AC Transit
Alameda-Contra Costa Transit District

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

August 2, 2002

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

AUG 06 2002

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, Cameron-Cole, LLC, and contains the results of the May 16, 2002, sampling event.

Ground water samples were collected from three monitoring wells (MW-11, MW-12, and MW-13). Samples were analyzed for total extractable petroleum hydrocarbons (TPH) using modified EPA Method 8015 and benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert-butyl ether (MTBE) using EPA Method 8021B. In response to your January 3, 2002, request, monitoring well MW-11 was also analyzed for volatile organic compounds (VOCs) using EPA Method 8021B and ethylene glycol using EPA Method 8015 Modified. Depth to ground water was measured in all 16 on-site monitoring wells and ground water contour maps were developed for the report.

Analytical results indicate that TPH as degraded diesel was detected in MW-11, MW-12, and MW-13 at concentrations of 380, 500, and 520 ppb, respectively. TPH as degraded gasoline was detected in MW-12 and MW-13 at 1,100 and 150 ppb, respectively. Analytical results for the sample collected from MW-11 indicated ethylene glycol and VOC concentrations below the laboratory reporting limits.

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

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RO-402

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

July 2002

Prepared For:
Ms. Suzanne Patton
AC Transit
10626 E. 14th Street
Oakland, California 94603

Prepared By:
Cameron-Cole
101 W. Atlantic Avenue
Building 90
Alameda, California 94501

Project No: 2015-1

CAMERON-COLE, LLC

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

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Reviewed By
Brad Wright, R[illegible]
Senior Hydrogeol[illegible]

STATE OF CALIFORNIA REGISTERED GEOLOGIST #6276 Exp. BRADLEY D. WRIGHT REGISTERED GEOLOGIST

Written By
Emily Waters
Environmental Scientist I

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INTRODUCTION

This report presents the results from the May 2002 sampling event for the AC Transit Facility located at 1177 47th Street, Emeryville, California (Site). Groundwater sampling of monitor wells MW-11, MW-12, and MW-13 was conducted in accordance with directives from Alameda County Health Care Services (ACHCS). In a letter dated August 7, 2001, ACHCS requested quarterly groundwater sampling for monitor wells MW-11, MW-12 and MW-13 and semi-annual groundwater sampling of other Site monitor wells. AC Transit retained Cameron-Cole to perform this work.

GROUNDWATER MONITORING

Work performed during this sampling event included measuring depth to water in all monitor wells and collecting groundwater samples from monitor wells MW-11, MW-12, and MW-13. Groundwater samples were analyzed for total extractable petroleum hydrocarbons (TEPH) using Environmental Protection Agency (EPA) Method 8015 Modified and benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertiary-butyl ether (MTBE) by EPA Method 8021B. Additionally, MW-11 was analyzed for volatile organic compounds (VOCs) by the EPA Method 8021B and ethylene glycol by EPA Method 8015 Modified.

A site map displaying the monitor 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 16, 2002, all 16 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 2. As shown, groundwater flow is to the west at a gradient of 0.022 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. During well purging, field parameters for pH, electrical conductivity and temperature were monitored using calibrated field meters.

Groundwater samples were collected in 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.

Groundwater Analytical Results

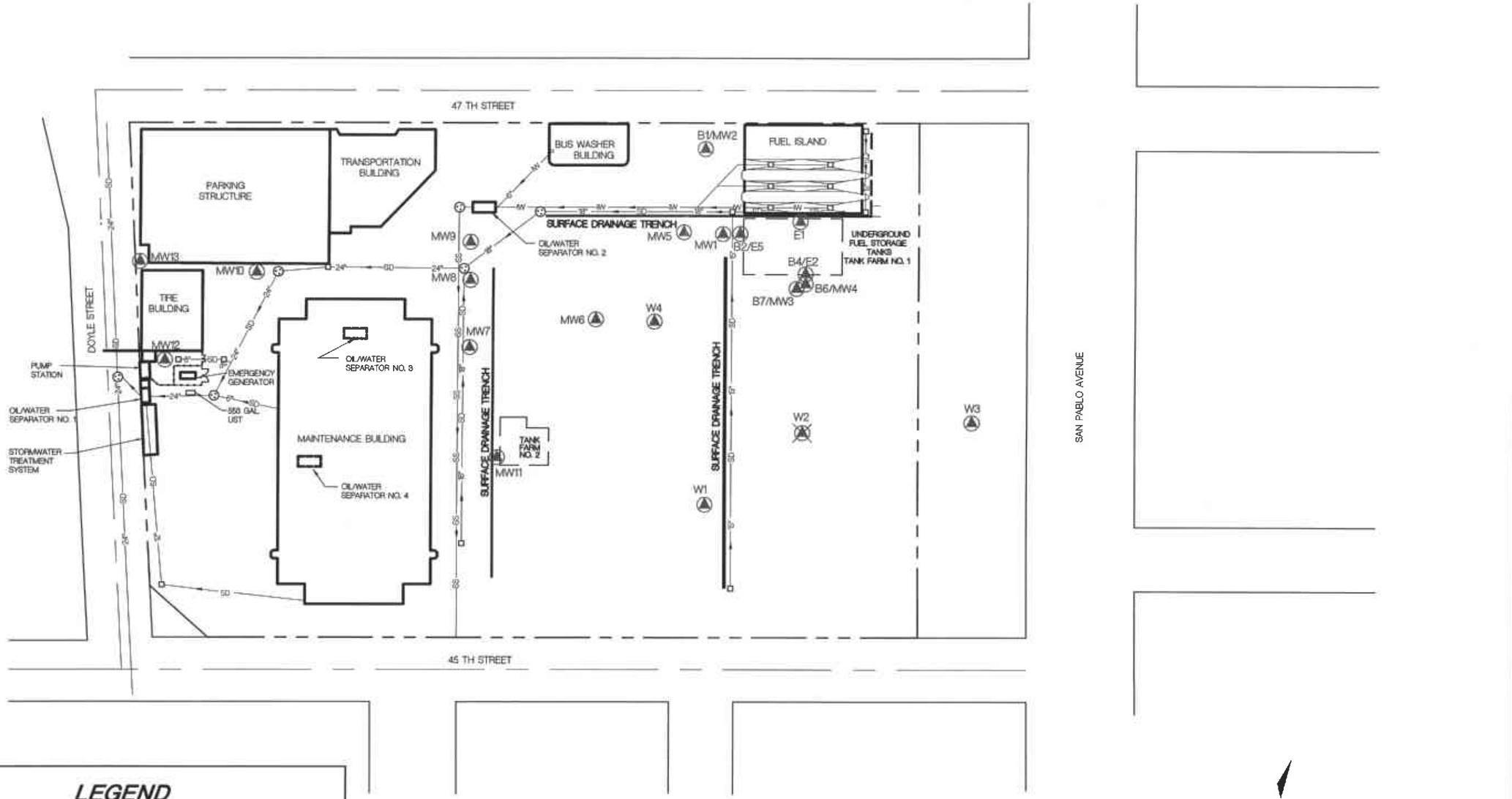
Table 2 presents groundwater analytical results for the May 2002 sampling event. TPH was detected in MW-11, MW-12, and MW-13 at concentrations ranging from 150 to 1,100 parts per billion (ppb). The surrogate percent recovery was outside the recovery limit of 70-130 ppb for the 8015 TPH-gas analysis of MW-12 and MW-13. According to the analytical laboratory, this was due to overlap of the surrogate (4-bromofluorobenzene) and degraded gasoline peaks. No analytes were detected in the trip blank or method blank. A lab control spike and lab control spike duplicate passed the EPA's criteria for acceptance.

SUMMARY OF RESULTS

- Groundwater flow is to the west at a gradient of 0.022 feet/foot.
- TPH as degraded diesel was detected in MW-11, MW-12, and MW-13 at 380, 500, and 520 ppb, respectively.
- TPH as degraded gasoline was detected in MW-12 and MW-13, at 1,100 and 150 ppb, respectively.

PROJECTED WORK AND RECOMMENDATIONS

- Semi-annual groundwater monitoring of all wells is scheduled for August 2002. This event will include site-wide depth to groundwater level measurements, including inspection of each monitor well for free-phase hydrocarbon.



LEGEND

- MANHOLE
- CATCH BASIN
- MONITORING WELL
- ABANDONED MONITORING WELL
- SD — STORM DRAIN PIPELINE
- SS — SANITARY SEWER PIPELINE
- IW — INDUSTRIAL WASTE PIPELINE
- CHAIN LINK FENCE

	BY	DATE
DRAWN	CJJ	10-03-01
CHECKED		
APPROVED		
APPROVED		
APPROVED		

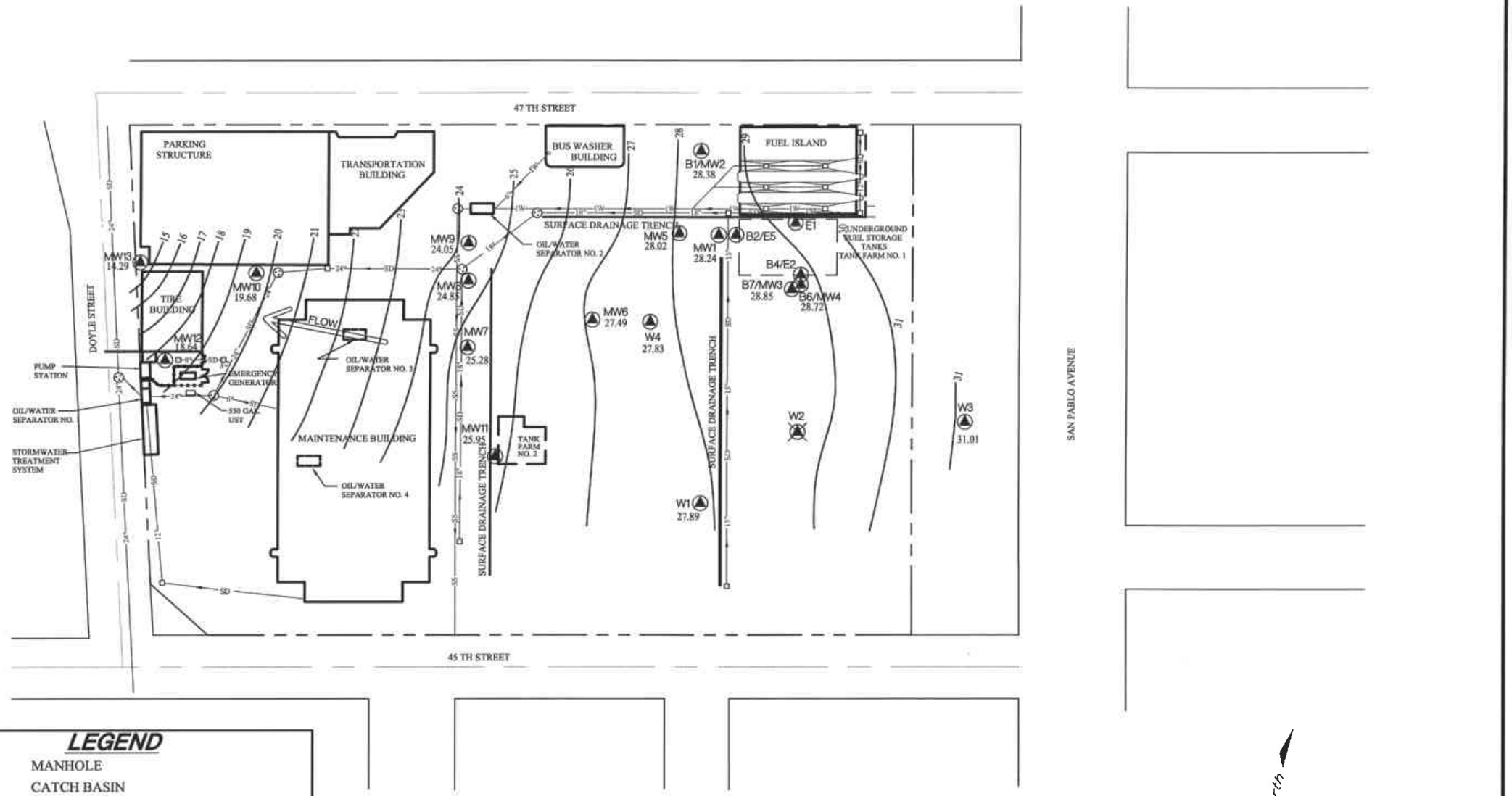
CAMERON-COLE

EMERYVILLE FACILITY - OAKLAND, CALIFORNIA

FIGURE 1
AC TRANSIT - MONITORING WELL LOCATION MAP

SCALE: 1" = 100'

DWG. NO: 2015-01



LEGEND

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

	BY	DATE
DRAWN	CJJ	6-24-02
CHECKED		
APPROVED		
APPROVED		
APPROVED		

CAMERON-COLE

FIGURE 2

EMERYVILLE FACILITY - OAKLAND, CALIFORNIA

AC TRANSIT - POTENTIOMETRIC SURFACE MAP
SECOND QUARTER 2002

SCALE: 1" = 100'

DWG. NO.: 2015-05

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	8/31/1999	32.56	None	3.24	29.32	NA
	11/23/1999		None	4.55	28.01	NA
	3/1/2000		None	3.65	28.91	NA
	5/17/2000		None	4.08	28.48	NA
	8/30/2000		None	5.18	27.38	NA
	12/18/2000		None	4.86	27.7	NA
	3/20/2001		None	4.22	28.34	NA
	6/7/2001		None	4.88	27.68	NA
	9/20/2001		None	4.97	27.59	NA
	12/14/2001		None	3.59	28.97	NA
	2/27/2002		None	4.03	28.53	NA
	5/16/2002		**None**	**4.32**	**28.24**	**NA**
MW-2	8/31/1999	32.12	None	5.24	26.88	NA
	11/23/1999		None	4.03	28.09	NA
	3/1/2000		None	3.11	29.01	NA
	5/17/2000		None	3.66	28.46	NA
	8/30/2000		None	4.65	27.47	NA
	12/18/2000		None	4.06	28.06	NA
	3/20/2001		None	3.91	28.21	NA
	6/7/2001		None	4.40	27.72	NA
	9/20/2001		None	4.45	27.67	NA
	12/14/2001		None	3.19	28.93	NA
	2/27/2002		None	3.45	28.67	NA
	5/16/2002		**None**	**3.74**	**28.38**	**NA**
MW-3	8/31/1999	34.06	None	6.15	27.91	NA
	11/23/1999		None	5.78	28.28	NA
	3/1/2000		None	4.82	29.24	NA
	5/17/2000		None	5.29	28.77	NA
	8/30/2000		None	6.20	27.86	NA
	12/18/2000		None	5.65	28.41	NA
	3/20/2001		None	5.18	28.88	NA
	6/7/2001		None	6.01	28.05	NA
	9/20/2001		None	5.9	28.16	NA
	12/14/2001		None	4.66	29.40	NA
	2/27/2002		None	5.00	29.06	NA
	5/16/2002		**None**	**5.21**	**28.85**	**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-4	8/31/1999	34.11	None	6.22	27.89	NA
	11/23/1999		None	6.01	28.10	NA
	3/1/2000		None	4.74	29.37	NA
	5/17/2000		None	5.33	28.78	NA
	8/30/2000		None	6.26	27.85	NA
	12/18/2000		None	5.66	28.45	NA
	3/20/2001		None	5.46	28.65	NA
	6/7/2001		None	6.02	28.09	NA
	9/20/2001		None	6.06	28.05	NA
	12/14/2001		None	5.39	28.72	NA
	2/27/2002		None	5.28	28.83	NA
	5/16/2002		**None**	**5.39**	**28.72**	**NA**
MW-5	8/31/1999	31.70	None	4.51	27.19	NA
	11/23/1999		None	4.00	27.70	NA
	3/1/2000		None	3.31	28.39	NA
	5/17/2000		None	3.59	28.11	NA
	8/30/2000		None	4.53	27.17	NA
	12/18/2000		None	3.97	27.73	NA
	3/20/2001		None	3.68	28.02	NA
	6/7/2001		None	4.37	27.33	NA
	9/20/2001		None	4.46	27.24	NA
	12/14/2001		None	3.23	28.47	NA
	2/27/2002		None	3.44	28.26	NA
	5/16/2002		**None**	**3.68**	**28.02**	**NA**
MW-6	8/31/1999	31.02	None	4.40	26.62	NA
	11/23/1999		None	3.81	27.21	NA
	3/1/2000		None	2.88	28.14	NA
	5/17/2000		None	3.44	27.58	NA
	8/30/2000		None	4.40	26.62	NA
	12/18/2000		None	3.61	27.41	NA
	3/20/2001		None	3.16	27.86	NA
	6/7/2001		None	4.18	26.84	NA
	9/20/2001		Sheen	4.22	26.80	NA
	12/14/2001		None	3.62	27.40	NA
	2/27/2002		None	2.94	28.08	NA
	5/16/2002		**None**	**3.53**	**27.49**	**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-7	8/31/1999	29.62	None	5.47	24.15	NA
	11/23/1999		None	4.93	24.69	NA
	3/1/2000		None	4.06	25.56	NA
	5/17/2000		None	4.69	24.93	NA
	8/30/2000		None	5.50	24.12	NA
	12/18/2000		None	5.78	23.84	NA
	3/20/2001		None	4.83	24.79	NA
	6/7/2001		None	4.80	24.82	NA
	9/20/2001		None	5.19	24.43	NA
	12/14/2001		None	4.68	24.94	NA
	2/27/2002		None	4.53	25.09	NA
	5/16/2002		**None**	**4.34**	**25.28**	**NA**
MW-8	8/31/1999	29.43	None	5.35	24.08	NA
	11/23/1999		None	4.75	24.68	NA
	3/1/2000		None	4.48	24.95	NA
	5/17/2000		None	4.78	24.65	NA
	8/30/2000		None	5.02	24.41	NA
	12/18/2000		None	5.23	24.20	NA
	3/20/2001		None	4.70	24.73	NA
	6/7/2001		None	5.13	24.30	NA
	9/20/2001		None	5.68	23.75	NA
	12/14/2001		None	4.26	25.17	NA
	2/27/2002		None	4.18	25.25	NA
	5/16/2002		**None**	**4.58**	**24.85**	**NA**
MW-9	8/31/1999	29.18	None	4.15	25.03	NA
	11/23/1999		None	3.93	25.25	NA
	3/1/2000		None	3.69	25.49	NA
	5/17/2000		None	3.56	25.62	NA
	8/30/2000		None	4.64	24.54	NA
	12/18/2000		None	4.02	25.16	NA
	3/20/2001		None	3.92	25.26	NA
	6/7/2001		None	4.28	24.90	NA
	9/20/2001		None	5.12	24.06	NA
	12/14/2001		None	3.87	25.31	NA
	2/27/2002		None	4.48	24.70	NA
	5/16/2002		**None**	**5.13**	**24.05**	**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-10	8/31/1999	29.13	None	9.59	19.54	NA
	11/23/1999		None	9.44	19.69	NA
	3/1/2000		None	9.06	20.07	NA
	5/17/2000		None	9.31	19.82	NA
	8/30/2000		None	9.68	19.45	NA
	12/18/2000		None	9.41	19.72	NA
	3/20/2001		None	9.23	19.90	NA
	6/7/2001		None	9.60	19.53	NA
	9/20/2001		None	9.70	19.43	NA
	12/14/2001		None	8.83	20.30	NA
	2/27/2002		None	9.15	19.98	NA
	5/16/2002		**None**	**9.45**	**19.68**	**NA**
MW-11	9/20/2001	28.93	None	4.41	24.52	NA
	12/14/2001		None	1.82	27.11	NA
	2/27/2002		None	2.39	26.54	NA
	5/16/2002		**None**	**2.98**	**25.95**	**NA**
MW-12	9/20/2001	28.68	None	10.41	18.27	NA
	12/14/2001		None	9.62	19.06	NA
	2/27/2002		None	10.09	18.59	NA
	5/16/2002		**None**	**10.04**	**18.64**	**NA**
MW-13	9/20/2001	22.715	None	8.83	13.89	NA
	12/14/2001		None	7.95	14.77	NA
	2/27/2002		None	7.64	15.08	NA
	5/16/2002		**None**	**8.43**	**14.29**	**NA**
W-1	3/2/2000	33.43	None	4.08	29.35	NA
	5/17/2000		None	5.41	28.02	NA
	8/30/2000		None	6.71	26.72	NA
	12/18/2000		None	5.73	27.70	NA
	3/20/2001		None	5.16	28.27	NA
	6/7/2001		None	6.10	27.33	NA
	9/20/2001		None	6.58	26.85	NA
	12/14/2001		None	4.69	28.74	NA
	2/27/2002		None	4.94	28.49	NA
	5/16/2002		**None**	**5.54**	**27.89**	**NA**
W-2	5/17/2000	34.21	None	5.60	28.61	NA
	8/30/2000		None	7.37	26.84	NA
	12/18/2000		None	6.44	27.77	NA
	1/23/2001					abandoned

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)
W-3	5/17/2000	37.46	None	6.38	31.08	NA
	8/30/2000		None	8.16	29.30	NA
	12/18/2000		None	7.19	30.27	NA
	3/20/2001		None	5.70	31.76	NA
	6/7/2001		None	7.51	29.95	NA
	9/20/2001		None	7.83	29.63	NA
	12/14/2001		None	4.76	32.70	NA
	2/27/2002		None	5.32	32.14	NA
	5/16/2002		**None**	**6.45**	**31.01**	**NA**
W-4	3/2/2000	31.72	None	3.34	28.38	NA
	5/17/2000		None	3.86	27.86	NA
	8/30/2000		None	4.99	26.73	NA
	12/18/2000		None	4.20	27.52	NA
	3/20/2001		None	3.75	27.97	NA
	6/7/2001		None	4.67	27.05	NA
	9/20/2001		None	4.80	26.92	NA
	12/14/2001		None	3.22	28.50	NA
	2/27/2002		None	3.58	28.14	NA
	5/16/2002		**None**	**3.89**	**27.83**	**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 (diesel)	TPH-8015 (gas)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	700	1750	13
MW-1	8/31/1999	310	NA	<1.0	2.4	1	1.6	NA
	11/23/1999	250	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	310	62	<1.0	<1.0	<1.0	<2.0	687
	5/17/2000	390	63	<1.0	<1.0	<1.0	<2.0	74
	8/31/2000	180	<50	<1.0	<1.0	<1.0	<2.0	49
	12/18/2000	310	<50	<1.0	<1.0	<1.0	<2.0	44
	3/21/2001	240	<50	<1.0	<1.0	<1.0	<2.0	17
	6/7/2001	540	<50	<1.0	<1.0	<1.0	<2.0	32
	9/20/2001	290	<50	<1.0	<1.0	<1.0	<2.0	29
	2/27/2002	<250	<50	<1.0	<1.0	<1.0	<2.0	14
MW-2	8/31/1999	180	NA	<1.0	<1.0	<1.0	1.2	NA
	11/23/1999	120	NA	<1.0	<1.0	<1.0	<5.0	NA
	3/1/2000	510	<50	<1.0	<1.0	<1.0	<2.0	81
	5/17/2000	1,100	<50	<1.0	<1.0	<1.0	<2.0	87
	8/31/2000	620	<50	<1.0	<1.0	<1.0	<2.0	65
	12/19/2000	830	<50	<1.0	<1.0	<1.0	<2.0	70
	3/21/2001	900	<50	<2.0	<2.0	<2.0	<4.0	33
	6/7/2001	810	<50	<1.0	<1.0	<1.0	<2.0	43
	9/20/2001	1,200	<50	<1.0	<1.0	<1.0	<2.0	35
	2/27/2002	<250	<50	<1.0	<1.0	<1.0	<2.0	19
MW-3	8/31/1999	2,700	NA	<1.0	<1.0	<1.0	<1.0	NA
	11/23/1999	640	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/2000	620	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	1,800	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	NA	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/21/2001	1,700	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	770	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	9/21/2001	260	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	2/27/2002	560	<50	<1.0	<1.0	<1.0	<2.0	<5.0
MW-4	8/31/1999	<50	NA	<1.0	<1.0	<1.0	1.6	NA
	11/23/1999	<50	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/2000	80	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/20/2001	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
MW-5	8/31/1999	250	NA	<1.0	<1.0	<1.0	1	NA
	11/23/1999	300	NA	<1.0	<1.0	<1.0	<5.0	NA
	3/1/2000	340	<50	<1.0	<1.0	<1.0	<2.0	100
	5/17/2000	230	<50	<1.0	<1.0	<1.0	<2.0	86
	8/31/2000	220	<50	<1.0	<1.0	<1.0	<2.0	59
	12/18/2000	360	<50	<1.0	<1.0	<1.0	<2.0	57
	3/20/2001	250	<50	<5.0	<5.0	<5.0	<10	87
	6/7/2001	600	<50	<1.0	<1.0	<1.0	<2.0	74

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

Well	Date	TPH-8015 (diesel)	TPH-8015 (gas)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	700	1750	13
MW-6	8/31/1999	140,000	NA	77	18	31	49	NA
	11/23/1999	6,100	NA	45	14	6.9	48	NA
	3/1/2000	22,000	2800	6.8	<2.0	<2.0	<10	<5.0
	5/17/2000	1,800	6200	77	16	39	37	<5.0
	8/31/2000	76,000	5300	60	13	43	45.7	<5.0
	12/19/2000	6,300	1300	26.0	4.9	8.4	11.5	<5.0
	3/21/2001	5,100	1900	49.0	9.5	13	12	<10
	6/7/2001	14,000	2600	47.0	10	13	19	<10
	9/21/2001	15,000	4000	180	14	24	40	<50
	2/27/2002	43,000	5000	68	16	52	41.8	<25
MW-7	8/31/1999	1,400	NA	<1.0	2.9	2.3	2.7	NA
	11/23/1999	530	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	640	860	<1.0	<1.0	<1.0	<2.0	<20
	5/17/2000	430	410	<1.0	<1.0	<1.0	<2.0	9.5
	8/31/2000	950	1100	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	1,100	820	<1.0	<1.0	<1.0	<2.0	<5.0
	3/20/2001	770	1000	<1.0	1.4	<1.0	<2.0	<5.0
	6/7/2001	1,400	870	<1.0	<1.0	<1.0	<2.0	<5.0
	9/21/2001	940	1000	<1.0	<1.0	<2.0	<5.0	<5.0
	2/27/2002	430	930	<1.0	<1.0	<1.0	<2.0	<5.0
MW-8	8/31/1999	230	NA	<1.0	<1.0	1.2	<1.0	NA
	11/23/1999	220	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	260	150	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/2000	660	310	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	460	300	<1.0	<1.0	<1.0	1.4	<5.0
	12/18/2000	370	230	<1.0	<1.0	<1.0	<2.0	<5.0
	3/20/2001	1,700	64	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	1,300	180	<1.0	<1.0	<1.0	<2.0	<5.0
MW-9	8/31/1999	2,800	NA	<1.0	<1.0	<1.0	1.1	NA
	11/23/1999	1,300	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	510	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/2000	990	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	1,100	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	1,900	<50	<1.0	<1.0	<1.0	<2.0	5.9
	3/20/2001	1,500	<50	<1.0	<1.0	<1.0	<2.0	5.5
	6/7/2001	590	<50	<1.0	<1.0	<1.0	<2.0	8.1
	9/20/2001	790	<50	<1.0	<1.0	<1.0	<2.0	8.5
	2/27/2002	650	<50	<1.0	<1.0	<1.0	<2.0	9.5
MW-10	8/31/1999	1,100	NA	<1.0	1.2	2.0	<1.0	NA
	11/23/1999	1,200	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	1,300	540	<1.0	<1.0	<1.0	<2.0	NA
	5/17/2000	990	460	<1.0	<1.0	<1.0	<2.0	6.9
	8/31/2000	840	320	<1.0	<1.0	<1.0	<2.0	25
	12/18/2000	900	290	<1.0	<1.0	<1.0	<2.0	<9.0
	3/21/2001	620	220	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	1,300	360	<1.0	<1.0	<1.0	<2.0	15
	9/20/2001	1,000	350	<1.0	<1.0	<1.0	<2.0	44
	2/27/2002	610	150	<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 (diesel)	TPH-8015 (gas)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	700	1750	13
MW-11	9/20/2001	460	88	<1.0	<1.0	<1.0	<2.0	<5.0
	12/14/2002	320	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	2/27/2002	<50	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	5/16/2002	**380**	**<50**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**<5.0**
MW-12	9/20/2001	540	960	<1.0	<1.0	<2.0	<5.0	11
	12/14/2002	170	670	<1.0	<1.0	<1.0	<2.0	9.4
	2/27/2002	350	950	<1.0	<1.0	<1.0	<2.0	11
	5/16/2002	**500**	**1100**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**6.7**
MW-13	9/21/2001	<250	<50	<1.0	<1.0	<1.0	<2.0	7.4
	12/14/2002	160	<50	<1.0	<1.0	<1.0	<2.0	11
	2/27/2002	1,100	450	<1.0	<5.0	<1.0	<2.0	9.9
	5/16/2002	**520**	**150**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**8.7**
W-1	3/2/2000	1,800	3400	20.0	5.3	30	23.8	<5.0
	5/17/2000	1,100	7300	35.0	11	59	45	<1.0
	8/31/2000	2,200	6200	20.0	7.9	36	38.2	<10
	12/19/2000	1,700	5600	20.0	8.4	30	35.6	<5.0
	3/20/2001	2,100	7200	32.0	13	56	40	<10
	6/7/2001	2,100	7300	26.0	18	42	38.3	<10
	9/21/2001	1,800	7100	27	<10	48	40	<10
	2/27/2002	1,800	7100	24	9	52	34	<25
W-2	5/17/2000	19,000	870	<2.0	<1.0	<2.0	<4.0	<5.0
	8/31/2000	7,400	2200	4.6	2.5	3.8	11	<5.0
	12/19/2000	10,000	290	8.8	3.4	8.6	17.4	<5.0
W-3	5/17/2000	<50	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	<50	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/20/2001	630	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	1,200	<50	<1.0	<1.0	<1.0	<2.0	<5.0
W-4	3/2/2000	190	<50	1.1	<1.0	<1.0	<2.0	<5.0
	5/17/2000	230	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	240	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/19/2000	320	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/21/2001	220	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	430	<50	<1.0	<1.0	<1.0	<2.0	<5.0

Notes:
ppb: parts per billion
TPH: Total Petroleum Hydrocarbons
MTBE: methyl tert butylether
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

June 14, 2002

STL SACRAMENTO PROJECT NUMBER: G2E160339

Brad Wright
Cameron-Cole LLC
101 West Atlantic Avenue
Building #90
Alameda, CA 94501

Dear Mr. Wright,

This report contains the analytical results for the samples received under chain of custody by STL Sacramento on May 16, 2002. These samples are associated with your AC Transit Emeryville project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. 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 McNeill

Bonnie J. McNeill
Project Manager

TABLE OF CONTENTS

STL SACRAMENTO PROJECT NUMBER G2E160339

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G2E160339

General Comments

Samples were received at 3 and 6 degrees Centigrade.

WATER, 8015M, TPH Gas
Sample(s): 2, 3

The surrogate bromofluorobenzene exceeds QC criteria (70-130%) for samples 02 (142%) and 03 (207%) due to matrix interference.

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 Laboratory Quality Manual

STL Sacramento Certifications:
Alaska (UST-055), Arizona (#AZ00616), Arkansas, California (NELAP # 01119CA) (ELAP #I-2439), Connecticut (#PH-0691), Florida (E87570), Hawaii, Louisiana (AI # 30612), New Jersey (Lab ID 44005), Nevada (#CA 044), New York (LAB ID 11666 serial # 107407), Oregon (LAB ID CA 044), South Carolina (LAB ID 87014, Cert. # 870140), Utah (E-168), Virginia (#00178), Washington (# C087), West Virginia (# 9930C), Wisconsin (Lab 998204680), USNAVY, USACE, USDA Foreign Plant (Permit # 37-82605), USDA Foreign Soil (Permit # S-46613)..

Sample Summary
G2E160339

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
E1KGG	1	TRIP BLANK	5/16/02 11:45 AM	5/16/02 05:00 PM
E1KGH	2	MW-13	5/16/02 02:20 PM	5/16/02 05:00 PM
E1KGJ	3	MW-12	5/16/02 01:45 PM	5/16/02 05:00 PM
E1KGK	4	MW-11	5/16/02 02:05 PM	5/16/02 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 not 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

G2E160339

[redacted]

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc

STL-4124 (1200)

Client: Cameron-Cole	Project Manager: Brad Wright	Date: 5/16/02	Chain of Custody Number: 086472
Address: 101 W. Atlantic Ave Bldg 90	Telephone Number (Area Code)/Fax Number: (510) 769-3563	Lab Number:	Page ____ of ____
City: Alameda / State: CA / Zip Code: 94501	Site Contact:	Lab Contact: B. McNeil	
Project Name and Location (State): AC Transit Emeryville	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: 8021 BTEX+MTBE	TPH-gas	diesel/motor oil	8021	Special Instructions/ Conditions of Receipt
Trip blank	5/16/02	1145		X						X			X				good
MW-13		1420								X			X				
↓		↓					X			X				X			
MW-12		1345								X			X				
↓		↓								X				X			
MW-11		1405					X			X			X				
↓		↓								X				X			
							X								X		
							X*									X*	* ethylene glycol sample - analyze BTEX, MTBE + chlorinated solver

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	5/16/02	1515	1. Received By	5-16-02	1515
2. Relinquished By	5-16-02	1700	2. Received By J. DAVIS	5/16/02	1700
3. Relinquished By			3. Received By		

Comments

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

WATER, 8015M, TPH Gas

CAMERON-COLE LLC

Client Sample ID: MW-13

GC Volatiles

Lot-Sample #...: G2E160339-002	Work Order #...: E1KGH1AC	Matrix.....: WATER	
Date Sampled...: 05/16/02	Date Received..: 05/16/02		
Prep Date.....: 05/22/02	Analysis Date..: 05/22/02		
Prep Batch #...: 2143251	Analysis Time..: 16:55		
Dilution Factor: 1			
Analyst ID.....: 007134	Instrument ID..: EF6		
	Method.....: DHS CA LUFT		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	**150**	**50**	**ug/L**

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

NOTE(S):

* Surrogate recovery is outside stated control limits.

CAMERON-COLE LLC

Client Sample ID: MW-12

GC Volatiles

Lot-Sample #...:	G2E160339-003	Work Order #...:	E1KGJ1AC	Matrix.....:	WATER
Date Sampled...:	05/16/02	Date Received..:	05/16/02		
Prep Date.....:	05/22/02	Analysis Date..:	05/22/02		
Prep Batch #...:	2143251	Analysis Time..:	18:17		
Dilution Factor:	1				
Analyst ID.....:	007134	Instrument ID..:	EF6		
		Method.....:	DHS CA LUFT		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	**1100**	**50**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	207 *	(70 - 130)

NOTE(S):

* Surrogate recovery is outside stated control limits.

CAMERON-COLE LLC

Client Sample ID: MW-11

GC Volatiles

Lot-Sample #...: G2E160339-004	Work Order #...: E1KGK1AC	Matrix.....: WATER	
Date Sampled...: 05/16/02	Date Received..: 05/16/02		
Prep Date.....: 05/22/02	Analysis Date..: 05/22/02		
Prep Batch #...: 2143251	Analysis Time..: 19:40		
Dilution Factor: 1			
Analyst ID.....: 007134	Instrument ID..: EF6		
	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)

QC DATA ASSOCIATION SUMMARY

G2E160339

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	DHS CA LUFT		2143239	
002	WATER	DHS CA LUFT		2143251	
	WATER	DHS CA LUFT		2143239	
003	WATER	DHS CA LUFT		2143251	
	WATER	DHS CA LUFT		2143239	
004	WATER	DHS CA LUFT		2143251	

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: G2E160339
MB Lot-Sample #: G2E230000-251
Work Order #...: E1W761AA
Matrix.....: WATER
Prep Date.....: 05/22/02
Analysis Time..: 12:47
Analysis Date..: 05/22/02
Prep Batch #...: 2143251
Instrument ID..: EF6
Dilution Factor: 1
Analyst ID.....: 007134

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	87	(70 - 130)

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: G2E160339 **Work Order #...:** E1W761AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G2E230000-251 E1W761AD-LCSD
Prep Date.....: 05/22/02 **Analysis Date..:** 05/22/02
Prep Batch #...: 2143251 **Analysis Time..:** 13:28
Dilution Factor: 1 **Instrument ID..:** EF6
Analyst ID.....: 007134

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Gasoline)	**88**	**(70 - 130)**			**DHS CA LUFT**
	104	**(70 - 130)**	**17**	**(0-35)**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(70 - 130)
	120	(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 #...:	G2E160339	**Work Order #...:**	E1W761AC-LCS	**Matrix.....:**	WATER
LCS Lot-Sample#:	G2E230000-251		E1W761AD-LCSD		
Prep Date.....:	05/22/02	**Analysis Date..:**	05/22/02		
Prep Batch #...:	2143251	**Analysis Time..:**	13:28		
Dilution Factor:	1	**Instrument ID..:**	EF6		
Analyst ID.....:	007134				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Gasoline)	**1000**	**882**	**ug/L**	**88**		**DHS CA LUFT**
	1000	**1040**	**ug/L**	**104**	**17**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(70 - 130)
	120	(70 - 130)

NOTE(S):

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

Bold print denotes control parameters

WATER, 8021B, BTEX + MTBE by 8021B

CAMERON-COLE LLC

Client Sample ID: TRIP BLANK

GC Volatiles

Lot-Sample #...: G2E160339-001	**Work Order #...:** E1KGG1AA		**Matrix.....:** WATER
Date Sampled...: 05/16/02	**Date Received..:** 05/16/02		
Prep Date.....: 05/22/02	**Analysis Date..:** 05/22/02		
Prep Batch #...: 2143239	**Analysis Time..:** 14:20		
Dilution Factor: 1			
Analyst ID.....: 007134	**Instrument ID..:** AP1		
	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
4-Bromofluorobenzene	98	(70 - 130)
Fluorobenzene	100	(70 - 130)

CAMERON-COLE LLC

Client Sample ID: MW-13

GC Volatiles

Lot-Sample #...: G2E160339-002	Work Order #...: E1KGH1AD	Matrix.....: WATER
Date Sampled...: 05/16/02	Date Received..: 05/16/02	
Prep Date.....: 05/22/02	Analysis Date..: 05/22/02	
Prep Batch #...: 2143239	Analysis Time..: 15:08	
Dilution Factor: 1		
Analyst ID.....: 007134	Instrument ID..: AP1	
	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	**8.7**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(70 - 130)
Fluorobenzene	101	(70 - 130)

CAMERON-COLE LLC

Client Sample ID: MW-12

GC Volatiles

Lot-Sample #...: G2E160339-003	Work Order #...: E1KGJ1AD	Matrix.....: WATER	
Date Sampled...: 05/16/02	Date Received..: 05/16/02		
Prep Date.....: 05/22/02	Analysis Date..: 05/22/02		
Prep Batch #...: 2143239	Analysis Time..: 16:46		
Dilution Factor: 1			
Analyst ID.....: 007134	Instrument ID..: AP1		
	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	**6.7**	**5.0**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(70 - 130)
Fluorobenzene	110	(70 - 130)

QC DATA ASSOCIATION SUMMARY

G2E160339

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	DHS CA LUFT		2143239	
002	WATER	DHS CA LUFT		2143251	
	WATER	DHS CA LUFT		2143239	
003	WATER	DHS CA LUFT		2143251	
	WATER	DHS CA LUFT		2143239	
004	WATER	DHS CA LUFT		2143251	

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: G2E160339
MB Lot-Sample #: G2E230000-239
Work Order #...: E1W6V1AA
Matrix.....: WATER
Prep Date.....: 05/22/02
Analysis Time..: 11:54
Analysis Date..: 05/22/02
Prep Batch #...: 2143239
Instrument ID..: AP1
Dilution Factor: 1
Analyst ID.....: 007134

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
4-Bromofluorobenzene	90	(70 - 130)
Fluorobenzene	91	(70 - 130)

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: G2E160339 Work Order #...: E1W6V1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: G2E230000-239 E1W6V1AD-LCSD
Prep Date.....: 05/22/02 Analysis Date..: 05/22/02
Prep Batch #...: 2143239 Analysis Time..: 12:42
Dilution Factor: 1 Instrument ID..: AP1
Analyst ID.....: 007134

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	89	(70 - 130)			DHS CA LUFT
	90	(70 - 130)	1.9	(0-35)	DHS CA LUFT
Ethylbenzene	95	(70 - 130)			DHS CA LUFT
	98	(70 - 130)	2.1	(0-35)	DHS CA LUFT
Toluene	94	(70 - 130)			DHS CA LUFT
	96	(70 - 130)	2.0	(0-35)	DHS CA LUFT
m-Xylene & p-Xylene	94	(70 - 130)			DHS CA LUFT
	96	(70 - 130)	2.5	(0-35)	DHS CA LUFT
o-Xylene	94	(70 - 130)			DHS CA LUFT
	97	(70 - 130)	2.5	(0-35)	DHS CA LUFT
Methyl tert-butyl ether	96	(70 - 130)			DHS CA LUFT
	98	(70 - 130)	1.6	(0-35)	DHS CA LUFT

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(70 - 130)
	100	(70 - 130)
Fluorobenzene	99	(70 - 130)
	100	(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 #...: G2E160339 Work Order #...: E1W6V1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: G2E230000-239 E1W6V1AD-LCSD
Prep Date.....: 05/22/02 Analysis Date..: 05/22/02
Prep Batch #...: 2143239 Analysis Time..: 12:42
Dilution Factor: 1 Instrument ID..: AP1
Analyst ID.....: 007134

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	**10.0**	**8.86**	**ug/L**	**89**		**DHS CA LUFT**
	10.0	**9.03**	**ug/L**	**90**	**1.9**	**DHS CA LUFT**
Ethylbenzene	**10.0**	**9.55**	**ug/L**	**95**		**DHS CA LUFT**
	10.0	**9.76**	**ug/L**	**98**	**2.1**	**DHS CA LUFT**
Toluene	**10.0**	**9.42**	**ug/L**	**94**		**DHS CA LUFT**
	10.0	**9.61**	**ug/L**	**96**	**2.0**	**DHS CA LUFT**
m-Xylene & p-Xylene	**20.0**	**18.8**	**ug/L**	**94**		**DHS CA LUFT**
	20.0	**19.2**	**ug/L**	**96**	**2.5**	**DHS CA LUFT**
o-Xylene	**10.0**	**9.44**	**ug/L**	**94**		**DHS CA LUFT**
	10.0	**9.68**	**ug/L**	**97**	**2.5**	**DHS CA LUFT**
Methyl tert-butyl ether	**10.0**	**9.60**	**ug/L**	**96**		**DHS CA LUFT**
	10.0	**9.75**	**ug/L**	**98**	**1.6**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(70 - 130)
	100	(70 - 130)
Fluorobenzene	99	(70 - 130)
	100	(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

CAMERON-COLE LLC

Client Sample ID: MW-13

GC Semivolatiles

Lot-Sample #...: G2E160339-002	Work Order #...: E1KGH1AA		Matrix.....: WATER
Date Sampled...: 05/16/02	Date Received..: 05/16/02		
Prep Date.....: 05/22/02	Analysis Date..: 05/23/02		
Prep Batch #...: 2142206			
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	**520**	**50**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	108	(57 - 147)

NOTE(S):

The unknown hydrocarbon from n-C8 to n-C36 is quantitated with all peaks from n-C8 to n-C36 and based on diesel (n-C10 to n-C24).

CAMERON-COLE LLC

Client Sample ID: MW-12

GC Semivolatiles

Lot-Sample #...: G2E160339-003	Work Order #...: E1KGJ1AA		Matrix.....: WATER
Date Sampled...: 05/16/02	Date Received..: 05/16/02		
Prep Date.....: 05/22/02	Analysis Date..: 05/24/02		
Prep Batch #...: 2142206			
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	500	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	105	(57 - 147)

NOTE(S):

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

CAMERON-COLE LLC

Client Sample ID: MW-11

GC Semivolatiles

Lot-Sample #...: G2E160339-004 Work Order #...: E1KGK1AA Matrix.....: WATER
Date Sampled...: 05/16/02 Date Received..: 05/16/02
Prep Date.....: 05/22/02 Analysis Date..: 05/23/02
Prep Batch #...: 2142206
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	**380**	**250**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	103	(57 - 147)

NOTE(S):

The unknwon hydrocarbon from n-C12 to n-C40 is quantitated with all peaks from n-C8 to n-C36 and based on motor oil (n-C19 to n-C36).

QC DATA ASSOCIATION SUMMARY

G2E160339

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	DHS CA LUFT		2143239	
002	WATER	SW846 8015 MOD		2142206	
	WATER	DHS CA LUFT		2143251	
	WATER	DHS CA LUFT		2143239	
003	WATER	SW846 8015 MOD		2142206	
	WATER	DHS CA LUFT		2143251	
	WATER	DHS CA LUFT		2143239	
004	WATER	SW846 8015 MOD		2142206	
	WATER	DHS CA LUFT		2143251	

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: G2E160339 **Work Order #...:** E1TQH1AA **Matrix.....:** WATER
MB Lot-Sample #: G2E220000-206

Prep Date.....: 05/22/02
Analysis Date..: 05/23/02 **Prep Batch #...:** 2142206
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	95	(57 - 147)

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: G2E160339 **Work Order #...:** E1TQH1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G2E220000-206 E1TQH1AD-LCSD
Prep Date.....: 05/22/02 **Analysis Date..:** 05/23/02
Prep Batch #...: 2142206
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Diesel)	**86**	**(39 - 125)**			**SW846 8015 MOD**
	88	**(39 - 125)**	**2.0**	**(0-44)**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	99	(57 - 147)
	104	(57 - 147)

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 Semivolatiles

Client Lot #...: G2E160339 **Work Order #...:** E1TQH1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G2E220000-206 E1TQH1AD-LCSD
Prep Date.....: 05/22/02 **Analysis Date..:** 05/23/02
Prep Batch #...: 2142206
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Diesel)	**300**	**258**	**ug/L**	**86**		**SW846 8015 MOD**
	300	**264**	**ug/L**	**88**	**2.0**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	99	(57 - 147)
	104	(57 - 147)

NOTE(S):

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

Bold print denotes control parameters

WATER, 8021 Halogenated Organics and 8015MOD Ethylene Glycol

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05382
Received: 18 MAY 02
Reported: 29 MAY 02

Ms. Bonnie McNeill
STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Project: CAMERON-COLE
Sampled By: Client
Code: 123220529

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
05382-1	MW-11/G2E160339-4	05-16-02/14:05

PARAMETER	05382-1
Aromatic and Halogenated Volatiles (8021B)	
Benzene, ug/l	<1.0
Bromobenzene, ug/l	<3.0
Bromodichloromethane, ug/l	<1.0
Bromoform, ug/l	<2.0
Bromomethane (Methyl bromide), ug/l	<5.0
Carbon tetrachloride, ug/l	<1.0
Chlorobenzene, ug/l	<1.0
Chloroethane, ug/l	<5.0
Chloroform, ug/l	<2.0
Chloromethane, ug/l	<5.0
Dibromochloromethane, ug/l	<5.0
Dibromomethane (Methylene bromide), ug/l	<5.0
1,2-Dichlorobenzene, ug/l	<2.0
1,3-Dichlorobenzene, ug/l	<2.0
1,4-Dichlorobenzene, ug/l	<2.0
Dichlorodifluoromethane, ug/l	<5.0
1,1-Dichloroethane, ug/l	<1.0
1,2-Dichloroethane, ug/l	<1.0
1,1-Dichloroethene, ug/l	<1.0
cis-1,2-Dichloroethene, ug/l	<1.0
trans-1,2-Dichloroethene, ug/l	<1.0
1,2-Dichloroethene (total), ug/l	<1.0
1,2-Dichloropropane, ug/l	<1.0
cis-1,3-Dichloropropene, ug/l	<1.0
trans-1,3-Dichloropropene, ug/l	<1.0

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05382
Received: 18 MAY 02
Reported: 29 MAY 02

Ms. Bonnie McNeill
STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Project: CAMERON-COLE
Sampled By: Client
Code: 123220529

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
05382-1	MW-11/G2E160339-4	05-16-02/14:05

PARAMETER	05382-1
Ethylbenzene, ug/l	<1.0
Methylene chloride (Dichloromethane), ug/l	<5.0
Methyl t-butyl ether (MTBE), ug/l	<5.0
1,1,1,2-Tetrachloroethane, ug/l	<1.0
1,1,2,2-Tetrachloroethane, ug/l	<1.0
Tetrachloroethene, ug/l	<3.0
Toluene, ug/l	<1.0
1,1,1-Trichloroethane, ug/l	<1.0
1,1,2-Trichloroethane, ug/l	<2.0
Trichloroethene, ug/l	<1.0
Trichlorofluoromethane, ug/l	<2.0
1,2,3-Trichloropropane, ug/l	<5.0
Vinyl chloride, ug/l	<1.0
Xylenes, Total, ug/l	<2.0
Surrogate - 4-Bromofluorobenzene (PID), %	100 %
Surrogate - 4-Bromofluorobenzene (ELCD), %	99 %
Dilution Factor	1
Analysis Date	05.23.02
Batch ID	LUW045B
Prep Method	5030B
Analyst	SA
General Organics (8015M)	
Ethylene Glycol, mg/l	<5.0
Dilution Factor	1
Analysis Date	05.22.02
Batch ID	GEW048
Analyst	IE

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05382
Received: 18 MAY 02
Reported: 29 MAY 02

Ms. Bonnie McNeill
STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Project: CAMERON-COLE
Sampled By: Client
Code: 123220529

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
05382-2	Method Blank	
05382-3	Lab Control Standard % Recovery	

PARAMETER	05382-2	05382-3
Aromatic and Halogenated Volatiles (8021B)		
Benzene, ug/l	<1.0	101 %
Bromobenzene, ug/l	<3.0	---
Bromodichloromethane, ug/l	<1.0	---
Bromoform, ug/l	<2.0	---
Bromomethane (Methyl bromide), ug/l	<5.0	---
Carbon tetrachloride, ug/l	<1.0	---
Chlorobenzene, ug/l	<1.0	98 %
Chloroethane, ug/l	<5.0	---
Chloroform, ug/l	<2.0	---
Chloromethane, ug/l	<5.0	---
Dibromochloromethane, ug/l	<5.0	---
Dibromomethane (Methylene bromide), ug/l	<5.0	---
1,2-Dichlorobenzene, ug/l	<2.0	96 %
1,3-Dichlorobenzene, ug/l	<2.0	98 %
1,4-Dichlorobenzene, ug/l	<2.0	98 %
Dichlorodifluoromethane, ug/l	<5.0	---
1,1-Dichloroethane, ug/l	<1.0	---
1,2-Dichloroethane, ug/l	<1.0	---
1,1-Dichloroethene, ug/l	<1.0	98 %
cis-1,2-Dichloroethene, ug/l	<1.0	---
trans-1,2-Dichloroethene, ug/l	<1.0	---
1,2-Dichloroethene (total), ug/l	<1.0	---
1,2-Dichloropropane, ug/l	<1.0	---
cis-1,3-Dichloropropene, ug/l	<1.0	---

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05382
Received: 18 MAY 02
Reported: 29 MAY 02

Ms. Bonnie McNeill
STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Project: CAMERON-COLE
Sampled By: Client
Code: 123220529

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
05382-2	Method Blank	
05382-3	Lab Control Standard % Recovery	

PARAMETER	05382-2	05382-3	
trans-1,3-Dichloropropene, ug/l	<1.0	---	
Ethylbenzene, ug/l	<1.0	---	
Methylene chloride (Dichloromethane), ug/l	<5.0	---	
Methyl t-butyl ether (MTBE), ug/l	<5.0	---	
1,1,1,2-Tetrachloroethane, ug/l	<1.0	---	
1,1,2,2-Tetrachloroethane, ug/l	<1.0	---	
Tetrachloroethene, ug/l	<3.0	---	
Toluene, ug/l	<1.0	101 %	
1,1,1-Trichloroethane, ug/l	<1.0	---	
1,1,2-Trichloroethane, ug/l	<2.0	---	
Trichloroethene, ug/l	<1.0	90 %	
Trichlorofluoromethane, ug/l	<2.0	---	
1,2,3-Trichloropropane, ug/l	<5.0	---	
Vinyl chloride, ug/l	<1.0	108 %	
Xylenes, Total, ug/l	<2.0	---	
Surrogate - 4-Bromofluorobenzene (PID), %	102 %	97 %	
Surrogate - 4-Bromofluorobenzene (ELCD), %	102 %	102 %	
Dilution Factor	1	---	
Analysis Date	05.23.02	---	
Batch ID	LUW045B	LUW045B	
Prep Method	5030B	---	
Analyst	SA	---	

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C2-05382
Received: 18 MAY 02
Reported: 29 MAY 02

Ms. Bonnie McNeill
STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Project: CAMERON-COLE
Sampled By: Client
Code: 123220529

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
05382-2	Method Blank	
05382-3	Lab Control Standard % Recovery	

PARAMETER	05382-2	05382-3			
General Organics (8015M)					
Ethylene Glycol, mg/l	<5.0	60 %			
Dilution Factor	1	---			
Analysis Date	05.22.02	---			
Batch ID	GEW048	GEW048			
Analyst	IE	---			

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.
Data from any samples that do not meet client, federal, or state sample acceptance criteria (collection, preservation, or holding time) will be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF).

Lance Larson, Project Manager

Final Page Of Report

TRENT SERVICES
STL Pensacola

STL Pensacola Data Qualifiers for Final Report

B	The analyte was detected in the associated method blank and in the client's sample.
C	The compound has been quantitated against a one point calibration.
D	Recovery is not calculable due to dilution.
E	Estimated value because the analyte concentration exceeds the upper calibration range of the instrument or method.
I	Estimated value because the analyte concentration is less than the lower calibration range of the instrument but is at the method detection limit or greater than the method detection limit.
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit.
J1	A sample surrogate or an LCS target compound recovered above the upper control limit (UCL). Compounds qualified with a J1 may be biased high.
J2	A sample surrogate or an LCS target compound recovered outside the lower control limit (LCL). Compounds qualified with a J2 may be biased low.
M1	A matrix effect was present.
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers).
R1	Internal standard area exceeds the acceptance criteria
R2	Calibration verification exceeds the acceptance criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not included in the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was not detected at or above the MDL or the RL, whichever is entered next to the "U" value.
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.

When the laboratory receives a sample that does not meet EPA requirements for sample collection, preservation or holding time, the laboratory is required to reject the samples. The client must be notified and asked whether the lab should proceed with analysis. Data from any samples that do not meet sample acceptance criteria (collection, preservation and holding time), must be flagged, or noted on a corrective action form or case narrative, or addressed on the Project Sample Inspection Form (PSIF) in an unambiguous manner clearly defining the nature and substance of the variation. NPDES samples from North Carolina that do not meet EPA requirements for sample collection, preservation or holding time are non-reportable for NPDES compliance monitoring.

Abbreviations

ND	Not Detected at or above the STL Pensacola reporting limit (RL)
NS	Not Submitted
NA	Not Applicable
MDL	STL Pensacola Method Detection Limit
RL	STL Pensacola Reporting Limit
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)

Florida Projects Inorganic/Organic
Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

AFCEE QAPP Projects
Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

Arizona DEQ Projects
Any qualified data submitted to Arizona DEQ (ADEQ) after January 1, 2001 must be designated using the Arizona Data Qualifiers as developed by the Arizona ELAC technical subcommittee. Refer to the ADEQ qualifier list.

CLP and CLP-like Projects
Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

STL PENSACOLA
Certifications, Memberships & Affiliations

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/11/03

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/20/03

California Department of Health Services, NELAP Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

Connecticut Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/03

Florida DOH, NELAP Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Kansas Department of Health & Environment, NELAP Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/02

Kentucky NR&EPC, Laboratory ID No. 90043 (Drinking Water), expires 12/31/02.

Louisiana DEQ, LELAP, NELAP Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02)

Maryland DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Massachusetts DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

Michigan Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, NELAP Laboratory ID No. 250501 (Wastewater), expires 08/16/02

New Jersey DEP&E, NELAP Laboratory ID No. FL006 (Wastewater and Hazardous Waster), expires 06/30/02.

New York State Department of Health, NELAP Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina DENR, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/02.

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02

Pennsylvania Department of Environmental Resources, NELAP Laboratory ID No. 68-467 (Drinking Water & Wastewater), expires 12/01/02

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/02

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

Washington Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/02

West Virginia DOE, Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater), expires 04/30/02.

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires April 1, 2004. Participant in AIHA sponsored Laboratory PAT Rounds

EPA ICR (Information Collection Rule) Approved Laboratory, Laboratory ID No. ICRFL031

Naval Facilities Engineering Services Center (NFESC), expires July 5, 2002.

United States Army Corps. of Engineers (USACE), MRD, expires July 5, 2002.

STL Pensacola also has a foreign soil permit to accept soils from locations other than the continental United States. Permit No. S-37599

certlist\condcert.lst revised 05/14/2002

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C205382 Date Received: 5-18-02

1.	Was there a Chain of Custody?	(Yes)	No*		8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+	Yes	No*	(N/A)
2.	Was Chain of Custody properly filled out and relinquished?	(Yes)	No*		9.	Is there sufficient volume for analysis requested?	(Yes)	No*	N/A *(Can)*
3.	Were samples received cold? (Criteria: 2° - 6°C: STL-SOP	(Yes)	No*	N/A	10.	Were samples received within Holding Time? (REFER TO STL-SOP 1040)	(Yes)	No*	
4.	Were all samples properly labeled and identified?	(Yes)	No*		11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.	Yes*	(No)	N/A
5.	Did samples require splitting or compositing♦? Req By: PM Client Other♦	Yes*	(No)		12.	If sent, were matrix spike bottles returned?	Yes	No*	(N/A)
6.	Were samples received in proper containers for analysis requested?	(Yes)	No*		13.	Was Project Manager notified of problems? (initials:_____)	Yes	No*	(N/A)
7.	Were all sample containers received intact?	(Yes)	No*						

Airbill Number(s): 7904 2248 5632

Shipped By: Fed EX

Cooler Number(s): Foam Box

Shipping Charges: N/A

Cooler Weight(s): 11 #

Cooler Temp(s) (°C): 3.0°C CCK5

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SAD Date: 5-18-02 Logged By: MR Date: 5/21/02

\+ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

\+ *All preservatives for the State of North Caroline, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12)*

G2E160339

TO: STL-Pensacola

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc

TL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
STL-SAC	Bonnie McNeill	5-17-02	101031
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	
880 Riverside Pkwy	(916) 374-4414	C205382	Page ____ of ____
City / **State** / **Zip Code**	**Site Contact** / **Lab Contact**		
West SAC / CA			
Project Name and Location (State)	**Carrier/Waybill Number**		
Cameron-Cole			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Ethylene Glycol	8021		Special Instructions/ Conditions of Receipt
G2E160339-4	5-16-02	1405		X			X						X	X	1	

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)

	Date	Time		Date	Time
1. Relinquished By: Cheryl Hyt	5-17-02	1600	1. Received By: Sandra A Dixon	5-18-02	10:40
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

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

FIELD PERSONNEL: FW/TT

WELL OR LOCATION	DATE	TIME	MEASUREMENT	CODE	COMMENTS
MW-1	5/16/02	1040	4.32	SWL	bentonite in well
MW-2		1045	3.74		
MW-3		1012	5.21		
MW-4		1009	5.39		
MW-5		1034	3.68		
MW-6		0957	no oil / 3.53	OIL / SWL	no oil present
MW-7		1057	4.34	SWL	
MW-8		1053	4.58		
MW-9		1050	5.13		
MW-10		1102	9.45		missing well cap
MW-11		1100	2.98		
MW-12		1107	10.04		
MW-13		1114	8.43		
W-1		0953	5.54		
W-3		0944	6.45		
W-4		1001	3.89		

SWL - Static Water Level

OIL - Oil Level

OWI - Oil/Water Interface

MTD - Measured Total Depth

Project Name: AC Transit Emery
Project Number:
Well ID: MW-11

Casing Diameter (in): 2"
Sample Date: 5/16/02

Total Well Depth (ft): 17.40
Sample ID: MW-11

Depth to Water (ft) before purging: 2.98

Development Method:

NA _____ **Bailer:** _____Teflon _____Stainless Steel _____PVC _____ABS Plastic

_____ **Pump:** _____Dedicated Submersible Pump _____Bladder Pump
_____Non-Dedicated Submersible Pump

Time	pH	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)
1354	7.23	534	27.1		2	0.6
1356	7.28	506	26.4		4	↓
1358	7.28	499	26.2	2.98	6	↓
				Total Vol	8	

Water Volume to be Purged (gal):
(Casing Length in Ft – Depth to Water in Ft) (X) (3)
Where X =1 Well Volume in Gal/ft, X=0.165 for 2" wells, X=0.37 for 3" wells, X=0.65 for 4" wells

17.40 - 2.98 = 14.42 x 0.165 = 2.4 x 3 = 7.25

NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least _____ 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 TPH gas TPH diesel/motor oil Ethylene glycol

Sample Appearance
_____OVA Reading (ppm)
_____Suspended Solids (describe):

Decontamination Performed:
washed/rinsed sounder/meters

start: 1351
stop: 1400
sample: 1405

Cent pump used to purge disposable bailer used to sample

Comments / Calculations:

Name: EW TT

Date: 5/16/02

Project Name: AC Transit Emery
Project Number:
Well ID: MW-12

Casing Diameter (in): 2
Total Well Depth (ft): 29.87
Depth to Water (ft) before purging: 10.04
Sample Date: 5/16/02
Sample ID:

Development Method:

NA _____ **Bailer:** _____Teflon _____Stainless Steel _____PVC _____ABS Plastic

_____ **Pump:** _____Dedicated Submersible Pump _____Bladder Pump
_____Non-Dedicated Submersible Pump

Time	pH	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)
1312	6.76	1092	30.2		3	0.2
1320	6.74	756	29.7		6	↓
1335	6.76	731	29.2	10.62	9	↓
				total vol = 10 gal		

Water Volume to be Purged (gal):
(Casing Length in Ft – Depth to Water in Ft) (X) (3)
Where X =1 Well Volume in Gal/ft, X=0.165 for 2" wells, X=0.37 for 3" wells, X=0.65 for 4" wells
29.87 - 10.04 = 19.83 x 0.165 = 3.3 x 3 = 10 gal
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least _____ 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 TPH gas TPH diesel/motor oil

Sample Appearance

_____OVA Reading (ppm)

_____Suspended Solids (describe):

cent pump used to purge
disposable bailer used to sample

Decontamination Performed:
washed/rinsed
sounder/meters

Start 1253
Stop 1340
sample 1345

Comments / Calculations:

Name: EW TT

Date: 5/16/02

Project Name: AC Transit Emery
Project Number:
Well ID: MW-13

Casing Diameter (in): 2"
Sample Date: 5/16/02

Total Well Depth (ft): 22"
Sample ID: MW-13

Depth to Water (ft) before purging: 8.43

Development Method:

NA _____ **Bailer:** _____Teflon _____Stainless Steel _____PVC _____ABS Plastic

_____ **Pump:** _____Dedicated Submersible Pump _____Bladder Pump
_____Non-Dedicated Submersible Pump

Time	pH	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)
1159	6.55	795	21.2		2	0.1
1215	7.02	819	19.3		4	↓
1245	6.98	758	20.4	12.43	6	↓
				total vol = 7		

Water Volume to be Purged (gal):
(Casing Length in Ft – Depth to Water in Ft) (X) (3)
Where X =1 Well Volume in Gal/ft, X=0.165 for 2" wells, X=0.37 for 3" wells, X=0.65 for 4" wells

22 - 8.43 = 13.57 x 0.165 = 2.25 x 3 = 6.75

NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least _____ 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 TPH gas TPH diesel/motor oil _____

Sample Appearance

_____OVA Reading (ppm)

_____Suspended Solids (describe): peri pump used to purge

Decontamination Performed: disposable bailer used to sample
washed/rinsed sounder/meters

Comments / Calculations: Start: 1143
Stop: 1250
sample: 1420
rip blank collected @ 1145
TW before sampling = 10.18

Name: EW TT

Date: 5/16/02