AC Transit
Alameda-Contra Costa Transit District

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

March 21, 2001

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

MAR 2 3 2001

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 and contains the results of the December 2000 sampling event.

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 and MW-4 at concentrations that ranged from 310 to 10,000 ppb. Benzene was detected above the California maximum contaminant level of 1 ppb in wells W-1, W-2 and MW-6 at concentrations of 20 ppb, 8 ppb, and 26 ppb, respectively. MTBE was detected in four monitoring wells (MW-1, MW-2, MW-5, and MW-9) with concentrations ranging from 5.9 ppb to 70 ppb.

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

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

March 15, 2001

Need permanent wells
dg 4, mw-1 and mw-7,
(or WS1).
Wait for report of HPS
advanced near west end
of property & by Bldg 2
to see where else permanent
wells are needed

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

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

March 15, 2001

Prepared For:

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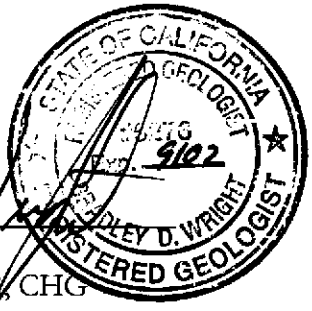

Reviewed By
Brad Wright, RG, CHG
Senior Geologist

Written By
Greg Pedersen
Geologist II

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INTRODUCTION

This report presents the results from the December 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. 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 December 18, 2000, all 14 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 0.013 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.

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 December 2000 sampling event. TPH was detected in all Site monitor wells except for MW-4 and W-3. Concentrations of TPH above laboratory reporting limits ranged from 310 to 10,000 parts per billion (ppb). Benzene was detected in wells W-1, W-2, and MW-6, at concentrations of 20 ppb, 8.8 ppb and 26 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, W-1, and W-2 at concentrations below the MCLs. MTBE was detected in four wells, three of which exceed the MCL of 13 ppb. These are MW-1, MW-2, and MW-5, at concentrations of 44 ppb, 70 ppb, and 57 ppb, respectively. The MTBE concentration in MW-9 was below the MCL.

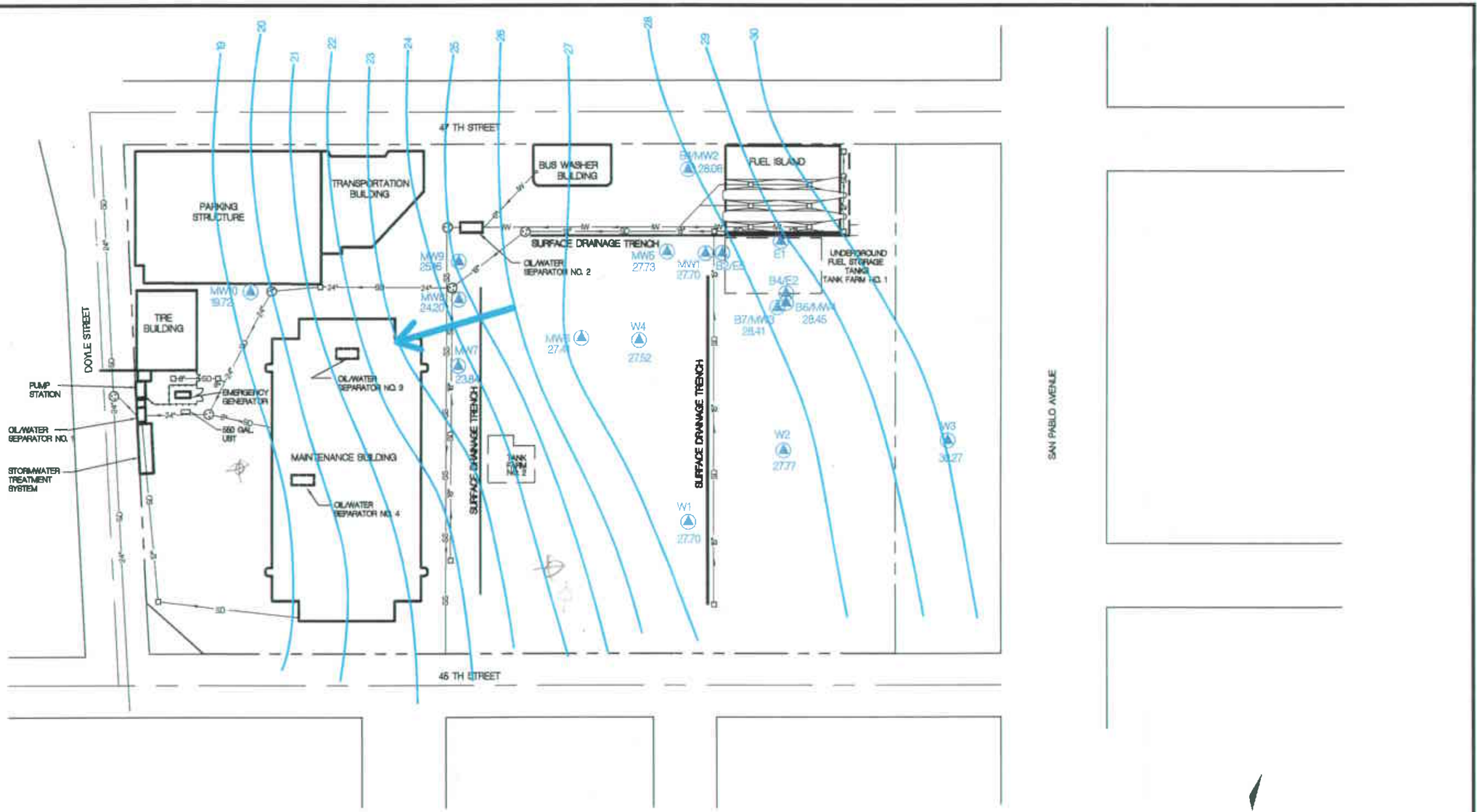
No analytes were detected in the trip blanks or method blanks. A lab control spike and lab control spike duplicate passed the EPA's criteria for acceptance.

SUMMARY OF RESULTS

- MTBE was detected in monitor wells MW-1, MW-2, MW-5 above the MCL of 13 ppb.
- 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 MW-4 and W-3.
- Groundwater flow is to the west at a gradient of 0.013 feet/foot.

PROJECTED WORK AND RECOMMENDATIONS

- Quarterly groundwater monitoring is scheduled for March 2001.
- Additional site characterization activities are scheduled for the first quarter 2001.



LEGEND

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

	BY	DATE
DRAWN	C.J.J	12/18/00
CHECKED		
APPROVED		
APPROVED		
APPROVED		

safety-kleen consulting

EMERYVILLE FACILITY - OAKLAND CALIFORNIA

FIGURE 1
AC TRANSIT - POTENTIOMETRIC SURFACE MAP

SCALE: 1" = 100'

DWG. NO: 792551-009

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
	8/30/00		None	5.18	27.38	NA
	12/18/00		**None**	**4.86**	**27.70**	**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
	8/30/00		None	4.65	27.47	NA
	12/18/00		**None**	**4.06**	**28.06**	**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
	8/30/00		None	6.20	27.86	NA
	12/18/00		**None**	**5.65**	**28.41**	**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
	8/30/00		None	6.26	27.85	NA
	12/18/00		**None**	**5.66**	**28.45**	**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
	8/30/00		None	4.53	27.17	NA
	12/18/00		**None**	**3.97**	**27.73**	**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
	8/30/00		Sheen	4.40	26.62	NA
	12/18/00		**None**	**3.61**	**27.41**	**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
	8/30/00		None	5.50	24.12	NA
	12/18/00		**None**	**5.78**	**23.84**	**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
	8/30/00		None	5.02	24.41	NA
	12/18/00		**None**	**5.23**	**24.20**	**NA**

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-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
	8/30/00		None	4.64	24.54	NA
	12/18/00		**None**	**4.02**	**25.16**	**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
	8/30/00		None	9.68	19.45	NA
	12/18/00		**None**	**9.41**	**19.72**	**NA**
W-1	3/2/00	33.43	None	4.08	29.35	NA
	5/17/00		None	5.41	28.02	NA
	8/30/00		None	6.71	26.72	NA
	12/18/00		**None**	**5.73**	**27.70**	**NA**
W-2	5/17/00	34.21	None	5.6	28.61	NA
	8/30/00		None	7.37	26.84	NA
	12/18/00		**None**	**6.44**	**27.77**	**NA**
W-3	5/17/00	37.46	None	6.38	31.08	NA
	8/30/00		None	8.16	29.30	NA
	12/18/00		**None**	**7.19**	**30.27**	**NA**
W-4	3/2/00	31.72	None	3.34	28.38	NA
	5/17/00		None	3.86	27.86	NA
	8/30/00		None	4.99	26.73	NA
	12/18/00		**None**	**4.20**	**27.52**	**NA**

Notes:
* used 0.8 specific gravity of product
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	TPH-8021	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	700	1,750	13
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
	8/31/00	180	<50	<1.0	<1.0	<1.0	<2.0	49.
	12/18/00	**310**	**<50**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**44**
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
	8/31/00	620	<50	<1.0	<1.0	<1.0	<2.0	65
	12/19/00	**830**	**<50**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**70**
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
	8/31/00	1,800	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/00	**NA**	**<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
	8/31/00	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/00	**<250**	**<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
	8/30/00	220	<50	<1.0	<1.0	<1.0	<2.0	59
	12/18/00	**360**	**<50**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**57**
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
	8/31/00	76,000	5,300	60	13	43	45.7	<5.0
	12/19/00	**6,300**	**1,300**	**26**	**4.9**	**8.4**	**11.5**	**<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
	8/30/00	950	1,100	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/00	**1,100**	**820**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**<5.0**
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
	8/30/00	460	300	<1.0	<1.0	<1.0	1.4	<5.0
	12/18/00	**370**	**230**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**<5.0**

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

Well	Date	TPH-8015	TPH-8021	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	700	1,750	None
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
	8/30/00	1,100	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/00	**1,900**	**<50**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**5.9**
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
	8/30/00	840	320	<1.0	<1.0	<1.0	<2.0	25
	12/18/00	**900**	**290**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**<9.0**
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
	8/30/00	2,200	6,200	20	7.9	36	38.2	<10
	12/19/00	**1,700**	**5,600**	**20**	**8.4**	**30**	**35.6**	**<5.0**
W-2	5/17/00	19,000	870	<2.0	<1.0	<2.0	<4.0	7.8
	8/30/00	7,400	2,200	4.6	2.5	3.8	11	<10
	12/19/00	**10,000**	**2,900**	**8.8**	**3.4**	**8.6**	**17.4**	**<5.0**
W-3	5/17/00	<50	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/30/00	<50	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/00	**<250**	**<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
	8/30/00	240	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/19/00	**320**	**<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

SEVERN
TRENT
SERVICES

STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605-1500

Tel: 916 373 5600
Fax: 916 371 8420
www.stl-inc.com

January 26, 2001

STL SACRAMENTO PROJECT NUMBER: **G0L190286**
PO/CONTRACT: **792SS1**

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 STL Sacramento on 12/19/00. These samples are associated with your AC Transit - Emeryville project.

The case narrative is an integral part of this report.

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

Sincerely,

Bonnie J. McNeill
Project Manager

TABLE OF CONTENTS

STL SACRAMENTO PROJECT NUMBER G0L190286

Case Narrative

STL Sacramento Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

WATER, 8021B, BTEX + MTBE by 8021B
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, Diesel/Motor Oil
Samples: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
- Sample Data Sheets
- Method Blank Reports
- Laboratory QC Reports

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G0L190286

General Comments

The samples from COC 28194 were received at 4 degrees C and the samples from COC 28193 were received at 10 degrees C. We did not receive ambers bottles for 8015 analysis for sample MW-3.

WATER, 8021B, BTEX + MTBE by 8021B

The MTBE results for samples MW-1, MW-5, MW-9, & MW-2 were confirmed by GC/MS. Please note that the MTBE results reported are from the GC run.

The MTBE reporting limit was elevated for sample MW-10 due to matrix interference caused by an unknown co-eluting compound.

WATER, 8015 MOD, Diesel/Motor Oil

The surrogate recovery for sample MW-9 is outside control limits due to possible matrix interference. The surrogate recoveries were diluted out for samples W-2 and MW-6.

There were no other anomalies associated with this project.

STL Sacramento

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

Sample Summary
G0L190286

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
DRPMM	1	TRIP BLANK	12/18/00 09:00 AM	12/19/00 04:00 PM
DRPMN	2	MW-3	12/18/00 09:30 AM	12/19/00 04:00 PM
DRPMP	3	MW-4	12/18/00 10:15 AM	12/19/00 04:00 PM
DRPMQ	4	MW-1	12/18/00 10:50 AM	12/19/00 04:00 PM
DRPMR	5	MW-5	12/18/00 11:20 AM	12/19/00 04:00 PM
DRPMT	6	MW-7	12/18/00 12:30 PM	12/19/00 04:00 PM
DRPMV	7	MW-8	12/18/00 12:50 PM	12/19/00 04:00 PM
DRPMW	8	MW-9	12/18/00 01:20 PM	12/19/00 04:00 PM
DRPMX	9	MW-10	12/18/00 01:50 PM	12/19/00 04:00 PM
DRPM0	10	W-3	12/18/00 02:20 PM	12/19/00 04:00 PM
DRPM1	11	W-2	12/19/00 08:30 AM	12/19/00 04:00 PM
DRPM2	12	W-1	12/19/00 09:25 AM	12/19/00 04:00 PM
DRPM3	13	W-4	12/19/00 10:00 AM	12/19/00 04:00 PM
DRPM4	14	MW-6	12/19/00 10:25 AM	12/19/00 04:00 PM
DRPM5	15	MW-2	12/19/00 11:00 AM	12/19/00 04:00 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

GOL190286

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: Safety Kleen Consulting	Project Manager: Brad Wright	Date: 12/19/00	Chain of Custody Number: 28194
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	8015M	Special Instructions/ Conditions of Receipt
TRIP Blank	12/18/00	0900	X						X			X		8021 - Gas/BTEX/MTBE
MW-3		0930											X	8015 - Diesel/Motor Oil
MW-4		1015												8015 - Unpres
MW-1		1050												8015 - 2 Ambers
MW-5		1120												8021 - 4 VOA's
MW-7		1230												
MW-8		1250												
MW-9		1320												
MW-10		1350												
W-3		1420												
W-2	12/19/00	0830												
W-1		0925												

RECEIVED IN GOOD CONDITION UNDER COC
DEC 19 2000
INI:

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: 12/19/00	Time: 1400	1. Received By: Brent Brockett	Date: 12-19	Time: 1410
2. Relinquished By: Brent Brockett	Date: 12-19	Time: 1700	2. Received By:	Date: 12-19-00	Time: 1830
3. Relinquished By:	Date:	Time:	3. Received By:	Date:	Time:

Comments: * Did not receive bottles for 8015 OK 12-19-00

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

STL Sacramento (916) 373-5600

4

G0L190286 [redacted]

Chain of Custody Record

Quanterra

QUA-4124 0797

Client: Safety Klean Consulting	Project Manager: Brad Wright	Date: 12/19/00	Chain of Custody Number: 28193
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.	H_2SO_4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: 8021	8015 M	Special Instructions/ Conditions of Receipt
W-4	12/19/00	1000	X						X			X	X	8021 - Gas/BTEX/MTBE
MW-6	↓	1025	↓						↓			↓	↓	8015 - Diesel/Motor Oil
MW-7	↓	1100	↓						↓			↓	↓	8015 - Unpres
														8015 2 Ambers
														8021 - 4 VOA's

RECEIVED IN GOOD CONDITION UNDER COC
DEC 19 2000
IH

Possible Hazard Identification
[X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal
[ ] Return To Client [X] 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 [X] 21 Days [ ] Other ____

QC Requirements (Specify): STANDARD

	Date	Time		Date	Time
1. Relinquished By: Greg Pedersen	12/19/00	1400	1. Received By: Brett Brockett	12-19	1410
2. Relinquished By: Brett Brockett	12-19	1600	2. Received By:	12-19-00	1630
3. Relinquished By:	Date	Time	3. Received By:	Date	Time

Comments

STL - Sacramento (916) 373 - 5600

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

SEVERN TRENT SERVICES

LOT RECEIPT CHECKLIST

STL Sacramento

CLIENT Safety Kleen PM BM LOG # 7041

LOT# (QUANTIMS ID) G0L190286 QUOTE# 34472 LOCATION W14A VD

	Initials	Date
DATE RECEIVED 12-19-00 TIME RECEIVED 1600	CA	12-19-00

DELIVERED BY
- ☐ FEDEX ☐ CA OVERNIGHT ☐ CLIENT
- ☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL
- ☐ UPS ☐ BAX GLOBAL ☐ GO-GETTERS
- ☐ QES COURIER ☒ B & B ☐ OTHER_____

CUSTODY SEAL STATUS ☒ INTACT ☐ BROKEN ☐ N/A

CUSTODY SEAL #(S) 127623 163001

SHIPPPING CONTAINER(S) ☒ STL ☒ CLIENT ☐ N/A

TEMPERTURE RECORD (IN °C) IR 1☐ 2 ☐ ☐ OTHER_____

COC #(S) 28194 28193

TEMPERATURE BLANK _____

AMBIENT TEMPERATURE 4° , 10°

COLLECTOR'S NAME: ☐ Verified from COC ☒ Not on COC

pH MEASURED ☐ YES ☐ ANOMALY ☒ N/A

LABELED BY.....

LABELS CHECKED BY.....

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING
WETCHEM ☒ N/A

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☒ N/A

☐ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☐ N/A

☐ Clouseau ☒ TEMPERATURE EXCEEDED (2 °-6 °C) ☒ N/A

☒ WET ICE ☐ BLUE ICE ☐ GEL PACK

☒ PM NOTIFIED ☐ NO COOLING AGENTS USED

Notes:

#2- Did not receive AGB for TPH-D as marked on COC

LEAVE NO SPACES BLANK. USE "N/A" IF NOT APPLICABLE. INITIAL AND DATE ALL "N/A" ENTRIES.

QA185 8/00 NEK

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA *																				
VOAh *	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4					
___AGB			2	2	2	2	2	2	2	2	2	2	2	2	2					
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
250AGBna																				
___AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
___CGJ																				
500CGJ																				
250CGJ																				
125CGJ																				
___PB/PJ																				
___PBn/PJn																				
500PB/PJ																				
500PBn/PJn																				
500PBna																				
500PBzn/na																				
250PB																				
250PBn																				
250PBna																				
250PBzn/na																				
___*CT																				
Encore																				
Folder/Filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid zn = zinc acetate

* Number of VOA's with air bubbles present / total number of VOA's

WATER, 8021B, BTEX + MTBE by 8021B

SAFETY KLEEN CONSULTING

Client Sample ID: TRIP BLANK

GC Volatiles

Lot-Sample #...: G0L190286-001 Work Order #...: DRPMM1AA Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1011264
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	88	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

GC Volatiles

Lot-Sample #...: G0L190286-002 Work Order #...: DRPMN1AA Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1011264
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	92	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-4

GC Volatiles

Lot-Sample #...: G0L190286-003 Work Order #...: DRPMP1AC Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1011264
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	78	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

GC Volatiles

Lot-Sample #...: G0L190286-004 Work Order #...: DRPMQ1AC Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1011264
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	**44**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	87	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-5

GC Volatiles

Lot-Sample #...: G0L190286-005 Work Order #...: DRPMR1AC Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1011264
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	**57**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	77	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-7

GC Volatiles

Lot-Sample #...: G0L190286-006 Work Order #...: DRPMT1AC Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1011264
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	106	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-8

GC Volatiles

Lot-Sample #...: G0L190286-007 Work Order #...: DRPMV1AC Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1011264
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	83	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

GC Volatiles

Lot-Sample #...: G0L190286-008	**Work Order #...:** DRPMW1AC		**Matrix.....:** WATER
Date Sampled...: 12/18/00	**Date Received..:** 12/19/00		
Prep Date.....: 12/28/00	**Analysis Date..:** 12/29/00		
Prep Batch #...: 1011264			
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	**5.9**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	86	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

GC Volatiles

Lot-Sample #...: G0L190286-009 Work Order #...: DRPMX1AC Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1011264
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 G	9.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	80	(70 - 130)

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

SAFETY KLEEN CONSULTING

Client Sample ID: W-3

GC Volatiles

Lot-Sample #...: G0L190286-010	**Work Order #...:** DRPM01AC	**Matrix.....:** WATER	
Date Sampled...: 12/18/00	**Date Received..:** 12/19/00		
Prep Date.....: 12/28/00	**Analysis Date..:** 12/29/00		
Prep Batch #...: 1011264			
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	80	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-2

GC Volatiles

Lot-Sample #...: G0L190286-011 Work Order #...: DRPM11AC Matrix.....: WATER
Date Sampled...: 12/19/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1011264
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	8.8	1.0	ug/L
Ethylbenzene	8.6	1.0	ug/L
Toluene	3.4	1.0	ug/L
m-Xylene & p-Xylene	15	2.0	ug/L
o-Xylene	2.4	1.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	111	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-1

GC Volatiles

Lot-Sample #...:	G0L190286-012	Work Order #...:	DRPM21AC	Matrix.....:	WATER
Date Sampled...:	12/19/00	Date Received..:	12/19/00		
Prep Date.....:	12/28/00	Analysis Date..:	12/29/00		
Prep Batch #...:	1011264				
Dilution Factor:	1	Method.....:	DHS CA LUFT		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	20	1.0	ug/L
Ethylbenzene	30	1.0	ug/L
Toluene	8.4	1.0	ug/L
m-Xylene & p-Xylene	34	2.0	ug/L
o-Xylene	1.6	1.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	118	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-4

GC Volatiles

Lot-Sample #...: G0L190286-013	**Work Order #...:** DRPM31AC	**Matrix.....:** WATER
Date Sampled...: 12/19/00	**Date Received..:** 12/19/00	
Prep Date.....: 12/28/00	**Analysis Date..:** 12/29/00	
Prep Batch #...: 1011264		
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	84	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-6

GC Volatiles

Lot-Sample #...: G0L190286-014 Work Order #...: DRPM41AC Matrix.....: WATER
Date Sampled...: 12/19/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1011264
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	26	1.0	ug/L
Ethylbenzene	8.4	1.0	ug/L
Toluene	4.9	1.0	ug/L
m-Xylene & p-Xylene	10	2.0	ug/L
o-Xylene	1.5	1.0	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	96	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC Volatiles

Lot-Sample #...: G0L190286-015 Work Order #...: DRPM51AC Matrix.....: WATER
Date Sampled...: 12/19/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1011264
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	**70**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	74	(70 - 130)

QC DATA ASSOCIATION SUMMARY

G0L190286

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	DHS CA LUFT		1011264	
002	WATER	DHS CA LUFT		1011264	
003	WATER	DHS CA LUFT		1011264	
004	WATER	DHS CA LUFT		1011264	
005	WATER	DHS CA LUFT		1011264	
006	WATER	DHS CA LUFT		1011264	
007	WATER	DHS CA LUFT		1011264	
008	WATER	DHS CA LUFT		1011264	
009	WATER	DHS CA LUFT		1011264	
010	WATER	DHS CA LUFT		1011264	
011	WATER	DHS CA LUFT		1011264	
012	WATER	DHS CA LUFT		1011264	
013	WATER	DHS CA LUFT		1011264	
014	WATER	DHS CA LUFT		1011264	
015	WATER	DHS CA LUFT		1011264	

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: G0L190286 **Work Order #...:** DTH9E1AA **Matrix.....:** WATER
MB Lot-Sample #: G1A110000-264

Prep Date.....: 12/28/00
Analysis Date..: 12/28/00 **Prep Batch #...:** 1011264
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	87	(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 #...: G0L190286 **Work Order #...:** DTH9E1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G1A110000-264 DTH9E1AD-LCSD
Prep Date.....: 12/28/00 **Analysis Date..:** 12/28/00
Prep Batch #...: 1011264
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	**10.0**	**9.40**	**ug/L**	**94**		**DHS CA LUFT**
	10.0	**9.63**	**ug/L**	**96**	**2.4**	**DHS CA LUFT**
Ethylbenzene	**10.0**	**9.19**	**ug/L**	**92**		**DHS CA LUFT**
	10.0	**9.52**	**ug/L**	**95**	**3.6**	**DHS CA LUFT**
Toluene	**10.0**	**9.22**	**ug/L**	**92**		**DHS CA LUFT**
	10.0	**9.48**	**ug/L**	**95**	**2.7**	**DHS CA LUFT**
m-Xylene & p-Xylene	**20.0**	**18.3**	**ug/L**	**91**		**DHS CA LUFT**
	20.0	**19.0**	**ug/L**	**95**	**3.8**	**DHS CA LUFT**
o-Xylene	**10.0**	**9.17**	**ug/L**	**92**		**DHS CA LUFT**
	10.0	**9.44**	**ug/L**	**94**	**2.8**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	88	(70 - 130)
	92	(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 #...: G0L190286 Work Order #...: DTH9E1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: G1A110000-264 DTH9E1AD-LCSD
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1011264
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**94**	**(70 - 130)**			**DHS CA LUFT**
	96	**(70 - 130)**	**2.4**	**(0-35)**	**DHS CA LUFT**
Ethylbenzene	**92**	**(70 - 130)**			**DHS CA LUFT**
	95	**(70 - 130)**	**3.6**	**(0-35)**	**DHS CA LUFT**
Toluene	**92**	**(70 - 130)**			**DHS CA LUFT**
	95	**(70 - 130)**	**2.7**	**(0-35)**	**DHS CA LUFT**
m-Xylene & p-Xylene	**91**	**(70 - 130)**			**DHS CA LUFT**
	95	**(70 - 130)**	**3.8**	**(0-35)**	**DHS CA LUFT**
o-Xylene	**92**	**(70 - 130)**			**DHS CA LUFT**
	94	**(70 - 130)**	**2.8**	**(0-35)**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene	88	(70 - 130)
	92	(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, Diesel/Motor Oil

SAFETY KLEEN CONSULTING

Client Sample ID: MW-4

GC Semivolatiles

Lot-Sample #...: G0L190286-003 Work Order #...: DRPMP1AA Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/22/00 Analysis Date..: 01/19/01
Prep Batch #...: 0357296
Dilution Factor: 1 Method.....: SW846 8015 MOD

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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	99	(66 - 136)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

GC Semivolatiles

Lot-Sample #...: G0L190286-004	Work Order #...: DRPMQ1AA	Matrix.....: WATER	
Date Sampled...: 12/18/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/19/01		
Prep Batch #...: 0357296			
Dilution Factor: 1	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	250	ug/L
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	310	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	112	(66 - 136)

NOTE(S):

The unknown from n-C8 to n-C38 is quantitated based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-5

GC Semivolatiles

Lot-Sample #...: G0L190286-005 Work Order #...: DRPMR1AA Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/22/00 Analysis Date..: 01/19/01
Prep Batch #...: 0357296
Dilution Factor: 1 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	250	ug/L
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	360	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	113	(66 - 136)

NOTE(S):

The unknown from n-C8 to n-C40 is quantitated based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-7

GC Semivolatiles

Lot-Sample #...: G0L190286-006	Work Order #...: DRPMT1AA	Matrix.....: WATER	
Date Sampled...: 12/18/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/19/01		
Prep Batch #...: 0357296			
Dilution Factor: 1	Method.....: SW846 8015 MOD		

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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	104	(66 - 136)

NOTE(S):

The unknown from n-C8 to n-C40 is quantitated based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-8

GC Semivolatiles

Lot-Sample #...: G0L190286-007	Work Order #...: DRPMV1AA	Matrix.....: WATER	
Date Sampled...: 12/18/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/20/01		
Prep Batch #...: 0357296			
Dilution Factor: 1	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	250	ug/L
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	370	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	97	(66 - 136)

NOTE(S):

The unknown from n-C8 to n-C40 is quantitated based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

GC Semivolatiles

Lot-Sample #...: G0L190286-008	Work Order #...: DRPMW1AA		Matrix.....: WATER
Date Sampled...: 12/18/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/23/01		
Prep Batch #...: 0357296			
Dilution Factor: 5	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	1200	ug/L
TPH (as Diesel)	ND	250	ug/L
Unknown Hydrocarbon	**1900**	**250**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	172 *	(66 - 136)

NOTE(S):

The surrogate recovery in the sample is outside control limits due to confirmed matrix effect.

* Surrogate recovery is outside stated control limits.

The unknown from n-C14 to n-C40 is quantitated based on a motor oil reference from n-C19 to n-C36.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

GC Semivolatiles

Lot-Sample #...: G0L190286-009 Work Order #...: DRPMX1AA Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/22/00 Analysis Date..: 01/20/01
Prep Batch #...: 0357296
Dilution Factor: 1 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	250	ug/L
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	900	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	118	(66 - 136)

NOTE(S):

The unknown from n-C8 to n-C40 is quantitated based on a diesel reference form n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: W-3

GC Semivolatiles

Lot-Sample #...: G0L190286-010	Work Order #...: DRPM01AA	Matrix.....: WATER	
Date Sampled...: 12/18/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/20/01		
Prep Batch #...: 0357296			
Dilution Factor: 1	Method.....: SW846 8015 MOD		

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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	97	(66 - 136)

NOTE(S):

The unknown is in the motor oil range (n-C19 to n-C36); it has a value less than the motor oil reporting limit.

SAFETY KLEEN CONSULTING

Client Sample ID: W-2

GC Semivolatiles

Lot-Sample #...: G0L190286-011	Work Order #...: DRPM11AA	Matrix.....: WATER	
Date Sampled...: 12/19/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/23/01		
Prep Batch #...: 0357296			
Dilution Factor: 10	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	2500	ug/L
TPH (as Diesel)	ND	500	ug/L
Unknown Hydrocarbon	10000	500	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.

The unknown from n-C8 to n-C40 is quantitated based on a motor oil reference from n-C19 to n-C36.

SAFETY KLEEN CONSULTING

Client Sample ID: W-1

GC Semivolatiles

Lot-Sample #...: G0L190286-012	Work Order #...: DRPM21AA		Matrix.....: WATER
Date Sampled...: 12/19/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/20/01		
Prep Batch #...: 0357296			
Dilution Factor: 1	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	250	ug/L
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	1700	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	113	(66 - 136)

NOTE(S):

The unknown from n-C8 to n-C40 is quantitated based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: W-4

GC Semivolatiles

Lot-Sample #...: G0L190286-013	Work Order #...: DRPM31AA	Matrix.....: WATER	
Date Sampled...: 12/19/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/20/01		
Prep Batch #...: 0357296			
Dilution Factor: 1	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	250	ug/L
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	320	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	121	(66 - 136)

NOTE(S):

The unknown from n-C8 to n-C40 is quantitated based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-6

GC Semivolatiles

Lot-Sample #...: G0L190286-014	Work Order #...: DRPM41AA	Matrix.....: WATER	
Date Sampled...: 12/19/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/23/01		
Prep Batch #...: 0357296			
Dilution Factor: 10	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	2500	ug/L
TPH (as Diesel)	ND	500	ug/L
Unknown Hydrocarbon	**6300**	**500**	**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.

The unknown from n-C8 to n-C34 is quantitated based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC Semivolatiles

Lot-Sample #...: G0L190286-015	Work Order #...: DRPM51AA	Matrix.....: WATER	
Date Sampled...: 12/19/00	Date Received..: 12/19/00		
Prep Date.....: 12/22/00	Analysis Date..: 01/20/01		
Prep Batch #...: 0357296			
Dilution Factor: 1	Method.....: SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Motor Oil)	ND	250	ug/L
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	830	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	122	(66 - 136)

NOTE(S):

The unknown from n-C12 to n-C40 is quantitated based on a motor oil reference from n-C19 to n-C36.

QC DATA ASSOCIATION SUMMARY

G0L190286

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	DHS CA LUFT		1011264	
002	WATER	DHS CA LUFT		1011264	
003	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
004	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
005	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
006	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
007	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
008	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
009	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
010	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
011	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
012	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
013	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
014	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	
015	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1011264	

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: G0L190286 Work Order #...: DRXE41AA Matrix.....: WATER
MB Lot-Sample #: G0L220000-296

Prep Date.....: 12/22/00
Analysis Date..: 01/19/01 Prep Batch #...: 0357296
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH (as Motor Oil)	ND	250	ug/L	SW846 8015 MOD
TPH (as Diesel)	ND	50	ug/L	SW846 8015 MOD
Unknown Hydrocarbon	ND	50	ug/L	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	91	(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 #...: G0L190286 **Work Order #...:** DRXE41AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G0L220000-296 DRXE41AD-LCSD
Prep Date.....: 12/22/00 **Analysis Date..:** 01/19/01
Prep Batch #...: 0357296
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Diesel)	**300**	**251**	**ug/L**	**84**		**SW846 8015 MOD**
	300	**269**	**ug/L**	**90**	**6.8**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	101	(66 - 136)
	105	(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 #...: G0L190286 **Work Order #...:** DRXE41AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G0L220000-296 DRXE41AD-LCSD
Prep Date.....: 12/22/00 **Analysis Date..:** 01/19/01
Prep Batch #...: 0357296
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Diesel)	**84**	**(50 - 129)**			**SW846 8015 MOD**
	90	**(50 - 129)**	**6.8**	**(0-23)**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	101	(66 - 136)
	105	(66 - 136)

NOTE(S):

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

Bold print denotes control parameters

SAFETY KLEEN CONSULTING

Client Sample ID: TRIP BLANK

GC Volatiles

Lot-Sample #...: G0L190286-001 Work Order #...: DRPMM1AC Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1036436
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	99	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

GC Volatiles

Lot-Sample #...: G0L190286-002 Work Order #...: DRPMN1AC Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1036436
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	102	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-4

GC Volatiles

Lot-Sample #...: G0L190286-003 Work Order #...: DRPMP1AD Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1036436
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	94	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

GC Volatiles

Lot-Sample #...: G0L190286-004 Work Order #...: DRPMQ1AD Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1036436
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	102	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-5

GC Volatiles

Lot-Sample #...: G0L190286-005
Date Sampled...: 12/18/00
Prep Date.....: 12/28/00
Prep Batch #...: 1036436
Dilution Factor: 1

Work Order #...: DRPMR1AD
Date Received..: 12/19/00
Analysis Date..: 12/28/00

Method.....: DHS CA LUFT

Matrix.....: WATER

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	95	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-7

GC Volatiles

Lot-Sample #...: G0L190286-006 Work Order #...: DRPMT1AD Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1036436
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	820	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	138 *	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-8

GC Volatiles

Lot-Sample #...: G0L190286-007
Date Sampled...: 12/18/00
Prep Date.....: 12/28/00
Prep Batch #...: 1036436
Dilution Factor: 1

Work Order #...: DRPMV1AD
Date Received..: 12/19/00
Analysis Date..: 12/29/00

Method.....: DHS CA LUFT

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	230	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	155 *	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

GC Volatiles

Lot-Sample #...: G0L190286-008
Date Sampled...: 12/18/00
Prep Date.....: 12/28/00
Prep Batch #...: 1036436
Dilution Factor: 1

Work Order #...: DRPMW1AD
Date Received..: 12/19/00
Analysis Date..: 12/29/00

Method.....: DHS CA LUFT

Matrix.....: WATER

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	100	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

GC Volatiles

Lot-Sample #...: G0L190286-009 Work Order #...: DRPMX1AD Matrix.....: WATER
Date Sampled...: 12/18/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1036436
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	290	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	96	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-3

GC Volatiles

Lot-Sample #...: G0L190286-010
Date Sampled...: 12/18/00
Prep Date.....: 12/28/00
Prep Batch #...: 1036436
Dilution Factor: 1

Work Order #...: DRPM01AD
Date Received..: 12/19/00
Analysis Date..: 12/29/00

Method.....: DHS CA LUFT

Matrix.....: WATER

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	97	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: W-2

GC Volatiles

Lot-Sample #...: G0L190286-011 Work Order #...: DRPM11AD Matrix.....: WATER
Date Sampled...: 12/19/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1036436
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	2900	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	226 *	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

SAFETY KLEEN CONSULTING

Client Sample ID: W-1

GC Volatiles

Lot-Sample #...: G0L190286-012	**Work Order #...:** DRPM21AD	**Matrix.........:** WATER	
Date Sampled...: 12/19/00	**Date Received..:** 12/19/00		
Prep Date.......: 12/28/00	**Analysis Date..:** 12/29/00		
Prep Batch #...: 1036436			
Dilution Factor: 1	**Method.........:** DHS CA LUFT		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	**5600**	**50**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	271 *	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

SAFETY KLEEN CONSULTING

Client Sample ID: W-4

GC Volatiles

Lot-Sample #...: G0L190286-013 Work Order #...: DRPM31AD Matrix.....: WATER
Date Sampled...: 12/19/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1036436
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	99	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-6

GC Volatiles

Lot-Sample #...: G0L190286-014 Work Order #...: DRPM41AD Matrix.....: WATER
Date Sampled...: 12/19/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1036436
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	1300	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	146 *	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC Volatiles

Lot-Sample #...: G0L190286-015 Work Order #...: DRPM51AD Matrix.....: WATER
Date Sampled...: 12/19/00 Date Received..: 12/19/00
Prep Date.....: 12/28/00 Analysis Date..: 12/29/00
Prep Batch #...: 1036436
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	95	(70 - 130)

QC DATA ASSOCIATION SUMMARY

G0L190286

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
002	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
003	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
004	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
005	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
006	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
007	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
008	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
009	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
010	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
011	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	

(Continued on next page)

QC DATA ASSOCIATION SUMMARY

G0L190286

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
012	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
013	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
014	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	
015	WATER	SW846 8015 MOD		0357296	
	WATER	DHS CA LUFT		1036436	
	WATER	DHS CA LUFT		1011264	

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: G0L190286 **Work Order #...:** DVK9W1AA **Matrix.....:** WATER
MB Lot-Sample #: G1B050000-436

Prep Date.....: 12/28/00
Analysis Date..: 12/28/00 **Prep Batch #...:** 1036436
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	97	(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 #...: G0L190286 **Work Order #...:** DVK9W1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G1B050000-436 DVK9W1AD-LCSD
Prep Date.....: 12/28/00 **Analysis Date..:** 12/28/00
Prep Batch #...: 1036436
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Gasoline)	**1000**	**1010**	**ug/L**	**101**		**DHS CA LUFT**
	1000	**941**	**ug/L**	**94**	**6.9**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	**108**	(70 - 130)
	102	(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 #...: G0L190286 **Work Order #...:** DVK9W1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G1B050000-436 DVK9W1AD-LCSD
Prep Date.....: 12/28/00 **Analysis Date..:** 12/28/00
Prep Batch #...: 1036436
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Gasoline)	**101**	**(70 - 130)**			**DHS CA LUFT**
	94	**(70 - 130)**	**6.9**	**(0-35)**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	108	(70 - 130)
	102	(70 - 130)

NOTE(S):

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

Bold print denotes control parameters

AC TRANSIT - EMERYVILLE
FIRST QUARTER 2000

FIELD PERSONNEL:

WELL OR LOCATION	DATE	TIME	MEASUREMENT	CODE	COMMENTS
MW-1	12/18/00	837	4.96	SWL	White/gray substance
MW-2		833	4.06		
MW-3		840	5.65		
MW-4		841	5.66		
MW-5		829	3.97		
~~MW-6~~				~~OIL~~	
MW-6		847	3.61	OWI	PVC Cap Only Sheen
MW-7		818	5.78	SWL	
MW-8		821	5.23		
MW-9		824	4.02		
MW-10		827	9.41		
W-1	0	814	5.73		
W-4		845	4.20		
W-2		812	6.44		
W-3		808	7.19		

SWL - Static Water Level
OIL - Oil Level
OWI - Oil/Water Interface
MTD - Measured Total Depth

Well ID: MW-3

Project Name: ACT. Emm.
Casing Diameter (in): 2"
Total Well Depth (ft): 14.68
Depth to Water (ft), before purging: 5.65

Project Number: 792551
Sample Date: 12/18/00
Sample ID: MW-3

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)
914	7.60	782	22.7	6.55	1.5	0.50
917	7.5	788	23.1	7.47	3.	↓
920	7.5	778	23.3	8.25	4.5	✱
		Total →	5gal			

Water Volume to be Purged (gal) = 14.68 - 5.65 = 9.03 X .165 = 1.49 x 3 = 4.47
(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.):
TB collected @ 0900

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 @ 912
Stop @ 922
Sampled @ 0930

Well ID: MW-4

Project Name: ACT Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 14.95
Depth to Water (ft), before purging: 5.66

Project Number: 792551
Sample Date: 12/18/00
Sample ID: MW-4

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)
1003	7.6	820	22.5	6.65	1.5	0.78
1005	7.5	792	22.0	8.32	3.6	"
1006	7.5	784	21.9	9.79	~~4.550~~	"
			Total	5.5		

Water Volume to be Purged (gal) = 14.95 - 5.66 = 9.29 x .165 = 1.53 x 3 = 4.59
(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.):

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 @ 1001
Stop @ 1008
Sample @ 1015

Well ID: MW-1

Project Name: ACT Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 14.50
Depth to Water (ft). before purging: 4.86

Project Number: 792551
Sample Date: 12/18/00
Sample ID: MW-1

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)
1031	7.6	730	22.6	6.02	2	0.45
1033	7.6	726	22.1	6.14	3.5	1
1036	7.5	702	21.8	6.37	5	↓
			Total	5.5		

Water Volume to be Purged (gal) = 14.5 - 4.86 = 9.64 x .165 = 1.6 x3 = 4.7
(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 Sonde/meters

Comments / Calculations:

Start @ 1028
Stop @ 1040
Sample @ 1050

Well ID: MW-5

Project Name: ACT Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 19.49
Depth to Water (ft), before purging: 3.97

Project Number: 792551
Sample Date: 12/18/00
Sample ID: MW-5

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)
1104	7.7	736	22.3	4.76	2.5	0.58
1109	7.6	720	22.8	4.94	5	↓
1112	7.6	724	22.4	5.56	7.5	↓
			Total	8		

Water Volume to be Purged (gal) = 19.49 - 3.97 = 15.52 X .165 = 2.5 x 3 = 7.7
(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 Sonde / Meters

Comments / Calculations:

Start @ 1100
Stop @ 1114
Sample @ 1120

Well ID: MW-7

Project Name: ACT Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 24.53
Depth to Water (ft), before purging: 5.78

Project Number: 792551
Sample Date: 12/18/00
Sample ID: MW-7

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)
1158	7.3	1052	23.4	15.32	3	0.20
1209	7.2	1037	24.2	17.28	6	"
1220	7.2	1042	23.8	18.40	9	"
			Total	—	9.5	

Water Volume to be Purged (gal) = 24.53 - 5.78 = 18.75 x .165 = 3.09 x 3 = 9.28
(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 / Wash

Sonde / Meters

Comments / Calculations:

Start @ 1139
Stop @ 1225
Comp @ 1230

Well ID: mw-8

Project Name: ACT - Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 20.67
Depth to Water (ft), before purging: 5.23

Project Number: 792551
Sample Date: 12/18/00
Sample ID: mw-8

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)
1242	7.3	1144	23.4	10.36	2.5	1.0
1244	7.3	1156	22.2	11.56	5	"
1246	7.3	1148	22.4	12.82	8	"
		Total — 8				

Water Volume to be Purged (gal) = 20.67 - 5.23 = 15.44 x .165 = 2.54 x 3 = 7.6
(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. 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

Centrifugal Pump used to Purge

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

Decontamination Performed:

Rinsed/Washed Sonde/Meters

Comments / Calculations:

Start @ 1238
Stop @ 1246
Samp @ 1250

Well ID: MW-9

Project Name: ACT, Emeryville
Casing Diameter (in): 2
Total Well Depth (ft): 20.52
Depth to Water (ft), before purging: 4.02

Project Number: 792551
Sample Date: 12/18/00
Sample ID: MW-9

Development Method: N/A

____ 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)
1305	7.4	1056	22.6	9.56	2.5	0.94
1307	7.3	1170	21.7	10.37	5.5	1
1311	7.3	1194	21.9	11.78	8.5	↓
		Total		8.5		

Water Volume to be Purged (gal) = 20.52 - 4.02 = 16.50 X .165 = 2.7 x 3 = 8.17
(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 Sonde/meter

Comments / Calculations:

Start @ 1303
Stop @ 1312
Sample @ 1320

Well ID: MW-10

Project Name: ACT Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 24.15
Depth to Water (ft), before purging: 9.41

Project Number: 792551
Sample Date: 12/18/00
Sample ID: MW-10

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)
1332	7.7	782	22.3	10.46	2.5	0.50
1337	7.5	776	21.2	10.58	5	
1341	7.5	768	21.5	10.92	7.5	
			Total →	7.5		

Water Volume to be Purged (gal) = 24.15 - 9.41 = 14.74 x .165 = 2.4 x 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 ____ 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 Sonde/Inter

Comments / Calculations:

Start @ 1328
Stop @ 1343
Sample @ 1350

Well ID: W-3

Project Name: ACT - Emeryville
Project Number: 792551
Casing Diameter (in): 2"
Sample Date: 12/18/00
Total Well Depth (ft): 29.42
Sample ID: W-3
Depth to Water (ft), before purging: 7.19

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)
1400	7.5	610	22.4	13.14	3.6	0.73
1405	7.4	638	22.6	14.56	7.3	↓
1410	7.4	626	22.6	15.37	11	↓
			Total Gal	—	11.0	

Water Volume to be Purged (gal) = 29.42 - 7.19 = 22.23 x .165 = 3.6 x 3 = 11.0
(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 ____ 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:

Rinse / wash Sonde / Meter

Comments / Calculations:

Start @ 1357
Stop @ 1412
Sample @ 1420

Well ID: W-2

Project Name: ACT Emeryville
Project Number: 792551
Casing Diameter (in): 2"
Sample Date: 12/19/00
Total Well Depth (ft): 28.61
Sample ID: W-2
Depth to Water (ft), before purging: 6.44

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)
806	7.5	877	22.3	15.36	3.8	
812	7.3	856	22.1	18.74	7.6	
817	7.3	839	22.1	21.32	11	
			Total		11.5 gal.	

Water Volume to be Purged (gal) = 28.61 - 6.44 = 22.17 X .165 = 3.65 X 3 = 11
(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 Pu=

Decontamination Performed:

Rinsed/Washed Sounder/Meters

Comments / Calculations:

Strong Petroleum odor from Well.

Start @ 801
Stop @ 818
Sample @ 830

Well ID: W-1

Project Name: ACT Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 16.43
Depth to Water (ft), before purging: 5.73

Project Number: 792551
Sample Date: 12/19/00
Sample ID: W-1

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)
913	7.2	1002	23.2	6.18	1.5	0.85
915	7.1	956	22.1	6.72	3.5	"
917	7.1	947	21.8	7.08	5	"
			Total	6.0		

Water Volume to be Purged (gal) = 16.43 - 5.73 = 10.7 x .165 = 1.7 x 3 = 5.3
(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 ____ 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 @ 911
Stop @ 918
End @ 925.1.1

Well ID: W-4

Project Name: ACT Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 16.93
Depth to Water (ft), before purging: 4.20

Project Number: 792551
Sample Date: 12/19/00
Sample ID: W-4

Development Method: N/A

____ 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)
946	7.3	1038	23.4	5.92	2.5	0.81
949	7.2	1026	23.1	6.36	5	
951	7.2	1018	22.9	7.04	7	
			Total- 6.5			

Water Volume to be Purged (gal) = 16.93 - 4.20 = 12.73 x .165 = 2.1 x 3 = 6.3
(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 ____ 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/mets

Comments / Calculations:

Start @ 944
Stop @ 952
Sample @ 1000

Well ID: MW-6

Project Name: ACT Emeryville
Project Number: 792551
Casing Diameter (in): 2"
Sample Date: 12/19/00
Total Well Depth (ft): 19.64
Sample ID: MW-6
Depth to Water (ft), before purging: 3.61

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)
1013	7.3	1036	22.4	4.25	3	1.13
1015	7.1	1024	22.1	4.68	6	↓
1017	7.1	1032	21.7	4.87	9	↓
			Total = 9			

Water Volume to be Purged (gal) = 19.64 - 3.61 = 16.0 x .165 = 2.6 x 3 = 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
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Centrifugal Pump Used to Purge

Decontamination Performed:

Rinsed/Washed Sounde/Meters

Comments / Calculations:

Start @ 1010
Stop @ 1018
Sample @ 1025

Well ID: MW-2

Project Name: ACT - Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 14.56
Depth to Water (ft), before purging: 4.06

Project Number: 792551
Sample Date: 12/19/00
Sample ID: MW-2

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)
1039	7.7	704	22.1	4.67	2	
1041	7.6	680	21.7	4.78	3.5	
1044	7.6	674	21.3	5.07	5.5	
			Total	16.0		

Water Volume to be Purged (gal) = 14.56 - 4.06 = 10.5 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. 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 @ 1036
Stop @ 1046
Sample @ 1100

12/19/00