

10626 East 14th Street, Oakland, California △94603 ☐ (510) 577-8804

August 24, 2000

Ms. eva chu
Alameda County Health Division
Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway, Second Floor
Alameda, CA 94502

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Dear Ms. chu:

Subject: Quarterly Groundwater Monitoring Report, AC Transit, 1177 47th Street, Emeryville

AC Transit hereby submits the enclosed quarterly groundwater monitoring report for the AC Transit facility located at 1177 47<sup>th</sup> Street in Emeryville. The report was prepared by our consultant, Safety-Kleen Consulting (formerly Environmental Decision Group) and contains the results of the May 2000 sampling event.

As requested in your February 2, 2000, letter, a site reconnaissance was performed to locate monitor wells W-1 through W-4. The locations of W-1 and W-4 were found and were included in the sampling conducted for the March 1, 2000, sampling event. Since this last sampling event, a subsequent reconnaissance was performed that identified the locations of W-2 and W-3. Inspection of W-2 determined that the casing was bent at an angle at about three feet below grade. For this quarterly sampling event, all four of these wells were sampled and the analytical results included in the enclosed monitoring report.

Ground water samples from the 14 on-site monitoring wells (MW-1 through MW-10, W-1 through W-4) were collected and analyzed for total extractable petroleum hydrocarbons (TPH) using modified EPA Method 8015 and benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertbutyl ether (MTBE), and gasoline using EPA Method 8021B. Depth to ground water was measured in each well and ground water contour maps were developed for the report.

Analytical results indicate that TPH was detected in all wells except well W-3 at concentrations that ranged from 80 to 19,000 ppb. Benzene concentrations above the California maximum contaminant level of 1 ppb were found in wells W-1 and MW-6 at 35 ppb and 77 ppb, respectively. MTBE was detected above the laboratory report limit of 5 ppb in six of the monitoring wells.

If you have any questions regarding this report or other matters pertaining to this site, please call me at (510) 577-8869.

Sincerely,

Suzanne Patton, P.E. Environmental Engineer

Enclosure Evachu.doc



#### GROUNDWATER MONITORING REPORT FOR THE AC TRANSIT FACILITY LOCATED AT 1177 47th STREET, EMERYVILLE, CALIFORNIA

August 8, 2000

#### Prepared For:

Ms. Suzanne Patton AC Transit 10626 E. 14<sup>th</sup> Street Oakland, California 94603

#### Prepared By:

Safety-Kleen Consulting 2233 Santa Clara Avenue Alameda, California 94501

Project No: 792551



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August 8, 2000

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Ms. Suzanne Patton AC Transit 10626 E. 14<sup>th</sup> Street Oakland, California 94603

#### Prepared By:

Safety-Kleen Consulting 2233 Santa Clara Avenue Alameda, California 94501

Project No: 792551

Reviewed By

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Geologist I

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#### INTRODUCTION

This report presents the results from the May 2000 sampling event for the AC Transit Facility located at 1177 47th Street, Emeryville, California (Site). Groundwater sampling of monitor wells MW-1 through MW-10 was reinstated in August 1999, in accordance with directives from Alameda County Health Care Services (ACHCS). In a letter dated February 2, 2000, ACHCS requested that the status of monitor wells W-1 through W-4 be determined, and if found be included in the quarterly sampling events. In addition, the February 2, 2000, letter requests that analysis for Methyl Tert-Butyl Ether (MTBE) and gasoline be performed on all Site monitor wells. AC Transit retained Safety-Kleen Consulting to perform this work.

#### **OBJECTIVES AND SCOPE OF WORK**

Work performed during this sampling event included measuring depth to water in the monitor wells and sample collection. As requested by the ACHCS, a Site reconnaissance was performed during the first quarter 2000 sampling event to determine if monitor wells W-1 through W-4 could be located. During the first quarter 2000 event, monitor wells W-1, and W-4 were located, and sampled. A subsequent site reconnaissance resulted in the location of monitor wells W-2 and W-3. The top of casing elevation for wells W-1 through W-4 were surveyed for inclusion in the Site's database. The inspection of monitor well W-2 determined that the casing was bent at an angle at a depth of approximately three feet below grade. All site monitor wells were sampled during the second quarter 2000 sampling event. Groundwater samples were analyzed for total extractable petroleum hydrocarbons (TEPH) using Environmental Protection Agency (EPA) Method 8015 Modified and benzene, toluene, ethylbenzene, xylenes (BTEX), methyl tertiary-butyl ether (MTBE), and gasoline by EPA Method 8021B.

A site map displaying the monitoring well locations is presented as Figure 1. Chain-of-custody documents, field data sheets and certified analytical reports are included in Appendix A.

#### Groundwater Elevations and Flow Direction

On May 17, 2000, all Site monitor wells were inspected and measured for the presence of free phase hydrocarbons and depth to groundwater. Measurements of depths to groundwater are presented on Table 1 and were used to construct the groundwater elevation contours shown in Figure 1. A free phase hydrocarbon sheen was detected in MW-6 during this sampling event. As shown on Figure 1, groundwater flow is to the west at a gradient of 0.017 feet/foot.

#### **Groundwater Sampling Activities**

The monitor wells were purged a minimum of three casing volumes using a centrifugal pump and samples were collected using disposable polyethylene bailers in all wells except W-2. During well purging, field parameters for pH, electrical conductivity and temperature were monitored using calibrated field meters. Purge water was transferred to 55-gallon drums and discharged to an on-site oil water separator sump.

Groundwater samples were transferred to 40-milliliter glass vials preserved with hydrochloric acid and one-liter non-preserved amber glass containers and placed in an ice-filled cooler for shipment under chain-of-custody to a State of California certified laboratory. A trip blank was submitted for analysis by EPA Method 8021B.

Monitor well W-2's casing damage did not allow for use of a bailer to collect groundwater samples. Samples from W-2 were collected using ½-inch polyethene tubing which was allowed to fill with groundwater sealed at the surface and extracted from the well. The surface seal was then released allowing the groundwater to flow from the tubing into the laboratory containers.

#### **Groundwater Analytical Results**

Table 2 presents groundwater analytical results for the May 2000 sampling event. TPH was detected in all Site monitor wells except for W-3. Certified analytical reports and chain-of-custody documents are included in Appendix A. Concentrations of TPH above laboratory reporting limits

ranged from 80 to 19,000 parts per billion (ppb). Concentrations of TPH increased in all monitor wells except MW-5, MW-6, MW-7 MW-10 and W-1. Benzene was detected in wells W-1, and MW-6, at concentrations of 35 ppb, and 77 ppb, respectively. These concentrations are above the maximum contaminant level (MCL) for benzene of 1.0 ppb. Toluene, ethylbenzene and xylenes were detected in monitor wells MW-6, and W-1 at concentrations below the MCL. MTBE was detected in MW-1, MW-2, MW-5, MW-7 and MW-10, W-2 at 74 ppb, 87 ppb, 86 ppb, 9.5 ppb, 6.9 ppb, and 7.8 ppb respectively.

No analytes were detected in the trip blanks or method blanks. A lab control spike and lab control spike duplicate passed the EPA's criteria for acceptance.

#### **SUMMARY OF RESULTS**

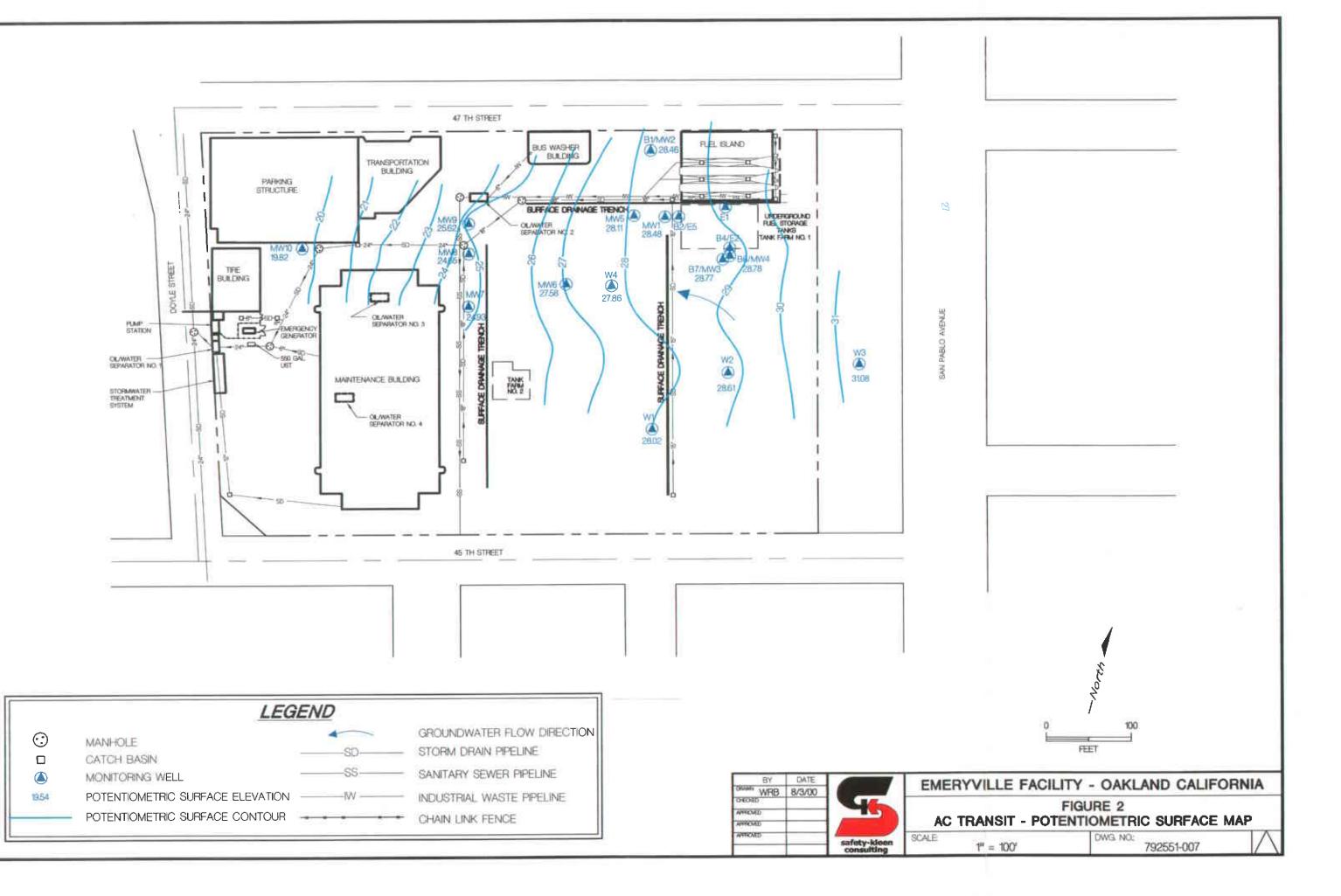
- Monitor wells W-1 through W-4 were surveyed and included in the quarterly monitoring program.
- Monitor well W-2 was found to be damaged.
- MTBE was detected in monitor wells MW-1, MW-2, MW-5, MW-7 and MW-10, W-2.
- Benzene was detected in W-1, and MW-6 above the MCL of 1 ppb.
- A free phase hydrocarbon sheen was present in MW-6.
- TPH was detected in all Site monitor wells except W-3.
- Groundwater flow is to the west at a gradient of 0.017 feet/foot.

### PROJECTED WORK AND RECOMMENDATIONS

Quarterly groundwater monitoring is scheduled for August 2000.

#### APPENDIX A

#### CHAIN-OF-CUSTODY DOCUMENTATION FIELD DATA SHEETS CERTIFIED ANALYTICAL REPORTS



# TABLE 1 GROUNDWATER LEVEL MEASUREMENTS AC TRANSIT 1177 47TH STREET, EMERYVILLE, CALIFORNIA

Groundwater

W711	Dete	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Elevation Corrected from Product Thickness* (ft-msl)
Well	Date 8/31/99	32.56	None	3.24	29.32	NA NA
MW-1	11/23/99	32.30	None	4.55	28.01	NA NA
	3/1/00		None	3.65	28.91	NA
	5/17/00 5/17/00		None	4.08	28.48	NA.
MOV 2	8/31/99	32.12	None	5.24	26.88	NA NA
MW-2	11/23/99	32.12	None	4.03	28.09	NA.
	3/2/00		None	3.11	29.01	NA
	5/17/00		None	3.66	28.46	NA.
MW-3	8/31/99	34.06	None	6.15	27.91	NA
MFM-2	11/23/99	34.00	None	5.78	28.28	NA
	3/1/00		None	4.82	29.24	NA
	5/17/00		None	5.29	28.77	NA
MW-4	8/31/99	34.11	None	6.22	27.89	NA
111 W - 4	11/23/99	34.11	None	6.01	28.10	NA
	3/1/00		None	4.74	29.37	NA
	5/17/00		None	5.33	28.78	NA
MW-5	8/31/99	31.70	None	4.51	27.19	NA
2.2	11/23/99	2,	None	4.00	27.70	NA
	3/1/00		None	3.31	28.39	NA
	5/17/00		None	3.59	28.11	NA
MW-6	8/31/99	31.02	0.40	4.40	26.62	26.94
	11/23/99		Sheen	3.81	27.21	NA
	3/2/00		0.02	2.88	28.14	28.16
	5/17/00		None	3.44	27.58	NA
MW-7	8/31/99	29.62	None	5.47	24.15	NA .
	11/23/99		None	4.93	24.69	NA
	3/2/00		None	4.06	25.56	NA
	5/17/00		None	4.69	24.93	NA
MW-8	8/31/99	29.43	None	5.35	24.08	NA
	11/23/99		None	4.75	24.68	NA
	3/2/00		None	4.48	24.95	NA
	5/17/00		None	4.78	24.65	NA
MW-9	8/31/99	29.18	None	4.15	25.03	NA
	11/23/99		None	3.93	25.25	NA
	3/2/00		None	3.69	25.49	NA
	5/17/00		None	3.56	25.62	NA
MW-10	8/31/99	29.13	None	9.59	19.54	NA
	11/23/99		None	9.44	19.69	NA
	3/2/00		None	9.06	20.07	NA
	5/17/00		None	9.31	19.82	NA
W-1	3/2/00	33.43	None	4.08	29.35	NA
	5/17/00		None	5.41	28.02	NA
W-2	5/17/00	34.21	None	5.6	28.61	NA
W-3	5/17/00	37.46	None	6.38	31.08	NA
<b>W</b> -4	3/2/00	3L72	None	3.34	28.38	NA
	5/17/00		None	3.86	27.86	NA

Notes:

ft-msl: feet-mean sea level DTW: Depth to Water NA: Not applicable

<sup>\*</sup> used 0.8 specific gravity of product

<sup>\*\*</sup> top of casing elevation not established

# TABLE 2 ANALYTICAL RESULTS GROUNDWATER SAMPLES AC TRANSIT 1177 47TH STREET, EMERYVILLE, CALIFORNIA

		TOHE	Toda					
Well	Date	TPH-8015	TPH-8021	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	700	1,750	None
/ MW-1	8/31/99	310	NA	<1.0	2.4	1	1.6	NA
1	11/23/99	250	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/00	310	62	<1.0	<1.0	<1.0	<2.0	68
}	A/18/60	390	a	<1.0	<1.0	€LO	€2.0	74
MW-2	8/31/99	180	NA	<1.0	<1.0	<1.0	1.2	NA
•	11/23/99	120	NA	<5.0	<5.0	<5.0	< 5.0	NA
1	3/1/00	510	<50	<1.0	<1.0	<1.0	<2.0	81
MW-3	5/18/ <del>40</del>	£,100	<50	<1.0	<1.0	<b>41.9</b>	<2.0	67
	8/31/99	2,700	NA	<1.0	<1.0	<1.0	<1.0	NA
(JK /	11/23/99	640	NA	<1.0	<1.0	<1.0	<1.0	NA
ر) ت ه	3/1/00	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/17/66	620	<\$0	<1.0	<1 <i>0</i>	<1.0	¢2.0	<8.0
MW-4	8/31/99	<50	NA	<1.0	<1.0	<1.0	1.6	NA
[	11/23/99	<50	NA	< 1.0	<1.0	< 1.0	<1.0	NA
^	3/1/00	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
1 261	5/17/00	80	<50	<1.0	<r.0< td=""><td>&lt;1.0</td><td>&lt;2.0</td><td>&lt;5.0</td></r.0<>	<1.0	<2.0	<5.0
7 % L MW-5	8/31/99	250	NA	< 1.0	<1.0	<1.0	1	NA
'	11/23/99	300	NA	< 5.0	<5.0	< 5.0	<5.0	NA
	3/1/00	340	50	<1.0	<1.0	<1.0	<2.0	100
	5/18/00	230	<b>c5</b> 0	<1.0	<1.0	<1.0	<2.0	86
MW-6	8/31/99	140,000	NA	77	18	31	49	NA
	11/23/99	6,100	NA	45	14	6.9	48	NA
	3/1/00	22,000	2,800	6.8	<2.0	<2.0	<10	< 5.0
	5/17/00	1,800	6,200	77	16	39	37	€5.0
MW-7	8/31/99	1,400	NA	<1.0	2.9	2.3	2.7	NA
	11/23/99	530	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/00	640	860	<1.0	< 1.0	<1.0	<2.0	<20
	3/17/00	430	410	<1,0	<1.0	<1.0	<2.0	9.5
MW-8	8/31/99	230	NA	<1.0	<1.0	1.2	<1.0	NA
	11/23/99	220	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/00	<b>26</b> 0	150	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/00	660	310	<1.0	<1.0	₹1.0	<2.0	<5.0
<b>MW</b> -9	8/31/99	2,800	NA	<1.0	<1.0	<1.0	1.1	NA
	11/23/99	1,300	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/00	510	<50	<1.0	<1.0	<1.0	<2.0	< 5.0
	8/17/00	990	<\$0	<1.0	<1.0	<1.0	<2.0	<5.0
MW-10	8/31/99	1,100	NA	<1.0	1.2	2.0	<1.0	NA
	11/23/99	1,200	NA	<1.0	<1.0	<1.0	<1.0	NA
*	3/1/00	1,300	540	<1.0	<1.0	<1.0	<2.0	12
	5/18/00	990	460	<1.0	<1.0	<1.0	<2.0	6,9
W-1	3/1/00	1,800	3,400	20	5.3	30	23.8	< 5.0
	5/17/00	1,100	7,300	35	- 11	59	45	<1.0
W-2	\$/17/60	19,000	870	<2.0	<1.0	<2.0	<4.0	7.8
W-3	5/17/00	<\$0	<50	<1.0	<1.0	<1.0	<2.0	<5.0
W-4	3/1/00	190	<50	1.1	<1.0	<1.0	<2.0	<5.0
	5/17/00	230	<.50	<1.0	<b>₹1.</b> 0	<1.0	<2.0	<5.0

Notes:

ppb: parts per billion

TPH: total petroleum hydrocarbons MCL: maximum contaminant level

NA: not analyzed

#### APPENDIX A

## CHAIN-OF-CUSTODY DOCUMENTATION FIELD DATA SHEETS CERTIFIED ANALYTICAL REPORTS

#### AC TRANSIT - EMERYVILLE SECOND QUARTER 2000

Weli	Date	Time	Measurement	Code	Comments
MW-1	5/17/00	0900	4.08	SWL	
MW-2		0905	3.66	\	
MW-3		0255	5.29		
MW-4		0857	5.33		
MW-5		0905	3,59		
MW-6~		~~~			
MW-6		0420	7-7-3.44		Gast Pass Sheep
MW-7		0927	4.69		
MW-8		0931	4.78		
MW-9		0934	3.56		
MW-10	٥	937	9.31		
W-1		0844	5.41		RE-SURVEY?
W-2		0842	5.60		
W-3		0832	6.38	P	UNABLE TO USE CAP
W-4	b (	H18	3.86	4	7- 7- 7- 7- 7- 7- 7- 7- 7- 7- 7- 7- 7- 7
				<del></del>	

	C	dicated Submersil n-Dedicated Subm	ole Pump rersible Pump	<del></del>	Bladder Pum	Þ
Time	PH	Conduct. (umho/cm)	Temp.	Water Level	Cum. Vol.	Pump
0954	7.4	575	(Calains)	(to 0.01 ft)	(gai)	(GPA
1002	7,3	614	ZZ.5	14.35	3.8	0.7
100/	7.3	615	4.1.6	1521	76	1
				, , , , ,	77 - 7	
least 3 we mple Collection Eai	iler: Teflor	it, X = 0.165 for mes required prio were removed p	2 in. wells, X r to sample col	g.	ABS Plastic	35 for 4 in
least 3 with mple Collection Bai	eir Volume in gal/f Well Casing Volumes eil casing volumes n Method: iler: Teflor mp: Dedic Non-L if any (Duplicate, )	it, X = 0.165 for mes required prio were removed p  Stainle Staid Submersible Dedicated Submersible Field Blank, Rinse	2 in. wells, X r to sample col rior to sampling ss Steel Pump rsible Pump	g. _ PVC		35 for 4 in
least 3 w mple Collection Bai	eir Volume in gal/f Well Casing Volumes eil casing volumes n Method: iler: Teflor mp: Dedic Non-L if any (Duplicate, )	it, X = 0.165 for mes required prio were removed p  Stainle sated Submersible Dedicated Submersible Field Blank, Rinse	2 in. wells, X r to sample col rior to sampling ss Steel Pump rsible Pump	g. _ PVC	ABS Plastic	35 for 4 in
reast 3 was mple Collection Bai Pur /QC Samples in ameter Collect mple Appearan OV/	ell Volume in gal/f  Well Casing Volumes  In Method:  iler: Teflor  mp: Dedic  Non-E  if any (Duplicate, I	it, X = 0.165 for mes required prior mes required prior were removed prior Stainle sated Submersible Dedicated Submersible Field Blank, Rinse Signal	2 in. wells, X r to sample col rior to sampling ss Steel Pump rsible Pump	g. _ PVC	ABS Plastic	35 for 4 in
mple Collection Bai Pur  /QC Samples i	reir Volume in gal/f  Well Casing Volumes  In Method: Ider: Teflor Ider: Dedic	it, X = 0.165 for mes required prior mes required prior were removed prior Stainle sated Submersible Dedicated Submersible Field Blank, Rinse Signal	2 in. wells, X r to sample col rior to sampling ss Steel Pump rsible Pump	g. _ PVC	ABS Plastic	35 for 4 in

Date:

! / B		ionStain		PVC	_ ABS Plastic	la te
Pump:		iicated Submersit 1-Dedicated Subm	ole Pump sersible Pump		_ Bladder Pum	Þ
Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol.	Pump Rate (GPM)
1056	7.4	859	22.8	14.87	3.8	0.68
1107	7.3	830	23,2	19,76	7.6	
	7.3	823	23.6	27,09	11,4	V
7	( 0					
104	-uel· pu	1090	11.5 cal			
Pump:	Dedic	n Stainle			ABS Plastic	
Pump:	Dedic	ated Submersible Dedicated Submer	Pump rsible Pump		ABS Plastic Bladder Pump	
Pump:	Dedic	ated Submersible Dedicated Submer	Pump rsible Pump Blank, etc.):		Bladder Pump	al
Pump: A/QC Samples if any	Dedic	ated Submersible Dedicated Submer	Pump rsible Pump Blank, etc.):	out addition	Bladder Pump	al s
Pump:  A/QC Samples if any  trameter Collected: trample Appearance	Dedic Non-(	ated Submersible Dedicated Submer	Pump rsible Pump Blank, etc.):	out addition	Bladder Pump	al s
Pump:  A/QC Samples if any  trameter Collected:  trample Appearance  OVA Res	Dedicion Non-( y (Duplicate, ) ading (ppm)	eated Submersible Dedicated Submer Field Blank, Rinse	Pump rsible Pump Blank, etc.):	out addition	Bladder Pump	al spl
Pump:  A/QC Samples if any  rameter Collected:  mple Appearance  OVA Rea  Suspend	Dedicion Non-( y (Duplicate, ) ading (ppm) ied Solids (de	eated Submersible Dedicated Submer Field Blank, Rinse	Pump rsible Pump Blank, etc.):	to taking	Bladder Pump  nel 10g  para - te	بإم
Pump:  A/QC Samples if any  rameter Collected:  mple Appearance  OVA Rea  Suspend	Dedicion Non-( y (Duplicate, ) ading (ppm) ied Solids (de	eated Submersible Dedicated Submer Field Blank, Rinse	Pump rsible Pump Blank, etc.):	to taking	Bladder Pump  nel 10g  para - te	بإم
Pump:  A/QC Samples if any  trameter Collected:  trample Appearance  OVA Res	Dedicion Non-( y (Duplicate, ) ading (ppm) ied Solids (de	eated Submersible Dedicated Submer Field Blank, Rinse	Pump rsible Pump Blank, etc.):	to taking  A Need  Strong	Bladder Pump  Leal 10g  Parameter  to fix co	بإم
Pump:  A/QC Samples if any  rameter Collected:  mple Appearance  OVA Res  Suspend  contamination Perfo	Dedicion Non-E	eated Submersible Dedicated Submer Field Blank, Rinse	Pump rsible Pump Blank, etc.):	Strong	Bladder Pump  nel 10g  parameter  to fix co	ep!
Pump:  A/QC Samples if any  rameter Collected:  mple Appearance  OVA Res  Suspend  contamination Perfo	Dedicion Non-E	cated Submersible Dedicated Submer Field Blank, Rinse scribe):	Pump rsible Pump Blank, etc.): Took prior	Strong over for Goating pr	Bladder Pump  nel 10g  parameter  to fix co  Petrolon  an Well  oduct + She	ep!
Pump:  A/QC Samples if any  trameter Collected:  trample Appearance  OVA Res  Suspend	Dedicion Non-E	cated Submersible Dedicated Submer Field Blank, Rinse scribe):	Pump rsible Pump Blank, etc.): Took prior	Strong over to Strong over to Clouting pr	Bladder Pump  nel 10g  parameter  to fix co  Petrolon  an Well  oduct + She	ام م

Project Name: Ac Casing Diameter ( Total Well Depth ( Depth to Water (fi	in): 7"  (it): 16.43  it, before purgir	Emeryville Pro Sai sq: 5.41	pject Number: mple Date: 5 mple ID: W -	792551 117/00	ρ.	1 1
Development Met	HU :bor	on Stain				1 Nate
Pum	p: Dedi	cated Submersil		PVC	_ ABS Plastic Bladder Pum	n
	NON-	-Dedicated Subm	ersible Pump	<del></del>		•
Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gai)	Pump Rate (GPM)
1145	7.3	948	24.0	6.48	(, 5	0.86
1147	7.2	944	23.5	6.55	3,5	)
11.50	7.2	962	23.2	10-lon	5	
	Total	Vol. Pur				
Water Volume to be (Casing Length in F Where X = 1 Well NOTE: 3 to 5 Well NOTE: 3 to 5 Well Sample Collection & Bailer: Pump: QA/QC Samples if a	Volume in gal/fi ell Casing Volumes casing volumes fethod: Teflon Dedicate, F	X = 0.165 for nes required prior were removed p  Stainle: sted Submersible edicated Submersib	2 in. wells, X r to sample coll rior to sampling as Steel Pump sible Pump	= 0.37 for 3 in. lection. J. PVC	wells, X = 0.6  ABS Plastic  Bladder Pump	35 for 4 in. wells
Parameter Collected: Sample Appearance OVA R Susper	leading (ppm)		Centif	vjel po	fused for	ge.
Decontamination Per	formed:	rins,	d/washed	Sevi	rder / inc	te s
Comments / Calculat	ions:		1 5	Sample @	1155	
		5	tart (a)	1143		
Signature:	y Pede	5	for D	1/50	7-00	

Project Name: Casing Diameter (i Total Well Depth (i Depth to Water (ft	PP1 11 725	Sa	oject Number: mple Date: 5) mple ID: W -	117/00	Grig 4	Net
Development Meth Baile						
<del></del>		on Stair		PVC	_ ABS Plastic	
Pumi	o: Dedi Non-	icated Submersi Dedicated Subn	ble Pump nersible Pump		Bladder Pum	p
Time	pH	Conduct.	Temp.	Water Level	Cum. Voi.	Pump Rati
1207	7.2	1047	23.8	6.24	(gai) 2 - 5	(GPM)
1210	7.2	1035	23,1	6.82	6	1
1212	7.2	1014	23.0	6.92	7	1/
	(ota	Vol-po		7.09	· .	
Pump: QA/QC Samples if a	140U+D	ated Submersible edicated Subme field Blank, Rinse	rsible Pump		Bladder Pump	
			Cen	trifugal p	ung u sed	to pur
Parameter Collected: Sample Appearance OVA R Suspen	eading (ppm) Ided Solids (des		,			•••
		rinsed	wasted	Sound	der Imetes	
Comments / Calculati	iona:					
			_	. ^	1	
			Sfan	t (a) 120	6	
Signature: Lucy	-Red-		Stan Stop San	t (a) 120 0(d) 1213 mple time (c) Date: 5/1	60 1215	

Bail	nod: NA er:Tefi	lon Stain	iess Steel	PVC	ABS Plastic	CPINK
Рил ·	ıp: Ded	licated Submersib -Dedicated Subm			_ Bladder Pur Pu~p Slow	np
Time	pH	Conduct.	Temp. (Celsius)	Water Level	Cum. Vol.	Pump Ra
1343	7,2	1034	30,9	17.50	(gal) 3.5	(GPM)
13 54	7.2	1061	308	18.16	<u> </u>	0.21
1411	7,2	1047	30,3	10.16	10	1
· · · · · · · · · · · · · · · · · · ·				1312		<del>                                     </del>
ļ <del>-                                    </del>						
	Total	Vol. purger		109.		
Pump	: Dedic:	ated Submersible	_		ABS Plastic	
Pump	: Dedic Non-D	ated Submersible Jedicated Submer	Pump Sible Pump			
Pump	: Dedic Non-D	ated Submersible Jedicated Submer Reld Blank, Rinse	Pump sible Pump Blank, etc.):		Bladder Pump	
Pump A/QC Samples if a rameter Collected mple Appearance OVA i	Dedic Non-E any (Duplicate, f	ated Submersible Dedicated Submer Field Blank, Rinse Centri	Pump sible Pump Blank, etc.):		Bladder Pump	
Pump A/QC Samples if a rameter Collected mple Appearance OVA i	Dedic Non-E	ated Submersible Dedicated Submer Field Blank, Rinse Centri	Pump sible Pump Blank, etc.):		Bladder Pump	•
Pump A/QC Samples if a rameter Collected mple Appearance OVA F	Dedicate, For Non-Element (Duplicate, For Non-Element (Dup	ated Submersible Dedicated Submer Field Blank, Rinse Centri	Pump sible Pump Blank, etc.): fo gal po	mp to pur	Bladder Pump	w.
A/QC Samples if a stranger Collected imple Appearance OVA F Suspendent Contamination Performance Contamination Performance Contamination Performance Contamination Performance Contamination Performance Contamination Performance Contamination	Dedicate, Formed:	ated Submersible Jedicated Submer Field Blank, Rinse Centri 1, 8015	Pump sible Pump Blank, etc.): fo gal po	mp to pur	Bladder Pump	nde.
A/QC Samples if a strameter Collected ample Appearance OVA F Suspendent Contamination Performance Contamination	Dedicate, Formed:	ated Submersible Jedicated Submer Field Blank, Rinse Centri 1, 8015	Pump  Sible Pump  Blank, etc.):  fu gal pu  wested	~p to pur	Bladder Pump	Je
A/QC Samples if a strameter Collected ample Appearance OVA F Suspendent Contamination Performance Contamination	Dedicate, Formed:	ated Submersible Jedicated Submer Field Blank, Rinse Centri 1, 8015	Pump sible Pump Blank, etc.1: for gal po	—p to pur  1323 1411	Bladder Pump	Je
A/QC Samples if a trameter Collected ample Appearance OVA For Suspendentamination Performments / Calculate	Dedicate, Formed:	ated Submersible Jedicated Submer Field Blank, Rinse Centri 1, 8015	Pump sible Pump Blank, etc.1: for gal po	~p to pur	Bladder Pump	Je

Date: 5/17/00

Project Number:

Sample Date: 5-17-00

Project Name: ACT LES-SSI

Total Well Depth (ft): 24.53

Casing Diameter (in): 20

AAGU ID: WOOL V

Non-	cated Submersib Dedicated Subm	<del></del>			ın
	Conduct. (umho/cm)	Temp.	Water Level	_ Bladder Pum Cum. Vol.	Pump f
7.4	(136	(Celsius)	(to 0.01 ft)	(gal)	(GPM
7,3	1141		<del>                                     </del>		
7, 3	1145	21.6	13.17	8	V
·					
Total Volu	w pursual	06			
ing volumes v had: Tefion Dedica:	were removed p	rior to sampling	g. _ PVC	wells, X = 0.0 ABS Plastic Bladder Pump	65 for 4 in
ing volumes v had: Tefion Dedica Non-De	were removed p	rior to sampling ss Steel Pump sible Pump	g. _ PVC	ABS Plastic	65 for 4 in
ing volumes vo	were removed position of the Stainles ted Submersible edicated Submersib	rior to sampling ss Steel Pump sible Pump	g. _ PVC	ABS Plastic	65 for 4 in
ing volumes values valu	were removed position of the Stainles ted Submersible edicated Submersib	rior to sampling ss Steel Pump sible Pump	g. _ PVC	ABS Plastic	65 for 4 in
ing volumes vo	Stainles  ted Submersible edicated Submer eld Blank, Rinse	rior to sampling ss Steel Pump sible Pump Blank, etc.):	PVC	ABS Plastic Bladder Pump	·
ing volumes values values values and Dedicate, Figure (Duplicate, Figure 20 21, ding (ppm)	Stainles  ted Submersible edicated Submer eld Blank, Rinse	rior to sampling ss Steel Pump sible Pump Blank, etc.):	g. _ PVC	ABS Plastic Bladder Pump	·
ing volumes values valu	Stainles  ted Submersible edicated Submer eld Blank, Rinse	Fump sible Pump Blank, etc.):	PVC	ABS Plastic Bladder Pump	purge
U E	7:3  7:3  Otal Volumente (gail) =	7:3 [14] 2:3 [145  Otal Volum purged  Irged (gail) = 20.67 - 4	7.3 [14] 21.9 2.3 [145 21.6 Otal Volum purged 8.5 Irged (gai) = 20.67 - 4.78 = 15.8	7:3 [14] 21.9 [1.07] 2.3 [145 21.6 13.17]  Otal Volume purged 8.5  Inged (gai) = 20.67 - 4.78 = 15.89x.165 = 2.6	7.3   14    21.9   11.97   5 2.3   145   21.6   13.17   8 10   10   145   21.6   13.17   8 10   10   10   10   10   10   10   10

Depth to Water (fi	(ft): 20,57 t), before purgi	C	ject Number: nple Date: 5- nple ID: mw	-17-0c		CPIN
Development Meti Baile		ion Staini	less Steel	BV.C	ABS Plastic	OFIN
Pum	p: Dec	licated Submersib n-Dedicated Subm			Ros Flastic Bladder Pum	p
Time	pH	Conduct.	Temp.	Water Level	Cum. Voi.	Pump Rate
1446	7.6	838	(Celsius) 22,5	(to 0.01 ft)	(gai) 2. <i>5</i>	(GPM)
1448	7,3	1154	21,5	11.31	5 <u>.5</u>	0.93
1452	7.3	1186	21,9	12,10	8.5	1
				12,10	77 • 5	
	<u> </u>		1			
<u> </u>	10+01	Vul Durges	8,59.			
ample Collection A	dethod:	were removed p		g.		
	Method: : Tefio	were removed p	rior to samplin	g.	ABS Plastic	
emple Collection &X_Bailer	Method: Tefic  Dedic	nStainler  sated Submersible Dedicated Submer	rior to sampliness Steel Pump sible Pump	g.	ABS Plastic Bladder Pump	
emple Collection &X_Bailer:Pump	Method: Tefic  Dedic	nStainler  sated Submersible Dedicated Submer	rior to sampliness Steel Pump sible Pump	g.	,	
A/QC Samples if a	Method: Tefic Dedic Non-intro (Duplicate,	nStainler  sated Submersible Dedicated Submer	rior to sampling ss Steel Pump sible Pump Ellank, etc.):	g. _PVC	Bladder Pump	
A/QC Samples if a sample Appearance OVA F	Method: : Dedic : Non-l any (Duplicate,	s were removed property of the Stainless stated Submersible Dedicated Submer Field Blank, Rinse Center 8015	rior to sampling ss Steel Pump sible Pump Ellank, etc.):	g. _PVC	Bladder Pump	· 4
ample Collection A  Bailer: Pump: A/QC Samples if a  arameter Collected ample Appearance OVA F	Method: Tefic Dedic Non-in Non	s were removed property of the Stainless stated Submersible Dedicated Submer Field Blank, Rinse Center 8015	rior to sampling ss Steel Pump sible Pump Ellank, etc.):	g. _PVC	Bladder Pump	9
A/QC Samples if a ample Appearance OVA F	Method: Tefic Dedic Non-in Non	s were removed property of the Stainless stated Submersible Dedicated Submer Field Blank, Rinse Center 8015	Pump sible Pump Ellank, etc.):	gPVC	Bladder Pump	•
ample Collection A  Bailer: Pump: A/QC Samples if a  arameter Collected ample Appearance OVA F Suspen	Method:  Tefic  Dedic  Non-in	Stainles  Stainl	Pump sible Pump Ellank, etc.):	gPVC	Bladder Pump	•
Eample Collection A  Bailer: Pump:  A/QC Samples if a  Barameter Collected ample Appearance OVA F Suspensecontamination Per	Method:  Tefic  Dedic  Non-in	Stainler  Stainl	Pump sible Pump Ellank, etc.):	φPVC	Purse	•
Pump:  A/QC Samples if a  Barameter Collected ample Appearance OVA F Suspension Performments / Calculate	Method:  Tefic  Dedic  Non-in	Stainles  Stainl	Pump sible Pump Ellank, etc.):	gPVC	Bladder Pump Purge Ader (meta-	•

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velopment Meth	red://# r:Tefic	on Stei-	ilogo Chasi	PVC		of IN
Pum	p: Dadi	cated Submersi	hia Danie	PVC	ABS Plastic Bladder Pum	
Time	pH	Dedicated Subm	Temp.	Water Level	Cum. Vol.	Pung
1514	7,6	(umho/cm) 名/し	(Celsius)	(to 0.01 ft)	(gal)	(G
1516	7.5	789	23.6 21.9	9.18	1,6	0,
1517	7,5	790	21,5	10.5%	3.3	d
				1000	7.0	
	77.1.1		,			
	10401	VOL DUTG	ed 5.0g.			
era $X = 1$ Well V OTE: 3 to 5 We east $3$ well on the Collection M	Purged (gal) = t - Depth to War Volume in gal/ft Il Casing Volumes casing volumes	ter in Ft) $\times X \times 3$ X = 0.165 for the required prior were removed p	33: 9:67 2 In. wells, X r to sample co	* .165 = ( , 6 ) = 0.37 for 3 in. llection. g.	X 3 = 4.8  wells, X = 0.0	65 for 4
ore X = 1 Well V DTE: 3 to 5 We past 3 well o	Purged (gal) = t - Depth to War Volume in gal/ft oil Casing Volumes asing volumes tethod:  Tefion Dedica	ter in Ft) x X x 3  X = 0.165 for  tes required prio  were removed p  Stainle	2 in. wells, X to sample control to sampling	* .165 = ( , 6 ) = 0.37 for 3 in. llection. g.	wells, X = 0.0	65 for 4
era X = 1 Well VOTE: 3 to 5 Well of place Collection Mailer:  Pump:	Purged (gal) = t - Depth to War Volume in gal/ft ell Casing Volumes casing volumes lethod: Teffon Dedica	ter in Ft) x X x 3  X = 0.165 for  tes required prio  were removed p  Stainled  ted Submersible  edicated Submersible	2 in. wells, X to sample collinor to sampliness Steel	* .165 = ( , 6 ) = 0.37 for 3 in. llection. g.	wells, X = 0.	65 far 4
era X = 1 Well VOTE: 3 to 5 Well of place Collection Mailer:  Pump:	Purged (gal) = t - Depth to War Volume in gal/ft ell Casing Volumes casing volumes lethod: Teffon Dedica	ter in Ft) x X x 3  X = 0.165 for  tes required prio  were removed p  Stainle	2 in. wells, X to sample collinor to sampliness Steel	* .165 = ( , 6 ) = 0.37 for 3 in. llection. g.	wells, X = 0.0	65 far 4
era X = 1 Well VOTE: 3 to 5 Well of Sant well of the sant Pump:  OC Samples if and the sant Pump:	Purged (gal) = t - Depth to War Volume in gal/ft ell Casing Volumes asing volumes lethod:  Dedica Non-Day (Duplicate, Fi	ter in Ft) x X x 3  x = 0.165 for  tes required prior  were removed p  Stainled	2 In. wells, X to sample control to sample control to sample control to sampling sa Steel Pump raible Pump	* .165 = ( . 6 ) = 0.37 for 3 in. ilection. gPVC	wells, X = 0.0  ABS Plastic  Bladder Pump	
pre X = 1 Well VOTE: 3 to 5 Well of ple Collection M  Bailer: Pump:  CC Samples if an open collected:	Purged (gal) = t - Depth to War Volume in gal/ft ell Casing Volumes asing volumes lethod:  Dedica Non-Day (Duplicate, Fi	ter in Ft) x X x 3  X = 0.165 for  tes required prio  were removed p  Stainled  ted Submersible  edicated Submersible	2 In. wells, X to sample control to sample control to sample control to sampling sa Steel Pump raible Pump	* .165 = ( , 6 ) = 0.37 for 3 in. llection. g.	wells, X = 0.0  ABS Plastic  Bladder Pump	
ple Collection M  CC Samples if an over Collected:  Die Appearance  OVA R	Purged (gal) = 2 - Depth to War Volume in gal/ft ell Casing Volumes asing volumes lethod:  Dedica Non-Dedica Non-Dedica Non-Dedica (Duplicate, Final Casing (ppm)	ter in Ft) x X x 3  i, X = 0.165 for rea required prior  were removed p  Stainles  sted Submersible edicated Subme	2 In. wells, X to sample control to sample control to sample control to sampling sa Steel Pump raible Pump	* .165 = ( . 6 ) = 0.37 for 3 in. ilection. gPVC	wells, X = 0.0  ABS Plastic  Bladder Pump	
ple Collection M  CC Samples if an over collected:  Die Appearance  OVA R  Suspen	Purged (gal) = 1 - Depth to War Volume in gal/ft oil Casing Volumes asing volumes asing volumes Dedica Non-Dedica Non-Dedicate, Find Solids (desided Solids (d	ter in Ft) x X x 3  i, X = 0.165 for rea required prior  were removed p  Stainles  sted Submersible edicated Subme	2 In. wells, X to sample control to sample control to sample control to sampling sa Steel Pump raible Pump	* .165 = ( . 6 ) = 0.37 for 3 in. ilection. gPVC	wells, X = 0.0  ABS Plastic  Bladder Pump	
ple Collection M  Collection M  Bailer:  Pump:  CC Samples if an over Collected:  Die Appearance  OVA R  Suspen	Purged (gal) = 1 - Depth to War Volume in gal/ft oil Casing Volumes asing volumes asing volumes Dedica Non-Dedica Non-Dedicate, Find Solids (desided Solids (d	ter in Ft) x X x 3  ter in Ft) x X x 3  x = 0.165 for res required prior  were removed p  Stainles  ted Submersible edicated Submersibl	2 In. wells, X to sample collision to sample collision to sampling as Steel Pump Taible Pump Ellank, etc.1:	= 0.37 for 3 in. ilection.  G	ABS Plastic Bladder Pump	purg.
pre X = 1 Well VOTE: 3 to 5 Well of Sast well of the Collection Model of the Collection Model of the Collected: Die Appearance OVA Reference	Purged (gal) = 1 - Depth to War Volume in gal/ft oil Casing Volumes asing volumes asing volumes Dedica Non-Dedica Non-Dedicate, Find Solids (desided Solids (d	ter in Ft) x X x 3  ter in Ft) x X x 3  x = 0.165 for res required prior  were removed p  Stainles  ted Submersible edicated Submersibl	2 In. wells, X to sample collision to sample collision to sampling as Steel Pump Taible Pump Ellank, etc.1:	= 0.37 for 3 in. ilection.  G	ABS Plastic Bladder Pump	purg-
ple Collection M  Collection M  Bailer:  Pump:  CC Samples if an over Collected:  Die Appearance  OVA R  Suspen	Purged (gal) = 1 - Depth to War Volume in gal/ft oil Casing Volumes asing volumes asing volumes Dedica Non-Dedica Non-Dedicate, Find Solids (designated)	ter in Ft) x X x 3  ter in Ft) x X x 3  x = 0.165 for res required prior  were removed p  Stainles  ted Submersible edicated Submersibl	2 In. wells, X to sample control to sample control to sample control to sampling sa Steel Pump raible Pump	= 0.37 for 3 in. ilection.  G	wells, X = 0.0  ABS Plastic  Bladder Pump	purg.
ple Collection M  CC Samples if an over collected:  Die Appearance  OVA R  Suspen	Purged (gal) = 1 - Depth to War Volume in gal/ft oil Casing Volumes asing volumes asing volumes Dedica Non-Dedica Non-Dedicate, Find Solids (designated)	ter in Ft) x X x 3  ter in Ft) x X x 3  x = 0.165 for res required prior  were removed p  Stainles  ted Submersible edicated Submersibl	2 In. wells, X to sample collision to sample collision to sampling as Steel Pump Taible Pump Ellank, etc.1:	= 0.37 for 3 in. liection.  g.  PVC	ABS Plastic Bladder Pump	purg-

Total Well Depth (in Depth to Water (fit	), before purgi	<b>San</b> San ing: 5. <i>79</i>	iject Number: ` mple Date:	1-17-00		
Development Meth	od:(v∬ r: Tei	flon Serie	lana <b>0</b> 0 1			CAINK
Pump	J UB(	ucated Submerall	la 13	PVC 	ABS Plastic Bladder Pum	Þ
Time	pH	n-Dedicated Subm  Conduct. (umho/cm)	Temp.	Water Level	Cum. Vol.	Pump Rate
1529	7,6	765	(Celsius) 2 3.3	(to 0.01 ft)	(gai)	(GPM)
1532	7.5	769	22,9	7.55	3	0.56
1536	7.5	757	23,4		4,5	11/
			63,7	8.43	7,0	
		lotai	-5g			
Water Volume to be Casing Length in Fi	Purped Insit	- 14/8-6	70 0		1	
Sample Collection M	lethod:	s were removed p		<b>0</b> •		
Sample Collection MX_Bailer:	lethod: Tefic	s were removed p	rior to samplin	<b>0</b> •	ABS Plastic	
Sample Collection M	lethod: Teffo Dedii	s were removed point Stainle:	rior to sampline	<b>0</b> •	ABS Plastic	
Sample Collection M X Bailer: Pump:	lethod: Teflo Dedic	s were removed poin Stainler cated Submersible Dedicated Submer	rior to sampling ss Steel Pump raible Pump	<b>0</b> •	•	
Sample Collection M  X Bailer: Pump:	lethod: Teflo Dedic	s were removed poin Stainler cated Submersible Dedicated Submer	rior to sampling ss Steel Pump raible Pump	<b>0</b> •	•	
Example Collection M  X Bailer:  Pump:  A/QC Samples if all  Brameter Collected:  Sample Appearance	lethod: Teffo Dedii Non- ny (Duplicate,	s were removed particles  cated Submersible Dedicated Submer Fleid Blank, Rinse	rior to sampling ss Steel Pump rsible Pump Blank, etc.):	<b>0</b> •	Bladder Pump	d to
Sample Collection M  X Bailer: Pump:  A/QC Samples if all  arameter Collected: ample Appearance OVA R	lethod: Teffo Dedii Non-	s were removed property of Stainless cated Submersible Dedicated Submer Fleid Blank, Rinse	rior to sampling ss Steel Pump rsible Pump Blank, etc.):	0. _ PVC	Bladder Pump	d to
Sample Collection M  X Bailer: Pump:  A/QC Samples if all  Parameter Collected:  Susper	lethod: Teffo Dedicate, Non- ny (Duplicate, leading (ppm) nded Solids (de	s were removed property of Stainless cated Submersible Dedicated Submer Fleid Blank, Rinse	rior to sampling ss Steel Pump rsible Pump Blank, etc.):	0. _ PVC	Bladder Pump	d to
Sample Collection M  X Bailer:  Pump:  Parameter Collected: Sample Appearance OVA R Susper	lethod: Tefformed: Tefformed: Tefformed:	s were removed property of Stainless cated Submersible Dedicated Submer Fleid Blank, Rinse	rior to sampling ss Steel Pump rsible Pump Blank, etc.):	ePVC	Bladder Pump	d to
Sample Collection M  X Bailer:  Pump:  DA/QC Samples if all  Parameter Collected: Sample Appearance OVA R	lethod: Tefformed: Tefformed: Tefformed:	s were removed particles  cated Submersible Dedicated Submer Field Blank, Rinse  8015 escribe):	rior to sampling ss Steel Pump rsible Pump Blank, etc.):	ePVC	Bladder Pump  Pump Use  pumpe.	d to
Sample Collection M  X Bailer:  Pump:  Parameter Collected: Sample Appearance  OVA R  Susper	lethod: Tefformed: Tefformed: Tefformed:	s were removed property of the Stainles Cated Submersible Dedicated Submersible Fleid Blank, Rinse 8015	rior to sampling ss Steel Pump rsible Pump Elank, etc.l:	oPVC	Bladder Pump  Pump Use  pumpe.	d to
Sample Collection M  X Bailer:  Pump:  Parameter Collected: Sample Appearance  OVA R  Susper	lethod: Tefformed: Tefformed: Tefformed:	Swere removed property of Stainless Cated Submersible Dedicated Submersible Dedicated Submersible School Sc	rior to sampling ss Steel Pump rsible Pump Blank, etc.):	e.  PVC  Soun	Bladder Pump  Pump Use  pumpe.	ed to
Sample Collection M  X Bailer:  Pump:  DA/QC Samples if at  Parameter Collected:  Sample Appearance  OVA R  Susper  Decontamination Per  Comments / Calculate	lethod: Tefformed: Tef	Stainles  Cated Submersible Dedicated Submer Fleid Blank, Rinse  8015  escribe):	For a land	o. _PVC	Bladder Pump  Pump Use  pumpe.	d to

- Comment of the Party

Weil .D: MW-

Pump	: Ded	lon Stain licated Submersit l-Dedicated Subm	d- 0	PVC	ABS Plastic Bladder Pum	
Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level	Cum. Voi.	Pump A
807	7.7	69z	20,2	4.75	(gai) 2_	(GPM
909	7.6	638	20,9	4.83	3, 5	1
812	7.6	680	21.1	4.84	5, 5	V
	Total	./ 0	· · · · · · · · · · · · · · · · · · ·			
star Valuma ta ba	Dunned In-19		(0.0			
NOTE: 3 to 5 Well least well ca mple Collection Me Bailer:	I Casing Volumes othod: Teflor	T, X = 0.165 for mes required prion were removed p	2 in. wells, X r to sample col rior to samplin	= 0.37 for 3 in. ilection. g.	weils, X = 0.0  ABS Plastic	65 for 4 in
NOTE: 3 to 5 Well cannot collection Me	I Casing Volumes  Sthod:  Teflor  Dedict	T, X = 0.165 for mes required prion  Were removed prion  Stainle:	2 in. wells, X r to sample collinate to sampling to sampling sampl	= 0.37 for 3 in. ilection. g.	weils, X = 0.0	65 for 4 in
	I Casing Volumes  Sthod:  Teflor  Dedict  Non-C	T, X = 0.165 for mes required prions were removed prions stainle.  Stainle:  ated Submersible Dedicated Submersible	2 in. wells, X r to sample collinior to samplin ss Steel Pump rsible Pump	= 0.37 for 3 in. ilection. g.	weils, X = 0.0  ABS Plastic	65 for 4 in
NOTE: 3 to 5 Well least well ca mple Collection Me Bailer: Pump:	Casing Volumes  String volumes  Teffor  Dedict Non-C	T, X = 0.165 for mes required prion were removed prion Stainle: Stainle: ated Submersible Dedicated Submersible Field Blank, Rinse	2 in. wells, X r to sample co rior to samplin as Steel Pump rsible Pump	= 0.37 for 3 in. ilection. g.	weils, X = 0.0  ABS Plastic  Bladder Pump	
NOTE: 3 to 5 Well least well ca mple Collection Me Bailer: Pump:  /QC Samples if and ameter Collected: hpie Appearance	Casing Volumes  asing volumes  athod:  Dedic Non-Dedic y (Duplicate, F	T, X = 0.165 for mes required prion were removed prion Stainle: Stainle: ated Submersible Dedicated Submersible Field Blank, Rinse	2 in. wells, X r to sample co rior to samplin as Steel Pump rsible Pump	= 0.37 for 3 in. ilection. gPVC	weils, X = 0.0  ABS Plastic  Bladder Pump	
NOTE: 3 to 5 Well least well ca mple Collection Me Bailer: Pump:  /QC Samples if and ameter Collected:  hpie Appearance OVA Res	Casing Volumes  It Casing Volumes  Ithod:  Teffor  Dedict Non-C  Y (Duplicate, F	T, X = 0.165 for mes required prior were removed prior Stainle: Stainle: ated Submersible Dedicated Submersible Field Blank, Rinse	2 in. wells, X r to sample co rior to samplin as Steel Pump rsible Pump	= 0.37 for 3 in. ilection. gPVC	weils, X = 0.0  ABS Plastic  Bladder Pump	
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959	7.6	727	22,0	5.62	7,5	
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Celsius   (to 0.01 ft)   (gail   (GF   1/2)   1/2	Time pH Conduct. Temp. Water Level Cum. Vol. Pin (Lumho/cm) (Celsius) (to 0.01 ft) (gell (gell (10.04) 7.6 7.4 22.1 10.55 2.5 0 7.4 22.1 10.55 2.5 0 7.4 22.1 10.55 2.5 0 7.4 22.1 10.55 2.5 0 7.4 22.1 10.55 2.5 0 7.5 7.7 2 7.7 10.87 7.5 7.5 7.5 7.7 2 7.7 10.87 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.					PVC	_ ABS Plastic	
Collection Method:   Collect	Collection   Collected:   Col	rump	): Ded Non	icated Submersib -Dedicated Subm	le Pump ersible Pump		_ Bladder Pum	p
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Total Collected: \$621, \$615  Contribute to the Purged (gal) = 24.15 ~ 9.3(-\text{H.84-Z.4.3} = 7.3  In Langth in Rt - Depth to Water in Rt) x X x 3  In X = 1 Well Volume in gal/ft, X = 0.165 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 4  ITE: 3 to 5 Well Casing Volumes required prior to sample collection.  Item	ar Volume to be Purged (gal) = 24.16 - 9.31 - 4.84 - 2.4 · 3 = 7.3  ing Langth in Rt - Depth to Water in Rt) x X x 3  re X = 1 Well Volume in gal/ft, X = 0.165 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 2 in. well casing Volumes required prior to sample collection.  ast 3 well casing volumes were removed prior to sampling.  ple Collection Method:							0.6
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Quanterra 880 Riverside Parkway West Sacramento, California 95605-1500

916 373-5600 Telephone 916 372-1059 Fax www.quanterra.com

June 30, 2000

QUANTERRA INCORPORATED PROJECT NUMBER: G0E190299

PO/CONTRACT: 792551

Brad Wright Safety Kleen Consulting 2233 Santa Clara Ave Suite 7 Alameda, CA 94501

Dear Mr. Wright,

This report contains the analytical results for the samples received under chain of custody by Quanterra Incorporated on 5/18/00. These samples are associated with your AC Transit Emeryville project.

The case narrative is an integral part of this report.

Preliminary results were sent via facsimile on June 30, 2000.

If you have any questions, please feel free to call me at (916)374-4414.

Sincerely,

Bonnie J. McNeill

Bonnie J Mcheile

Project Manager

#### TABLE OF CONTENTS

## **QUANTERRA INCORPORATED PROJECT NUMBER G0E190299**

Case Narrative

Quanterra's Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

WATER, TVPH (Gas)/8021 BTEX + MTBE
Performed at Quanterra - West Sacramento
Samples: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Sample Data Sheets
Method Blank Reports
Laboratory QC Reports

WATER, 8015 MOD, TEPH
Performed at Quanterra - West Sacramento
Samples: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Sample Data Sheets
Method Blank Reports
Laboratory QC Reports

#### **CASE NARRATIVE**

## QUANTERRA INCORPORATED PROJECT NUMBER G0E190299

#### **General Comments**

Samples W-3,W-1,W-4 and W-6 were received at 5 degrees C. All others samples were received at 10 degrees C.

#### WATER, 8015 MOD, TEPH

Samples MW-7 and MW-10 demonstrated low surrogate recoveries. All other QC was acceptable.

There were no other anomalies associated with this project.

## Quanterra - Western Region Quality Control Definitions

QC Parameter	
ET SERVICE SER	Definition 20.5 H
QC Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Duplicate Control Sample (DCS)	Consist of a pair of LCSs analyzed within the same QC batch to monitor precision and accuracy independent of sample matrix effects. This QC is performed only if required by client or when insufficient sample is available to perform MS/MSD.
Duplicate Sample (DU)	A second aliquot of an environmental sample, taken from the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative of the precision for other samples in the batch.
Laboratory Control Sample (LCS)	A volume of reagent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. An LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MSs/MSDs are carried through the entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank (MB)	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate Spike	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.

Source: Quanterra® Quality Control Program, Policy QA-003, Rev. 0, 8/19/96.

## Sample Summary G0E190299

WO#	Sample #	Client Sample ID	Sampling Date Received Date
DDG8P	1	TRIP BLANK	5/17/00 08:15 AM 5/18/00 05:00 PM
DDG8Q	2	W-3	5/17/00 10:15 AM 5/18/00 05:00 PM
DDG8T	3	W-2	5/17/00 11:10 AM 5/18/00 05:00 PM
DDG8V	4	W-1	5/17/00 11:55 AM 5/18/00 05:00 PM
DDG8W	5	W-4	5/17/00 12:15 PM5/18/00 05:00 PM
DDG8X	6	MW-6	5/17/00 01:05 PM5/18/00 05:00 PM
DDG91	7	MW-7	5/17/00 02:15 PM5/18/00 05:00 PM
DDG93	8	MW-8	5/17/00 02:13 PM 5/18/00 05:00 PM
DDG94	9	MW-9	5/17/00 02:55 PM5/18/00 05:00 PM
DDG95	10	MW-4	
DDG96	11	MW-3	5/17/00 03:20 PM5/18/00 05:00 PM
DDG97	12	MW-2	5/17/00 03:45 PM5/18/00 05:00 PM
DDG98	13	MW-1	5/18/00 08:20 AM 5/18/00 05:00 PM
DDG99	14	MW-5	5/18/00 09:10 AM 5/18/00 05:00 PM
DDG99	15		5/18/00 10:15 AM 5/18/00 05:00 PM
AKDUU	13	MW-10	5/18/00 10:50 AM 5/18/00 05:00 PM

#### Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must no be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color. corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weigh

## Chain of Custody Record



QUA-4124 0797																												
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Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Aqueous	Sed	Soil	Unpres	H2SO4	HNOS	HCI	NaOH	ZnAc/ NaOH		$\mathscr{G}$															
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### Chain of Custody Record



QUA-4124 0797															•							
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### Chain of Custody Record



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# Chain of Custody Record



QUA-4124 0797																										
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WATER, TVPH (Gas)/8021 BTEX + MTBE

# Client Sample ID: TRIP BLANK

### GC Volatiles

Lot-Sample #: G0E190299-001 Date Sampled: 05/17/00 Prep Date: 05/30/00 Prep Batch #: 0166281	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Dilution Factor: 1	Method:	DHS CA LUF	r
PARAMETER TPH (as Gasoline) Unknown Hydrocarbon	RESULT ND ND	REPORTING LIMIT 50	UNITS ug/L ug/L
	PERCENT	RECOVERY	

LIMITS

(70 - 130)

RECOVERY

108

SURROGATE

4-Bromofluorobenzene

# Client Sample ID: TRIP BLANK

#### GC Volatiles

Lot-Sample #: G0E190299-001	Work Order #: DDG8P102	Matrix WATER
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 Date Sampled...:
 05/17/00
 Date Received...:
 05/18/00

 Prep Date.....:
 05/30/00
 Analysis Date...:
 05/30/00

 Prep Batch #...:
 0166288
 Analysis Date...:
 05/30/00

Dilution Factor: 1 Method.....: DHS CA LUFT

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene	103	(70 - 130)	

Client Sample ID: W-3

#### GC Volatiles

Lot-Sample #: G0E190299-	002 Work Order #: DDG8Q102
Date Sampled: 05/17/00	Date Received - 05/18/00

eceived..: 05/18/00

Analysis Date..: 05/30/00

Method.....: DHS CA LUFT

PARAMETER

**Prep Date....:** 05/30/00

Prep Batch #...: 0166281

TPH (as Gasoline)

4-Bromofluorobenzene

Unknown Hydrocarbon

SURROGATE

Dilution Factor: 1

REPORTING

LIMIT UNITS 50 ug/L

50 ug/L

Matrix..... WATER

PERCENT

RESULT

ND

ND

RECOVERY 108

RECOVERY LIMITS

(70 - 130)

Client Sample ID: W-3

### GC Volatiles

Lot-Sample	# :	G0E190299-002	Work (	Orde
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Date Sampled...: 05/17/00

Prep Date....: 05/30/00
Prep Batch #...: 0166288

Dilution Factor: 1

Work Order #...: DDG8Q103
Date Received..: 05/18/00

Analysis Date..: 05/30/00

Method.....: DHS CA LUFT

Matrix....: WATER

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Benzene	ND	1.0	uq/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene	103	(70 - 130)	

Client Sample ID: W-2

#### GC Volatiles

Lot-Sample #...: G0E190299-003

Date Sampled...: 05/17/00 Prep Date....: 05/30/00

**Prep Batch #...:** 0166281 Dilution Factor: 1

Work Order #...: DDG8T102

Date Received..: 05/18/00 Analysis Date..: 05/30/00

Method..... DHS CA LUFT

REPORTING

PARAMETER TPH (as Gasoline) Unknown Hydrocarbon

RESULT ND 870

LIMIT 50 50

UNITS ug/L ug/L

Matrix....: WATER

PERCENT RECOVERY 180 \*,I

RECOVERY <u>LIMITS</u> (70 - 130)

NOTE(S):

SURROGATE

4-Bromofluorobenzene

<sup>\*</sup> Surrogate recovery is outside stated control limits.

I Matrix interference.

Client Sample ID: W-2

### GC Volatiles

Lot-Sample #: G0E190299-003	Work Order #: DDG8T103	Matrix WATER
	Date Received: 05/18/00	
<pre>Prep Date: 05/30/00</pre>	Analysis Date: 05/30/00	
Prep Batch #: 0166288	_	
Dilution Factor: 1	Method: DHS CA LUFT	

PARAMETER	RESULT	REPORTIN	•
Benzene		LIMIT	UNITS
_	ND	2.0	ug/L
Ethylbenzene	ND	2.0	$\mathtt{ug}/\mathtt{L}$
Toluene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	4.0	ug/L
o-Xylene	ND	2.0	ug/L
Methyl tert-butyl ether	7.8	5.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene	101	(70 - 13	0)

NOTE(S):

Elevated reporting limits. The reporting limits are elevated due to matrix interference.

Client Sample ID: W-1

#### GC Volatiles

Lot-Sample #...: G0E190299-004
Date Sampled...: 05/17/00
Prep Date....: 05/30/00

Prep Batch #...: 0166281

Dilution Factor: 2

Work Order #...: DDG8V102

Date Received..: 05/18/00 Analysis Date..: 05/30/00

Method.....: DHS CA LUFT

PARAMETER

TPH (as Gasoline) Unknown Hydrocarbon RESULT ND 7300 REPORTING
LIMIT
100

100

UNITS ug/L ug/L

Matrix....: WATER

E

PERCENT RECOVERY 195 \*,I RECOVERY LIMITS (70 - 130)

SURROGATE 4-Bromoflu

4-Bromofluorobenzene

# NOTE(S):

- \* Surrogate recovery is outside stated control limits.
- I Matrix interference.

Client Sample ID: W-1

## GC Volatiles

Lot-Sample #: G0E190299-004	Work Order #: DDG8V103	Matrix WATER
Date Sampled: 05/17/00	Date Received: 05/18/00	

Prep Date....: 05/30/00 Analysis Date..: 05/30/00 Prep Batch #...: 0166288

Dilution Factor: 2 Method.....: DHS CA LUFT

Xylene ND 5.0 ug/L thyl tert-butyl ether ND 10 ug/L
rt-butyl ether ND 10 ug/L

NOTE(S):

Elevated reporting limits. The reporting limits are elevated due to matrix interference.

Client Sample ID: W-4

### GC Volatiles

Lot-Sample #: G0E190299-005 Date Sampled: 05/17/00 Prep Date: 05/30/00 Prep Batch #: 0166281	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix WATER
Dilution Factor: 1	Method:	DHS CA LUF	T
PARAMETER TPH (as Gasoline) Unknown Hydrocarbon	RESULT ND ND	REPORTING LIMIT 50	UNITS ug/L ug/L
SURROGATE 4-Bromofluorobenzene	PERCENT RECOVERY 109	RECOVERY LIMITS (70 - 130)	

Client Sample ID: W-4

#### GC Volatiles

Lot-Sample #...: G0E190299-005

**Date Sampled...:** 05/17/00 **Prep Date....:** 05/30/00

Prep Batch #...: 0166288

Dilution Factor: 1

Work Order #...: DDG8W103
Date Received..: 05/18/00
Analysis Date..: 05/30/00

Method..... DHS CA LUFT

Matrix....: WATER

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	
Benzene	ND	1.0	ug/L	
Ethylbenzene	ND	1.0	ug/L	
Toluene	ND	1.0	ug/L	
m-Xylene & p-Xylene	ND	2.0	ug/L	
o-Xylene	ND	1.0	ug/L	
Methyl tert-butyl ether	ND	5.0	ug/L	
	PERCENT	RECOVERY		
SURROGATE	_ RECOVERY	LIMITS		
a,a,a-Trifluorotoluene	102	(70 - 130)	•	

Client Sample ID: MW-6

### GC Volatiles

Lot-Sample #: G0E190299-006 Date Sampled: 05/17/00 Prep Date: 05/30/00 Prep Batch #: 0166281	Work Order #: Date Received: Analysis Date:	05/18/00 05/31/00	Matrix: WATER
Dilution Factor: 2	Method:	DHS CA LUF	T
PARAMETER TPH (as Gasoline) Unknown Hydrocarbon	RESULT ND 6200	REPORTING LIMIT 100 100	UNITS ug/L ug/L
SURROGATE 4-Bromofluorobenzene	PERCENT RECOVERY 276 *,I	RECOVERY LIMITS (70 - 130)	

## NOTE(S):

<sup>\*</sup> Surrogate recovery is outside stated control limits.

I Matrix interference.

Client Sample ID: MW-6

#### GC Volatiles

Lot-Sample #...: G0E190299-006
Date Sampled...: 05/17/00
Prep Date....: 05/30/00
Prep Batch #...: 0166288
Dilution Factor: 1

Work Order #...: DDG8X103
Date Received..: 05/18/00
Analysis Date..: 05/31/00

Matrix..... WATER

Method..... DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	77	1.0	ug/L
Ethylbenzene	39	1.0	ug/L
Toluene	16	1.0	ug/L
m-Xylene & p-Xylene	37	2.0	ug/L
o-Xylene	ND	8.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
a,a,a-Trifluorotoluene	124	(70 - 130)	

NOTE(S) :

Elevated reporting limits. The reporting limits are elevated due to matrix interference.

Client Sample ID: MW-7

### GC Volatiles

Lot-Sample #: G0E190299-007 Date Sampled: 05/17/00 Prep Date: 05/30/00	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Prep Batch #: 0166281 Dilution Factor: 1	Method		T
PARAMETER TPH (as Gasoline) Unknown Hydrocarbon	RESULT ND 410	REPORTING LIMIT 50 50	UNITS ug/L ug/L
SURROGATE 4-Bromofluorobenzene	PERCENT RECOVERY 143 *,I	RECOVERY LIMITS (70 - 130)	

### NOTE(S):

<sup>\*</sup> Surrogate recovery is outside stated control limits.

I Matrix interference.

Client Sample ID: MW-7

# GC Volatiles

Lot-Sample #: ( Date Sampled: ( Prep Date: (	05/17/00	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix:	WATER
Prep Batch #:			,,		
Dilution Factor: 1	1	Method:	DHS CA LUFT		
			DEDODTING		

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether	9.5	5.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene	109	(70 - 130)	

Client Sample ID: MW-8

## GC Volatiles

Lot-Sample #: GOE190299-	008 Work Order #	: DDG93102	Matrix: WATER
<b>Date Sampled:</b> 05/17/00	Date Received		
Prep Date: 05/30/00	Analysis Date		
Prep Batch #: 0166281	-	,,	
Dilution Factor: 1	Method	: DHS CA LU	JFT
		REPORTING	;
PARAMETER	RESULT	LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	310	50	ug/L
	PERCENT	RECOVERY	

LIMITS

(70 - 130)

RECOVERY

192 \*,I

#### NOTE(S):

SURROGATE

4-Bromofluorobenzene

Surrogate recovery is outside stated control limits.

I Matrix interference,

Client Sample ID: MW-8

#### GC Volatiles

Lot-Sample #:	G0E190299-008	Work Order #: DDG93103	Matrix WATER

 Date Sampled...:
 05/17/00
 Date Received...
 05/18/00

 Prep Date.....:
 05/30/00
 Analysis Date...
 05/30/00

Prep Batch #...: 0166288

Dilution Factor: 1 Method.....: DHS CA LUFT

T	LIMIT	UNITS
	1.0	ug/L
	1.0	ug/L
	1.0	ug/L
	2.0	ug/L
	2.0	ug/L
	5.0	ug/L
NT	RECOVERY	
ERY	LIMITS	
·	(70 - 130	<del></del>
		1.0 2.0 2.0 5.0 NT RECOVERY ERY LIMITS

NOTE(S):

Elevated reporting limits. The reporting limits are elevated due to matrix interference.

# Client Sample ID: MW-9

# GC Volatiles

Lot-Sample #: G0E190299-009 Date Sampled: 05/17/00 Prep Date: 05/30/00 Prep Batch #: 0166281	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix WATER
Dilution Factor: 1	Method:	DHS CA LUI	FT
PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	

(70 - 130)

110

4-Bromofluorobenzene

# Client Sample ID: MW-9

#### GC Volatiles

Lot-Sample #...: G0E190299-009 Work Order #...: DDG94103 Matrix...: WATER

Date Sampled...: 05/17/00 Date Received..: 05/18/00

Prep Date....: 05/30/00 Analysis Date..: 05/30/00 Prep Batch #...: 0166288

Dilution Factor: 1 Method.....: DHS CA LUFT

		REPORTIN	IG .
PARAMETER	RESULT	LIMIT	UNITS
Benzene	ND	1.0	ug/L
thylbenzene	ND	1.0	ug/L
oluene	ND	1.0	ug/L
-Xylene & p-Xylene	ND	2.0	ug/L
-Xylene	ND	1.0	ug/L
ethyl tert-butyl ether	ND	5.0	ug/L
	PERCENT	RECOVERY	
URROGATE	RECOVERY	LIMITS	
a,a-Trifluorotoluene	103	(70 - 13	0)

Client Sample ID: MW-4

#### GC Volatiles

Lot-Sample #:	G0E190299-0
Date Sampled:	05/17/00
Prep Date:	05/30/00
Prep Batch #:	0166281
DATE AND DESCRIPTION OF THE PARTY OF THE PAR	_

Date Received..: DDG95102
Date Received..: 05/18/00
Analysis Date..: 05/30/00

Matrix..... WATER

Dilution Factor: 1

Method....: DHS CA LUFT

PARAMETER TPH (as Gasoline) Unknown Hydrocarbon	RESULT	REPORTING	UNITS
	ND	LIMIT	ug/L
	ND	50	ug/L
SURROGATE 4-Bromofluorobenzene	PERCENT RECOVERY 107	RECOVERY LIMITS (70 - 130)	

# Client Sample ID: MW-4

#### GC Volatiles

Lot-Sample #: G0E190299-010	Work Order #: DDG95103	Matrix WATER
Date Sampled • 05/17/00	Data Baseined AS (20 /00	

 Date Sampled...:
 05/17/00
 Date Received...:
 05/18/00

 Prep Date....:
 05/30/00
 Analysis Date...:
 05/30/00

 Prep Batch #...:
 0166288

Dilution Factor: 1 Method..... DHS CA LUFT

		REPORTIN	īG
PARAMETER	RESULT	LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene	103	(70 - 13	0)

Client Sample ID: MW-3

# GC Volatiles

Lot-Sample #: G0E190299-011 Date Sampled: 05/17/00 Prep Date: 05/30/00 Prep Batch #: 0166281	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix:	WATER
Dilution Factor: 1	Method:	DHS CA LUI	FT	
PARAMETER TPH (as Gasoline) Unknown Hydrocarbon	RESULT ND ND	REPORTING LIMIT 50	<u>UNITS</u> ug/L ug/L	
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		

107

4-Bromofluorobenzene

(70 - 130)

Client Sample ID: MW-3

#### GC Volatiles

Lot-Sample #...: G0E190299-011

Date Sampled...: 05/17/00

Prep Date....: 05/30/00

Prep Batch #...: 0166288

Dilution Factor: 1

Work Order #...: DDG96103
Date Received.: 05/18/00
Analysis Date.: 05/31/00

Matrix..... WATER

Method.....: DHS CA LUFT

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene	103	(70 - 130)	

Client Sample ID: MW-2

#### GC Volatiles

Lot-Sample #...: G0E190299-012

Date Sampled...: 05/18/00
Prep Date....: 05/30/00
Prep Batch #...: 0166281

Dilution Factor: 1

Work Order #...: DDG97102

Date Received..: 05/18/00 Analysis Date..: 05/31/00

Method....: DHS CA LUFT

Matrix..... WATER

<u>UNI</u>TS

ug/L

ug/L

REPORTING

PARAMETERRESULTLIMITTPH (as Gasoline)ND50Unknown HydrocarbonND50

SURROGATEPERCENTRECOVERY4-BromofluorobenzeneRECOVERYLIMITS105(70 - 130)

Client Sample ID: MW-2

#### GC Volatiles

Lot-Sample #...: G0E190299-012

Date Sampled...: 05/18/00
Prep Date....: 05/30/00
Prep Batch #...: 0166288

Dilution Factor: 1

Work Order #...: DDG97103

Matrix..... WATER

Date Received..: 05/18/00 Analysis Date..: 05/31/00

Method.....: DHS CA LUFT

PARAMETER	DDOTT	REPORTIN	_	
	RESULT	<u>LIMIT</u>	UNITS	
Benzene	ND	1.0	ug/L	
Ethylbenzene	ND	1.0	ug/L	
Toluene	ND	1.0	ug/L	
m-Xylene & p-Xylene	ND	2.0	ug/L	
o-Xylene	ND	1.0	ug/L	
Methyl tert-butyl ether	87	5.0	ug/L	
A	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
a,a,a-Trifluorotoluene	102	(70 - 13	0)	

Client Sample ID: MW-1

#### GC Volatiles

----: WATER

Lot-Sample #: G0E190299-013	Work Order #: DDG98102	Matrix
Data da1-1 os//	Date Received: 05/18/00	IIICLIA
Prep Date: 05/30/00	Analysis Date - 05/31/00	

Prep Date....: 05/30/00 Analysis Date..: 05/31/00 Prep Batch #...: 0166281

Dilution Factor: 1 Method.....: DHS CA LUFT

 PARAMETER
 RESULT
 LIMIT
 UNITS

 TPH (as Gasoline)
 ND
 50
 ug/L

 Unknown Hydrocarbon
 63
 50
 ug/L

 SURROGATE
 PERCENT
 RECOVERY

 4-Bromofluorobenzene
 117
 (70 - 130)

Client Sample ID: MW-1

#### GC Volatiles

Lot-Sample #:	G0E190299-013	Work Order #: DDG98103	Matrix WATER

**Date Sampled...:** 05/18/00 Date Received..: 05/18/00 **Prep Date....:** 05/30/00 Analysis Date..: 05/31/00 Prep Batch #...: 0166288

Dilution Factor: 1 Method..... DHS CA LUFT

		REPORTING	3
PARAMETER	<u>RESULT</u>	LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether	74	5.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene	100	(70 - 130	))

(70 - 130)

Client Sample ID: MW-5

# GC Volatiles

Lot-Sample #: G0E190299-014  Date Sampled: 05/18/00  Prep Date: 05/30/00  Prep Batch #: 0166281	Work Order # Date Received: Analysis Date:	05/18/00	Matrix WATER
Dilution Factor: 1	Method:	DHS CA LUF	T
PARAMETER TPH (as Gasoline)	RESULT ND	REPORTING	UNITS
Unknown Hydrocarbon	ND	50 50	ug/L ug/L
SURROGATE 4-Bromofluorobenzene	PERCENT RECOVERY 107	RECOVERY LIMITS (70 - 130)	

# Client Sample ID: MW-5

### GC Volatiles

 Lot-Sample #...:
 GOE190299-014
 Work C

 Date Sampled...:
 05/18/00
 Date R

 Prep Date....:
 05/30/00
 Analys

Prep Batch #...: 0166288

Dilution Factor: 1

Work Order #...: DDG99103
Date Received..: 05/18/00

Matrix....: WATER

Analysis Date..: 05/31/00

Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTIN LIMIT	G UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	uq/L
Methyl tert-butyl ether	86	5.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	•
a,a,a-Trifluorotoluene	102	(70 - 13	0)

Client Sample ID: MW-10

#### GC Volatiles

Lot-Sample #...: G0E190299-015

Date Sampled...: 05/18/00 Prep Date....: 05/30/00 Prep Batch #...: 0166281

Dilution Factor: 1

Work Order #...: DDG9A102

Date Received..: 05/18/00 Analysis Date..: 05/31/00

Method.....: DHS CA LUFT

PARAMETER

TPH (as Gasoline) Unknown Hydrocarbon

SURROGATE

4-Bromofluorobenzene

RESULT

ND 460 REPORTING LIMIT

50 50 <u>UNI</u>TS ug/L ug/L

Matrix....: WATER

PERCENT

RECOVERY 122

RECOVERY <u>LIMITS</u> (70 - 130)

Client Sample ID: MW-10

### GC Volatiles

Lot-Sample #...: G0E190299-015

Date Sampled...: 05/18/00
Prep Date....: 05/30/00
Prep Batch #...: 0166288

Dilution Factor: 1

Work Order #...: DDG9A103

Date Received..: 05/18/00 Analysis Date..: 05/31/00

Method....: DHS CA LUFT

Matrix..... WATER

PARAMETER Benzene Ethylbenzene Toluene	RESULT	REPORTING	UNITS
	ND	LIMIT	ug/L
	ND	1.0	ug/L
	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether	<b>6.9</b>	<b>5.0</b>	<b>ug/I</b> .
SURROGATE a,a,a-Trifluorotoluene	PERCENT RECOVERY 106	RECOVERY LIMITS (70 - 130)	

# QC DATA ASSOCIATION SUMMARY

G0E190299

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
002	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
003	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
004	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
005	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
006	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
007	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
008	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
009	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
010	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
011	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT	·	0166288	
012	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
013	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
014	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	

(Continued on next page)

# QC DATA ASSOCIATION SUMMARY

### G0B190299

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS_RUN#
015	WATER WATER	DHS CA LUFT DHS CA LUFT		0166281 0166288	

## METHOD BLANK REPORT

#### GC Volatiles

**Client Lot #...:** G0E190299

MB Lot-Sample #: G0F140000-281

Work Order #...: DEMKA101

Matrix....: WATER

Prep Date....: 05/30/00

Analysis Date..: 05/30/00

Prep Batch #...: 0166281

Dilution Factor: 1

REPORTING

PARAMETER TPH (as Gasoline)

RESULT

LIMIT 50

UNITS ug/L

METHOD DHS CA LUFT

Unknown Hydrocarbon

ND ND 50

ug/L

DHS CA LUFT

SURROGATE

PERCENT RECOVERY RECOVERY LIMITS

4-Bromofluorobenzene

88

(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

## METHOD BLANK REPORT

### GC Volatiles

**Client Lot #...:** G0E190299

MB Lot-Sample #: G0F140000-288

Work Order #...: DEML4101

Matrix..... WATER

Prep Date....: 05/30/00

Prep Batch #...: 0166288

Analysis Date..: 05/30/00 Dilution Factor: 1

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	METHOD	
Benzene	ND	1.0	ug/L	DHS CA LUFT	
Ethylbenzene	ND	1.0	ug/L	DHS CA LUFT	
Toluene	ND	1.0	ug/L	DHS CA LUFT	
m-Xylene & p-Xylene	ND	2,0	ug/L	DHS CA LUFT	
o-Xylene	ND	1.0	ug/L	DHS CA LUFT	
Methyl tert-butyl ether	ND	5.0	ug/L	DHS CA LUFT	
GUDDOGAMD	PERCENT	RECOVERY	<u>.</u>		
SURROGATE a,a,a-Trifluorotoluene	RECOVERY	<u>LIMITS</u> (70 - 130)			
a,a,a-iiiiidolocoldene	85				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #...: G0E190299 Work Order #...: DEMKA102-LCS Matrix...... WATER

LCS Lot-Sample#: G0F140000-281 DEMKA103-LCSD

**Prep Date....:** 05/30/00 **Analysis Date..:** 05/30/00

Prep Batch #...: 0166281

Dilution Factor: 1

PARAMETER TPH (as Gasoline)	SPIKE <u>AMOUNT</u> 1000 1000	MEASURE <u>AMOUNT</u> 1030 1060	ED UNITS ug/L ug/L	PERCENT RECOVERY 103 106	RPD 3.4	METHOD  DHS CA LUFT  DHS CA LUFT
SURROGATE 4-Bromofluorobenzene			PERCENT RECOVERY 112 122	RECOVERY LIMITS (70 - 130 (70 - 130	•	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

## LABORATORY CONTROL SAMPLE DATA REPORT

#### GC Volatiles

Client Lot #...: G0E190299 Work Order #...: DEML4102-LCS Matrix...... WATER

LCS Lot-Sample#: G0F140000-288 DEML4103-LCSD

**Prep Date....:** 05/30/00 **Analysis Date..:** 05/30/00

Prep Batch #...: 0166288

Dilution Factor: 1

PARAMETER Benzene	SPIKE AMOUNT 10.0	MEASURE AMOUNT 10.3	UNITS ug/L	PERCENT RECOVERY 103	RPD	METHOD DHS CA LUPT
Ethylbenzene	10.0 10.0 10.0	10.3 10.1 10.0	ug/L ug/L ug/L	103 101 100	0.010	DHS CA LUFT DHS CA LUFT DHS CA LUFT
Toluene	10.0 10.0	10.3	ug/L ug/L	103 101	2.6	DHS CA LUFT DHS CA LUFT
m-Xylene & p-Xylene	20.0 20.0	20.3 20.1	ug/L ug/L	101 100	0.93	DHS CA LUFT DHS CA LUFT
o-Xylene	10.0 10.0	10.1 9.97	ug/L ug/L	101 100	1.1	DHS CA LUFT DHS CA LUFT
Methyl tert-butyl ether	10.0 10.0	10.7 10.8	ug/L ug/L	107 108	1.3	DHS CA LUFT DHS CA LUFT
SURROGATE a,a,a-Trifluorotoluene			PERCENT RECOVERY 104 103	RECOVERY LIMITS (70 - 130) (70 - 130)	•	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC Volatiles

Client Lot #...: GOE190299 Work Order #...: DEMKA102-LCS Matrix...... WATER

LCS Lot-Sample#: G0F140000-281 DEMKA103-LCSD

**Prep Date....:** 05/30/00 **Analysis Date..:** 05/30/00

Prep Batch #...: 0166281

Dilution Factor: 1

PARAMETER TPH (as Gasoline)	PERCENT	RECOVERY		RPD	
	RECOVERY 103	<u>LIMITS</u> (70 - 130)	RPD	LIMITS	METHOD DHS CA LUFT
	106	(70 ~ 130)	3.4	(0-35)	DHS CA LUFT

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
4-Bromofluorobenzene	112	(70 - 130)
	122	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC Volatiles

Client Lot #...: G0E190299 Work Order #...: DEML4102-LCS Matrix...... WATER

LCS Lot-Sample#: G0F140000-288 DEML4103-LCSD

**Prep Date....:** 05/30/00 **Analysis Date..:** 05/30/00

Prep Batch #...: 0166288

Dilution Factor: 1

	PERCENT	RECOVERY	RPD	
PARAMETER	RECOVERY	LIMITS	RPD LIMITS	METHOD
Benzene	103	(70 - 130)		DHS CA LUFT
	103	(70 - 130)	0.010 (0-35)	DHS CA LUFT
Ethylbenzene	101	(70 - 130)	, ,	DHS CA LUFT
	100	(70 - 130)	0.36 (0-35)	DHS CA LUFT
Toluene	103	(70 - 130)	•	DHS CA LUFT
	101	(70 - 130)	2.6 (0-35)	DHS CA LUFT
m-Xylene & p-Xylene	101	(70 - 130)		DHS CA LUFT
	100	(70 - 130)	0.93 (0-35)	DHS CA LUFT
o-Xylene	101	(70 - 130)		DHS CA LUFT
	100	(70 - 130)	1.1 (0-35)	DHS CA LUFT
Methyl tert-butyl ether	107	(70 - 130)		DHS CA LUFT
	108	(70 - 130)	1.3 (0-35)	DHS CA LUFT
		PERCENT	RECOVERY	
SURROGATE		RECOVERY	LIMITS	
a,a,a-Trifluorotoluene		104	(70 - 130)	
		103	(70 - 130)	
			··,	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

WATER, 8015 MOD, TEPH

## Client Sample ID: W-3

## GC Semivolatiles

Lot-Sample #:	G0E190299-002	Work
Date Sampled:	05/17/00	Date
Prep Date:	05/24/00	Anal
Prep Batch # ·	0145300	

Prep Batch #...: 0145300 Dilution Factor: 1 Work Order #...: DDG8Q101
Date Received..: 05/18/00

malysis Date..: 06/08/00

Method.....: SW846 8015 MOD

Matrix..... WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	ND ND ND	50 50 250	ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 88	RECOVERY LIMITS (66 - 136)	-

Client Sample ID: W-2

#### GC Semivolatiles

Lot-Sample #: G0E190299-003 Date Sampled: 05/17/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: DDG8T101 Date Received: 05/18/00 Analysis Date: 06/09/00	Matrix: WATER
Dilution Factor: 20	Method: SW846 8015 MOD	

PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 19000 ND	REPORTING LIMIT 1000 1000 5000	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 0.0 SRD	RECOVERY LIMITS (66 - 136)	

#### NOTE(S):

SRD The surrogate recovery was not calculated because the extract was diluted beyond the ability to quantitate a recovery.

Elevated reporting limits. The reporting limits are elevated due to matrix interference.

The unknown from n-C14 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on motor oil n-C19 to n-C36.

Client Sample ID: W-1

## GC Semivolatiles

Date Sample #: G0E190299-004  Date Sampled: 05/17/00  Prep Date: 05/24/00  Prep Batch #: 0145300	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Dilution Pactor: 10	Method:	SW846 8015	MOD
PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 1100 ND	REPORTING LIMIT 500 500 2500	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 79	RECOVERY LIMITS (66 - 136)	

#### NOTE(S):

Elevated reporting limits. The reporting limits are elevated due to matrix interference.

The unknown from n-C8 to n-C14 was quantitated with all peaks from n-C8 to n-C36 and based on diesel n-C10 to n-C24.

# Client Sample ID: W-4

## GC Semivolatiles

Lot-Sample #: G0E190299-005 Date Sampled: 05/17/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Dilution Factor: 1	Method:	SW846 8015	MOD
PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 230 ND	REPORTING LIMIT 50 50 250	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 79	RECOVERY LIMITS (66 - 136)	

NOTE(S):

The unknown from n-C8 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on diesei n-C10 to n-C24.

## Client Sample ID: MW-6

## GC Semivolatiles

Lot-Sample #: G0E190299-006 Date Sampled: 05/17/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Dilution Factor: 1	Method:	SW846 8015	MOD
PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 1800 ND	REPORTING LIMIT 50 50 250	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 96	RECOVERY LIMITS (66 - 136)	

#### NOTE(S):

The unknown from n-C8 to n-C38 was quantitated with all peaks from n-C8 to n-C36 and based on diesel n-C10 to n-C24.

Client Sample ID: MW-7

## GC Semivolatiles

....: WATER

Lot-Sample #: G0E190299-007 Date Sampled: 05/17/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: DDG91101 Matrix  Date Received: 05/18/00  Analysis Date: 06/08/00
70 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T	Method: SW846 8015 MOD

PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 430 ND	REPORTING LIMIT 50 50 250	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 91	RECOVERY LIMITS (66 - 136)	

NOTE (S):

The unknown from n-C8 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on diesel n-C10 to n-C24.

Client Sample ID: MW-8

# GC Semivolatiles

TOC-20mbre #: GOETA05AA-008	Work Order #:	DDG93101	Matrix: WATER
Date Sampled: 05/17/00	Date Received:	05/18/00	
Prep Date: 05/24/00	Analysis Date:		
Prep Batch #: 0145300	2	00,00,00	
Dilution Factor: 1	Method:	SW846 8015	MOD
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	660	50	ug/L
TPH (as Motor Oil)			—·
TIM (db MOCOI OII)	ND	250	ug/L
	PERCENT	RECOVERY	
SURROGATE	<b>-</b>		
	RECOVERY	LIMITS	
o-Terphenyl	130	(66 - 136)	

NOTE(S):

The unknown from n-C8 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on diesel n-C10 to n-C24.

Client Sample ID: MW-9

# GC Semivolatiles

Lot-Sample #: G0E190299-009 Date Sampled: 05/17/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Dilution Factor: 1	Method:		MOD
PARAMETER	DECITE III	REPORTING	
TPH (as Diesel)	RESULT	<u>LIMIT</u>	UNITS
	ND	50	ug/L
Unknown Hydrocarbon	990	50	ug/L
TPH (as Motor Oil)	ND	250	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
o-Terphenyl	105	(66 - 136)	
	***	(00 - 136)	

NOTE(S):

The unknown from n-C14 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on motor oil n-C19 to n-C36.

Client Sample ID: MW-4

## GC Semivolatiles

Lot-Sample #: G0E190299-010	Work Order #:		Matrix:	WATER
Date Sampled: 05/17/00	Date Received:	05/18/00		
<pre>Prep Date: 05/24/00</pre>	Analysis Date:	06/08/00		
Prep Batch #: 0145300				
Dilution Factor: 1	Method:	SW846 8015	MOD	
		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	
TPH (as Diesel)	ND	50	ug/L	
Unknown Hydrocarbon	80	50	ug/L	
TPH (as Motor Oil)	ND	250	ug/L	
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
o-Terphenyl	77	(66 - 136)		

#### NOTE(S):

The unknown from n-C20 to n-C36 was quantitated with all peaks from n-C8 to n-C36 and based on motor oil n-C19 to n-C36.

Client Sample ID: MW-3

#### GC Semivolatiles

Lot-Sample #: G0E190299-011 Date Sampled: 05/17/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Dilution Factor: 1	Method:	SW846 8015	MOD
PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 620 ND	REPORTING LIMIT 50 50 250	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 122	RECOVERY LIMITS (66 - 136)	

NOTE(S):

The unknown from n-C16 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on motor oil n-C19 to n-C36.

Client Sample ID: MW-2

## GC Semivolatiles

Lot-Sample #: G0E190299-012 Date Sampled: 05/18/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Dilution Factor: 1	Method:	SW846 8015	MOD
PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 1100 ND	REPORTING LIMIT 50 50 250	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 108	RECOVERY LIMITS (66 - 136)	

NOTE(S):

The unknown from n-C12 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on motor oil n-C19 to n-C36.

## Client Sample ID: MW-1

#### GC Semivolatiles

Lot-Sample #: G0E190299-013 Date Sampled: 05/18/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix WATER
Dilution Factor: 1	Method:	SW846 8015	MOD
PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 390 ND	REPORTING LIMIT 50 50 250	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 109	RECOVERY LIMITS (66 - 136)	

#### NOTE(S):

The unknown from n-C8 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on diesel n-C10 to n-C24.

Client Sample ID: MW-5

# GC Semivolatiles

Lot-Sample #: G0E190299-014	Work Order #:	DDG99101	Matrix WATER
Date Sampled: 05/18/00	Date Received:	05/18/00	
Prep Date: 05/24/00	Analysis Date:	06/08/00	
Prep Batch #: 0145300	_	, ,	
Dilution Factor: 1	Method:	SW846 8015	MOD
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	230	50	ug/L
TPH (as Motor Oil)	ND	250	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
o-Terphenyl	72	(66 - 136)	

## NOTE(S):

The unknown from n-C8 to n-C40 was quantitated with all peaks from n-C8 to n-C36 and based on diesel n-C10 to n-C24.

Client Sample ID: MW-10

## GC Semivolatiles

Lot-Sample #: G0E190299-015 Date Sampled: 05/18/00 Prep Date: 05/24/00 Prep Batch #: 0145300	Work Order #: Date Received: Analysis Date:	05/18/00	Matrix: WATER
Dilution Factor: 1	Method:	SW846 8015	MOD
PARAMETER TPH (as Diesel) Unknown Hydrocarbon TPH (as Motor Oil)	RESULT ND 990 ND	REPORTING LIMIT 50 50 250	UNITS ug/L ug/L ug/L
SURROGATE o-Terphenyl	PERCENT RECOVERY 30 *	RECOVERY LIMITS (66 - 136)	

## NOTE(S):

The unknown from n-C8 to n-C38 was quantitated with all peaks from n-C8 to n-C36 and based on diesel n-C10 to n-C24.

<sup>\*</sup> Surrogate recovery is outside stated control limits.

# QC DATA ASSOCIATION SUMMARY

G0B190299

Sample Preparation and Analysis Control Numbers

		ANALYTICAL	LEACH	PREP	
SAMPLE#	MATRIX	METHOD	BATCH #	BATCH #	MS RUN#
0.01					
001	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
002	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
003	WATER	SW846 8015 MOD		0145300	
•	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
004	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
005	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0145300 0166281	
	WATER	DHS CA LUFT		0166288	
006	tin man				
006	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
007	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
800	WATER	SW846 8015 MOD .		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
009	WATER	SW846 8015 MOD	•	0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
010	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
011	WATER	SW846 8015 MOD		0145300	
V	WATER	DHS CA LUFT		0145300	
	WATER	DHS CA LUFT		0166281	
	**********	THE CH HUEL		0166288	

(Continued on next page)

# QC DATA ASSOCIATION SUMMARY

# G0B190299

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP <u>BATCH</u> #	MS RUN#
012	WATER WATER WATER	SW846 8015 MOD DHS CA LUFT DHS CA LUFT		0145300 0166281 0166288	
013	WATER WATER WATER	SW846 8015 MOD DHS CA LUFT DHS CA LUFT		01 <b>45300</b> 0166281 0166288	
014	WATER WATER WATER	SW846 8015 MOD DHS CA LUFT DHS CA LUFT		0145300 0166281 0166288	
015	WATER WATER WATER	SW846 8015 MOD DHS CA LUFT DHS CA LUFT		0145300 0166281 0166288	

## METHOD BLANK REPORT

## GC Semivolatiles

Client Lot #...: G0E190299

Analysis Date..: 06/14/00

MB Lot-Sample #: G0E240000-300

Work Order #...: DDLT1101

Matrix..... WATER

Prep Date....: 05/24/00

Prep Batch #...: 0145300

Dilution Factor: 1

REPORTING

PARAMETER	RESULT	LIMIT	UNITS		METHOD		
TPH (as Diesel)	ND	50	ug/L	SW846	8015 MOD		
Unknown Hydrocarbon	ND	50	ug/L	SW846	8015 MOD		
TPH (as Motor Oil)	ND	250	ug/L	SW846	8015 MOD		
SURROGATE o-Terphenyl	PERCENT RECOVERY 70	RECOVERY LIMITS (66 - 136	<del>3)</del>				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE DATA REPORT

#### GC Semivolatiles

Client Lot #...: G0E190299 Work Order #...: DDLT1102-LCS Matrix.....: WATER

LCS Lot-Sample#: G0E240000-300 DDLT1103-LCSD

Prep Date....: 05/24/00 Analysis Date..: 06/08/00

Prep Batch #...: 0145300

Dilution Factor: 1

PARAMETER TPH (as Diesel)	SPIKE AMOUNT	MEASURE AMOUNT 242 214	UNITS ug/L ug/L	PERCENT RECOVERY 81 71	RPD 12	METHOD			
	300 300					SW846 SW846			
SURROGATE o-Terphenyl			PERCENT RECOVERY 83 82	RECOVERY LIMITS (66 - 136 (66 - 136	•				

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Semivolatiles

Client Lot #...: G0E190299 Work Order #...: DDLT1102-LCS Matrix.....: WATER

LCS Lot-Sample#: G0E240000-300 DDLT1103-LCSD

Prep Date....: 05/24/00 Analysis Date..: 06/08/00

Prep Batch #...: 0145300

Dilution Factor: 1

PARAMETER TPH (as Diesel)	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	TS METHOD		
	81 71	(50 - 129) (50 - 129)	12 (0-23)	SW846 8015 MOD SW846 8015 MOD		
		PERCENT	RECOVERY			

 SURROGATE
 RECOVERY
 LIMITS

 o-Terphenyl
 83
 (66 - 136)

 82
 (66 - 136)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.