



**Tetra Tech EM Inc.**

135 Main Street, Suite 1800 ♦ San Francisco, CA 94105 ♦ (415) 543-4880 ♦ FAX (415) 543-5480

December 22, 2000

120388

Barney Chan  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

# 2957

**Subject: Submittal of September 2000 Quarterly Monitoring Reports for ~~1200 20<sup>th</sup> Avenue,~~  
and 744 East 12<sup>th</sup> Street in Oakland, California for J. W. Silveira Company**

Dear Mr.Chan:

Enclosed please find one copy each of the September 2000 quarterly groundwater monitoring reports for the sites at 1200 20<sup>th</sup> Avenue, and 744 East 12<sup>th</sup> Street in Oakland, California. Tetra Tech EM Inc. (TtEMI) conducted the quarterly sampling activities on September 27, 2000.

The fourth quarter of groundwater sampling for the same sites was conducted on December 18, 2000. The fourth quarter of groundwater sampling results will be submitted once the analytical results are received from the lab. This next report will also include the previous groundwater sampling results for this year.

If you have any questions or comments please feel free to call me at (415) 222-8316.

Sincerely,

h Hal Dawson  
Project Manager/Geologist

cc: J.W. Silveira Company  
Shapiro Buchman Provine & Patton LLP  
File

00 DEC 27 AM 11:16

ENVIRONMENTAL PROTECTION



## **Tetra Tech EM Inc.**

135 Main Street, Suite 1800 ♦ San Francisco, CA 94105 ♦ (415) 543-4880 ♦ FAX (415) 543-5480

December 22, 2000

J. W. Silveira Company  
499 Embarcadero  
Oakland, California 94606

Subject: September 2000, Third Quarterly Monitoring Report for the Site Located at  
744 E 12<sup>th</sup> Street, Oakland

### **INTRODUCTION**

The purpose of this report is to provide the results of the quarterly groundwater monitoring conducted in the third quarter of 2000 at 744 East 12<sup>th</sup> Street. Groundwater samples were collected from the 3 monitoring wells on September 27, 2000. The site is located at the northeast corner of the intersection of East 12<sup>th</sup> Street and 8<sup>th</sup> Avenue in Oakland, California (Figure 1).

### **SITE BACKGROUND**

One 500-gallon underground storage tank (UST) was previously located at the site. The UST reportedly contained gasoline and was removed in April 1996. Based on drawings provided in the Tank Closure Report, the approximate size of the former tank was 5 feet long by 4 feet in diameter. The UST had not been in use for 10 years prior to being removed and was reportedly empty at the time of the removal. During removal of the UST, it was noted that the single-walled steel tank had rusted through and had leaked. The approximate surface area of the removal excavation was 11 feet by 6 feet and the UST was located in the southwestern portion of the excavation. Approximately 20 cubic yards of soil was over-excavated and transported off site for disposal. The bottom of the excavation was approximately 8 to 12 feet below the ground surface (bgs). The exact depth to the bottom of the UST was not recorded during the removal activities; the estimated depth to the bottom of the former UST is 6 feet bgs.

During the UST removal activities, five soil samples were collected from the sidewalls and bottom of the removal excavation. The soil samples were analyzed for benzene, toluene, ethylbenzene,

and xylenes (BTEX), total petroleum hydrocarbons (TPH) as gasoline (TPH-g), and total lead. The highest concentrations of BTEX and TPH-g were detected in the southwestern end of the excavation. Lead concentrations in soil samples from the removal excavation were not elevated. Groundwater was not encountered during removal of the UST.

Three monitoring wells, identified on Figure 2 as MW-1, MW-2, and MW-3, were installed at the site during the 1999 additional site characterization. Also 2 soil borings with grab groundwater samples were also completed to help characterize the site. TPH-g and BTEX chemical compounds were not detected in the soil samples. MTBE is the only chemical compound that was detected in soil samples at the site. The highest concentration of MTBE in soil was detected in Monitoring well MW-3 at 10.5-11.0 feet bgs. Soil samples from MW-1, MW-2, and SB-1 had non-detects for MTBE. TPH-g was not detected in groundwater samples from the site. Benzene was only detected from monitoring well MW-3 and the highest concentration of MTBE was also detected in MW-3.

The conclusions and recommendations of the site characterization report recommended that 4 quarters of groundwater sampling be conducted. Results from both analytical sampling and visual observation of the drilling activities show that some contamination is present at the site. Most of the contamination in the soil and groundwater is concentrated around MW-3. No mobile or potentially mobile free product appears to be present at the site.

#### **GROUNDWATER SAMPLING ACTIVITIES**

For the third quarterly sampling event in the year 2000, the three monitoring wells at the site were sampled on September 27, 2000. The depth of groundwater was measured at each well with an electronic depth probe. The depth to the monitoring well caps were removed from the tops of the well and the groundwater was allowed to equilibrate before the depth to groundwater was measured. Each well was purged and sampled with a dedicated disposable bailer. During the purging of the monitoring well a Horiba U10 water quality checker was used to measure the following physical parameters of the groundwater: pH, temperature, electrical conductivity, dissolved oxygen, and turbidity. Copies of the groundwater field sampling sheets are provided in Appendix A. These physical parameters were monitored to determine when the groundwater in the well casing was representative of the groundwater outside of the monitoring well. After the physical parameters of the groundwater had stabilized groundwater samples were collected from the well. The samples were

placed in the appropriate sample containers provided by the laboratory. After each sample was labeled the sample was stored in a cooler of ice under a chain-of-custody control. The groundwater samples were sent to Curtis & Tompkins Analytical Laboratories (C&T), in Berkeley, California. C&T is a California state-certified laboratory. The groundwater samples were analyzed for BTEX, methyl tertiary-butyl ether (MTBE), and TPH-g.

### **GROUNDWATER GRADIENT**

The groundwater elevations were calculated for each of the monitoring wells from the measured depth to groundwater at the site. The depth to groundwater is measured from the top of casing at each well, and the groundwater elevations measured at the site are presented in Table 1. The groundwater flow direction and gradient at the site were calculated using these data. The groundwater flow direction is south 40 degrees west (S40W), as shown on Figure 3. MW-3 is downgradient from the location of the former UST, and MW-1 and MW-2 are slightly upgradient to the north and southeast, respectively, of the former UST location. The groundwater gradient was calculated to be 0.0041 feet/foot (ft/ft).

### **GROUNDWATER ANALYTICAL RESULTS**

Benzene and MTBE were the only two compounds detected in groundwater during this round of quarterly sampling. Ethylbenzene, toluene, total xylenes, and TPH-g were not detected in any of the groundwater samples collected from the site. Table 2 presents the analytical results for the May 2000 quarterly sampling event at the site. MTBE is the only detected compound, at 1.8 micrograms per liter (ug/L), in the groundwater sample collected from MW-3 (sample number JW3-20). The complete laboratory data package and chain-of-custody is attached as Appendix B at the end of this report.

## CONCLUSIONS AND RECOMMENDATIONS

This report presents the analytical results of the May 2000 quarterly groundwater monitoring event for the three wells located at the site. The contaminant concentrations in the groundwater at the site continue to range from not detectable to relatively low levels for benzene and MTBE.

TtEMI conducted the first quarterly sampling at the site in February 2000. ~~The fourth quarter of groundwater sampling was completed on December 10, 2000.~~ Conclusions and recommendations will be made after the last quarter of groundwater sampling data is analyzed. Based on the past analytical sampling data and discussions with the Alameda County Health Care Services Agency, recommendations as to the disposition of the site will be made at that time.

Should you have any questions, please feel free to contact the undersigned project manager, Hal Dawson, at (415) 222-8316.

Sincerely,

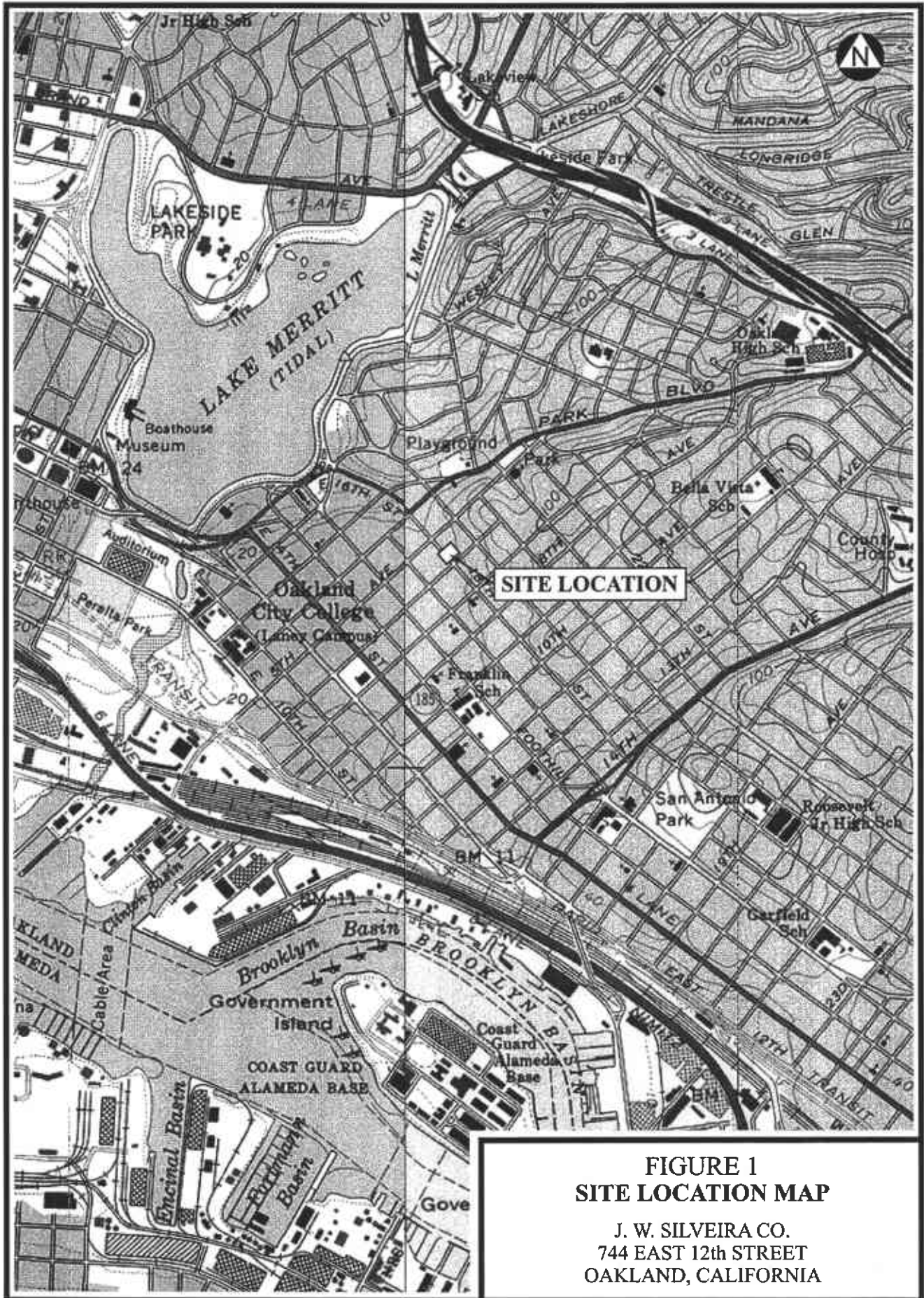


*h* Hal Dawson  
TtEMI Project Manager



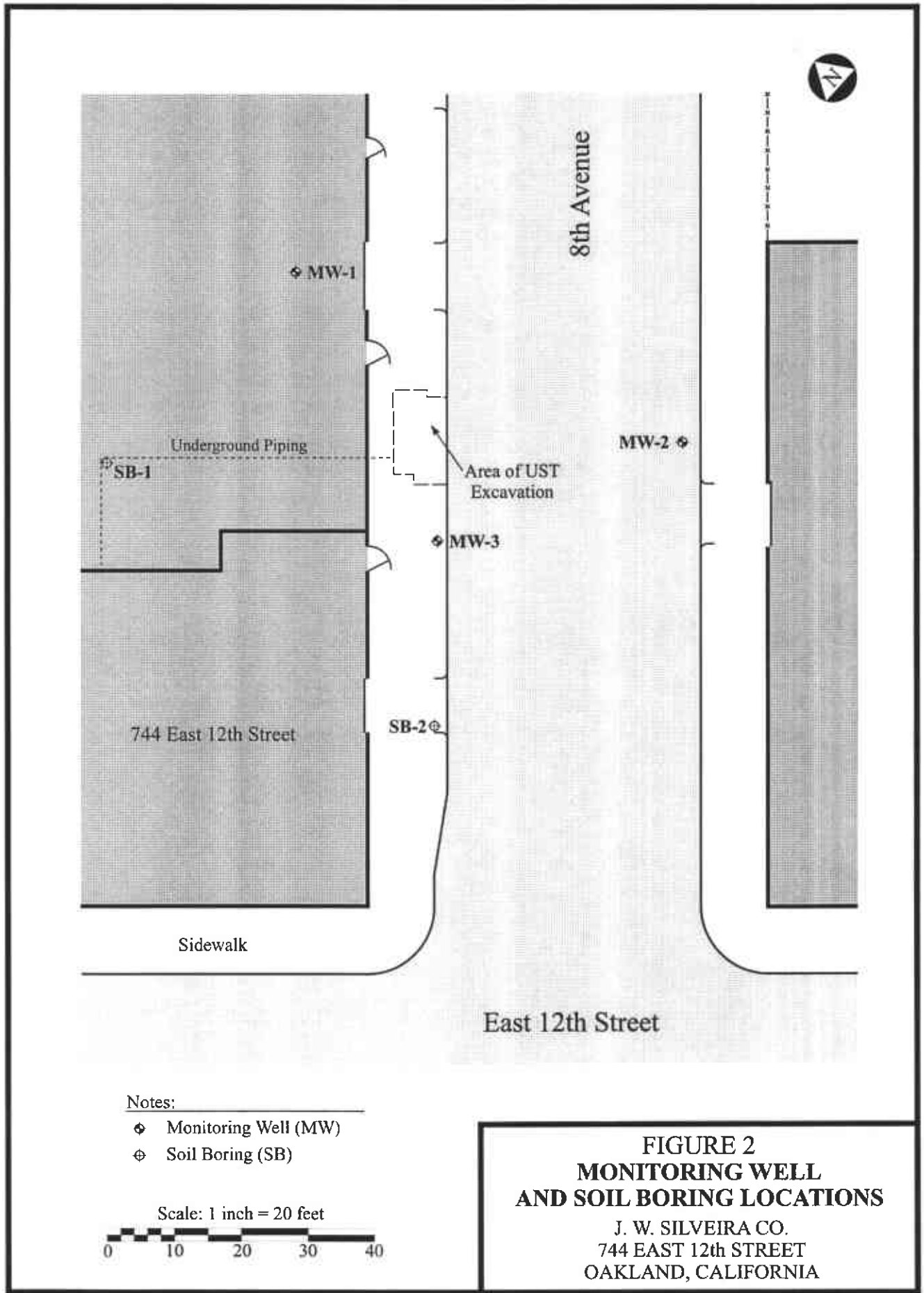
Jerry Wickham  
Registered Geologist #3766





**SITE LOCATION**

**FIGURE 1**  
**SITE LOCATION MAP**  
 J. W. SILVEIRA CO.  
 744 EAST 12th STREET  
 OAKLAND, CALIFORNIA



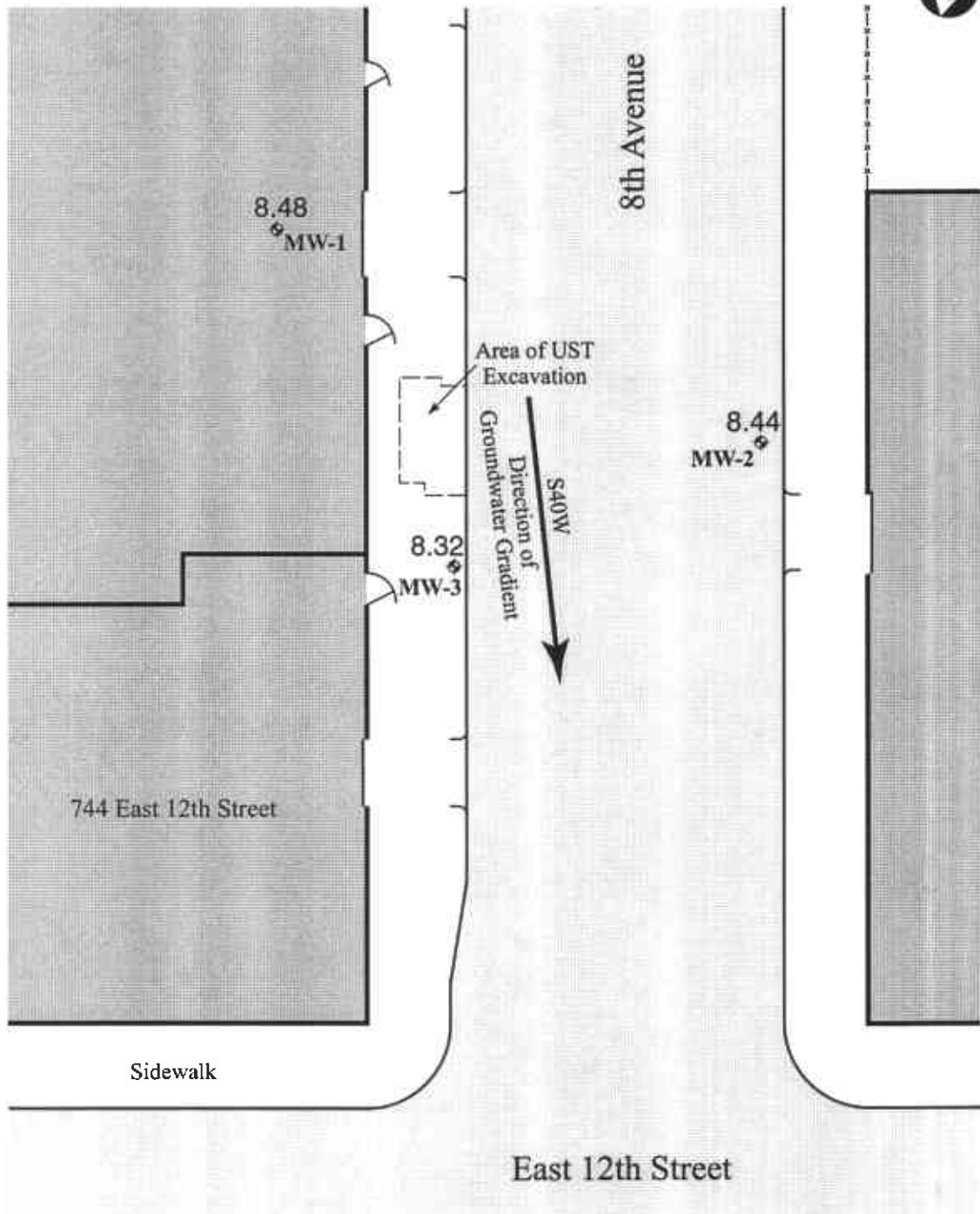
Notes:

- ◆ Monitoring Well (MW)
- ⊕ Soil Boring (SB)

Scale: 1 inch = 20 feet



**FIGURE 2**  
**MONITORING WELL**  
**AND SOIL BORING LOCATIONS**  
 J. W. SILVEIRA CO.  
 744 EAST 12th STREET  
 OAKLAND, CALIFORNIA



Notes:

- ◆ Monitoring Well (MW)
- 8.74 Groundwater elevation in feet above mean seal level

Scale: 1 inch = 20 feet



**FIGURE 3  
GROUNDWATER GRADIENT**

J. W. SILVEIRA CO.  
744 EAST 12th STREET  
OAKLAND, CALIFORNIA



**TABLE 1**  
**GROUNDWATER ELEVATIONS**  
**744 EAST 12TH STREET**

Date	Groundwater Elevations from TOC		
	MW-1	MW-2	MW-3
9/27/00	8.48	8.44	8.32

Notes:

ft      feet

TOC    Top of Casing

MW-1 TOC Elevation: 18.17 ft

MW-2 TOC Elevation: 16.71 ft

MW-3 TOC Elevation: 16.35 ft

**TABLE 2**  
**THIRD QUARTER GROUNDWATER RESULTS**  
**VOC AND TPH COMPOUNDS**  
**744 EAST 12TH STREET**

Analyte	Monitoring Well		
	MW-1	MW-2	MW-3
<b>VOC (µg/L)</b>			
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
m,p-Xylenes	ND	ND	ND
o-Xylene	ND	ND	ND
MTBE	ND	ND	1.8
<b>TPH (µg/L)</b>	<b>MW-1</b>	<b>MW-2</b>	<b>MW-3</b>
Gasoline	ND	ND	ND

**Notes:**

µg/L    micrograms per Liter  
 ND      Not Detected  
 TPH    Total Petroleum Hydrocarbons  
 VOC    Volatile Organic Compound

MW-1 is water sample JW-18  
 MW-2 is water sample JW-19  
 MW-3 is water sample JW-20

**APPENDIX A**  
**GROUNDWATER SAMPLING DATA SHEETS**



# GROUNDWATER SAMPLING RECORD

DATE 9-28-00 PAGE 2 OF 2

MONITORING WELL NO. MW-1  
 PROJECT JW SILVEIRA  
 SITE 3, 744 E 12<sup>th</sup> ST.  
 PROJECT NO. P110604  
 CASING DIAMETER 2 inches  
 BOREHOLE DIAMETER 8.25 inches  
 TOP OF CASING ELEVATION 18.17 feet  
 WATER LEVEL 9.69 feet btoc 0950 @  
 WATER LEVEL ELEVATION 8.48 feet msl

STANDING WATER COLUMN 7.44 feet  
 WELL VOLUMES TO BE PURGED \_\_\_\_\_  
 MINIMUM PURGE VOLUME \_\_\_\_\_ gallons  
 ACTUAL VOLUME PURGED \_\_\_\_\_ gallons

VOLUME CALCULATED BY:

PURGE VOLUME CALCULATION

One Well Volume = Casing Volume + Annulus Volume

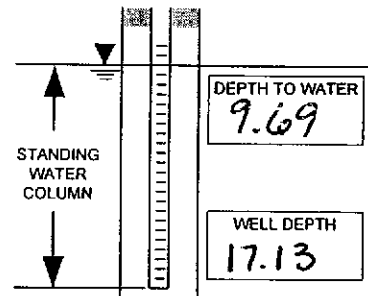
One Well Volume =  $1.26 \text{ gal} + 5.87 \text{ gal}$

One Well Volume =  $7.13 \text{ gallons}$

Casing Volume =  $\text{Standing Water Column (ft)} \times \text{Pipe Volume (gal/linear ft)}^a$

Casing Volume =  $7.44 \text{ ft} \times 0.17 \text{ gal/linear ft}$

Casing Volume =  $1.26 \text{ gallons}$



**NOTE:**

- a Refer to Table 1
- b Refer to Table 2
- c Assuming Sand Pack Porosity of 30%

Annulus Volume =  $[(\text{Standing Water Column (ft)} \times \text{Borehole Volume (gal/linear ft)}^b) - \text{Casing Volume}] \times 0.3^c$

Annulus Volume =  $[(7.44 \text{ ft} \times 2.78 \text{ gal/linear ft}) - 1.26 \text{ gal}] \times 0.3$

Annulus Volume =  $5.87 \text{ gallons}$

**Table 1**  
Pipe Volume of Schedule 40 PVC Pipe

Diameter (inches)	OD (inches)	ID (inches)	Volume (gal/linear ft)	Diameter (inches)	OD (inches)	ID (inches)	Volume (gal/linear ft)
1.25	1.660	1.380	0.08	4	4.500	4.026	0.66
2	2.375	2.067	0.17	6	6.625	6.065	1.50
3	3.500	3.068	0.38	8	8.625	7.981	2.60

**Table 2**  
Volume of Borehole

Diameter (inches)	Volume (gal/linear ft)	Diameter (inches)	Volume (gal/linear ft)	Diameter (inches)	Volume (gal/linear ft)
7.25	2.14	8.25	2.78	9.25	3.52
7.75	2.45	8.75	3.12	10.25	4.29

# GROUNDWATER SAMPLING RECORD

MONITORING WELL NO. MW 2

DATE 9-27-00 PAGE 1 OF 2

PROJECT JW SWEIRA

TOTAL GALLONS TO BE PURGED \_\_\_\_\_

SITE 3, 744 E 12<sup>th</sup> ST.

PURGING METHOD BALLOON

PROJECT NO. P110604

SAMPLING METHOD BALLOON

Time	Volume of Water Removed (gallons)	Discharge Rate (gal/min)	Field Parameters Measured							Comments	
			pH	Specific Conductivity (ms/cm)	Turbidity (ntu)	Dissolved Oxygen (mg/L)	Temp. (°C)				Water Level (feet)
1035	0		5.92	.586	40	.79	20.0				
1042	3		5.25	.599	619	.49	19.7				
1049	6		5.08	.605	575	.99	19.6				
1055	9		5.02	.605	610	.71	19.8				
1103	12		5.13	.606	466	.85	19.8				
1109	15		5.15	.602	305	.91	19.7				

FIELD EQUIPMENT	SERIAL NUMBER	RENTAL COMPANY

SAMPLE ID: JW3-19 @ 1113  
 ANALYSIS: BTEX, MTBE, TPH-P  
 COC NUMBER: JW3-19 @ 1113  
6105

SAMPLING PERSONNEL:  
Har & Roy

# GROUNDWATER SAMPLING RECORD

DATE 9-27-00 PAGE 2 OF 2

MONITORING WELL NO. MW 2  
 PROJECT JW SILVEIRA  
 SITE 3, 744 E 12<sup>th</sup> ST.  
 PROJECT NO. P110604  
 CASING DIAMETER 2" inches  
 BOREHOLE DIAMETER 8.25 inches  
 TOP OF CASING ELEVATION 18-1716.71 feet  
 WATER LEVEL 8.27 feet btoc 1035 @  
 WATER LEVEL ELEVATION 9.90 8.44 feet msl

STANDING WATER COLUMN 9.68 ~~8.86~~ feet  
 WELL VOLUMES TO BE PURGED \_\_\_\_\_  
 MINIMUM PURGE VOLUME \_\_\_\_\_ gallons  
 ACTUAL VOLUME PURGED \_\_\_\_\_ gallons

VOLUME CALCULATED BY:

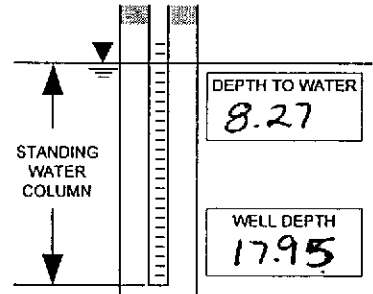
PURGE VOLUME CALCULATION

One Well Volume = Casing Volume + Annulus Volume

One Well Volume = 1.4 gal + 6.48 gal

One Well Volume = 7.88 gallons

Casing Volume = Standing Water Column (ft) x Pipe Volume (gal/linear ft)<sup>a</sup>  
 Casing Volume = 8.27 ft x 0.17 gal/linear ft  
 Casing Volume = 1.4 gallons



NOTE:  
 a Refer to Table 1  
 b Refer to Table 2  
 c Assuming Sand Pack Porosity of 30%

Annulus Volume = [( Standing Water Column (ft) x Borehole Volume (gal/linear ft)<sup>b</sup> ) - Casing Volume ] x 0.3<sup>c</sup>  
 Annulus Volume = [( 8.27 ft x 2.78 gal/linear ft ) - 1.4 gal ] x 0.3  
 Annulus Volume = 6.48 gallons

**Table 1**  
Pipe Volume of Schedule 40 PVC Pipe

Diameter (inches)	OD (inches)	ID (inches)	Volume (gal/linear ft)	Diameter (inches)	OD (inches)	ID (inches)	Volume (gal/linear ft)
1.25	1.660	1.380	0.08	4	4.500	4.026	0.66
2	2.375	2.067	0.17	6	6.625	6.065	1.50
3	3.500	3.068	0.38	8	8.625	7.981	2.60

**Table 2**  
Volume of Borehole

Diameter (inches)	Volume (gal/linear ft)	Diameter (inches)	Volume (gal/linear ft)	Diameter (inches)	Volume (gal/linear ft)
7.25	2.14	8.25	2.78	9.25	3.52
7.75	2.45	8.75	3.12	10.25	4.29

GROUNDWATER SAMPLING RECORD

DATE 9-27-00 PAGE 1 OF 2

MONITORING WELL NO. MW-3

PROJECT JW SILVEIRA

SITE 3, 744 E. 12<sup>th</sup> ST.

PROJECT NO. P110604

TOTAL GALLONS TO BE PURGED \_\_\_\_\_

PURGING METHOD BALLOON

SAMPLING METHOD BALLOON

Time	Volume of Water Removed (gallons)	Discharge Rate (gal/min)	Field Parameters Measured							Comments	
			pH	Specific Conductivity (ms/cm)	Turbidity (ntu)	Dissolved Oxygen (mg/L)	Temp. (°C)				Water Level (feet)
1132	0		5.43	.628	690	2.10	21.2				
1137	3		5.45	.635	641	2.29	21.0				
1145	6		5.48	.636	658	2.32	20.9				
1151	9		5.50	.636	614	2.41	20.9				
1157	12		5.55	.636	425	2.35	20.9				
1205	15		5.57	.634	291	2.62	21.0				

FIELD EQUIPMENT	SERIAL NUMBER	RENTAL COMPANY

SAMPLE ID: JW3-20 @ 1210  
 ANALYSIS: BTEX, MTBE, TPH-P  
 COC NUMBER: ~~105~~ 105

SAMPLING PERSONNEL:  
HAC & POY



**APPENDIX B**  
**ANALYTICAL DATA PACKAGE**



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

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

RECEIVED

Laboratory Number 147763

TETRA TECH EM INC.

Tetra Tech EMI  
135 Main Street  
Suite 1800  
San Francisco, CA 94105

Project#: P110604  
Location: JW Silveira Props

Sample ID	Lab ID
JW3-18	147763-001
JW3-19	147763-002
JW3-20	147763-003

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.

Signature: [Signature]  
Operations Manager

Date: 10/19/00

Signature: Carol W. [Signature]  
Project Manager

Date: 10/19/00



**Laboratory Number:** 147763  
**Client:** Tetra Tech EMI  
**Location:** JW Silveira Props  
**Project#:** P110604

**Receipt Date:** 09/28/00

### CASE NARRATIVE

This hardcopy data package contains sample and QC results for three water samples that were received on September 28, 2000. The samples were received intact at 6.5 degrees Celsius.

**TPH-Purgeable Hydrocarbons:** High surrogate recoveries were observed for trifluorotoluene in the matrix spike and spike duplicate of JW2-18 (CT#147754-001) and the continuing calibration verifications due to coelution with a hydrocarbon peak. The surrogate recoveries for bromofluorobenzene were within criteria. High percent differences were observed in the continuing calibration verifications that were analyzed on September 29 and 30, 2000 causing the spike recoveries in the laboratory control sample and matrix spikes to be flagged. The responses were high, the spike recoveries were within criteria, and gasoline was not detected in any of the samples. No other analytical problems were encountered.

**BTXE by EPA8260:** Due to an oversight by the project manager, the samples were analyzed by GC/MS instead of by GC as requested. There was insufficient sample provided to perform a matrix spike and spike duplicate analysis on a water sample from this site. No analytical problems were encountered.

# Chain of Custody

000003



Tetra Tech EM Inc.  
San Francisco Office

147763

0105

### Chain of Custody Record

Page 1 of 1

135 Main St. Suite 1800  
San Francisco, CA 94105  
415-543-4880  
Fax 415-543-5480

Sample ID	Sample Description/Notes	Date	Time	Matrix	No./Container Types				Analysis Required							
					40 ml VOA	1 Liter Amber	1 Liter Poly	Brass Tube	Glass Jar	CLP VOA	CLP SVOA	CLP Pest/PCBs	CLP Metals	TPH Purgeables	TPH Extractables	BTX
JW3-18		9-28-00	1030	WATER	4							X	X	X		
JW3-19		9-27-00	1113	"	4							X	X	X		
JW3-24		"	1210	"	4							X	X	X		

TEMP RECEIVED: 6.5°C  
RECEIVED BY: JHB

Relinquished by:	Name (print)	Company Name	Date	Time
<i>Roy D. Glenn</i>	Roy Glenn	TTEMI	9-28-00	
<i>Hal Dawson</i>	HAL DAWSON	TTEMI	9/28/00	1100
<i>Sara Bennett</i>	Bennett S	C&T	9/29/00	11:00
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

Turn found time/remarks: Trip 2 VOA not on coc - on hold JHD  
 Received in a cooler on ~~ice~~ cold.  
 LF

## TPH/Purgeable Data

## Gasoline by GC/FID CA LUFT

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8015M
Field ID:	JW3-18	Batch#:	58599
Lab ID:	147763-001	Sampled:	09/28/00
Matrix:	Water	Received:	09/28/00
Units:	ug/L	Analyzed:	09/29/00
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50 <i>WJc</i>

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	59-135
Bromofluorobenzene (FID)	118	60-140



Gasoline by GC/FID CA LUFT

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8015M
Field ID:	JW3-19	Batch#:	58599
Lab ID:	147763-002	Sampled:	09/27/00
Matrix:	Water	Received:	09/28/00
Units:	ug/L	Analyzed:	09/29/00
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50 <i>WTC</i>

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	59-135
Bromofluorobenzene (FID)	120	60-140



## Gasoline by GC/FID CA LUFT

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8015M
Field ID:	JW3-20	Batch#:	58599
Lab ID:	147763-003	Sampled:	09/27/00
Matrix:	Water	Received:	09/28/00
Units:	ug/L	Analyzed:	09/30/00
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50 <i>U.S.C.</i>

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	59-135
Bromofluorobenzene (FID)	118	60-140

## Gasoline by GC/FID CA LUFT

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8015M
Field ID:	JW2-18	Batch#:	58599
MSS Lab ID:	147754-001	Sampled:	09/27/00
Matrix:	Water	Received:	09/28/00
Units:	ug/L	Analyzed:	09/29/00
Diln Fac:	1.000		

Type: MS Lab ID: QC126339

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	6,154	2,000	8,109 b	98	65-131
Surrogate	%REC	Limits			
Trifluorotoluene (FID)	326 *	>LR	59-135		
Bromofluorobenzene (FID)	128	60-140			

Type: MSD Lab ID: QC126340

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	8,048 b	95	65-131	1	20
Surrogate	%REC	Limits				
Trifluorotoluene (FID)	325 *	>LR	59-135			
Bromofluorobenzene (FID)	128	60-140				

\* = Value outside of QC limits; see narrative

b = See narrative

&gt;LR= Response exceeds instrument's linear range

RPD= Relative Percent Difference

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## Gasoline by GC/FID CA LUFT

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8015M
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC126338	Batch#:	58599
Matrix:	Water	Analyzed:	09/29/00
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,324 b	116	73-121

Surrogate	%REC	Limits
Trifluorotoluene (FID)	131	59-135
Bromofluorobenzene (FID)	112	60-140



Gasoline by GC/FID CA LUFT

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8015M
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC126337	Batch#:	58599
Matrix:	Water	Analyzed:	09/29/00
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	59-135
Bromofluorobenzene (FID)	109	60-140

# BTXE Data

**Purgeable Aromatics by GC/MS**

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8260B
Field ID:	JW3-18	Batch#:	58581
Lab ID:	147763-001	Sampled:	09/28/00
Matrix:	Water	Received:	09/28/00
Units:	ug/L	Analyzed:	09/29/00
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m, p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	REC	Limits
1,2-Dichloroethane-d4	106	78-123
Toluene-d8	98	80-110
Bromofluorobenzene	104	80-115

**Purgeable Aromatics by GC/MS**

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8260B
Field ID:	JW3-19	Batch#:	58581
Lab ID:	147763-002	Sampled:	09/27/00
Matrix:	Water	Received:	09/28/00
Units:	ug/L	Analyzed:	09/29/00
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	REC	Limits
1,2-Dichloroethane-d4	107	78-123
Toluene-d8	100	80-110
Bromofluorobenzene	105	80-115

**Purgeable Aromatics by GC/MS**

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8260B
Field ID:	JW3-20	Batch#:	58581
Lab ID:	147763-003	Sampled:	09/27/00
Matrix:	Water	Received:	09/28/00
Units:	ug/L	Analyzed:	09/30/00
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	1.8	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	WREC	Limits
1,2-Dichloroethane-d4	109	78-123
Toluene-d8	101	80-110
Bromofluorobenzene	104	80-115



**Purgeable Aromatics by GC/MS**

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	58581
Units:	ug/L	Analyzed:	09/29/00
Diln Fac:	1.000		

Type: BS Lab ID: QC126262

Analyte	Spiked	Result	%REC	Limits
Benzene	50.00	48.19	96	80-116
Toluene	50.00	48.71	97	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	78-123
Toluene-d8	99	80-110
Bromofluorobenzene	99	80-115

Type: BSD Lab ID: QC126263

Analyte	Spiked	Result	%REC	Limits	RPD	Lis
Benzene	50.00	47.32	95	80-116	2	20
Toluene	50.00	48.07	96	80-120	1	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	78-123
Toluene-d8	98	80-110
Bromofluorobenzene	99	80-115

**Purgeable Aromatics by GC/MS**

Lab #:	147763	Location:	JW Silveira Props
Client:	Tetra Tech EMI	Prep:	EPA 5030
Project#:	P110604	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC126265	Batch#:	58581
Matrix:	Water	Analyzed:	09/29/00
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	78-123
Toluene-d8	101	80-110
Bromofluorobenzene	102	80-115