AC Transit
Alameda-Contra Costa Transit District

10626 East 14th Street, Oakland, California 94603 ☐ (510) 577-8804
FAX ☐ (510) 577-8859

00 AUG 28 PM 4:44

August 24, 2000

Can Well W-2 be repaired? or should it be replaced.

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

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 47th 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 tert-butyl 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

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. 14th Street
Oakland, California 94603

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

Project No: 792551

safety-kleen

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

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Reviewed By
Brad Wright, RG, CHG
Senior Geologist

STATE OF CALIFORNIA
REGISTERED GEOLOGIST
#6776
Exp. 7-00
BRADLEY D. WRIGHT
REGISTERED GEOLOGIST

for: Written By
Greg Pedersen
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 ¼-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

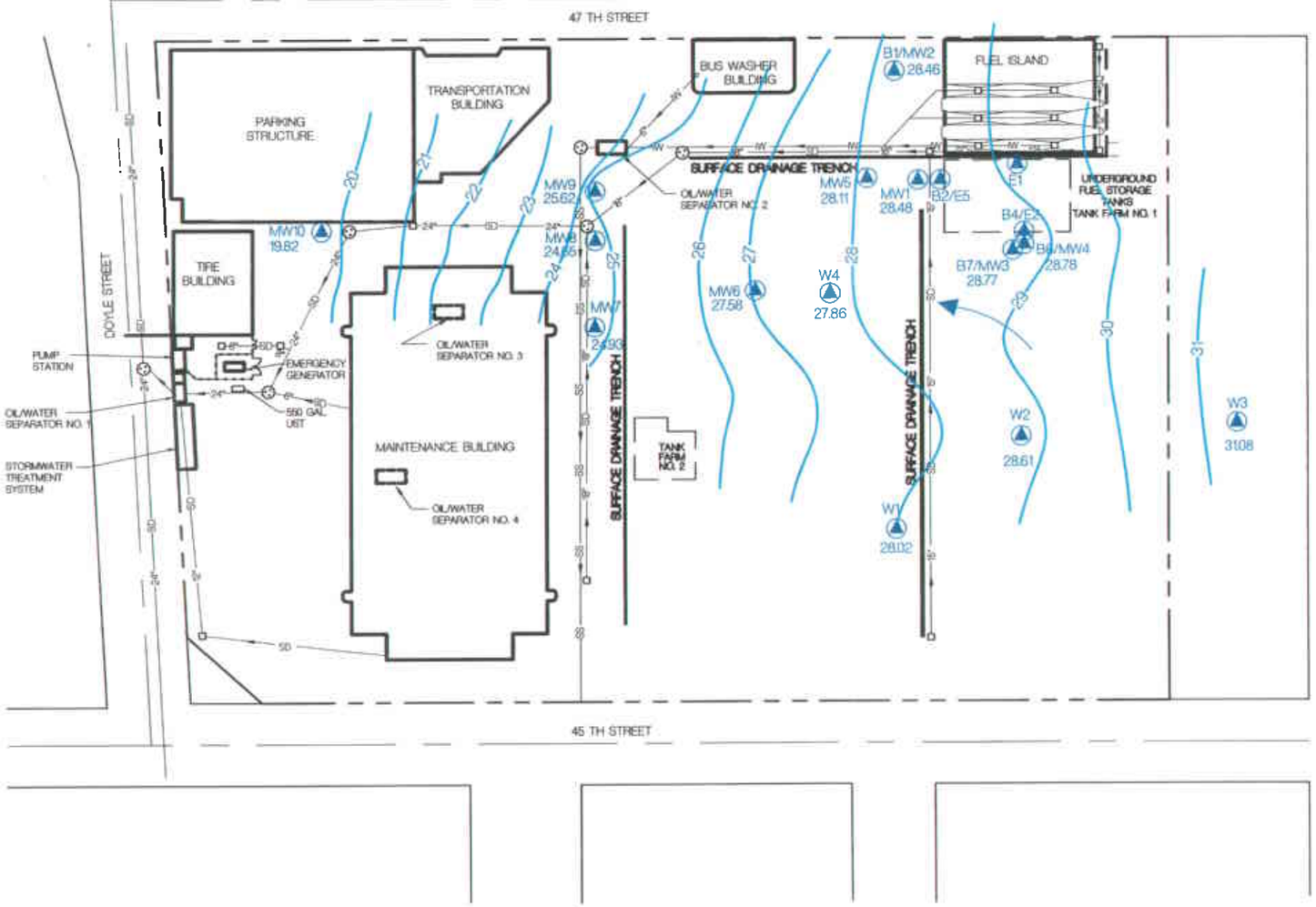
- Monitor wells W-1 through W-4 were surveyed and included in the quarterly monitoring program.
- Monitor well W-2 was found to be damaged.
- MTBE was detected in monitor wells MW-1, MW-2, MW-5, MW-7 and MW-10, W-2.
- Benzene was detected in W-1, and MW-6 above the MCL of 1 ppb.
- A free phase hydrocarbon 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



LEGEND

MANHOLE	GROUNDWATER FLOW DIRECTION
CATCH BASIN	SD — STORM DRAIN PIPELINE
MONITORING WELL	SS — SANITARY SEWER PIPELINE
19.54 POTENTIOMETRIC SURFACE ELEVATION	IW — INDUSTRIAL WASTE PIPELINE
POTENTIOMETRIC SURFACE CONTOUR	CHAIN LINK FENCE

	BY	DATE
DRAWN	WRB	8/3/00
CHECKED		
APPROVED		
APPROVED		
APPROVED		

safety-kleen consulting

EMERYVILLE FACILITY - OAKLAND CALIFORNIA

FIGURE 2
AC TRANSIT - POTENTIOMETRIC SURFACE MAP

SCALE: 1" = 100'

DWG. NO: 792551-007

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

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
MW-1	8/31/99	32.56	None	3.24	29.32	NA
	11/23/99		None	4.55	28.01	NA
	3/1/00		None	3.65	28.91	NA
	5/17/00		**None**	**4.08**	**28.48**	**NA**
MW-2	8/31/99	32.12	None	5.24	26.88	NA
	11/23/99		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
	11/23/99		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
	11/23/99		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
	11/23/99		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**
W-4	3/2/00	31.72	None	3.34	28.38	NA
	5/17/00		**None**	**3.86**	**27.86**	**NA**

Notes:
* used 0.8 specific gravity of product
** top of casing elevation not established
ft-msl: feet-mean sea level
DTW: Depth to Water
NA: Not applicable

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

Well	Date	TPH-8015 (TPHd)	TPH-8021 (TPHg)	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
	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
	5/18/00	390	63	<1.0	<1.0	<1.0	<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
	3/1/00	510	<50	<1.0	<1.0	<1.0	<2.0	81
	5/18/00	1,100	<50	<1.0	<1.0	<1.0	<2.0	87
MW-3	8/31/99	2,700	NA	<1.0	<1.0	<1.0	<1.0	NA
	11/23/99	640	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
	5/17/00	620	<50	<1.0	<1.0	<1.0	<2.0	<5.0
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
	5/17/00	80	<50	<1.0	<1.0	<1.0	<2.0	<5.0
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	<50	<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
	5/17/00	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	260	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
MW-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
	5/17/00	990	<50	<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	5/17/00	19,000	870	<2.0	<1.0	<2.0	<4.0	7.8
W-3	5/17/00	<50	<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	<1.0	<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

Well	Date	Time	Measurement	Code	Comments
MW-1	5/17/00	0900	4.08	SWL	
MW-2		0905	3.66		
MW-3		0855	5.29		
MW-4		0857	5.33		
MW-5		0905	3.59		
~~MW-6~~					
MW-6		0920	~~7.26~~ 3.44		Cast Diesel Sheen
MW-7		0927	4.69		
MW-8		0931	4.78		
MW-9		0934	3.56		
MW-10		0937	9.31		
W-1		0844	5.41		RE-SURVEY?
W-2		0842	5.60		
W-3		0838	6.38		UNABLE TO USE CAP
W-4		0918	3.86		

Project Name: ACT LES-SSI Emergency Project Number: 792551
Casing Diameter (in): 2" Sample Date: 5/17/00
Total Well Depth (ft): 29.42 Sample ID: W-3 Water Corp
Depth to Water (ft), before purging: 6.38

Development Method:
~~Bailer~~: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic
✓ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump
✓ Centrifugal

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
55.15 0957	7.4	575	22.5	12.25'	3.8	0.72
1002	7.3	614	22.5	14.35	7.6	↓
1007	7.3	615	21.6	15.81	11.4	✓

Water Volume to be Purged (gal) = ~~Est~~ Total Vol purged 11.5
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. well
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:
✓ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic
____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):
Trip Blank 5/17/00 0815

Parameter Collected:
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:

Comments / Calculations:
0957 12.25' 3.8 gal

Start @ 954
Stop @ 1009
Sample @ 1015

Signature: Date:

Project Name: ACT LES-SSI Emeryville Project Number: 792551
Casing Diameter (in): 2" Sample Date: 5/17/00
Total Well Depth (ft): 28.61 Sample ID: W-2
Depth to Water (ft), before purging: 5.60

Greg & Nate

Development Method:

___ Bailer: ___ Teflon ___ Stainless Steel ___ PVC ___ ABS Plastic

✓ Pump: ___ Dedicated Submersible Pump ___ Bladder Pump
___ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1056	7.4	859	22.8	16.82	3.8	0.68
1102	7.3	830	23.2	19.76	7.6	
1107	7.3	823	23.6	22.09	11.4	✓
Total purged			11.5 gal			

Water Volume to be Purged (gal) = 28.61 − 5.60 = 23.01 X .165 = 3.8 x 3 = 11.4
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

✓ Bailer: ___ Teflon ___ Stainless Steel ___ PVC ___ ABS Plastic

___ Pump: ___ Dedicated Submersible Pump ___ Bladder Pump
___ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Took out additional 10 gal prior to taking parameters
** Need to fix cap!

Parameter Collected:
Sample Appearance
___ OVA Reading (ppm)
___ Suspended Solids (describe):

Decontamination Performed:

Strong Petroleum odor from Well
Floating Product & Sheen observed

Comments / Calculations:

Start time @ ~~1056~~ 1051
Stop time @ 1108
Sample @ 1110

Signature: [signature] Date: 5-17-00

Project Name: ACT LES-SSI Emeryville Project Number: 792551
Casing Diameter (in): 2" Sample Date: 5/17/00
Total Well Depth (ft): 16.43 Sample ID: W-1
Depth to Water (ft), before purging: 5.41

Greg + Nate

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1145	7.3	940	24.0	6.48	1.5	0.86
1147	7.2	944	23.5	6.53	3.5	↓
1149	7.2	962	23.2	6.60	5	✓
	Total	Vol. Purged	6.0			

Water Volume to be Purged (gal) = 16.43 - 5.41 = 11.02 = 1.8 = 5.5
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Parameter Collected: 8015, 8021
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Centrifugal pump used to purge...

Decontamination Performed:

rinsed/washed Sounder/meters

Comments / Calculations:

Sample @ 1155
Start @ 1143
Stop @ 1150

Signature: Greg Pade Date: 5-17-00

Project Name: LES-SSI
Project Number: 792551
Casing Diameter (in): 2
Sample Date: 5/17/00
Total Well Depth (ft): 16.93
Sample ID: W-4
Depth to Water (ft), before purging: 3.86

Grey + Nate

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1207	7.2	1047	23.8	6.24	2.5	1.0
1210	7.2	1035	23.1	6.87	5	"
1212	7.2	1014	23.0	6.92	7	"
	Total	Vol. purged		7.0 gl.		

Water Volume to be Purged (gal) = 16.93 - 3.86 = 13.07 X .165 = 2.1 x 3 = 6.5
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. well
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Centrifugal pump used to purge

Parameter Collected: 8021, 8015
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed: rinsed / washed sounder / meters

Comments / Calculations:

Start @ 1206
Stop @ 1213
Sample time @ 1215

Signature: Greg Peck

Date: 5/17/00

Project Name: ACT LES-SSI Emeryville
Project Number: 792551
Casing Diameter (in): 2"
Sample Date: 5-17-00
Total Well Depth (ft): 19.64
Sample ID: mw-6
Depth to Water (ft), before purging: 3.44

GF/NK

Development Method: NA.

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Non-Dedicated Submersible Pump ____ Bladder Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1300	7.2	1025	22.5	4.40	3	1.3
1302	7.1	1020	22.5	4.50	6	↓
1304	7.1	1037	22.6	4.55	9	↓
	Total Vol purged			9g.		

Water Volume to be Purged (gal) = 19.64 - 3.44 = 16.2 x 0.165 = 2.6 x 3 = 8.0
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Non-Dedicated Submersible Pump ____ Bladder Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Centrifugal pump to purge

Parameter Collected: 8021, 8015
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed: rinsed/washed meters/sounders

Comments / Calculations:

Diesel/gas or Petrol sheen
Odor also present.

Start @ 1257
Stop @ 1304
Sample @ 1305

Signature: [signature] Date: 5/17/00

Well ID: MW-7

Project Name: ACT LES-SSI
Casing Diameter (in): 2"
Total Well Depth (ft): 24.53
Depth to Water (ft), before purging: 4.69

Project Number:
Sample Date: 5-17-00
Sample ID: MW-7

Development Method: NA

CP/NK

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Pump Slow

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1343	7.2	1034	30.9	17.50	3.5	0.21
1354	7.2	1061	30.8	18.16	7	↓
1411	7.2	1047	30.3	18.32	10	↓
	Total vol. purged			10 g.		

Water Volume to be Purged (gal) = 24.53 - 4.69 = 19.84 × .165 = 3.27 × 3 = 9.8
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. well
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Centrifugal pump to purge

Parameter Collected: 8021, 8015
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:

rinsed/washed meters/sounder

Comments / Calculations:

Start @ 1323
Stop @ 1411
Sample @ 1415

Signature: Craig Rodine

Date: 5/17/00

Project Name: ACT LES-SSI Emeryville Project Number:
Casing Diameter (in): 2"
Total Well Depth (ft): 20.67
Depth to Water (ft), before purging: 4.78
Sample Date: 5/17/00
Sample ID: MW-8

GP/NK

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1422	7.4	1136	23.2	11.07	2.5	1.1
1424	7.3	1141	21.9	11.92	5	↓
1426	7.3	1145	21.6	13.17	8	↓
	Total Volume purged	8.5				

Water Volume to be Purged (gal) = 20.67 - 4.78 = 15.89 x .165 = 2.6 · 3 = 7.9
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

_X_ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Parameter Collected: 8021, 8015
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe): centrifugal pump used to purge

Decontamination Performed:

rinsed / washed Sounder / meters

Comments / Calculations:

Start time @ 1418
Stop time @ 1426
Sample time @ 1430

Signature: [signature] Date: 5-17-00

Project Name: ACT LES-SSI Emeryville Project Number: 792551
Casing Diameter (in): 2"
Total Well Depth (ft): 20.52
Depth to Water (ft), before purging: 3.56
Sample Date: 5-17-00
Sample ID: mw-9

GP/NK

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1446	7.6	838	22.5	10.87	2.5	0.95
1448	7.3	1154	21.5	11.31	5.5	↓
1452	7.3	1186	21.9	12.10	8.5	↓
	Total	Vol purged	8.5g.			

Water Volume to be Purged (gal) = 20.57 - 3.56 = 16.96 · .165 = 2.8 = 8.4
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. wel
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Parameter Collected: 8021, 8015 centrifugal pump to purge
Sample Appearance

____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:

rinsed/washed sounder/meters

Comments / Calculations:

Start time @ 1444
Stop time @ 1453
Sample time @ 1455

Signature: Greg Pedersen Date: 5/17/00

Project Name: ACT LES-SSI Emeryville Project Number: 792 SS1
Casing Diameter (in): 2" Sample Date: 5-17-00
Total Well Depth (ft): 14.95 Sample ID: MW-4
Depth to Water (ft), before purging: 5.33

CP/NK

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1514	7.6	816	23.6	6.51	1.6	0.83
1516	7.5	789	21.9	9.18	3.3	↓
1517	7.5	790	21.5	10.58	4.8	✓
	Total	Vol. Purged 5.0 g.				

Water Volume to be Purged (gal) = 14.95 - 5.33 = 9.62 x .165 = 1.6 x 3 = 4.8
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. well
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

__X__ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

centrifugal pump to purge

Parameter Collected: 8021, 8015
Sample Appearance

____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:

rinsed / washed sounder / Meters

Comments / Calculations:

Start @ 1512
Stop @ 1518
Sample @ 1520

Signature: Greg Peda Date: 5-17-00

Well ID: MW-3

Project Name: LES-SSI
Casing Diameter (in): 2"
Total Well Depth (ft): 14.68
Depth to Water (ft), before purging: 5.29

Project Number: 792551
Sample Date: 5-17-00
Sample ID: MW-3

GF/NK

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1529	7.6	765	23.3	6.87	1.5	0.56
1532	7.5	769	22.9	7.55	3	↓
1536	7.5	757	23.4	8.43	4.5	↓
		total — 5g				

Water Volume to be Purged (gal) = 14.68 - 5.29 = 9.39 x .165 = 1.54 x 3 = 4.6
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. well
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Parameter Collected: 8021, 8015
Sample Appearance

Centrifugal pump used to purge.

____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:

rinsed/washed sounder/meter

Comments / Calculations:

Start @ 1528
Stop @ 1537
Samp @ 1545

Signature: Greg Pedersen

Project Name: ACT LES-SSI Emeryville Project Number: 742551
Casing Diameter (in): 2" Sample Date: 5-18-00
Total Well Depth (ft): 14.56 Sample ID: MW-2
Depth to Water (ft), before purging: 3.66

GP

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Non-Dedicated Submersible Pump ____ Bladder Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
807	7.7	692	20.2	4.75	2	0.6
809	7.6	688	20.9	4.83	3.5	↓
812	7.6	680	21.1	4.84	5.5	↓
	Total V. Purged		6.0 g			

Water Volume to be Purged (gal) = 14.56 - 3.66 = 10.9 x .165 = 1.8 x 3 = 5.4
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Non-Dedicated Submersible Pump ____ Bladder Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

centrifugal pump to purge

Parameter Collected: 8021, 8015
Sample Appearance

____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed: rinsed/washed Sonde/meters

Comments / Calculations:

start @ 0804
Stop @ 0814
sample @ 0820

Signature:

Project Name: ACT LES-SSI Emeryville Project Number: 792551
Casing Diameter (in): 2" Sample Date: 5-18-00
Total Well Depth (ft): 14.50 Sample ID: MW-1
Depth to Water (ft), before purging: 4.08

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
857	7.6	724	22.1	5.59	2	0.5
859	7.6	710	22.3	5.91	3.5	1
903	7.5	696	21.9	6.05	5	↓
		Tot Vol Log				

Water Volume to be Purged (gal) = 14.5 - 4.08 = 10.42 x .165 = 1.7 X 3 = 5.2
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. well
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Parameter Collected: 8021, 8015
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Centrifuga / pump to purge

Decontamination Performed:

rinsed/washed

Sander Waters

Comments / Calculations:

Start @ 853
Stop @ 905
Sample @ 910

Signature: [signature] 6-10-00

Project Name: ACT LES-SSI Emeryville
Project Number: 7925S1
Casing Diameter (in): 2"
Sample Date: 5-18-00
Total Well Depth (ft): 19.49
Sample ID: MW-5
Depth to Water (ft), before purging: 3.59

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
951	7.7	728	22.2	4.93	2.5	0.57
956	7.7	724	22.6	4.94	5	
959	7.6	727	22.0	5.62	7.5	
	Total	V.l.	Purged	8g		

Water Volume to be Purged (gal) = 19.49 − 3.59 = 15.9 x .165 = 2.6 x 3 = 7.8
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
____ Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Parameter Collected: 8021, 8015
Centrifugal Pump used to purge

Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:

rinse / wash Sounder / meters

Comments / Calculations:

Start @ 947
Stop @ 1001
Sample @ 1015

Signature:

Project Name: ACT LES-SSI Emeryville Project Number: 792551
Casing Diameter (in): 2"
Total Well Depth (ft): 24.15
Depth to Water (ft), before purging: 9.31
Sample Date: 5-18-00
Sample ID: MW-5

Development Method: NA

____ Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Non-Dedicated Submersible Pump ____ Bladder Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1039	7.6	774	22.1	10.55	2.5	0.6
1044	7.5	770	21.9	10.59	5	
1048	7.5	772	21.7	10.87	7.5	V
		Tot Vol = 7.5g				

Water Volume to be Purged (gal) = 24.15 - 9.31 = 14.84 - 2.4 · 3 = 7.3
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where 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 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

____ Pump: ____ Dedicated Submersible Pump ____ Non-Dedicated Submersible Pump ____ Bladder Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

Parameter Collected: 8021, 8015 centrifugal pump used to purge
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:

rised/washed Sounder/Meter

Comments / Calculations:

Start @ 1035
Stop @ 1048
Samp @ 1050

Signature: [signature] 5-19-00

Quanterra
880 Riverside Parkway
West Sacramento, California 95605-1500

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916 372-1059 Fax
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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. McNeill
Project Manager

TABLE OF CONTENTS

QUANTERRA INCORPORATED PROJECT NUMBER G0E190299

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	Definition
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 PM	5/18/00 05:00 PM
DDG8X	6	MW-6	5/17/00 01:05 PM	5/18/00 05:00 PM
DDG91	7	MW-7	5/17/00 02:15 PM	5/18/00 05:00 PM
DDG93	8	MW-8	5/17/00 02:30 PM	5/18/00 05:00 PM
DDG94	9	MW-9	5/17/00 02:55 PM	5/18/00 05:00 PM
DDG95	10	MW-4	5/17/00 03:20 PM	5/18/00 05:00 PM
DDG96	11	MW-3	5/17/00 03:45 PM	5/18/00 05:00 PM
DDG97	12	MW-2	5/18/00 08:20 AM	5/18/00 05:00 PM
DDG98	13	MW-1	5/18/00 09:10 AM	5/18/00 05:00 PM
DDG99	14	MW-5	5/18/00 10:15 AM	5/18/00 05:00 PM
DDG9A	15	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

Quanterra

QUA-4124 0797

Client: Safety Kleen Consulting	Project Manager: Brad Wright	Date: 5/17/00	Chain of Custody Number: 31395
Address: 2233 Santa Clara Ave., #7	Telephone Number (Area Code)/Fax Number: 510-337-8660	Lab Number:	Page 1 of 2
City: Alameda / State: CA / Zip Code: 94501	Site Contact:	Lab Contact: Bonnie M	
Project Name: AC Transit-Emeryville	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 792551			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: 8021	Special Instructions/ Conditions of Receipt
Trip Blank	5/17/00	0815	X						X			X	Gas/BTEX/MTBE
* W-3		1015											labeled @ 1030
W-2		1110											1134
W-1		1155											NS-19.00
W-4		1215											
MW-6		1305											
MW-7		1415											
MW-8		1430											
MW-9		1455											
MW-4		1520											
MW-3		1545											
MW-2	5/18/00	0820											good

NS-19.00

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☒ 21 Days ☐ Other _____

QC Requirements (Specify): Standard

1. Relinquished By: Greg Pedersen	Date: 5/18/00	Time: 1500	1. Received By: Courier	Date: 5/18/00	Time: 1500
2. Relinquished By:	Date:	Time:	2. Received By:	Date: 5-18-00	Time: 1900
3. Relinquished By:	Date:	Time:	3. Received By:	Date:	Time:

Comments: * 05°C

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: Safety kleen Consulting	Project Manager: Brad Wright	Date: 5/18/00	Chain of Custody Number: 28187
Address: 2233 Santa Clara Ave., #7	Telephone Number (Area Code)/Fax Number: 510-337-8660	Lab Number:	Page 2 of 2
City: Alameda / State: CA / Zip Code: 94501	Site Contact:	Lab Contact: Bonnie M	
Project Name: AC Transit - Emeryville	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 792551			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: 8021	Special Instructions/ Conditions of Receipt
MW-1	5/18/00	0910	X						X			X	Gas/BTEX/MTBE
MW-5	↓	1015	↓						↓			↓	Good
MW-10	↓	1050	↓						↓			↓	↓
													05-18-00

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☒ 21 Days ☐ Other _____

QC Requirements (Specify): Standard

1. Relinquished By: Greg Federman	Date: 5/18/00	Time: 1500	1. Received By: Bonnie	Date: 5/18/00	Time: 1500
2. Relinquished By:	Date:	Time:	2. Received By:	Date: 5-18-00	Time: 1900
3. Relinquished By:	Date:	Time:	3. Received By:	Date:	Time:

Comments:

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: Safety Kleen Consulting	Project Manager: Brad Wright	Date: 5/17/00	Chain of Custody Number: 31396
Address: 2233 Santa Clara Ave., #7	Telephone Number (Area Code)/Fax Number: 510-337-8660	Lab Number:	Page 1 of 2
City: Alameda / State: CA / Zip Code: 94501	Site Contact:	Lab Contact: Bonnie M.	
Project Name: AC Transit - Emeryville	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 792551			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH	8015	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
W-3	5/17/00	1015	X			X						X	Unbroken @ 1030	Diesel / Motor Oil
W-2		1110											labeled @ 1134	only
W-1		1155											005-19-00	
W-4		1215												
MW-6		1305												
MW-7		1415												
MW-8		1430												
MW-9		1455												
MW-4		1520												
MW-3		1545												
MW-2	5/18/00	0820												
MW-1		0910												CR 5-18-00

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☒ 21 Days ☐ Other_____

QC Requirements (Specify): Standard

	Date	Time		Date	Time
1. Relinquished By	5/18/00	1500	1. Received By	5/18/00	1500
2. Relinquished By			2. Received By	5-18-00	1900
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: Safety-Kleen Consulting	Project Manager: Brad Wright	Date: 5/18/00	Chain of Custody Number: 28188
Address: 2233 Santa Clara Ave., #7	Telephone Number (Area Code)/Fax Number: 510-337-8660	Lab Number:	Page 2 of 2
City: Alameda / State: CA / Zip Code: 94501	Site Contact:	Lab Contact: Bonnie M	
Project Name: AC Transit - Emeryville	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 792551			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Matrix: Sed.	Matrix: Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: 8015	Special Instructions/ Conditions of Receipt
MW-5	5/18/00	1015	X			X						X	Diesel/Motor Oil good
MW-10	↓	1050	↓			↓						↓	↓ 5-18-00

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☒ 21 Days ☐ Other _____

QC Requirements (Specify): Standard

1. Relinquished By	Date: 5/18/00	Time: 1500	1. Received By	Date: 5/18/00	Time: 1500
2. Relinquished By	Date:	Time:	2. Received By	Date: 5-18-00	Time: 1900
3. Relinquished By	Date:	Time:	3. Received By	Date:	Time:

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

WATER, TVPH (Gas)/8021

BTEX + MTBE

SAFETY KLEEN CONSULTING

Client Sample ID: TRIP BLANK

GC Volatiles

Lot-Sample #...: G0E190299-001 **Work Order #...:** DDG8P101 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **Date Received..:** 05/18/00
Prep Date.....: 05/30/00 **Analysis Date..:** 05/30/00
Prep Batch #...: 0166281
Dilution Factor: 1 **Method.....:** DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	108	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: TRIP BLANK

GC Volatiles

Lot-Sample #...: G0E190299-001 **Work Order #...:** DDG8P102 **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

PARAMETER	RESULT	REPORTING 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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	103	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-3

GC Volatiles

Lot-Sample #...: G0E190299-002 **Work Order #...:** DDG8Q102 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **Date Received..:** 05/18/00
Prep Date.....: 05/30/00 **Analysis Date..:** 05/30/00
Prep Batch #...: 0166281
Dilution Factor: 1 **Method.....:** DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	108	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-3

GC Volatiles

Lot-Sample #...: G0E190299-002 **Work Order #...:** DDG8Q103 **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

PARAMETER	RESULT	REPORTING 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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	103	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-2

GC Volatiles

Lot-Sample #...:	G0E190299-003	**Work Order #...:**	DDG8T102	**Matrix.....:**	WATER
Date Sampled...:	05/17/00	**Date Received..:**	05/18/00		
Prep Date.....:	05/30/00	**Analysis Date..:**	05/30/00		
Prep Batch #...:	0166281				
Dilution Factor:	1	**Method.....:**	DHS CA LUFT		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	**870**	**50**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	180 *,I	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

I Matrix interference.

SAFETY KLEEN CONSULTING

Client Sample ID: W-2

GC Volatiles

Lot-Sample #...: G0E190299-003	**Work Order #...:** DDG8T103	**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		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	2.0	ug/L
Ethylbenzene	ND	2.0	ug/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**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	101	(70 - 130)

NOTE(S):

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

SAFETY KLEEN CONSULTING

Client Sample ID: W-1

GC Volatiles

Lot-Sample #...: G0E190299-004	**Work Order #...:** DDG8V102	**Matrix.....:** WATER
Date Sampled...: 05/17/00	**Date Received..:** 05/18/00	
Prep Date.....: 05/30/00	**Analysis Date..:** 05/30/00	
Prep Batch #...: 0166281		
Dilution Factor: 2	**Method.....:** DHS CA LUFT	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	100	ug/L
Unknown Hydrocarbon	**7300**	**100**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	195 *,I	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

I Matrix interference.

SAFETY KLEEN CONSULTING

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

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**35**	**2.0**	**ug/L**
Ethylbenzene	**59**	**2.0**	**ug/L**
Toluene	**11**	**2.0**	**ug/L**
m-Xylene & p-Xylene	**45**	**4.0**	**ug/L**
o-Xylene	ND	5.0	ug/L
Methyl tert-butyl ether	ND	10	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	102	(70 - 130)

NOTE(S):

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

SAFETY KLEEN CONSULTING

Client Sample ID: W-4

GC Volatiles

Lot-Sample #...: G0E190299-005 **Work Order #...:** DDG8W102 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **Date Received..:** 05/18/00
Prep Date.....: 05/30/00 **Analysis Date..:** 05/30/00
Prep Batch #...: 0166281
Dilution Factor: 1 **Method.....:** DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	109	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-4

GC Volatiles

Lot-Sample #...: G0E190299-005 **Work Order #...:** DDG8W103 **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

PARAMETER	RESULT	REPORTING 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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	102	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-6

GC Volatiles

Lot-Sample #...: G0E190299-006 **Work Order #...:** DDG8X102 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **Date Received..:** 05/18/00
Prep Date.....: 05/30/00 **Analysis Date..:** 05/31/00
Prep Batch #...: 0166281
Dilution Factor: 2 **Method.....:** DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	100	ug/L
Unknown Hydrocarbon	**6200**	**100**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	276 *,I	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

I Matrix interference.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-6

GC Volatiles

Lot-Sample #...: G0E190299-006	**Work Order #...:** DDG8X103	**Matrix.....:** WATER	
Date Sampled...: 05/17/00	**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		

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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-7

GC Volatiles

Lot-Sample #...: G0E190299-007	**Work Order #...:** DDG91102	**Matrix.....:** WATER
Date Sampled...: 05/17/00	**Date Received..:** 05/18/00	
Prep Date.....: 05/30/00	**Analysis Date..:** 05/30/00	
Prep Batch #...: 0166281		
Dilution Factor: 1	**Method.....:** DHS CA LUFT	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	**410**	**50**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	143 *,I	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

I Matrix interference.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-7

GC Volatiles

Lot-Sample #...: G0E190299-007 **Work Order #...:** DDG91103 **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

PARAMETER	RESULT	REPORTING 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**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	109	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-8

GC Volatiles

Lot-Sample #...: G0E190299-008 **Work Order #...:** DDG93102 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **Date Received..:** 05/18/00
Prep Date.....: 05/30/00 **Analysis Date..:** 05/30/00
Prep Batch #...: 0166281
Dilution Factor: 1 **Method.....:** DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	**310**	**50**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	192 *,I	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

I Matrix interference.

SAFETY KLEEN CONSULTING

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

PARAMETER	RESULT	REPORTING 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	2.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	108	(70 - 130)

NOTE(S):

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

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

GC Volatiles

Lot-Sample #...: G0E190299-009 **Work Order #...:** DDG94102 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **Date Received..:** 05/18/00
Prep Date.....: 05/30/00 **Analysis Date..:** 05/30/00
Prep Batch #...: 0166281
Dilution Factor: 1 **Method.....:** DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	110	(70 - 130)

SAFETY KLEEN CONSULTING

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

PARAMETER	RESULT	REPORTING 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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	103	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-4

GC Volatiles

Lot-Sample #...: G0E190299-010 **Work Order #...:** DDG95102 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **Date Received..:** 05/18/00
Prep Date.....: 05/30/00 **Analysis Date..:** 05/30/00
Prep Batch #...: 0166281
Dilution Factor: 1 **Method.....:** DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	107	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-4

GC Volatiles

Lot-Sample #...: G0E190299-010 **Work Order #...:** DDG95103 **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

PARAMETER	RESULT	REPORTING 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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	103	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

GC Volatiles

Lot-Sample #...: G0E190299-011 Work Order #...: DDG96102 Matrix.....: WATER
Date Sampled...: 05/17/00 Date Received..: 05/18/00
Prep Date.....: 05/30/00 Analysis Date..: 05/31/00
Prep Batch #...: 0166281
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	107	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

GC Volatiles

Lot-Sample #...: G0E190299-011 **Work Order #...:** DDG96103 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **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

PARAMETER	RESULT	REPORTING 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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	103	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC Volatiles

Lot-Sample #...: G0E190299-012 **Work Order #...:** DDG97102 **Matrix.....:** WATER
Date Sampled...: 05/18/00 **Date Received..:** 05/18/00
Prep Date.....: 05/30/00 **Analysis Date..:** 05/31/00
Prep Batch #...: 0166281
Dilution Factor: 1 **Method.....:** DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC Volatiles

Lot-Sample #...: G0E190299-012 **Work Order #...:** DDG97103 **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

PARAMETER	RESULT	REPORTING 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	**87**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	102	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

GC Volatiles

Lot-Sample #...: G0E190299-013
Date Sampled...: 05/18/00
Prep Date.....: 05/30/00
Prep Batch #...: 0166281
Dilution Factor: 1

Work Order #...: DDG98102
Date Received..: 05/18/00
Analysis Date..: 05/31/00

Method.....: DHS CA LUFT

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	**63**	**50**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	117	(70 - 130)

SAFETY KLEEN CONSULTING

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

PARAMETER	RESULT	REPORTING 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**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	100	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-5

GC Volatiles

Lot-Sample #...: G0E190299-014	**Work Order #...:** DDG99102	**Matrix.....:** WATER
Date Sampled...: 05/18/00	**Date Received..:** 05/18/00	
Prep Date.....: 05/30/00	**Analysis Date..:** 05/31/00	
Prep Batch #...: 0166281		
Dilution Factor: 1	**Method.....:** DHS CA LUFT	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	107	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-5

GC Volatiles

Lot-Sample #...: G0E190299-014
Work Order #...: DDG99103
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

PARAMETER	RESULT	REPORTING 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	**86**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	102	(70 - 130)

SAFETY KLEEN CONSULTING

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

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	**460**	**50**	**ug/L**

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

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

GC Volatiles

Lot-Sample #...: G0E190299-015 **Work Order #...:** DDG9A103 **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

PARAMETER	RESULT	REPORTING 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	**6.9**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	106	(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	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: G0E190299 **Work Order #...:** DEMKA101 **Matrix.....:** WATER
MB Lot-Sample #: G0F140000-281

Prep Date.....: 05/30/00
Analysis Date..: 05/30/00 **Prep Batch #...:** 0166281
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH (as Gasoline)	ND	50	ug/L	DHS CA LUFT
Unknown Hydrocarbon	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 **Work Order #...:** DEML4101 **Matrix.....:** WATER
MB Lot-Sample #: G0F140000-288

Prep Date.....: 05/30/00
Analysis Date..: 05/30/00 **Prep Batch #...:** 0166288
Dilution Factor: 1

PARAMETER	RESULT	REPORTING 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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	85	(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 #...:** 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	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Gasoline)	**1000**	**1030**	**ug/L**	**103**		**DHS CA LUFT**
	1000	**1060**	**ug/L**	**106**	**3.4**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	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.

Bold print denotes control parameters

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	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	**10.0**	**10.3**	**ug/L**	**103**		**DHS CA LUFT**
	10.0	**10.3**	**ug/L**	**103**	**0.010**	**DHS CA LUFT**
Ethylbenzene	**10.0**	**10.1**	**ug/L**	**101**		**DHS CA LUFT**
	10.0	**10.0**	**ug/L**	**100**	**0.36**	**DHS CA LUFT**
Toluene	**10.0**	**10.3**	**ug/L**	**103**		**DHS CA LUFT**
	10.0	**10.1**	**ug/L**	**101**	**2.6**	**DHS CA LUFT**
m-Xylene & p-Xylene	**20.0**	**20.3**	**ug/L**	**101**		**DHS CA LUFT**
	20.0	**20.1**	**ug/L**	**100**	**0.93**	**DHS CA LUFT**
o-Xylene	**10.0**	**10.1**	**ug/L**	**101**		**DHS CA LUFT**
	10.0	**9.97**	**ug/L**	**100**	**1.1**	**DHS CA LUFT**
Methyl tert-butyl ether	**10.0**	**10.7**	**ug/L**	**107**		**DHS CA LUFT**
	10.0	**10.8**	**ug/L**	**108**	**1.3**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	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.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION 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	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Gasoline)	**103**	**(70 - 130)**			**DHS CA LUFT**
	106	**(70 - 130)**	**3.4**	**(0-35)**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	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.

Bold print denotes control parameters

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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	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**

SURROGATE	PERCENT RECOVERY	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.

Bold print denotes control parameters

WATER, 8015 MOD, TEPH

SAFETY KLEEN CONSULTING

Client Sample ID: W-3

GC Semivolatiles

Lot-Sample #...: G0E190299-002 **Work Order #...:** DDG8Q101 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **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

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	88	(66 - 136)

SAFETY KLEEN CONSULTING

Client Sample ID: W-2

GC Semivolatiles

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

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	1000	ug/L
Unknown Hydrocarbon	**19000**	**1000**	**ug/L**
TPH (as Motor Oil)	ND	5000	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	0.0 SRD	(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.

SAFETY KLEEN CONSULTING

Client Sample ID: W-1

GC Semivolatiles

Lot-Sample #...: G0E190299-004	Work Order #...: DDG8V101	Matrix.....: WATER	
Date Sampled...: 05/17/00	Date Received..: 05/18/00		
Prep Date.....: 05/24/00	Analysis Date..: 06/15/00		
Prep Batch #...: 0145300			
Dilution Factor: 10	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	500	ug/L
Unknown Hydrocarbon	**1100**	**500**	**ug/L**
TPH (as Motor Oil)	ND	2500	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	79	(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.

SAFETY KLEEN CONSULTING

Client Sample ID: W-4

GC Semivolatiles

Lot-Sample #...: G0E190299-005 **Work Order #...:** DDG8W101 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **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

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**230**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	79	(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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-6

GC Semivolatiles

Lot-Sample #...: G0E190299-006	**Work Order #...:** DDG8X101	**Matrix.....:** WATER	
Date Sampled...: 05/17/00	**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		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**1800**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	96	(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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-7

GC Semivolatiles

Lot-Sample #...: G0E190299-007	**Work Order #...:** DDG91101	**Matrix.....:** WATER
Date Sampled...: 05/17/00	**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	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**430**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	91	(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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-8

GC Semivolatiles

Lot-Sample #...: G0E190299-008	**Work Order #...:** DDG93101	**Matrix.....:** WATER	
Date Sampled...: 05/17/00	**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		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**660**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

GC Semivolatiles

Lot-Sample #...: G0E190299-009 Work Order #...: DDG94101 Matrix.....: WATER
Date Sampled...: 05/17/00 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

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**990**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	105	(66 - 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.

SAFETY KLEEN CONSULTING

Client Sample ID: **MW-4**

GC Semivolatiles

Lot-Sample #...: G0E190299-010 **Work Order #...:** DDG95101 **Matrix.....:** WATER
Date Sampled...: 05/17/00 **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

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**80**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

GC Semivolatiles

Lot-Sample #...: G0E190299-011	**Work Order #...:** DDG96101	**Matrix.....:** WATER
Date Sampled...: 05/17/00	**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	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**620**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	122	(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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC Semivolatiles

Lot-Sample #...: G0E190299-012	**Work Order #...:** DDG97101	**Matrix.....:** WATER	
Date Sampled...: 05/18/00	**Date Received..:** 05/18/00		
Prep Date.....: 05/24/00	**Analysis Date..:** 06/09/00		
Prep Batch #...: 0145300			
Dilution Factor: 1	**Method.....:** SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**1100**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	108	(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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

GC Semivolatiles

Lot-Sample #...: G0E190299-013	**Work Order #...:** DDG98101	**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		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**390**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	109	(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.

SAFETY KLEEN CONSULTING

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		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**230**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	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.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

GC Semivolatiles

Lot-Sample #...: G0E190299-015	**Work Order #...:** DDG9A101	**Matrix.....:** WATER	
Date Sampled...: 05/18/00	**Date Received..:** 05/18/00		
Prep Date.....: 05/24/00	**Analysis Date..:** 06/09/00		
Prep Batch #...: 0145300			
Dilution Factor: 1	**Method.....:** SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	**990**	**50**	**ug/L**
TPH (as Motor Oil)	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	30 *	(66 - 136)

NOTE(S):

* Surrogate recovery is outside stated control limits.

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.

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	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		0166281	
	WATER	DHS CA LUFT		0166288	
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	
008	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	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	

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QC DATA ASSOCIATION SUMMARY

G0E190299

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
012	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
013	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
014	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	
015	WATER	SW846 8015 MOD		0145300	
	WATER	DHS CA LUFT		0166281	
	WATER	DHS CA LUFT		0166288	

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: G0E190299 **Work Order #...:** DDLT1101 **Matrix.....:** WATER
MB Lot-Sample #: G0E240000-300

Prep Date.....: 05/24/00
Analysis Date..: 06/14/00 **Prep Batch #...:** 0145300
Dilution Factor: 1

PARAMETER	RESULT	REPORTING 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	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	70	(66 - 136)

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	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Diesel)	**300**	**242**	**ug/L**	**81**		**SW846 8015 MOD**
	300	**214**	**ug/L**	**71**	**12**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	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.

Bold print denotes control parameters

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

SURROGATE	PERCENT RECOVERY	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.

Bold print denotes control parameters