwater samples were collected directly from the hose of the pump and conveyed into laboratory-supplied sample containers. The containers were labeled with the well identification number, the time and date of collection, the analysis requested, and the initials of the sampler. The samples were stored in an ice-chilled cooler and maintained under strict chain-of-custody protocols as they were submitted to the analytical laboratory.

The groundwater samples were submitted to Curtis & Tompkins, Ltd., a state-certified laboratory located in Berkeley, California, and analyzed for TPHg and TPH as diesel (TPHd) using U.S. Environmental Protection Agency (EPA) test method 8015, modified. The samples were also analyzed for BTEX and fuel oxygenates using EPA test method 8260B. Analytical results of groundwater samples are presented in Table 3, and copies of the laboratory data sheets and chain-of-custody documents are presented in Appendix A.

## 2.2.1 Analytical Results for Groundwater Samples – Shallow Zone

Samples were collected from shallow-zone wells NW-1S and NW-2S. The sample collected from shallow-zone well NW-1S did not contain concentrations of TPHg, TBA, or BTEX above laboratory reporting limits. MTBE was detected in the sample collected from well NW-1S at 0.55 microgram per liter ( $\mu$ g/l).

Samples collected from shallow-zone well NW-2S contained detectable concentrations of TPHg, TBA, MTBE, benzene, ethylbenzene, and total xylenes. Toluene was the only compound not present above laboratory reporting limits.

The analytical results for the samples collected from these wells are expected based on the location of the wells relative to the former UST and groundwater flow direction measured at the Site (Figure 2).

## 2.2.2 Analytical Results for Groundwater Samples – Intermediate Zone

Samples were collected from four intermediate-zone wells (ASMW-2I, ASMW-3I, ASMW-4I, and ASMW-5I). The samples collected from well ASMW-3I did not contain concentrations of TPHg, TBA, or BTEX above laboratory reporting limits. MTBE was detected in the sample collected from well ASMW-3I at  $1.4 \mu g/l$ .

Elevated concentrations of TPHg, TBA, MTBE, and BTEX were detected in samples collected from wells ASMW-2I and ASMW-5I (Table 3). Samples collected from well ASMW-4I contained elevated concentrations of TPHg and BTEX, but MTBE and TBA were not present above the laboratory reporting limit of 6.3  $\mu$ g/l for these compounds. The concentrations of fuel-related compounds detected in the samples collected from wells ASMW-2I and ASMW-5I, located closest to the former UST, represent the highest concentrations of fuel-related compounds detected in groundwater samples collected at the Site.

## 2.2.3 Analytical Results for Groundwater Samples – Deep Zone

Samples were collected from 10 deep-zone wells (ASMW-2D through ASMW-5D, NW-1D, NW-2D, and MW-1 through MW-4). The samples collected from deep-zone groundwater monitoring wells MW-1 and MW-3 did not contain concentrations of TPHg, TBA, or BTEX above laboratory reporting limits. Samples collected from wells

ASMW-4D, NW-1D, and MW-2 only contained low concentrations (2.0  $\mu$ g/l or less) of MTBE; the other compounds were not detected above laboratory reporting limits in these wells.

As expected, the samples collected from wells located closest to the former UST (wells ASMW-2D, NW-2D, and MW-4) contained the highest concentrations of fuel-related compounds detected in groundwater samples collected at the Site (Table 3).

The concentrations of these compounds will be further assessed during future groundwater monitoring events. It is anticipated that the concentrations of the fuel-related compounds will be reduced with the air (and ozone) injection and that SVE systems will start operation.

#### 3.0 SCHEDULE

The next periodic groundwater monitoring event is scheduled to occur in May 2009, which will represent the time interval of April through June 2009. The report for that monitoring event will be submitted on or before August 14, 2009.

#### 4.0 LIMITATIONS

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by LFR and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that LFR relied upon any information prepared by other parties not under contract to LFR, LFR makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when LFR's investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the Site may vary from those at the locations where data were collected. LFR's ability to interpret investigation results is related to the availability of the data

and the extent of the investigation activities. As such, 100 percent confidence in environmental investigation conclusions cannot reasonably be achieved.

LFR, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

#### 5.0 REFERENCES

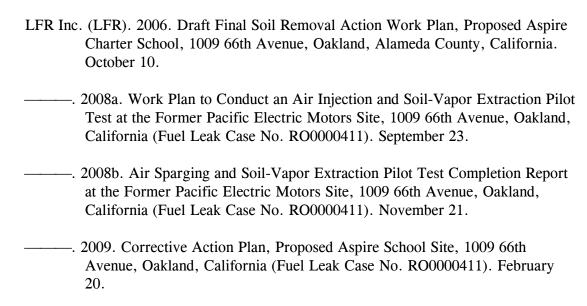


Table 1
Groundwater Elevations
Former Pacific Electric Motors Facility
1009 66th Avenue, Oakland, California

	D ( C II ( I	Top-of-Casing	Depth to	Groundwater
Location ID	Date Collected	Elevation (1)	Groundwater (2)	Elevation (1)
Shallow-Zone	Groundwater Moni	toring Wells		
NW-1S	11-Mar-09	13.88	2.15	11.73
NW-2S	11-Mar-09	13.77	3.77	10.00
NW-3S	11-Mar-09	13.19	NM	NM
Intermediate-Z	one Groundwater i	Monitoring Wells <sup>1</sup>		
$NW-1I^1$	11-Mar-09	13.83	2.40	11.43
$NW-2I^1$	11-Mar-09	13.80	5.86	7.94
$NW-3I^1$	11-Mar-09	13.11	NM	NM
ASMW-2I	11-Mar-09	13.90	2.67	11.23
ASMW-3I	11-Mar-09	13.73	2.72	11.01
ASMW-4I	11-Mar-09	13.09	2.06	11.03
ASMW-5I	11-Mar-09	13.16	2.14	11.02
Deep-Zone Gre	oundwater Monitor	ring Wells		
MW-1	11-Mar-09	14.19	2.25	11.94
MW-2	11-Mar-09	13.31	2.13	11.18
MW-3	11-Mar-09	13.43	2.32	11.11
MW-4	11-Mar-09	13.78	2.63	11.15
NW-1D	11-Mar-09	13.84	2.81	11.03
NW-2D	11-Mar-09	13.79	2.68	11.11
NW-3D	11-Mar-09	13.16	NM	NM
ASMW-2D	11-Mar-09	13.90	3.06	10.84
ASMW-3D	11-Mar-09	13.94	2.98	10.96
ASMW-4D	11-Mar-09	13.07	1.93	11.14
ASMW-5D	11-Mar-09	13.01	1.88	11.13

#### **Notes:**

NM = water level not measured

1 = top of casing elevation surveyed by Tronoff & Associates licensed land surveyor number 6415; top of casing and groundwater elevations are in North American vertical datum 1988 (feet)

2 = in feet below the top of well casing

Table 2
Water-Quality Sampling Data
Former Pacific Electric Motors Facility
1009 66th Avenue, Oakland, California

						Oxygen	
		Volume			Specific	Reduction	Dissolved
Well	Date	Withdrawn	Temperature		Conductance	Potential	Oxygen
Number	Sampled	(gallons)	oC	рН	(mmhos/cm)	(mV)	(mg/l)
Shallow-Zone	Groundwater	Monitoring W	ells				
NW-1S	3/13/2009	0.9	16.48	6.41	613	21.2	1.01
NW-2S	3/13/2009	0.5	17.59	6.56	1,671	-15.1	0.73
Intermediate-	Zone Groundy	vater Monitorii	ıg Wells				
ASMW-2I	3/13/2009	1.0	16.79	6.31	4,018	-99.1	1.24
ASMW-3I	3/11/2009	0.8	18.92	6.29	5,789	159	1.35
ASMW-4I	3/11/2009	0.5	15.68	5.80	878	-14.4	0.91
ASMW-5I	3/11/2009	0.6	17.44	5.96	1,411	54.5	0.92
Deep-Zone Gr	roundwater M	onitoring Wells	S				
ASMW-2D	3/11/2009	0.5	19.24	6.24	9,203	145.1	1.09
ASMW-3D	3/11/2009	3.5	20.08	6.30	11,450	138.1	0.99
ASMW-4D	3/11/2009	1.1	18.04	5.88	1,490	179.4	0.97
ASMW-5D	3/11/2009	1.5	18.77	6.52	1,935	0.89	1.97
NW-1D	3/13/2009	0.6	17.23	6.62	632	119.2	0.91
NW-2D	3/13/2009	2.3	19.62	6.20	1,098	158.4	0.59
MW-1	3/13/2009	0.9	15.14	6.68	623	30.2	0.98
MW-2	3/13/2009	1	16.64	6.51	981	131.1	0.99
MW-3	3/13/2009	2.4	16.76	6.50	1,735	148.8	0.84
MW-4	3/13/2009	0.7	18.65	5.85	1,385	-46.3	0.89

#### **Notes:**

mmhos/cm = milliohms per centimeter

mV = millivolts

mg/l = milligrams per liter

°C = degrees Celsius

Table 3
Analytical Results for Volatile Organic Compound Analyses
Groundwater Samples
Former Pacific Electric Motors Facility
1009 66th Avenue, Oakland, California

concentrations in micrograms per liter

Sample	ample Date Depth TRUE TRA					Ethyl-	m,p-			
Location	Collected	feet bgs	TPHg	TBA	MTBE	Benzene	Toluene	benzene	Xylenes	o-Xylenes
	ne Groundwa		ring Wells					Senzene	71/101100	
NW-1S	13-Mar-09	2.15	< 50	< 10	0.55	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
NW-2S	13-Mar-09	2.77	1,800	1,900	130	520	< 4.2	120	20	< 4.2
Intormodiate	e-Zone Grour									
ASMW-2I	2 <b>-20ne Grour</b> 13-Mar-09	16.93	49,000	3,200	1,100	18,000	17,000	1,600	5,100	3,100
ASMW-21 ASMW-3I	13-Mar-09 11-Mar-09	14.15	< 50	< 10	1,100	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
ASMW-4I	11-Mar-09	12.63	9,200	<130	< 6.3	38	< 6.3	570	1,800	230
ASMW-41 ASMW-5I	11-Mar-09	12.03	72,000	<1,400	76	11,000	3,600	3,800	13,000	5,400
				<b>\1,400</b>	70	11,000	3,000	3,000	13,000	3,400
_	Groundwater		-							
ASMW-2D	11-Mar-09	26.77	< 1,300	1,900	1,300	< 13	< 13	<13	< 13	<13
ASMW-3D	11-Mar-09	29.78	< 50	34	91	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
ASMW-4D	11-Mar-09	22.81	< 50	< 10	1.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
ASMW-5D	11-Mar-09	26.98	87	1,700	< 0.50	84	< 0.50	5.2	5.9	1.5
NW-1D	13-Mar-09	27.79	< 50	< 10	1.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
NW-2D	13-Mar-09	30.03	<250	17,000	310	120	< 2.5	< 2.5	< 2.5	< 2.5
MW-1	19-Jun-97	24.95	18,000	NA	4,900	3,300	200	1,100	< 250	NA
	29-Sep-97		29,000	NA	3,500	4,800	< 25	2,000	< 250	NA
	16-Dec-97		< 0.050	NA	0.7	1.3	< 0.5	0.6	< 5.0	NA
	10-Mar-98		190	NA	1.7	2	< 0.5	5.7	< 5.0	NA
	19-Jan-99		100	NA	68	40	< 0.5	18	8.3	NA
	15-Apr-99		< 0.050	NA	0.87	0.92	0.9	0.7	< 5.0	NA
	30-Jul-99		1,400	NA	120	60	< 0.5	63	13	NA
	15-Nov-99		3,600	NA	620	120	< 0.5	150	< 5.0	NA
	24-Mar-00		< 0.050	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA
	18-May-00		1,300	NA	130	10	1.2	38	8.6	NA
	26-Jul-00		6,400	NA	680	100	7.4	260	< 5.0	NA
	30-Oct-00		600	NA	950	130	14	330	< 100	NA
	24-Jul-01		1,200	NA	39	13	< 0.5	70	13	NA
	28-Nov-01		1,800	NA	160	27	0.93	72	< 5.0	NA
	18-Feb-02		2,400	NA	200	18	< 2.5	89	< 25	NA
	11-Dec-02		8,400	NA	640	83	9.2	320	< 0.5	NA
	26-Feb-03		8,300	NA	720	12	< 10	240	< 10	NA
	16-May-03		5,600	NA	490	22	< 5.0	240	< 5.0	NA
	8-Mar-05		230	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA
	13-Mar-09		< 50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
MW-2	19-Jun-97	25.02	< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	29-Sep-97			NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	16-Dec-97			NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	10-Mar-98		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	19-Jan-99		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	15-Apr-99		< 50	NA	< 5.0	0.75	0.64	< 0.5	0.74	NA
	30-Jul-99		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	15-Nov-99		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
										·= =

Table 3
Analytical Results for Volatile Organic Compound Analyses
Groundwater Samples
Former Pacific Electric Motors Facility
1009 66th Avenue, Oakland, California

concentrations in micrograms per liter

Sample	Date	te Depth TRIL TRA				I	Ethyl-	m,p-		
Location	Collected	feet bgs	TPHg	TBA	MTBE	Benzene	Toluene	benzene	Xylenes	o-Xylenes
	24-Mar-00		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	18-May-00		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	26-Jul-00		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	30-Oct-00		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	24-Jul-01		< 50	NA	7.6	< 0.5	< 0.5	< 0.5	< 0.5	NA
	28-Nov-01		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	18-Feb-02		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	11-Dec-02		< 50	NA	5.8	< 0.5	< 0.5	< 0.5	< 1.0	NA
	26-Feb-03		< 50	NA	10	< 0.5	< 0.5	< 0.5	< 1.0	NA
	16-May-03		< 50	NA	16	< 0.5	< 0.5	< 0.5	< 1.0	NA
	9-Mar-05		< 50	NA	15	< 0.5	< 0.5	< 0.5	< 0.5	NA
	15-Feb-06		< 50	NA	19	< 0.5	< 0.5	< 0.5	< 0.5	NA
	15-Feb-06		< 50	NA	6.8	< 0.5	< 0.5	< 0.5	< 0.5	NA
	16-Feb-06		< 50	NA	5.6	< 0.5	< 0.5	< 0.5	< 0.5	NA
	13-Mar-09		< 50	< 10	2.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
MW-3	19-Jun-97	24.85	< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	29-Sep-97		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	16-Dec-97		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	10-Mar-98		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	19-Jan-99		< 50	NA	8.7	0.78	< 0.5	< 0.5	< 0.5	NA
	15-Apr-99		< 50	NA	23	5.4	3.9	1.7	5.6	NA
	30-Jul-99		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	15-Nov-99		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	24-Mar-00		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	18-May-00		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	26-Jul-00		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	30-Oct-00		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	24-Jul-01		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	28-Nov-01		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	18-Feb-02		< 50	NA	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	NA
	11-Dec-02		< 50	NA	0.78	< 0.5	< 0.5	< 0.5	< 1.0	NA
	26-Feb-03		< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	NA
	16-May-03		< 50	NA	2.6	< 0.5	< 0.5	< 0.5	< 1.0	NA
	8-Mar-05		< 50	NA	< 2	< 0.5	< 0.5	< 0.5	< 0.5	NA
	13-Mar-09		< 50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	0.97	< 0.50
MW-4	15-Sep-98	24.65	170,000	NA	26,000	26,000	32,000	2,900	18,000	NA
	19-Jan-99		2,600	NA	13,000	1,700	3.8	25	29	NA
	15-Apr-99		210,000	NA	52,000	28,000	15,000	3,700	19,000	NA
	30-Jul-99		91,000	NA	68,000	16,000	7,500	2,300	8,500	NA
	15-Nov-99		63,000	NA	57,000	8,500	2,400	1,400	4,000	NA
	24-Mar-00		95,000	NA	44,000	16,000	13,000	2,500	12,000	NA
	18-May-00		91,000	NA	64,000	15,000	10,000	2,200	9,600	NA
	26-Jul-00		130,000	NA	80,000	11,000	6,400	1,700	6,500	NA

# Table 3 Analytical Results for Volatile Organic Compound Analyses Groundwater Samples Former Pacific Electric Motors Facility 1009 66th Avenue, Oakland, California

concentrations in micrograms per liter

Sample Location	Date Collected	Depth feet bgs	TPHg	TBA	МТВЕ	Benzene	Toluene	Ethyl- benzene	m,p- Xylenes	o-Xylenes
	30-Oct-00		59,000	NA	68,000	6,700	2,200	750	3,100	NA
	24-Jul-01		180,000	NA	44,000	25,000	23,000	3,500	20,000	NA
	28-Nov-01		67,000	NA	57,000	8,100	3,300	1,400	5,600	NA
	18-Feb-02		98,000	NA	47,000	20,000	12,000	2,300	15,000	NA
	11-Dec-02		200,000	NA	17,000	340	< 5.00	590	1,000	NA
	26-Feb-03		63,000	NA	30,000	8,100	4,400	1,900	8,200	NA
	16-May-03		530,000	NA	42,000	24,000	20,000	12,000	63,000	NA
	9-Mar-05		152,237	NA	5,841	22,053	17,310	3,981	13,969	NA
	9-Mar-05		162,863	NA	6,026	21,536	16,547	3,900	13,786	NA
	13-Mar-09		55,000	< 1,400	950	19,000	7,200	2,300	8,500	3,500

#### **Notes:**

feet bgs = feet below ground surface

NA = not analyzed

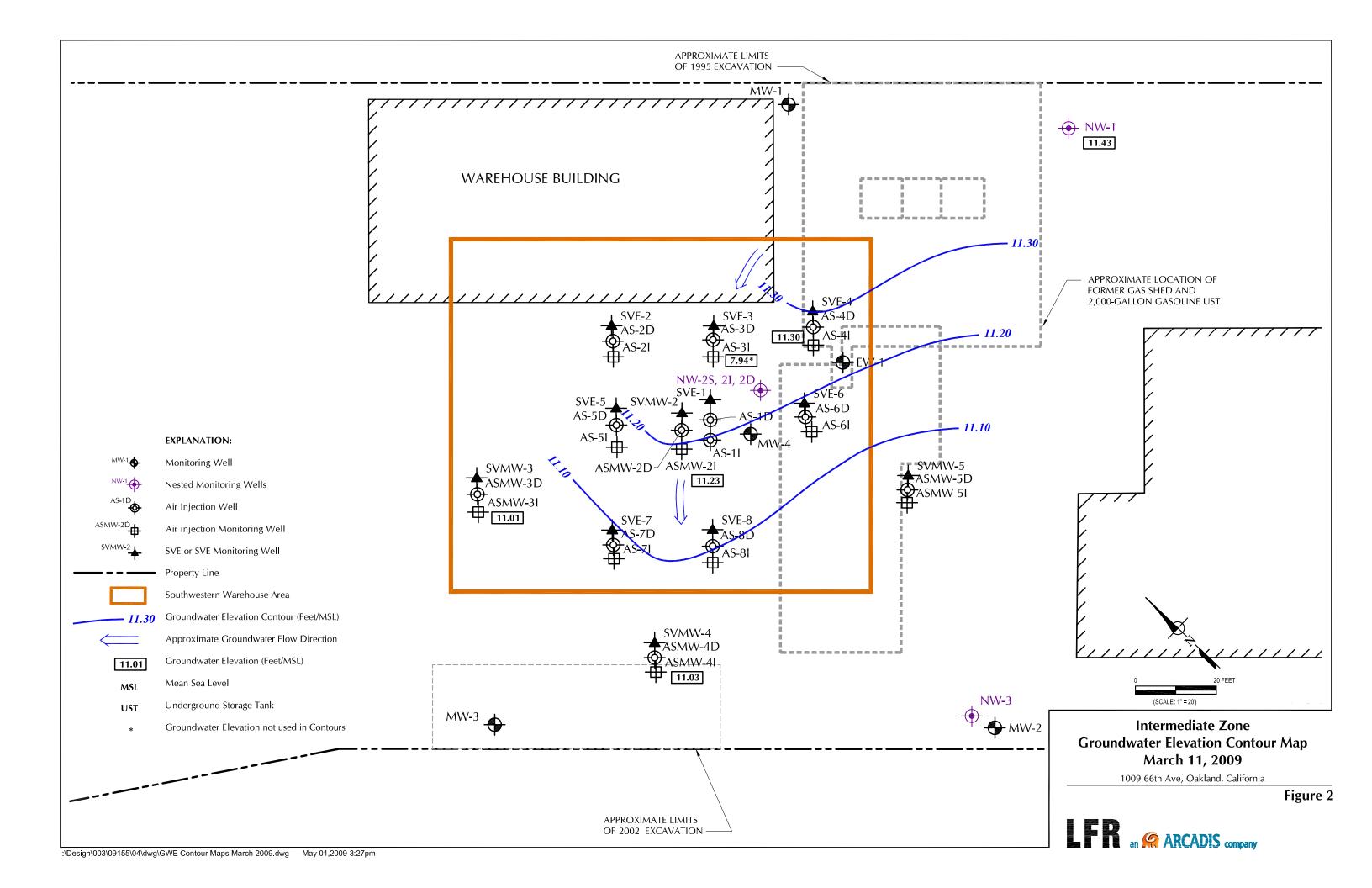
TPHg = total petroleum hydrocarbons as gasoline

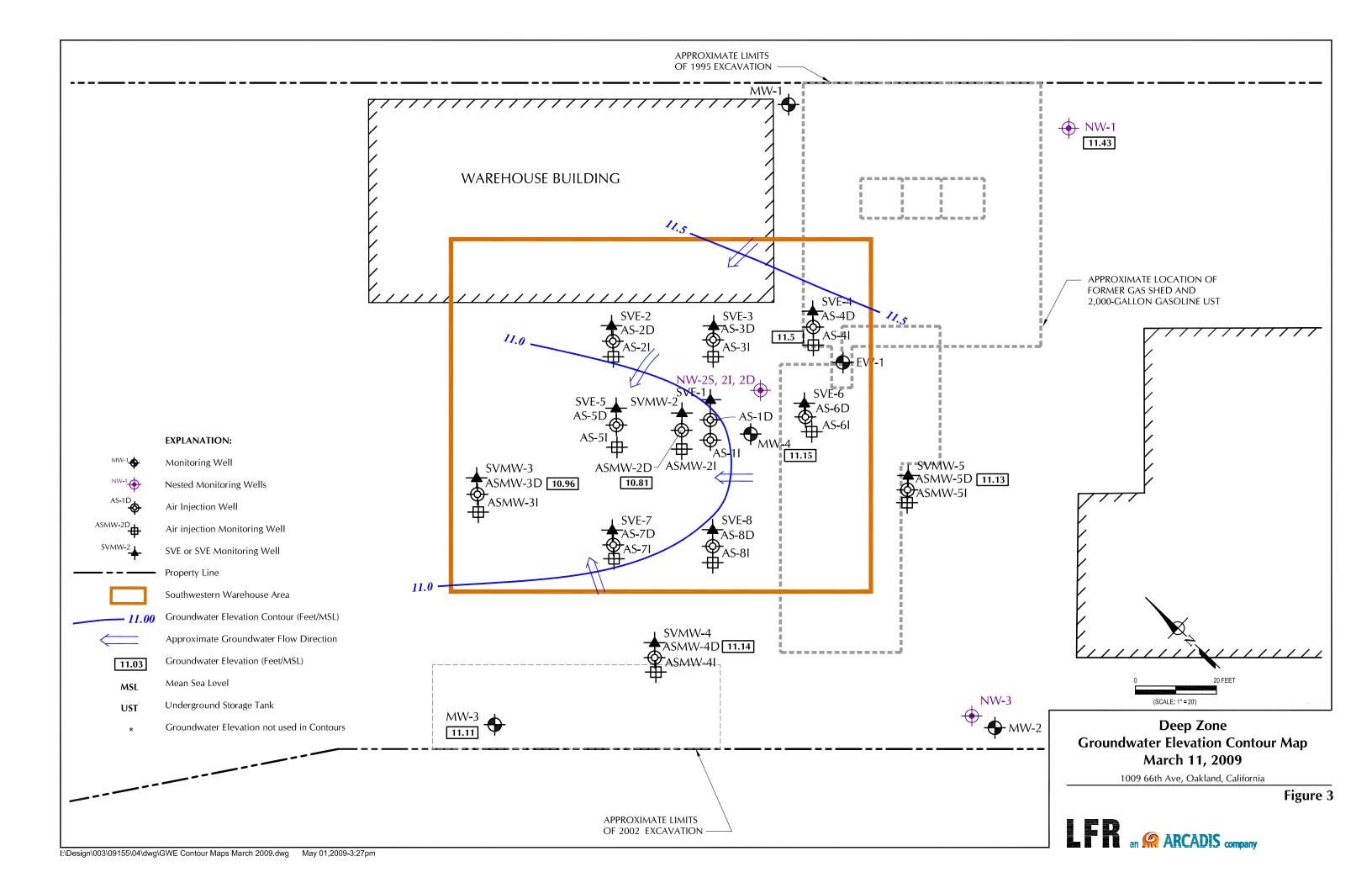
TBA = tertiary butyl alcohol

MTBE = methyl tertiary-butyl ether

"<" = not detected above the laboratory reporting limit given

Samples collected in March 2009 were analyzed by Curtis & Tompkins, Ltd.





# **APPENDIX A**

**Laboratory Analytical Reports** 



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

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

# Laboratory Job Number 210667 ANALYTICAL REPORT

LFR Levine Fricke 1900 Powell Street Emeryville, CA 94608 Project: 003-09155-04

Location : Aspire Schools

Level : II

<u>Sample ID</u>	<u>Lab ID</u>
ASMW-2D	210667-001
ASMW-2I	210667-002
ASMW-3D	210667-003
ASMW-3I	210667-004
ASMW-4D	210667-005
ASMW-4I	210667-006
ASMW-5D	210667-007
ASMW-5I	210667-008
MW-1	210667-009
MW-2	210667-010
MW-3	210667-011
MW-4	210667-012
NW-1D	210667-013
NW-1S	210667-014
NW-2D	210667-015
NW-2S	210667-016
DUP-1	210667-017
DUP-2	210667-018
TB-1	210667-019

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. This report may be reproduced only in its entirety.

Signature:

Project Manager

Date: <u>03/24/2009</u>

Signature:

Senior Program Manager

Date: <u>03/24/2009</u>

NELAP # 01107CA



#### CASE NARRATIVE

Laboratory number: 210667

Client: LFR Levine Fricke

Project: 003-09155-04
Location: Aspire Schools

Request Date: 03/16/09 Samples Received: 03/13/09

This data package contains sample and QC results for eighteen water samples, requested for the above referenced project on 03/16/09. The samples were received cold and intact. All data were e-mailed to Ron Goloubow on 03/24/09.

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

Low responses were observed for tert-butyl alcohol (TBA) in the CCV analyzed 03/20/09 10:38, the CCV analyzed 03/21/09 16:09, and the CCV analyzed 03/23/09 12:05; this analyte met minimum response criteria, and affected data was qualified with "b". No other analytical problems were encountered.

# Curtis & Tompkins, Ltd.

Analytical Laboratory Since 1878 0000 Eifth Chant

# **CHAIN OF CUSTODY**

Page 1 of 2

	Berkeley, CA 94710																		P	\nai	ysis	,				
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				Sample	∍r:	Ma	res	J ix	∋NŁ!	s al	/ {	$\{f\}$	1		_	BY 82			:							
Project	No.: 003-09155-04			Report	To:	R	oN.	GOL	cuso	WQLFR	٠, ر	om				BINK			į					:		
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Project				Telepho						1500					_	FUEL										
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Lab No.	Sample ID.			ng Date me	Soil	Water	Waste			# of tainers	HCL	4		ICE		TPH-CA										
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	ASMW-3I		11/09	1325							x			X		X					1	-		$\top$		٦
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	MW-2		13/09	1200		$\perp$					X		<u> </u>	X	_	$ \times $										
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# Curtis & Tompkins, Ltd.

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

# **CHAIN OF CUSTODY**

# **Analysis**

	Berkeley, CA 94710 510) 486-0900 Phone (510) 486-0532 Fax		C&TL	.og	iIN #	: <u> </u>	210	0667	· · · · · · · · · · · · · · · · · · ·				8097B									
			Sample	er:	Ma	rea	W	pres					878									
Project	No.: 003-09155-04		Report	To:	Ro	N- 0	سا صور	ou save L	FR.	. ca	м									ļ		
	Name: ASPIRE SCHOOL							IC.					3775									
Project								552-450					FUEL									
	ound Time: STANDAYLO		Fax:										BEX.								:	
					Ma	trix			P	res	erva	ıtive									:	
Lab No.	Sample ID.	Sampling Tim		Soil		Waste		# of Containers		H <sub>2</sub> SO <sub>4</sub>		<u> </u>	7P.H-C48									
14/	NW-18	3/13/09	1105		×			4	X			X	×									
•	NW-ZD	3/13/09	1515					4	×		_	X	X									
16	NW-25 NW-25 DUP-1	3/13/09	1425					4	X			X	×			_		+	$\vdash$	$\dashv$	_	
10	DUP-Z	3/13/09			$\forall$			4	X			×	$\frac{\hat{\mathbf{x}}}{\mathbf{x}}$		-			++	$\vdash$	+	-	
	TB-1	711715						2	X			X	-	10	+	-		$\Rightarrow$			_	$\Rightarrow$
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	1261	Lp							•			ATE / TIM										TIME

COOLER RECEIPT CHECKLIST	Curtis & Tompkins, Ltd.
Login # 2 0 6 6 Date Received 3/3/89  Client LFR Project A Spire  Date Opened 3/3/89 By (print) Micah Snith (sign)  Date Logged in By (print) (sign)	Number of coolers
Date Opened 3/3/39 By (print) Micah Snith (sign)  Date Logged in By (print) (sign)	meto
1. Did cooler come with a shipping slip (airbill, etc)  Shipping info	YES (NO)
2A. Were custody seals present? \( \subseteq YES \) (circle) on cooler How many \( \subseteq Name \)	Date
<ul> <li>2B. Were custody seals intact upon arrival?</li> <li>3. Were custody papers dry and intact when received?</li> <li>4. Were custody papers filled out properly (ink, signed, etc)?</li> <li>5. Is the project identifiable from custody papers? (If so fill out top 6. Indicate the packing in cooler: (if other, describe)</li> </ul>	YES NO (N/A YES) NO YES) NO
Bubble Wrap Foam blocks Bags Cloth material Cardboard Styrofoam 7. Temperature documentation:	
Type of ice used:	Temp(°C)
Samples Received on ice & cold without a temperature b	olank
☐ Samples received on ice directly from the field. Cooling	process had begun
8. Were Method 5035 sampling containers present?  If YES, what time were they transferred to freezer?  9. Did all bottles arrive unbroken/unopened?  10. Are samples in the appropriate containers for indicated tests?  11. Are sample labels present, in good condition and complete?  12. Do the sample labels agree with custody papers?  13. Was sufficient amount of sample sent for tests requested?  14. Are the samples appropriately preserved?  15. Are bubbles > 6mm absent in VOA samples?  16. Was the client contacted concerning this sample delivery?  If YES, Who was called?  By	YES NO YES NO YES NO YES NO YES NO YES NO N/A YES NO N/A YES NO
COMMENTS	
SOP Volume: Client Services Section: 1.1.2	Rev. 6 Number 1 of 3 Effective: 23 July 2008
Page: 1 of 1 7:\qc\forms\checklis	sts/Cooler Receipt Checklist rv6 doc

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	Gaso	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	ASMW-2D	Batch#:	149054	
Lab ID:	210667-001	Sampled:	03/11/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/21/09	
Diln Fac:	25.00			

Analyte	Result	RL	
Gasoline C7-C12	ND	1,300	
tert-Butyl Alcohol (TBA)	1,900	250	
Isopropyl Ether (DIPE)	ND	13	
Ethyl tert-Butyl Ether (ETBE)	ND	13	
Methyl tert-Amyl Ether (TAME)	ND	13	
MTBE	1,300	13	
1,2-Dichloroethane	ND	13	
Benzene	ND	13	
Toluene	ND	13	
1,2-Dibromoethane	ND	13	
Ethylbenzene	ND	13	
m,p-Xylenes	ND	13	
o-Xylene	ND	13	

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	113	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-125

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

Page 1 of 1



	Gas	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	ASMW-2I	Units:	ug/L	
Lab ID:	210667-002	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	

Analyte	Result	RL	Diln Fac	Batch# Analyzed
Gasoline C7-C12	49,000	1,700	33.33	149054 03/21/09
tert-Butyl Alcohol (TBA)	3,200	2,500	250.0	149095 03/22/09
Isopropyl Ether (DIPE)	ND	17	33.33	149054 03/21/09
Ethyl tert-Butyl Ether (ETBE)	ND	17	33.33	149054 03/21/09
Methyl tert-Amyl Ether (TAME)	ND	17	33.33	149054 03/21/09
MTBE	1,100	17	33.33	149054 03/21/09
1,2-Dichloroethane	ND	17	33.33	149054 03/21/09
Benzene	18,000	130	250.0	149095 03/22/09
Toluene	17,000	130	250.0	149095 03/22/09
1,2-Dibromoethane	ND	17	33.33	149054 03/21/09
Ethylbenzene	1,600	17	33.33	149054 03/21/09
m,p-Xylenes	5,100	17	33.33	149054 03/21/09
o-Xylene	3,100	17	33.33	149054 03/21/09

Surrogate	%REC	Limits	Diln Fac	Batch# Analyzed
Dibromofluoromethane	96	80-122	33.33	149054 03/21/09
1,2-Dichloroethane-d4	80	77-137	33.33	149054 03/21/09
Toluene-d8	101	80-120	33.33	149054 03/21/09
Bromofluorobenzene	101	80-125	33.33	149054 03/21/09

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

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	Gas	soline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	ASMW-3D	Diln Fac:	1.000	
Lab ID:	210667-003	Sampled:	03/11/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L			

Analyte	Result	RL	Batch# Analyzed
Gasoline C7-C12	ND	50	149054 03/20/09
tert-Butyl Alcohol (TBA)	34	10	149095 03/21/09
Isopropyl Ether (DIPE)	ND	0.50	149095 03/21/09
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	149095 03/21/09
Methyl tert-Amyl Ether (TAME)	ND	0.50	149095 03/21/09
MTBE	91	0.50	149054 03/20/09
1,2-Dichloroethane	ND	0.50	149095 03/21/09
Benzene	ND	0.50	149095 03/21/09
Toluene	ND	0.50	149095 03/21/09
1,2-Dibromoethane	ND	0.50	149095 03/21/09
Ethylbenzene	ND	0.50	149095 03/21/09
m,p-Xylenes	ND	0.50	149095 03/21/09
o-Xylene	ND	0.50	149095 03/21/09

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	109	80-122	149095	03/21/09
1,2-Dichloroethane-d4	111	77-137	149095	03/21/09
Toluene-d8	99	80-120	149095	03/21/09
Bromofluorobenzene	103	80-125	149095	03/21/09

ND= Not Detected
RL= Reporting Limit

Page 1 of 1



	Gasc	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	ASMW-3I	Batch#:	149054	
Lab ID:	210667-004	Sampled:	03/11/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/20/09	
Diln Fac:	1.000	_		

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	1.4	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane 9	93	80-122
1,2-Dichloroethane-d4 1	113	77-137
Toluene-d8 9	97	80-120
Bromofluorobenzene 1	103	80-125

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



	Gasc	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	ASMW-4D	Batch#:	149054	
Lab ID:	210667-005	Sampled:	03/11/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/20/09	
Diln Fac:	1.000			

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	1.4	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane 9	93	80-122
1,2-Dichloroethane-d4 1	L12	77-137
Toluene-d8 9	97	80-120
Bromofluorobenzene 9	99	80-125

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

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	Gas	soline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	ASMW-4I	Diln Fac:	12.50	
Lab ID:	210667-006	Sampled:	03/11/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L			

Analyte	Result	RL	Batch# Analyzed
Gasoline C7-C12	9,200 Y	630	149054 03/21/09
tert-Butyl Alcohol (TBA)	ND	130	149095 03/22/09
Isopropyl Ether (DIPE)	ND	6.3	149095 03/22/09
Ethyl tert-Butyl Ether (ETBE)	ND	6.3	149095 03/22/09
Methyl tert-Amyl Ether (TAME)	ND	6.3	149095 03/22/09
MTBE	ND	6.3	149095 03/22/09
1,2-Dichloroethane	ND	6.3	149095 03/22/09
Benzene	38	6.3	149095 03/22/09
Toluene	ND	6.3	149095 03/22/09
1,2-Dibromoethane	ND	6.3	149095 03/22/09
Ethylbenzene	570	6.3	149095 03/22/09
m,p-Xylenes	1,800	6.3	149095 03/22/09
o-Xylene	230	6.3	149095 03/22/09

Surrogate	%REC	Limits	atch# Analyzed	
Dibromofluoromethane	110	80-122	49095 03/22/09	
1,2-Dichloroethane-d4	115	77-137	49095 03/22/09	
Toluene-d8	101	80-120	49095 03/22/09	
Bromofluorobenzene	99	80-125	49095 03/22/09	

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Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit



	Gá	asoline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	ASMW-5D	Units:	ug/L	
Lab ID:	210667-007	Sampled:	03/11/09	
Matrix:	Water	Received:	03/13/09	

Analyte	Result	RL	Diln Fac	Batch# Analyzed
Gasoline C7-C12	87 Y	50	1.000	149054 03/20/09
tert-Butyl Alcohol (TBA)	1,700	25	2.500	149095 03/22/09
Isopropyl Ether (DIPE)	ND	0.50	1.000	149054 03/20/09
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	1.000	149054 03/20/09
Methyl tert-Amyl Ether (TAME)	ND	0.50	1.000	149054 03/20/09
MTBE	ND	0.50	1.000	149054 03/20/09
1,2-Dichloroethane	ND	0.50	1.000	149054 03/20/09
Benzene	84	0.50	1.000	149054 03/20/09
Toluene	ND	0.50	1.000	149054 03/20/09
1,2-Dibromoethane	ND	0.50	1.000	149054 03/20/09
Ethylbenzene	5.2	0.50	1.000	149054 03/20/09
m,p-Xylenes	5.9	0.50	1.000	149054 03/20/09
o-Xylene	1.5	0.50	1.000	149054 03/20/09

Surrogate	%REC	Limits	Diln Fac	Batch# Analyzed
Dibromofluoromethane	94	80-122	1.000	149054 03/20/09
1,2-Dichloroethane-d4	103	77-137	1.000	149054 03/20/09
Toluene-d8	97	80-120	1.000	149054 03/20/09
Bromofluorobenzene	107	80-125	1.000	149054 03/20/09

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Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit



	Gasc	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	ASMW-5I	Batch#:	149054	
Lab ID:	210667-008	Sampled:	03/11/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/21/09	
Diln Fac:	142.9	_		

Analyte	Result	RL	
Gasoline C7-C12	72,000	7,100	
tert-Butyl Alcohol (TBA)	ND	1,400	
Isopropyl Ether (DIPE)	ND	71	
Ethyl tert-Butyl Ether (ETBE)	ND	71	
Methyl tert-Amyl Ether (TAME)	ND	71	
MTBE	76	71	
1,2-Dichloroethane	ND	71	
Benzene	11,000	71	
Toluene	3,600	71	
1,2-Dibromoethane	ND	71	
Ethylbenzene	3,800	71	
m,p-Xylenes	13,000	71	
o-Xylene	5,400	71	

Surrogate	%REC	Limits
Dibromofluoromethane 93	3	80-122
1,2-Dichloroethane-d4 10	.03	77-137
Toluene-d8 96	6	80-120
Bromofluorobenzene 99	19	80-125

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



	Gaso	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	MW-1	Batch#:	149123	
Lab ID:	210667-009	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/23/09	
Diln Fac:	1.000			

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane 9	96	80-122
1,2-Dichloroethane-d4 1	114	77-137
Toluene-d8 9	95	80-120
Bromofluorobenzene 1	L04	80-125

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

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	Gasc	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	MW-2	Batch#:	149054	
Lab ID:	210667-010	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/20/09	
Diln Fac:	1.000			

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	2.0	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-122
1,2-Dichloroethane-d4	111	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-125

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	Gaso	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	MW-3	Batch#:	149054	
Lab ID:	210667-011	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/20/09	
Diln Fac:	1.000	_		

Analyte	Resul	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	0	97 0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-122
1,2-Dichloroethane-d4	112	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-125

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	Gá	asoline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	MW-4	Units:	ug/L	
Lab ID:	210667-012	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	

Analyte	Result	RL	Diln Fac	Batch# Analyzed
Gasoline C7-C12	55,000	7,100	142.9	149054 03/21/09
tert-Butyl Alcohol (TBA)	ND	1,400	142.9	149054 03/21/09
Isopropyl Ether (DIPE)	ND	71	142.9	149054 03/21/09
Ethyl tert-Butyl Ether (ETBE)	ND	71	142.9	149054 03/21/09
Methyl tert-Amyl Ether (TAME)	ND	71	142.9	149054 03/21/09
MTBE	950	71	142.9	149054 03/21/09
1,2-Dichloroethane	ND	71	142.9	149054 03/21/09
Benzene	19,000	170	333.3	149095 03/22/09
Toluene	7,200	71	142.9	149054 03/21/09
1,2-Dibromoethane	ND	71	142.9	149054 03/21/09
Ethylbenzene	2,300	71	142.9	149054 03/21/09
m,p-Xylenes	8,500	71	142.9	149054 03/21/09
o-Xylene	3,500	71	142.9	149054 03/21/09

Surrogate	%REC	Limits	Diln Fac	Batch# Analyzed
Dibromofluoromethane	94	80-122	142.9	149054 03/21/09
1,2-Dichloroethane-d4	100	77-137	142.9	149054 03/21/09
Toluene-d8	96	80-120	142.9	149054 03/21/09
Bromofluorobenzene	100	80-125	142.9	149054 03/21/09

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	Gaso	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	NW-1D	Batch#:	149054	
Lab ID:	210667-013	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/20/09	
Diln Fac:	1.000			

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	1.4	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate %	%REC	Limits
Dibromofluoromethane 96	6	80-122
1,2-Dichloroethane-d4 11	12	77-137
Toluene-d8 96	6	80-120
Bromofluorobenzene 10	01	80-125

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	Gasc	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	NW-1S	Batch#:	149054	
Lab ID:	210667-014	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/20/09	
Diln Fac:	1.000			

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	0.55	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane 96	6	80-122
1,2-Dichloroethane-d4	.14	77-137
Toluene-d8 96	6	80-120
Bromofluorobenzene 99	9	80-125

ND= Not Detected
RL= Reporting Limit

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	Gá	asoline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	NW-2D	Units:	ug/L	
Lab ID:	210667-015	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	

Analyte	Result	RL	Diln Fac	Batch# Analyzed
Gasoline C7-C12	ND	250	5.000	149054 03/21/09
tert-Butyl Alcohol (TBA)	17,000	250	25.00	149095 03/22/09
Isopropyl Ether (DIPE)	ND	2.5	5.000	149054 03/21/09
Ethyl tert-Butyl Ether (ETBE)	ND	2.5	5.000	149054 03/21/09
Methyl tert-Amyl Ether (TAME)	ND	2.5	5.000	149054 03/21/09
MTBE	310	2.5	5.000	149054 03/21/09
1,2-Dichloroethane	ND	2.5	5.000	149054 03/21/09
Benzene	120	2.5	5.000	149054 03/21/09
Toluene	ND	2.5	5.000	149054 03/21/09
1,2-Dibromoethane	ND	2.5	5.000	149054 03/21/09
Ethylbenzene	ND	2.5	5.000	149054 03/21/09
m,p-Xylenes	ND	2.5	5.000	149054 03/21/09
o-Xylene	ND	2.5	5.000	149054 03/21/09

Surrogate	%REC	Limits	Diln Fac	Batch# Analyzed
Dibromofluoromethane	96	80-122	5.000	149054 03/21/09
1,2-Dichloroethane-d4	111	77-137	5.000	149054 03/21/09
Toluene-d8	96	80-120	5.000	149054 03/21/09
Bromofluorobenzene	102	80-125	5.000	149054 03/21/09

ND= Not Detected
RL= Reporting Limit

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	Gas	soline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	NW-2S	Units:	ug/L	
Lab ID:	210667-016	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	

Analyte	Result	RL	Diln Fac	Batch# Analyzed
Gasoline C7-C12	1,800 Y	420	8.333	149100 03/22/09
tert-Butyl Alcohol (TBA)	1,900	130	12.50	149054 03/21/09
Isopropyl Ether (DIPE)	ND	4.2	8.333	149100 03/22/09
Ethyl tert-Butyl Ether (ETBE)	ND	4.2	8.333	149100 03/22/09
Methyl tert-Amyl Ether (TAME)	ND	4.2	8.333	149100 03/22/09
MTBE	130	4.2	8.333	149100 03/22/09
1,2-Dichloroethane	ND	4.2	8.333	149100 03/22/09
Benzene	520	4.2	8.333	149100 03/22/09
Toluene	ND	4.2	8.333	149100 03/22/09
1,2-Dibromoethane	ND	4.2	8.333	149100 03/22/09
Ethylbenzene	120	4.2	8.333	149100 03/22/09
m,p-Xylenes	20	4.2	8.333	149100 03/22/09
o-Xylene	ND	4.2	8.333	149100 03/22/09

Surrogate	%REC	Limits	Diln Fac	Batch# Analyzed
Dibromofluoromethane	91	80-122	8.333	149100 03/22/09
1,2-Dichloroethane-d4	102	77-137	8.333	149100 03/22/09
Toluene-d8	95	80-120	8.333	149100 03/22/09
Bromofluorobenzene	102	80-125	8.333	149100 03/22/09

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Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit



	Gaso	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	DUP-1	Batch#:	149054	
Lab ID:	210667-017	Sampled:	03/11/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/21/09	
Diln Fac:	200.0			

Analyte	Result	RL	
Gasoline C7-C12	58,000	10,000	
tert-Butyl Alcohol (TBA)	ND	2,000	
Isopropyl Ether (DIPE)	ND	100	
Ethyl tert-Butyl Ether (ETBE)	ND	100	
Methyl tert-Amyl Ether (TAME)	ND	100	
MTBE	ND	100	
1,2-Dichloroethane	ND	100	
Benzene	10,000	100	
Toluene	3,000	100	
1,2-Dibromoethane	ND	100	
Ethylbenzene	3,100	100	
m,p-Xylenes	11,000	100	
o-Xylene	4,300	100	

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-122
1,2-Dichloroethane-d4	107	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-125

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		1		
	Gasc	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Field ID:	DUP-2	Batch#:	149123	
Lab ID:	210667-018	Sampled:	03/13/09	
Matrix:	Water	Received:	03/13/09	
Units:	ug/L	Analyzed:	03/23/09	
Diln Fac:	1.000			

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate %	%REC	Limits
Dibromofluoromethane 97	7	80-122
1,2-Dichloroethane-d4 11	15	77-137
Toluene-d8 98	8	80-120
Bromofluorobenzene 10	03	80-125

ND= Not Detected
RL= Reporting Limit

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	Gas	oline by GC/MS		
Lab #: Client: Project#:	210667 LFR Levine Fricke 003-09155-04	Location: Prep: Analysis:	Aspire Schools EPA 5030B EPA 8260B	
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	149054 03/20/09	

Type: BS Lab ID: QC488065

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	80.23 b	64	55-151
Isopropyl Ether (DIPE)	25.00	24.60	98	65-131
Ethyl tert-Butyl Ether (ETBE)	25.00	22.32	89	75-128
Methyl tert-Amyl Ether (TAME)	25.00	22.84	91	80-121
MTBE	25.00	18.97	76	73-122
1,2-Dichloroethane	25.00	20.66	83	73-141
Benzene	25.00	25.32	101	80-120
Toluene	25.00	26.12	104	80-120
1,2-Dibromoethane	25.00	26.21	105	80-120
Ethylbenzene	25.00	28.26	113	80-121
m,p-Xylenes	50.00	56.02	112	80-122
o-Xylene	25.00	27.89	112	80-120

Surrogate	%REC	Limits	
Dibromofluoromethane	90	80-122	
1,2-Dichloroethane-d4	104	77-137	
Toluene-d8	97	80-120	
Bromofluorobenzene	101	80-125	

Type: BSD Lab ID: QC488066

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	80.99 b	65	55-151	1	21
Isopropyl Ether (DIPE)	25.00	24.00	96	65-131	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	21.91	88	75-128	2	20
Methyl tert-Amyl Ether (TAME)	25.00	22.31	89	80-121	2	20
MTBE	25.00	18.68	75	73-122	2	20
1,2-Dichloroethane	25.00	20.70	83	73-141	0	20
Benzene	25.00	24.60	98	80-120	3	20
Toluene	25.00	25.26	101	80-120	3	20
1,2-Dibromoethane	25.00	26.42	106	80-120	1	20
Ethylbenzene	25.00	27.04	108	80-121	4	20
m,p-Xylenes	50.00	54.77	110	80-122	2	20
o-Xylene	25.00	26.87	107	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-122
1,2-Dichloroethane-d4	105	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	102	80-125

b= See narrative
RPD= Relative Percent Difference
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	Gas	oline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Matrix:	Water	Batch#:	149054	
Units:	ug/L	Analyzed:	03/20/09	
Diln Fac:	1.000			

Type: BS Lab ID: QC488067

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	923.8	92	80-120

Surrogate	%REC	Limits
Dibromofluoromethane 9	90	80-122
1,2-Dichloroethane-d4 1	106	77-137
Toluene-d8 9	96	80-120
Bromofluorobenzene 9	99	80-125

Type: BSD Lab ID: QC488068

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	902.1	90	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-122
1,2-Dichloroethane-d4	105	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-125



		Gasoline by GC/MS	
Lab #:	210667	Location:	Aspire Schools
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	003-09155-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC488069	Batch#:	149054
Matrix:	Water	Analyzed:	03/20/09
Units:	ug/L		

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane 9	94	80-122
1,2-Dichloroethane-d4 1	111	77-137
Toluene-d8 9	99	80-120
Bromofluorobenzene 1	L02	80-125

ND= Not Detected RL= Reporting Limit

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22.0



		Gasoline by GC/MS	
Lab #:	210667	Location:	Aspire Schools
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	003-09155-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC488187	Batch#:	149054
Matrix:	Water	Analyzed:	03/20/09
Units:	ug/L		

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	109	77-137
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-125

ND= Not Detected RL= Reporting Limit

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23.0



	Gaso	oline by GC/MS		
Lab #: Client: Project#:	210667 LFR Levine Fricke 003-09155-04	Location: Prep: Analysis:	Aspire Schools EPA 5030B EPA 8260B	
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	149095 03/21/09	

Type: BS Lab ID: QC488225

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	93.75	92.33	98	55-151
Isopropyl Ether (DIPE)	18.75	21.53	115	65-131
Ethyl tert-Butyl Ether (ETBE)	18.75	21.02	112	75-128
Methyl tert-Amyl Ether (TAME)	18.75	21.50	115	80-121
MTBE	18.75	18.84	100	73-122
1,2-Dichloroethane	18.75	21.79	116	73-141
Benzene	18.75	20.61	110	80-120
Toluene	18.75	19.79	106	80-120
1,2-Dibromoethane	18.75	20.58	110	80-120
Ethylbenzene	18.75	19.22	103	80-121
m,p-Xylenes	37.50	38.97	104	80-122
o-Xylene	18.75	18.93	101	80-120

Surrogate	%REC	Limits	
Dibromofluoromethane	104	80-122	
1,2-Dichloroethane-d4	109	77-137	
Toluene-d8	102	80-120	
Bromofluorobenzene	103	80-125	

Type: BSD Lab ID: QC488226

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	93.75	91.22	97	55-151	1	21
Isopropyl Ether (DIPE)	18.75	21.59	115	65-131	0	20
Ethyl tert-Butyl Ether (ETBE)	18.75	21.03	112	75-128	0	20
Methyl tert-Amyl Ether (TAME)	18.75	21.24	113	80-121	1	20
MTBE	18.75	18.64	99	73-122	1	20
1,2-Dichloroethane	18.75	21.54	115	73-141	1	20
Benzene	18.75	20.44	109	80-120	1	20
Toluene	18.75	19.63	105	80-120	1	20
1,2-Dibromoethane	18.75	19.87	106	80-120	3	20
Ethylbenzene	18.75	19.15	102	80-121	0	20
m,p-Xylenes	37.50	38.67	103	80-122	1	20
o-Xylene	18.75	18.89	101	80-120	0	20

Surrogate	%REC	Limits	
Dibromofluoromethane	105	80-122	
1,2-Dichloroethane-d4	108	77-137	
Toluene-d8	101	80-120	
Bromofluorobenzene	101	80-125	



	Ga	soline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Type:	BLANK	Diln Fac:	1.000	
Lab ID:	QC488227	Batch#:	149095	
Matrix:	Water	Analyzed:	03/21/09	
Units:	ug/L			

Analyte	Result	RL	
Gasoline C7-C12	NA		
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-122
1,2-Dichloroethane-d4	109	77-137
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-125

NA= Not Analyzed ND= Not Detected

RL= Reporting Limit

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	Gas	oline by GC/MS		
Lab #: Client: Project#:	210667 LFR Levine Fricke 003-09155-04	Location: Prep: Analysis:	Aspire Schools EPA 5030B EPA 8260B	
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	149100 03/21/09	

Type: BS Lab ID: QC488239

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	79.55 b	64	55-151
Isopropyl Ether (DIPE)	25.00	24.44	98	65-131
Ethyl tert-Butyl Ether (ETBE)	25.00	21.68	87	75-128
Methyl tert-Amyl Ether (TAME)	25.00	22.37	89	80-121
MTBE	25.00	18.51	74	73-122
1,2-Dichloroethane	25.00	21.34	85	73-141
Benzene	25.00	25.79	103	80-120
Toluene	25.00	26.53	106	80-120
1,2-Dibromoethane	25.00	25.89	104	80-120
Ethylbenzene	25.00	28.74	115	80-121
m,p-Xylenes	50.00	57.80	116	80-122
o-Xylene	25.00	28.33	113	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	106	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-125

Type: BSD Lab ID: QC488240

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	75.92 b	61	55-151	5	21
Isopropyl Ether (DIPE)	25.00	24.31	97	65-131	1	20
Ethyl tert-Butyl Ether (ETBE)	25.00	21.80	87	75-128	1	20
Methyl tert-Amyl Ether (TAME)	25.00	21.85	87	80-121	2	20
MTBE	25.00	19.01	76	73-122	3	20
1,2-Dichloroethane	25.00	21.13	85	73-141	1	20
Benzene	25.00	24.77	99	80-120	4	20
Toluene	25.00	25.76	103	80-120	3	20
1,2-Dibromoethane	25.00	26.54	106	80-120	3	20
Ethylbenzene	25.00	27.82	111	80-121	3	20
m,p-Xylenes	50.00	54.57	109	80-122	6	20
o-Xylene	25.00	27.23	109	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	105	77-137
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-125

b= See narrative
RPD= Relative Percent Difference
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Gasoline by GC/MS					
Lab #:	210667	Location:	Aspire Schools		
Client:	LFR Levine Fricke	Prep:	EPA 5030B		
Project#:	003-09155-04	Analysis:	EPA 8260B		
Matrix:	Water	Batch#:	149100		
Units:	ug/L	Analyzed:	03/21/09		
Diln Fac:	1.000				

Type: BS Lab ID: QC488241

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	800.0	729.1	91	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-122
1,2-Dichloroethane-d4	109	77–137
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-125

Type: BSD Lab ID: QC488242

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	800.0	737.2	92	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-122
1,2-Dichloroethane-d4	106	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-125



	Ga	soline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Type:	BLANK	Diln Fac:	1.000	
Lab ID:	QC488243	Batch#:	149100	
Matrix:	Water	Analyzed:	03/21/09	
Units:	ug/L			

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	111	77-137
Toluene-d8	94	80-120
Bromofluorobenzene	102	80-125

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

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	G	Gasoline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Type:	BLANK	Diln Fac:	1.000	
Lab ID:	QC488320	Batch#:	149123	
Matrix:	Water	Analyzed:	03/23/09	
Units:	ug/L			

Analyte	Result	RL	
Gasoline C7-C12	ND	50	
tert-Butyl Alcohol (TBA)	ND	10	
Isopropyl Ether (DIPE)	ND	0.50	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	
Methyl tert-Amyl Ether (TAME)	ND	0.50	
MTBE	ND	0.50	
1,2-Dichloroethane	ND	0.50	
Benzene	ND	0.50	
Toluene	ND	0.50	
1,2-Dibromoethane	ND	0.50	
Ethylbenzene	ND	0.50	
m,p-Xylenes	ND	0.50	
o-Xylene	ND	0.50	

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-122
1,2-Dichloroethane-d4	112	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-125

ND= Not Detected RL= Reporting Limit

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29.0



	Gas	oline by GC/MS		
Lab #: Client: Project#:	210667 LFR Levine Fricke 003-09155-04	Location: Prep: Analysis:	Aspire Schools EPA 5030B EPA 8260B	
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	149123 03/23/09	

Type: BS Lab ID: QC488322

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	60.26 b	60	55-151
Isopropyl Ether (DIPE)	20.00	20.11	101	65-131
Ethyl tert-Butyl Ether (ETBE)	20.00	17.50	87	75-128
Methyl tert-Amyl Ether (TAME)	20.00	17.75	89	80-121
MTBE	20.00	15.01	75	73-122
1,2-Dichloroethane	20.00	17.36	87	73-141
Benzene	20.00	20.97	105	80-120
Toluene	20.00	21.51	108	80-120
1,2-Dibromoethane	20.00	20.28	101	80-120
Ethylbenzene	20.00	23.46	117	80-121
m,p-Xylenes	40.00	47.35	118	80-122
o-Xylene	20.00	22.82	114	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	105	77-137
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-125

Type: BSD Lab ID: QC488323

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	100.0	63.18 b	63	55-151	5	21
Isopropyl Ether (DIPE)	20.00	19.92	100	65-131	1	20
Ethyl tert-Butyl Ether (ETBE)	20.00	17.45	87	75-128	0	20
Methyl tert-Amyl Ether (TAME)	20.00	17.70	88	80-121	0	20
MTBE	20.00	14.89	74	73-122	1	20
1,2-Dichloroethane	20.00	16.97	85	73-141	2	20
Benzene	20.00	20.17	101	80-120	4	20
Toluene	20.00	20.59	103	80-120	4	20
1,2-Dibromoethane	20.00	20.53	103	80-120	1	20
Ethylbenzene	20.00	23.14	116	80-121	1	20
m,p-Xylenes	40.00	46.10	115	80-122	3	20
o-Xylene	20.00	21.99	110	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	106	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	102	80-125

b= See narrative
RPD= Relative Percent Difference
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	Gas	soline by GC/MS		
Lab #:	210667	Location:	Aspire Schools	
Client:	LFR Levine Fricke	Prep:	EPA 5030B	
Project#:	003-09155-04	Analysis:	EPA 8260B	
Matrix:	Water	Batch#:	149123	
Units:	ug/L	Analyzed:	03/23/09	
Diln Fac:	1.000			

Type: BS Lab ID: QC488331

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	972.2	97	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	110	77-137
Toluene-d8	96	80-120
Bromofluorobenzene	103	80-125

Type: BSD Lab ID: QC488332

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	973.5	97	80-120	0	20

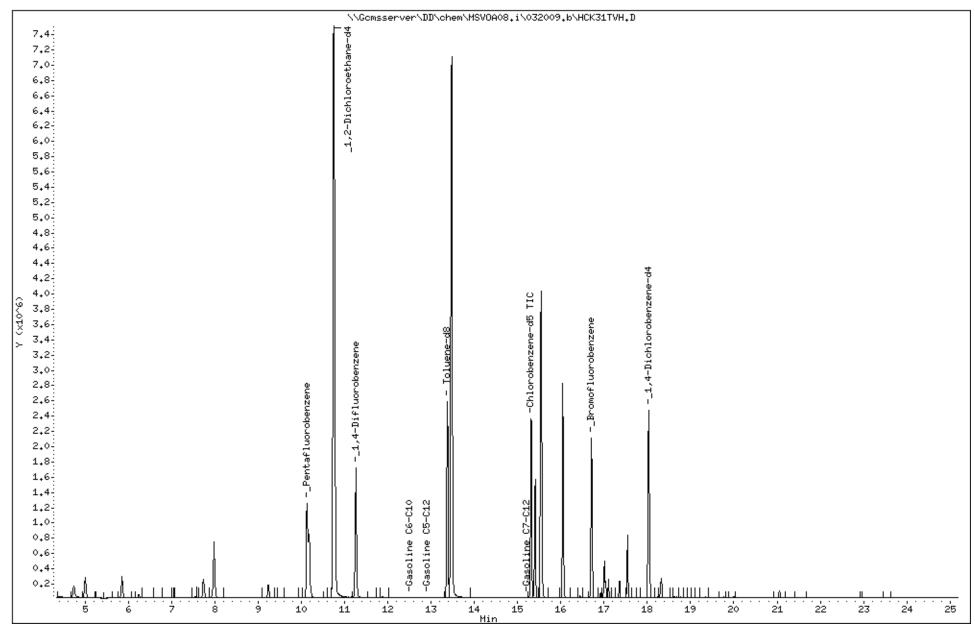
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Surrogate	%REC	Limits
Dibromofluoromethane	88	80-122
1,2-Dichloroethane-d4	108	77-137
Toluene-d8	97	80-120
Bromofluorobenzene	103	80-125

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Operator: voc

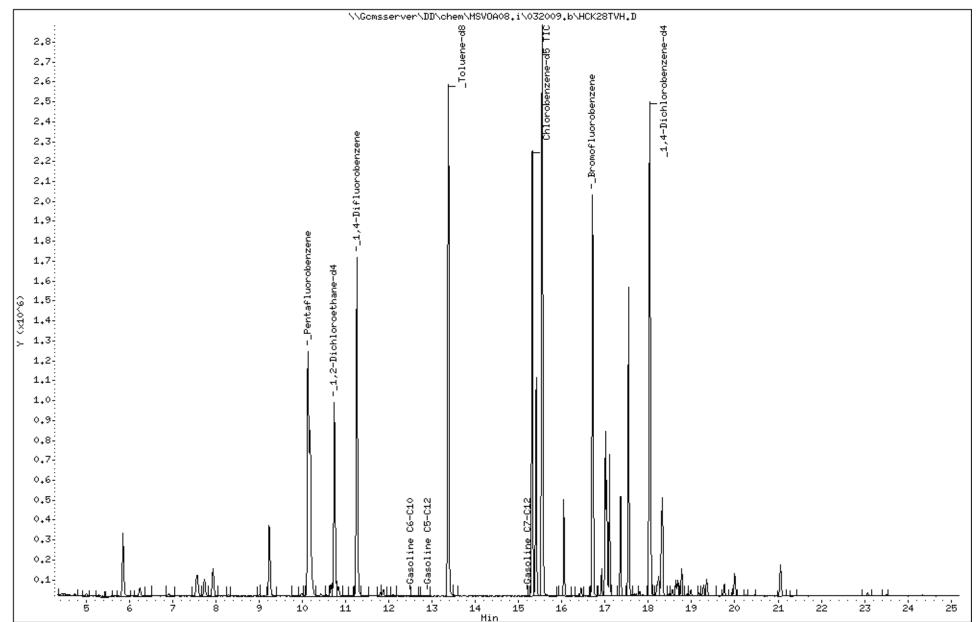


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Operator: voc

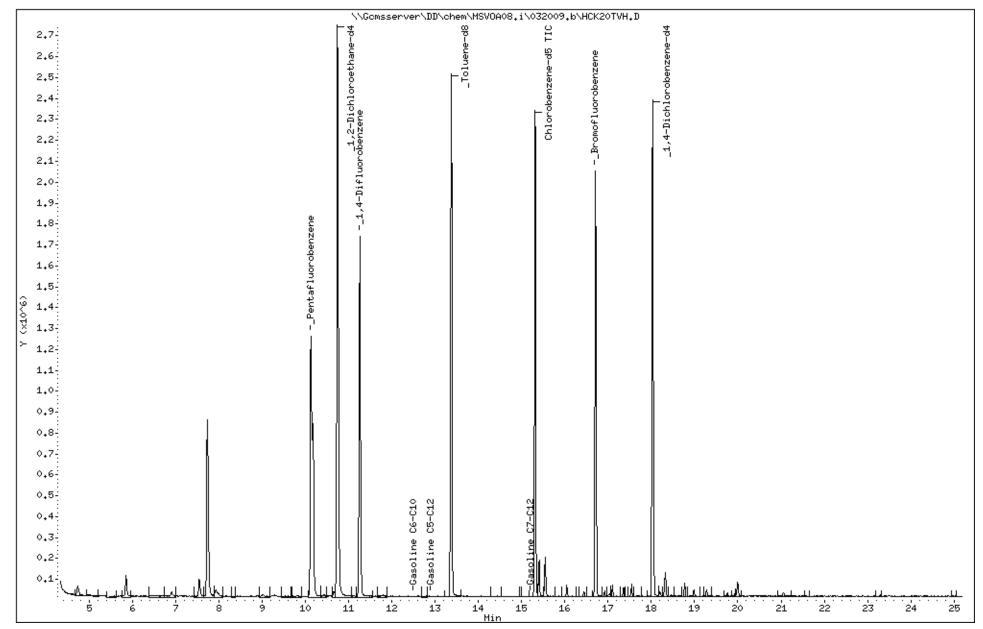


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Instrument: MSVOA08.i

Operator: voc

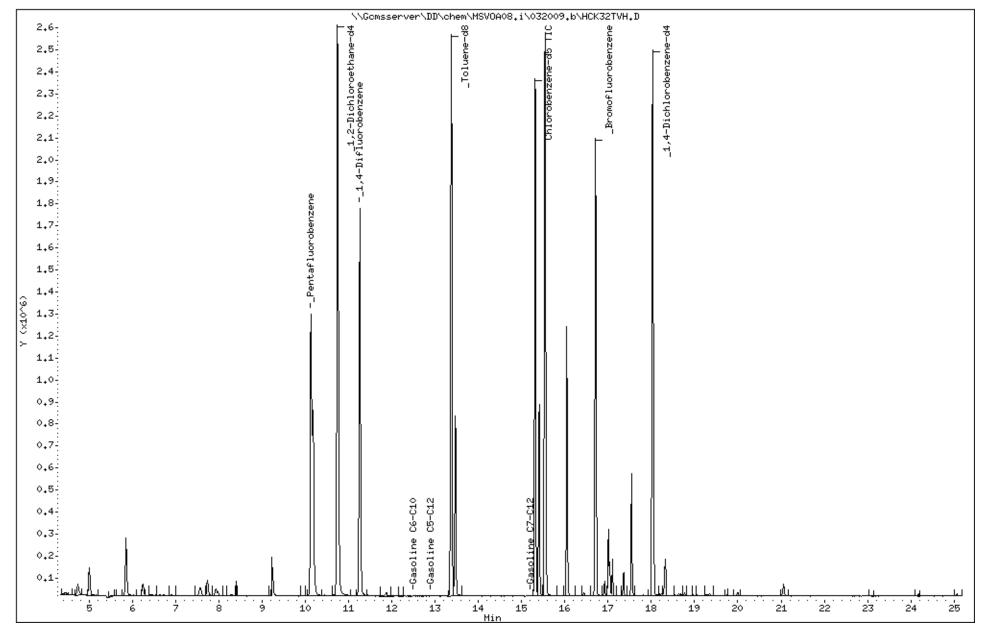


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Instrument: MSVOA08.i

Operator: voc

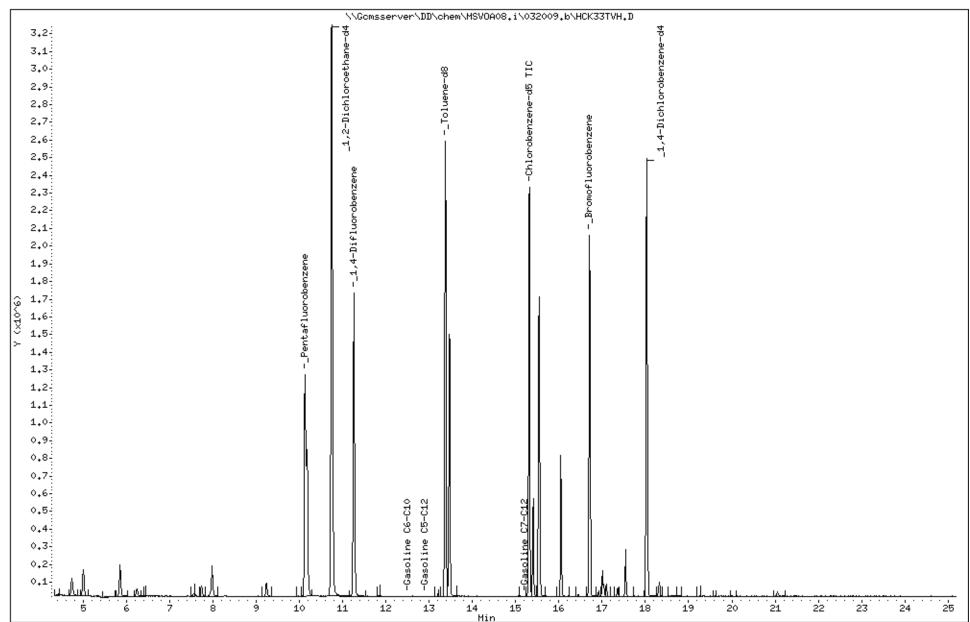


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Instrument: MSVOA08.i

Operator: voc

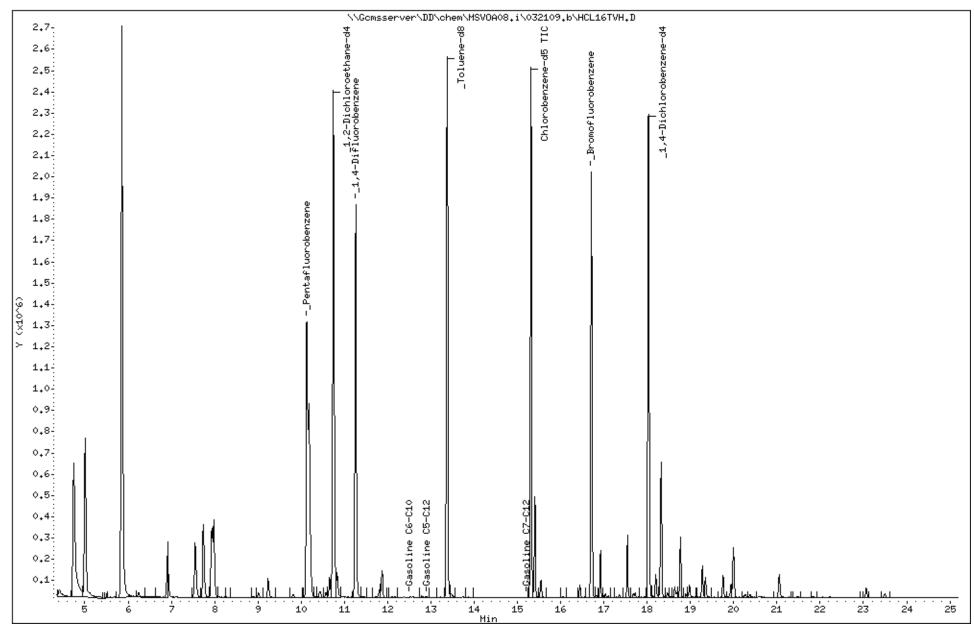


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Instrument: MSVOA08.i

Operator: voc

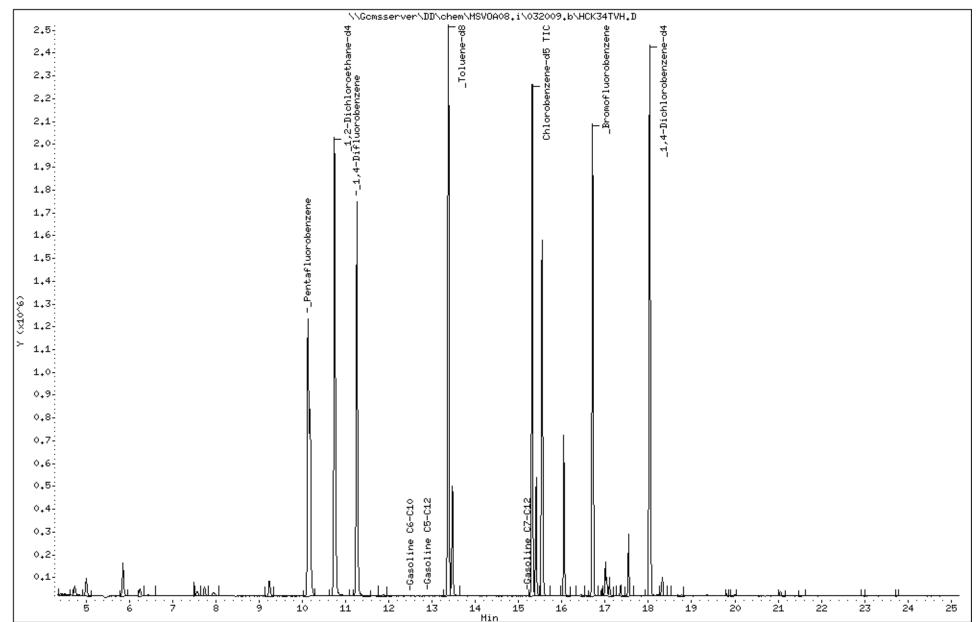


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Instrument: MSVOA08.i

Operator: voc



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\032009.b\\HCK05TVH.D

Date : 20-MAR-2009 12:16 Client ID: DYNA P&T

Sample Info: CCV/BS,QC488067,149054,S10867,0.01/100

Instrument: MSVOA08.i

Operator: voc

