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

March 2003

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: 2016

CAMERON-COLE

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

March 2003

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: 2016

Reviewed By
Brad Wright, RG, CHG
Senior Hydrogeologist

STATE OF CALIFORNIA REGISTERED GEOLOGIST 5676 Exp. 9/04 BRADLEY D. WRIGHT REGISTERED GEOLOGIST

Written By
Emily Waters
Environmental Scientist I

Table of Contents

List of Figures

List of Tables

INTRODUCTION

This report presents the results from the February 2003 semi-annual sampling event for the AC Transit Facility located at 1177 47th Street, Emeryville, California (Site). Groundwater sampling of monitor wells MW-1, MW-2, MW-3, MW-6, MW-7, MW-9, MW-10, MW-11, MW-12, MW-13, and W-1 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-1, MW-2, MW-3, MW-6, MW-7, MW-9, MW-10, MW-11, MW-12 and W-1. 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. A groundwater sample was not collected from MW-13 due to the presence of a free phase hydrocarbon layer.

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 February 6, 2003 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 0.025 feet/foot. A free phase hydrocarbon layer measuring 0.09 feet was detected in MW-13.

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, dissolved oxygen, oxidation-reduction potential, ferrous iron 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

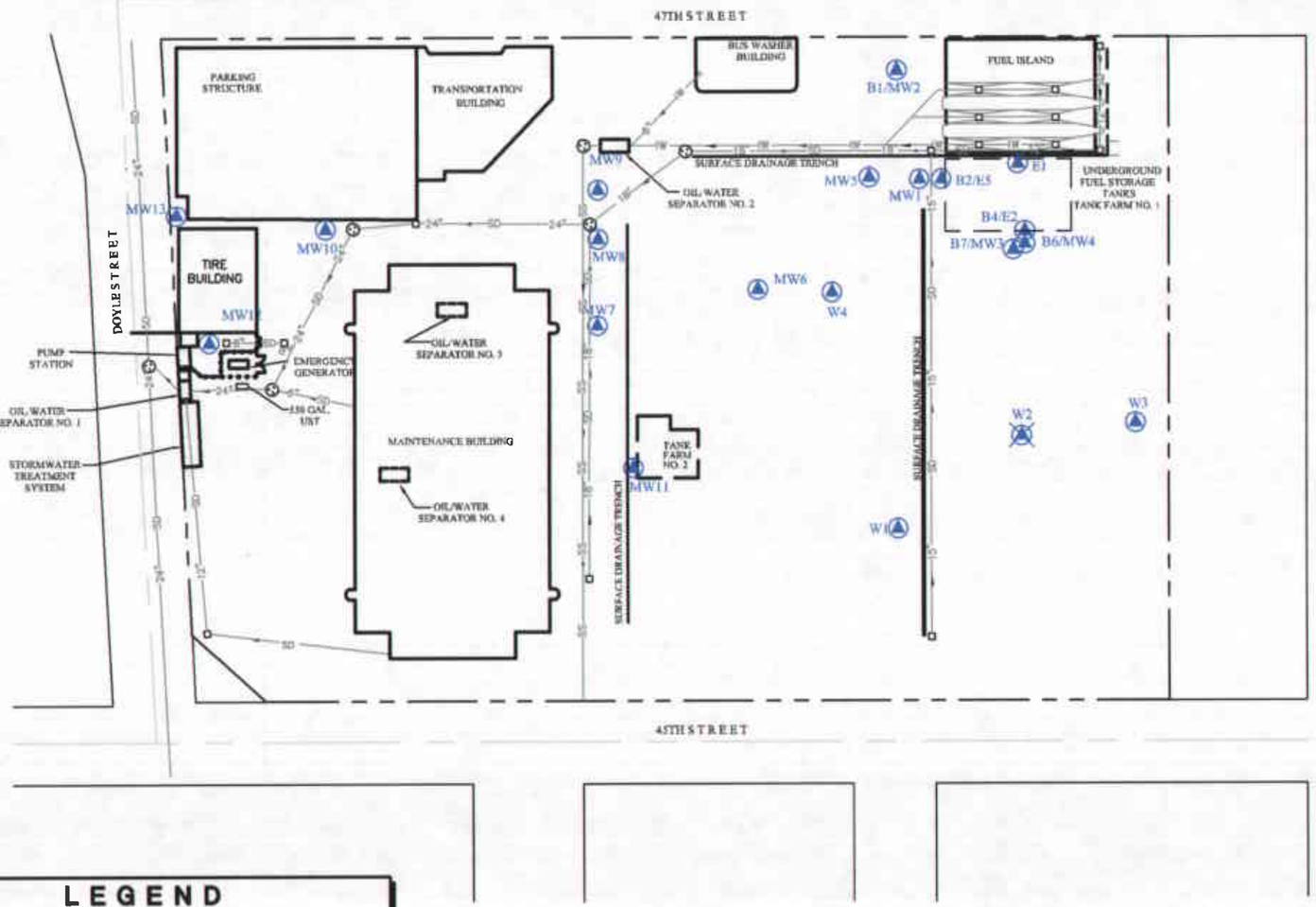
Table 2 presents groundwater analytical results for the February 2003 sampling event. TPH as diesel was detected in nine of ten monitoring wells at concentrations ranging from 54 to 4,300 parts per billion (ppb). Monitoring well MW-3 did not have a detection above the laboratory reporting limit of 50 ppb for TPH as diesel. TPH as gasoline was detected above the laboratory detection limit of 50 ppb in monitoring wells MW-6, MW-7, MW-11, MW12 and W-1. Benzene was detected above the State of California maximum contaminant level (MCL) of 1.0 ppb in monitoring wells MW-6 and W-1. Methyl tert-butyl ether (MTBE) was detected above the MCL of 13 ppb in monitoring wells MW-1 and MW-2. 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 0.025 feet/foot.
- TPH as degraded diesel was detected in MW-1, MW-2, MW-6, MW-7, MW-9, MW-10, MW-11, MW-12 and W-1 at 82, 58, 4,300, 230, 54, 510, 250, 190 and 990 ppb, respectively.
- TPH as degraded gasoline was detected in MW-6, MW-7, MW-10, MW-12 and W-1, at 2,600, 890, 200, 340 and 5,300 ppb, respectively.
- Benzene above the MCL of 1.0 ppb was detected in monitoring wells MW-6 and W-1 at 63 and 11 pbb, respectively.
- MTBE above the MCL of 13 ppb was detected in monitoring wells MW-1 and MW-2 at 17 and 18 ppb, respectively.

PROJECTED WORK AND RECOMMENDATIONS

- Quarterly groundwater monitoring of monitoring wells MW-11, MW-12 and MW-13 is scheduled for May 2002. This event will include site-wide depth to groundwater level measurements, including inspection of each monitor well for free-phase hydrocarbon.
- The results of a subsurface investigation conducted in accordance with the "Workplan for Subsurface Investigation" January 2003, will be documented in a separate report to be submitted to the ACHCS.



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	WRB	10/25/02
CHECKED		
APPROVED		
APPROVED		
APPROVED		

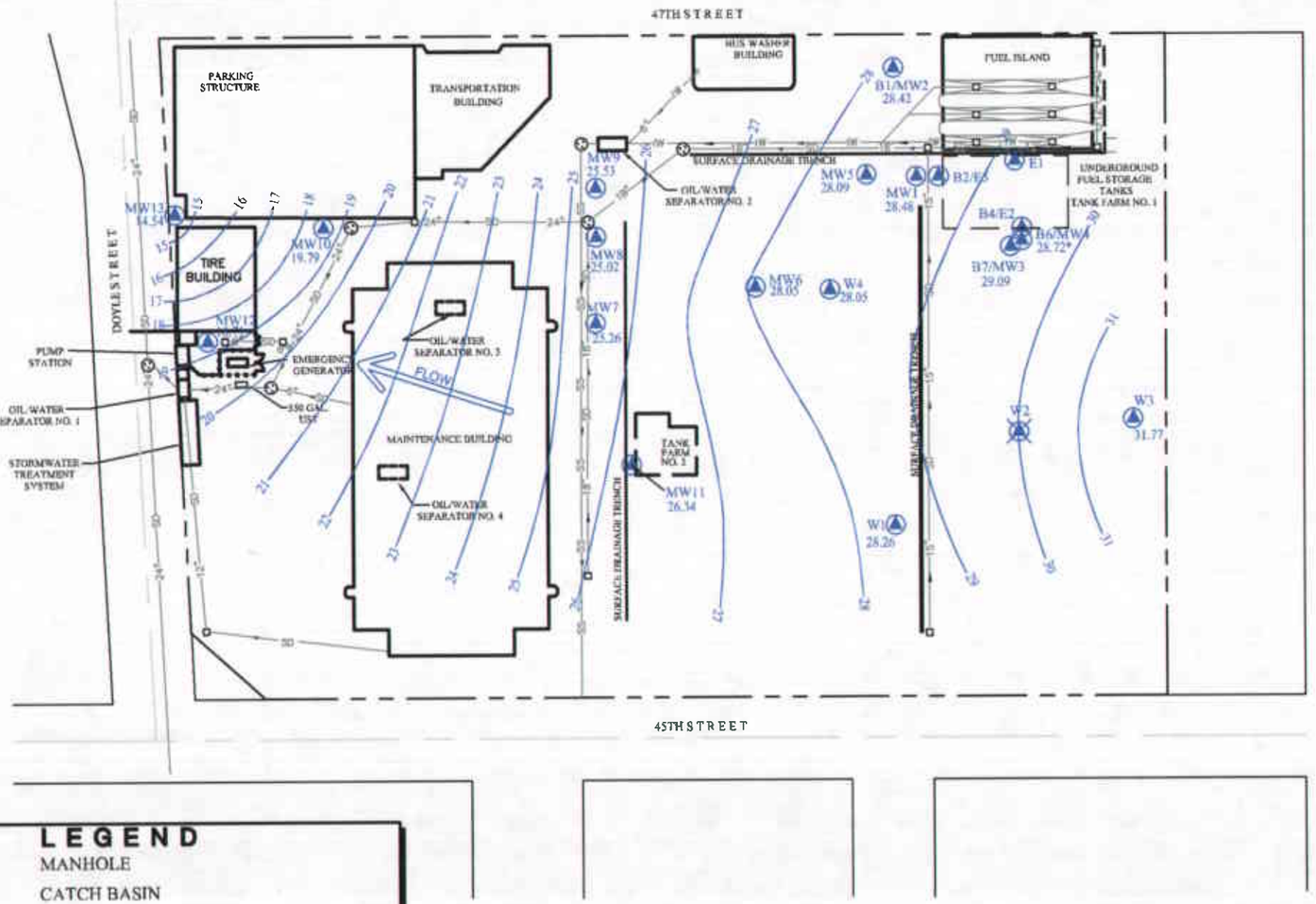
CAMERON-COLE

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
- 27.19 — POTENTIOMETRIC SURFACE ELEVATION
- POTENTIOMETRIC SURFACE CONTOUR
- NOT USED IN CONTOURS
- SD — STORM DRAIN PIPELINE
- SS — SANITARY SEWER PIPELINE
- IW — INDUSTRIAL WASTE PIPELINE
- CHAIN LINK FENCE

0 100
FEET

FIGURE 2

	BY	DATE
DRAWN	WRB	3/24/03
CHECKED		
APPROVED		
APPROVED		
APPROVED		

CAMERON-COLE

EMERYVILLE FACILITY - OAKLAND, CALIFORNIA

AC TRANSIT - POTENTIOMETRIC SURFACE MAP
FEBRUARY 6, 2003

SCALE: 1" = 100'

DWG. NO.: 2016-03

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
	9/18/2002		None	4.61	27.95	NA
	10/30/2002		None	4.74	27.82	NA
	2/6/2003		None	4.08	28.48	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
	9/18/2002		None	4.20	27.92	NA
	10/30/2002		None	4.23	27.89	NA
	2/6/2003		None	3.70	28.42	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
	9/18/2002		None	5.61	28.45	NA
	10/30/2002		None	5.72	28.34	NA
	2/6/2003		None	4.97	29.09	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
	9/18/2002		None	5.61	28.50	NA
	10/30/2002		None	5.70	28.41	NA
	2/6/2003		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
	9/18/2002		None	4.04	27.66	NA
	10/30/2002		None	4.21	27.49	NA
	2/6/2003		None	3.61	28.09	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
	9/18/2002		None	3.97	27.05	NA
	10/30/2002		None	3.96	27.06	NA
	2/6/2003		None	2.97	28.05	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-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
	9/18/2002		None	5.28	24.34	NA
	10/30/2002		None	5.51	24.11	NA
	2/6/2003		None	4.36	25.26	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
	9/18/2002		None	4.96	24.47	NA
	10/30/2002		None	4.99	24.44	NA
	2/6/2003		None	4.41	25.02	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
	9/18/2002		None	4.48	24.70	NA
	10/30/2002		None	3.90	25.28	NA
	2/6/2003		None	3.65	25.53	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
	9/18/2002		None	9.65	19.48	NA
	10/30/2002		None	9.73	19.40	NA
	2/6/2003		None	9.34	19.79	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
	9/18/2002		None	4.00	24.93	NA
	10/30/2002		None	4.14	24.79	NA
	2/6/2003		None	2.59	26.34	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
	9/18/2002		None	10.66	18.02	NA
	10/30/2002		None	10.62	18.06	NA
	2/6/2003		None	9.97	18.71	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
	9/18/2002		6.86	15.09	7.63	13.11
	10/30/2002		6.04	14.29	8.43	13.26
	2/6/2003		0.09	8.25	14.47	14.54

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-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
	9/18/2002		None	6.08	27.35	NA
	10/30/2002		None	6.24	27.19	NA
	2/6/2003		None	5.17	28.26	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
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
	9/18/2002		None	7.10	30.36	NA
	10/30/2002		None	7.30	30.16	NA
	2/6/2003		None	5.69	31.77	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)
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
	9/18/2002		None	4.24	27.48	NA
	10/30/2002		None	4.56	27.16	NA
	2/6/2003		None	3.67	28.05	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
	9/18/2002	230	<50	<1.0	<1.0	<1.0	<2.0	30
	2/6/2003	82	<50	<0.5	<0.5	<0.5	<1.0	17
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
	9/18/2002	180	<50	<1.0	<1.0	<1.0	<2.0	17
	2/6/2003	58	<50	<0.5	<0.5	<0.5	<1.0	18
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
	9/18/2002	340	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	2/6/2003	<50	<50	<0.5	<0.5	<0.5	<1.0	3.9
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
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
	9/18/2002	320,000	2000	74	7.3	22	25	<5.0
	2/6/2003	4,300	2600	63	8.2	18	15	<1.0

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-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
	9/18/2002	440	870	<1.0	<1.0	<1.0	<2.0	<5.0
	2/6/2003	230	890	<0.5	<0.5	<0.5	<1.0	1.6
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
	9/18/2002	480	<50	<1.0	<1.0	<1.0	<2.0	6.2
	2/6/2003	54	<50	<0.5	<0.5	<0.5	<1.0	5.5
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
	9/18/2002	850	240	<1.0	1.2	<1.0	<2.0	20
	2/6/2003	510	200	<0.5	<0.5	<0.5	<1.0	2.8
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
	9/18/2002	250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	10/30/2002	260	<50	<0.5	<0.5	<0.5	<1.5	<2.5
	2/6/2003	250	<50	<0.5	<0.5	<0.5	<1.0	<1.0
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
	9/18/2002	1,600	570	<1.0	<1.0	<1.0	<3.0	7.1
	10/30/2002	440	420	<0.5	<0.5	<0.5	<1.5	<2.5
	2/6/2003	190	340	<0.5	<0.5	<0.5	<1.0	6.8

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-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
W-1	5/16/2002	520	150	<1.0	<1.0	<1.0	<2.0	8.7
	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
	12/6/2003	990	5300	11	4.7	27	24	<1.0
W-2	9/18/2002	1,000	5900	11	<22	23	22	<5.0
	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
W-3	12/19/2000	10,000	290	8.8	3.4	8.6	17.4	<5.0
	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
W-4	6/7/2001	1,200	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	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

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

February 28, 2003

Brad Wright
Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501

Order:	33184	**Date Collected:**	02/06/03
Project Name:	ACTransit	**Date Received:**	02/07/03
Project Number:	2016	**P.O. Number:**	2016
Project Notes:			

On February 07, 2003, samples were received under documentented chain of custody. Results for the following analyses are attached:

Matrix	Test	Method
Liquid	EDD	EDD
	EPA 8021B by EPA 8260B	EPA 8260B
	PDF	PDF
	TPH as Diesel	EPA 8015 MOD. (Extractable)
	TPH as Gasoline	EPA 8015 MOD. (Purgeable)
	TPH as Motor Oil	EPA 8015 MOD. (Extractable)

Case Narrative: Report re-issued 2/28/03 to include futher comments regarding TPH as Motor Oil analysis for sample MW-6 and MW-10 as well as the re-issue of EPA 8021B results to include only BTEX and MTBE (an additional compound).

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-588-0200.

Sincerely,

Patti Sandrock
QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-001 **Client Sample ID:** TB-01

Sample Time: 9:30 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	112.0	73 - 151
Dibromofluoromethane	121.0	57 - 156
Toluene-d8	124.0	77 - 150

Order ID: 33184 **Lab Sample ID:** 33184-002 **Client Sample ID:** MW-9

Sample Time: 9:45 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Methyl-t-butyl Ether	5.5		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	110.0	73 - 151
Dibromofluoromethane	132.0	57 - 156
Toluene-d8	125.0	77 - 150

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.3	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-003 **Client Sample ID:** MW-11

Sample Time: 10:25 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	112.0	73 - 151
Dibromofluoromethane	132.0	57 - 156
Toluene-d8	126.0	77 - 150

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	92.6	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-004 **Client Sample ID:** W-1

Sample Time: 11:00 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	11		2	0.5	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Ethyl Benzene	27		2	0.5	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Toluene	4.7		2	0.5	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Xylenes, Total	24		2	1	2	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	115.0	73 - 151
Dibromofluoromethane	109.0	57 - 156
Toluene-d8	115.0	77 - 150

Comment: Sample diluted due to high concentrations of non-target compounds

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	5300		25	50	1250	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	151.7	65 - 135
aaa-Trifluorotoluene	103.0	65 - 135

Comment: High surrogate recovery for 4-BFB due to matrix interference. See TFT results.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-005 **Client Sample ID:** MW-7

Sample Time: 11:30 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Methyl-t-butyl Ether	1.6		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	122.0	73 - 151
Dibromofluoromethane	105.0	57 - 156
Toluene-d8	133.0	77 - 150

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	890		5	50	250	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	144.4	65 - 135
aaa-Trifluorotoluene	98.3	65 - 135

Comment: High surrogate recovery for 4-BFB due to matrix interference. See TFT results.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-006 **Client Sample ID:** MW-3

Sample Time: 11:45 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Methyl-t-butyl Ether	3.9		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	113.0	73 - 151
Dibromofluoromethane	134.0	57 - 156
Toluene-d8	126.0	77 - 150

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.3	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-007 **Client Sample ID:** MW-1

Sample Time: 12:10 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Methyl-t-butyl Ether	17		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	116.0	73 - 151
Dibromofluoromethane	134.0	57 - 156
Toluene-d8	123.0	77 - 150

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	100.5	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-008 **Client Sample ID:** MW-2

Sample Time: 12:35 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B
Methyl-t-butyl Ether	18		1	1	1	µg/L	N/A	02/10/03	WMS11927	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	113.0	73 - 151
Dibromofluoromethane	137.0	57 - 156
Toluene-d8	125.0	77 - 150

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.0	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-009 **Client Sample ID:** MW-12

Sample Time: 1:15 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Methyl-t-butyl Ether	6.8		1	1	1	µg/L	N/A	02/11/03	WMS11931	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	127.0	73 - 151
Dibromofluoromethane	115.0	57 - 156
Toluene-d8	116.0	77 - 150

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	340		2.5	50	125	µg/L	N/A	02/13/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	127.6	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-010 **Client Sample ID:** MW-10

Sample Time: 1:45 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Methyl-t-butyl Ether	2.8		1	1	1	µg/L	N/A	02/11/03	WMS11931	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	117.0	73 - 151
Dibromofluoromethane	120.0	57 - 156
Toluene-d8	124.0	77 - 150

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	200		1	50	50	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	134.1	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandfock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-011 **Client Sample ID:** MW-6

Sample Time: 2:15 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	63		5	0.5	2.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Ethyl Benzene	18		5	0.5	2.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Toluene	8.2		5	0.5	2.5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Xylenes, Total	15		5	1	5	µg/L	N/A	02/11/03	WMS11931	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	N/A	02/11/03	WMS11931	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	113.0	73 - 151
Dibromofluoromethane	111.0	57 - 156
Toluene-d8	124.0	77 - 150

Comment: Sample diluted due to high concentrations of non-target compounds.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	2600		20	50	1000	µg/L	N/A	02/12/03	WGC42749	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	119.3	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-002 **Client Sample ID:** MW-9
Sample Time: 9:45 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	54	x	1	50	50	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	37.0	21 - 142

Comment: Not TPH as Diesel; reported value is the result of overlap from hydraulic oil range (C11-C40) into TPH as Diesel quantitation range (C9-C26).

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	ND		1	250	250	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	37.0	32 - 145

Order ID: 33184 **Lab Sample ID:** 33184-003 **Client Sample ID:** MW-11
Sample Time: 10:25 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	250	x	1	50	50	µg/L	02/10/03	02/13/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	82.0	21 - 142

Comment: Reported TPH as Diesel value is a result of carry over from Motor Oil range into Diesel quantitation range.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	450		1	250	250	µg/L	02/10/03	02/13/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	82.0	32 - 145

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-004 **Client Sample ID:** W-1
Sample Time: 11:00 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	990	x	1	50	50	µg/L	02/10/03	02/13/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	64.0	21 - 142

Comment: Not a TPH as Diesel pattern; Value due to an unknown hydrocarbon (C8 - C18), in the Diesel quantitation range.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	250	x	1	250	250	µg/L	02/10/03	02/13/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	64.0	32 - 145

Comment: Not a TPH as Motor Oil pattern; Value due to an unknown hydrocarbon (C20 - C36), in the Motor Oil quantitation range.

Order ID: 33184 **Lab Sample ID:** 33184-005 **Client Sample ID:** MW-7
Sample Time: 11:30 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	230	x	1	50	50	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	61.0	21 - 142

Comment: Not TPH as Diesel; reported value is the result of overlap from hydraulic oil range (C11-C40) and possible aged Gasoline compounds into TPH as Diesel quantitation range (C9-C26).

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	ND		1	250	250	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	61.0	32 - 145

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-006 **Client Sample ID:** MW-3
Sample Time: 11:45 AM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	50	50	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	45.0	21 - 142

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	ND		1	250	250	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	45.0	32 - 145

Order ID: 33184 **Lab Sample ID:** 33184-007 **Client Sample ID:** MW-1
Sample Time: 12:10 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	82	x	1	50	50	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	43.0	21 - 142

Comment: Not TPH as Diesel; reported value is the result of overlap from hydraulic oil range (C11-C40) into TPH as Diesel quantitation range (C9-C26).

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	ND		1	250	250	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	43.0	32 - 145

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-008 **Client Sample ID:** MW-2
Sample Time: 12:35 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	58	x	1	50	50	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	64.0	21 - 142

Comment: Not TPH as Diesel; reported value is the result of overlap from hydraulic oil range (C11-C40) into TPH as Diesel quantitation range (C9-C26).

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	ND		1	250	250	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	64.0	32 - 145

Order ID: 33184 **Lab Sample ID:** 33184-009 **Client Sample ID:** MW-12
Sample Time: 1:15 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	190	x	1	50	50	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	49.0	21 - 142

Comment: Not TPH as Diesel; reported value is the result of overlap from hydraulic oil range (C11-C40) and possible aged Gasoline compounds into TPH as Diesel quantitation range (C9-C26).

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	ND		1	250	250	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	49.0	32 - 145

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-010 **Client Sample ID:** MW-10

Sample Time: 1:45 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	510	x	1	50	50	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	82.0	21 - 142

Comment: Not TPH as Diesel; reported value is the result of overlap from an unknown hydrocarbon (C10-C26) in the TPH as Diesel quantitation range.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	280	x	1	250	250	µg/L	02/10/03	02/11/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	82.0	32 - 145

Comment: Not TPH as Motor Oil; reported value is the result an unknown hydrocarbon (C26-C40) in the TPH as Motor Oil quantitation range.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Cameron-Cole
101 W. Atlantic Ave.,Bldg#90
Alameda, CA 94501
Attn: Brad Wright

Date: 2/28/03
Date Received: 02/07/03
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Amir Mostazov

Certified Analytical Report

Order ID: 33184 **Lab Sample ID:** 33184-011 **Client Sample ID:** MW-6

Sample Time: 2:15 PM **Sample Date:** 02/06/03 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	4300		5	50	250	µg/L	02/10/03	02/13/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	63.0	21 - 142

Comment: There are two fuels present (TPH Diesel and Motor Oil), both are typical and both overlap into one another's quantitation range resulting in slightly elevated final results for both fuels.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	2700		5	250	1250	µg/L	02/10/03	02/13/03	DW4300A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	63.0	32 - 145

Comment: There are two fuels present (TPH Diesel and Motor Oil), both are typical and both overlap into one another's quantitation range resulting in slightly elevated final results for both fuels.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

STANDARD LAB QUALIFIERS (FLAGS)

All Entech lab reports now reference standard lab qualifiers. These qualifiers are noted in the adjacent column to the analytical result and are adapted from the U.S. EPA CLP program. The current qualifier list is as follows:

Qualifier (Flag)	Description
U	Compound was analyzed for but not detected
J	Estimated value for tentatively identified compounds or if result is below PQL but above MDL
N	Presumptive evidence of a compound (for Tentatively Identified Compounds)
B	Analyte is found in the associated Method Blank
E	Compounds whose concentrations exceed the upper level of the calibration range
D	Multiple dilutions reported for analysis; discrepancies between analytes may be due to dilution
X	Results within quantitation range; chromatographic pattern not typical of fuel
Y	PQL is reported below MDL but verified against a standard analyzed at the client requested reporting limit of 0.5 ppb
C	Reported results affected by contaminated reagent materials. See narrative for futher explanation

Entech Analytical Labs, Inc.

3334 Victor Court
Santa Clara, CA 95054
(408) 588-0200
(408) 588-0201 - Fax

Chain of Custody / Analysis Request

Attention to: Brad Wright	Phone No.: 510-769-353	Purchase Order No.:	Send Invoice to (if Different):
Company Name: Cameron-Cole, LLC	Fax No.:	Project Number: 2016	Phone:
Mailing Address: 101 W. Atlantic Ave., Bldg #90		Project Name: AC-Transit Emeryville	Company:
City: Alameda	State: CA Zip: 94501	Project Location: Emeryville	Billing Address (if Different):
			City: State: Zip:

Sampler: TJ/AM	Turn Around Time: Same Day ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ Standard ☐
Date: 2/6/03	
Order ID:	

Client ID	Laboratory No.	Sampling Date	Sampling Time	Matrix	Composite	Grab	Containers	Preservative: HCL	Volatile Organics by GCMS: 624 ☐ 8240 ☐ 8260B ☐ Freon 113 ☐	Fuel Oxygenates by 8260B ☐ MTBE by 8260B ☐	Pesticides-8081 ☐ PCBs - 8082 ☐	Halogenated or Aromatic Volatiles: 601/8010 ☐ 602/8020 ☐ F113 ☐ 8021 ☐	TPH as Gas/BTEX ☐ TPH as Gas/BTEX/MTBE ☐	Base/Neutral/Acid Organics 8270 ☐ 8270-SIMS ☐	Fuel Scan	Diesel ☐ w/ Si-gel Standard Cleanup ☐ w/ Si-gel Column Cleanup ☐	8021	TPH-Gas	TRPH ☐ Oil & Grease ☐	Diesel/Motor Oil		THM (502.2)	Metals - Circle Below Total ☐ Dissolved ☐			Remarks
TB-01	33184-001	2/6/03	0930	W		X	3	X									X									
MW-9	002	↓	0945	↓		↓	6	X									X	X								
↓			↓				2													X						
MW-11	003		1025				6	X									X	X								
↓			↓				2													X						
MW-1	004		1100				6	X									X	X								
↓			↓				2													X						
MW-7	005		1130				6	X									X	X								
↓			↓				2													X						
MW-3	006		1145	↓			6	X									X	X								
↓		↓	↓			↓	2													X						

Relinquished by:	Received by:	Date:	Time:
[signature]	Joe Costa	2/7/03	1215
Relinquished by:	Received by:	Date:	Time:
Relinquished by:	Received by:	Date:	Time:
Relinquished by:	Received by:	Date:	Time:

Special Instructions or Comments ☐ NPDES Detection Limits

Metals: Al, As, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Si, Ag, Na, Se, Sr, Tl, Sn, Ti, V, Zn, W : CAM-17 ☐ Plating ☐ PPM-13 ☐ LUFT-5 ☐

Entech Analytical Labs, Inc.

3334 Victor Court
Santa Clara, CA 95054
(408) 588-0200
(408) 588-0201 - Fax

Chain of Custody / Analysis Request

Attention to: Brad Wright | Phone No.: 510-769-3563
Company Name: Cameron-Cole, LLC | Fax No.:
Mailing Address: 101 W. Atlantic Ave., Bldg #90
City: Alameda | State: CA | Zip: 94501
Sampler: TI/AM
Date: 2/6/03

Turn Around Time: Same Day ☐ | 24 Hour ☐ | 48 Hour ☐ | 72 Hour ☐ | Standard ☑

Order ID:

Purchase Order No.:
Project Number: 2016
Project Name: AC-Transit Emeryville
Project Location: Emeryville

Send Invoice to (if Different) | Phone
Company
Billing Address (if Different)
City: | State | Zip

Client ID	Laboratory No.	Sampling Date	Sampling Time	Matrix	Composite	Grab	Containers	Preservative	Volatile Organics by GCMS: 624 ☐ / 8240 ☐ / Freon 113 ☐ / 8260B ☐	Fuel Oxygenates by 8260B ☐ / MTBE by 8260B ☐	Pesticides-8081 ☐	PCBs - 8082 ☐	Halogenated or Aromatic Volatiles: 601/8010 ☐ / 602/8020 ☐ / F113 ☐ / 8021 ☐	TPH as Gas/BTEX ☐ / TPH as Gas/BTEX/MTBE ☐	Base/Neutral/Acid Organics 8270 ☐ / 8270-SIMS ☐	Fuel Scan	Diesel ☐ / w/ Si-gel Standard Cleanup ☐ / w/ Si-gel Column Cleanup ☐	8021	TPH-Gas	TRPH ☐ / Oil & Grease ☐	Diesel/Motor Oil	THM (502.2)	Metals - Circle Below: Total ☐ / Dissolved ☐	Remarks
MW-1	33184-007	2/6/03	1210	W		X	6	X										X	X					
							2														X			
MW-2	008		1235				6	X										X	X					
							2														X			
MW-12	009		1315				6	X										X	X					
							2														X			
MW-10	010		1345				6	X										X	X					
							2														X			
MW-6	011		1415				6	X										X	X					
							2														X			
~~MW-13~~																								

Relinquished by:	Received by:	Date:	Time:
	Joel Costa	2/7/03	1215
Relinquished by:	Received by:	Date:	Time:
Relinquished by:	Received by:	Date:	Time:
Relinquished by:	Received by:	Date:	Time:

Special Instructions or Comments

☐ NPDES Detection Limits

Metals: Al, As, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Si, Ag, Na, Se, Sr, Tl, Sn, Ti, V, Zn, W : CAM-17 ☐ Plating ☐ PPM-13 ☐ LUFT-5 ☐

AC TRANSIT - EMERYVILLE
FIRST QUARTER 2002

FIELD PERSONNEL: TT/AM

WELL OR LOCATION	DATE	TIME	MEASUREMENT	CODE	COMMENTS
MW-1	2/6/2003	0820	4.08	SWL	
MW-2	2/6/2003	0824	3.70	SWL	
MW-3	2/6/2003	0818	4.97	SWL	
MW-4	2/6/2003	0815	5.39	SWL	
MW-5	2/6/2003	0822	~~3.74~~ 3.61 (11)	SWL	
MW-6	2/6/2003	0850	2.97	OWI	Water Level
MW-6	2/6/2003				
MW-7	2/6/2003	0828	4.34	SWL	
MW-8	2/6/2003	0830	4.41	SWL	
MW-9	2/6/2003	0832	3.65	SWL	
MW-10	2/6/2003	0845	9.34	SWL	No Cap
MW-11	2/6/2003	0839	2.59	SWL	
MW-12	2/6/2003	0843	9.97	SWL	
MW-13	2/6/2003	0858	8.16	OWI	Product Level
MW-13	2/6/2003	0900	8.25	OWI	Water Level
W-1	2/6/2003	0855	5.17	SWL	
W-3	2/6/2003	0812	5.69	SWL	
W-4	2/6/2003	0826	3.67	SWL	

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

Well ID: MW-13

Project Name: AC-Transit Emeryville Project Number:
Casing Diameter (in): 2" Sample Date: 2/6/03
Total Well Depth (ft): 22' Sample ID: NA
Depth to Water (ft) before purging: 8.16-0.1
8.25-Water
=.09 Product

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)
1430	8.02	983	17.3	10.91	1.0	NA

Water Volume to be Purged (gal): 13.75 X .165 = 2.26
(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

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

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

Sample Collection Method:
NA **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: NA _____ _____ _____

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

Decontamination Performed:
Washed/Rinsed Sounder & Meters.

Comments / Calculations:
→ Purge ½ casing volume from well and took pH reading. We then proceeded to purge the well dry of water & product

Name: _____ Date: 2/6/03

Well ID: MW-6

Project Name: AC TRANSIT-ENGRY
Project Number: 206
Casing Diameter (in): 2"
Sample Date: 2/06/03
Total Well Depth (ft): 19.64
Sample ID: MW-6
Depth to Water (ft) before purging: 3.10

Development Method:

N/A **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)
1402	7.16	879	24.8	3.86	2.0	0.65
1405	7.02 (MW)	910	24.9	4.12	4.5	↓
1409	6.99	913	24.8	4.54	7.0	↓
			Tot Vol =		8.5 g	

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
16.54(.165) = 2.73(3) = 8.18
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 TPH-gas Diesel/Motor oil _____

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

* Cent pump used to purge
* Disp. Bailer used to Sample.

Decontamination Performed:
W/R

Solinst Meters

Comments / Calculations:
Start: 1359
Stop: 1412
Sample: 1405

FE = 3.30
DO = 5.87
ORP = -60

Name: A. M Date: 2/06/03

Well ID: MW-10

Project Name: AC TRANSIT-emery
Casing Diameter (in): 2"
Total Well Depth (ft): 24.15
Depth to Water (ft) before purging: 9.30

Project Number: 2016
Sample Date: 2/06/03
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	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)
1331	7.96	667	24.1	12.17	2.0	0.57
1335	7.38	667	23.7	12.00	4.0	↓
1338	7.36	664	23.7	12.08	6.0	↓
			Tot V: 8.0 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

$14.85(.165) - 2.45(3) = 7.35$

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

At least 8 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 TPH-gas Diesel/motor oil _____

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

Decontamination Performed:
W/R Sounder/meters

☆ cent pump used to purge
☆ Disp. Bailer used to Sample.

Comments / Calculations:
Start: 1328
Stop: 1342
Sample: 1345

Fe = 2.16
DO = 6.02
ORP = -60

Name: A. M. Date: 2/06/03

Project Name: AC-Transit Emery
Casing Diameter (in): 2"
Total Well Depth (ft): 29.87
Depth to Water (ft) before purging: 9.58

Project Number: 2016
Sample Date: 2/6/03
Sample ID: MW-12

Well ID: MW-12

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)
1300	7.24	801	25.0	13.20	3.0	0.53
1308	7.06	784	25.4	1300	6.0	↓
1313	6.89	784	25.4	13.95	9.0	↓

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
20.29 X .165 = 3.35 X 3 = 10.04

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 TPH G Diesel/Motor Oil _____

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

Decontamination Performed:

W/R Sounder & Meters

* Centrifugal Pump used to purge.
* Disposible Bailer used to Sample

Comments / Calculations:

Start: 1254
Stop: 1314
Sample: 1315

Name: A.M. Date: 2/6/03

Project Name: AC Transit Emery
Project Number: 2016
Well ID: MW-2

Casing Diameter (in): 2"
Sample Date: 2/6/03
Total Well Depth (ft): 14.56
Sample ID: MW-2
Depth to Water (ft) before purging: 3.57

Development Method:

~~N/A~~ **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)
1227	7.15	622	25.3	4.01	1.5	0.61
1230	~~7.22~~ 7.14	620	26.5	4.18	3.0	↓
1233	7.12	621	24.8	4.20	5.0	↓
				Total Vol. = 5.5		

Water Volume to be Purged (gal): 10.99 X .165 = 1.81 X 3 = 5.44
(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

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 TPH-Gas Motor Oil/Diesel _____

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

* Cent. Pump used to Purge.
* Disp. Bailer used to Sample

Decontamination Performed:
Washed/Rinsed Sounder & Meters.

Comments / Calculations:
Start: 1225
Stop: 1234
Sample 1235

DO: 6.86 mg/L
ORP: -100 mV
Fe: 73.30 mg/L

Name: _____

Date: 2/6/03

Project Name: AC Energy
Casing Diameter (in): 2
Total Well Depth (ft): 14.50
Depth to Water (ft) before purging: 4.08

Project Number: 2016
Sample Date: 2/6/03
Sample ID: MW-1

Well 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	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)
1203	7.39	694	21.9	8.55	1.0	0.79
1205	7.17	668	22.3	8.28	3.0	
1207	7.10	653	26.7	8.31	5.0	
				Total Volume = 5.50		

Water Volume to be Purged (gal): 10.42 X .165 = 1.72 X 3 = 5.16
(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

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: TPH-Gas 8021 Diesel/Motor Oil _____

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

Decontamination Performed:
Washed/Rinsed Sounder & Meters

★ Cent. Pump used to Purge
★ Disp. Bailer used to Sample

Comments / Calculations:
Start: 1201
Stop: 1208
Sample: 1210

DO: ~0.60
ORP: 1.98 mg/L
Fe: 2.46

Name: _____ Date: 2/6/03

Well ID: MW-3

Project Name: AC Transit - Emery
Casing Diameter (in): 2"
Total Well Depth (ft): 14.68
Depth to Water (ft) before purging: 4.97

Project Number: 7016
Sample Date: 2-6-03
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	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)
1137	7.13	806	25.6	6.20	1.5	0.71
1139	7.04	777	25.7	8.28	3.0	↓
1141	7.05	757	25.9	8.72	4.5	↓
				Tot Vol	5.0 gallons	

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
9.71 (.165) = 1.60 (3) = 4.80
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 TPH-gas diesel/motor oil _____

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

Decontamination Performed:
W/R
Sander/motors

★ Cent pump used to purge
★ Disp. Bailer used to sample.

Fe: 73.30 mg/L
DO: 3.73 mg/L
ORP: -80 mV

Comments / Calculations:
Start: 1135
Stop: 1142
Sample: 1145

Name: _____ Date: 2/6/03

Well ID: MW-7

Project Name: AC Transit - Emery
Casing Diameter (in): 2"
Total Well Depth (ft): 24.53
Depth to Water (ft) before purging: 4.36

Project Number: 2015
Sample Date: 02/06/03
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	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)
0945	6.89	944	18.3	8.44	3.0	0.08
1015	7.21	957	18.6	10.41	6.0	↓
1115 ~~1045~~	7.14	969	18.7	12.63	9.0	↓
				Total Volume = 10.0		

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

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

At least 3 well casing volumes were removed prior to sampling.
20.17(.165) = 3.33(3) = 9.99

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: ~~8260 Full~~ 8021 TPH - Gas Diesel/motor oil

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

* Per. pump used to purge
* Disp. Bailer used to sample.
Fe: 1.84 mg/L
Do: 2.18
ORP: 0mV

Decontamination Performed:
W/R sounder/meters

Comments / Calculations:
Start: 0916
Stop: 1126
Sample: 1130

Name: _____ Date: 2/6/03

Project Name: AC-Transit Emeryville
Casing Diameter (in): 2"
Total Well Depth (ft): 16.43
Depth to Water (ft) before purging: 5.18

Project Number: 2016
Sample Date: 2/6/03
Sample ID: W-1

Well 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	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)
1047	7.21	873	21.1	5.33	1.0	0.63
1049	7.09	907	22.8	5.48	3.0	↓
1051	6.96	913	24.3	5.51	5.0	↓
				Total Volume = 7.0		

Water Volume to be Purged (gal): 1.25 X .163 = 1.83 x 3 = 5.50
(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

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:
NA **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 Diesel/Motro.1 _____

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

Decontamination Performed:
Washed & Rinsed Sounder & Meters

*Cent Pump used to Purge
*Disp. Bailer used to sample.

Comments / Calculations:
Start: 1046
Stop: 1057
Sample: 1100

DO: 3.46 mg/L
ORP: -65
Fe 1.64 mg/L

Name: _____ Date: 2/6/03

Project Name: AC Emery
Casing Diameter (in): 2"
Total Well Depth (ft): 20.52
Depth to Water (ft) before purging: 3.65

Project Number: 2016
Sample Date: 2/6/03
Sample ID: MW-9

Well ID: MW-9

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)
0930	6.88	1067	21.6	6.44	2.5	0.64
0934	6.95	994	21.5	10.11	5.0	↓
0938	6.98	986	21.6	12.20	7.5	↓
				Total Vol.	= 8.95 gallons	

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

16.87 X .165 = 2.78 X 3 = 8.35

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 TPH-Gas Diesel/Motor Oil _____

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

Decontamination Performed:

W/R sounder & Meters.

☆TB @ collected @ 0930

Comments / Calculations:

Start: 0926
Stop: 0940
Sample: 0945

Fe: 0.00
DO: 4.39
ORP: 105 mV

☆Cent. pump used to purge.
☆Disp. Bailer used to sample.

Name: _____ Date: 2/6/03

Well ID: MW-11

Project Name: AC-Transit
Casing Diameter (in): 2"
Total Well Depth (ft): 17.40
Depth to Water (ft) before purging: 2.59

Project Number:
Sample Date: 2/6/02
Sample ID: MW-11

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)
1016	7.88	631	18.8	2.62	2.0	1.0
1018	~~7.88~~ 7.68	609	18.4	2.61	~~4.0~~ 5.0	↓
1021	7.62	604	18.5	2.62	7.0	↓
				Total Volume = 8.0 gallons		

Water Volume to be Purged (gal): 14.81 X.165 = 2.44 x 3 = 7.33
(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

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 TPH-Gas Diesel/Motor oil _____

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

Decontamination Performed: Washed & Rinsed Sounder & Meters

*Cent. Pump used to purge
*Disp. Bailer used to sample

Comments / Calculations:
Start: 1014
Stop: 1022
Sample: 1025

DO: ~~4.66~~ 3.56 (II)
ORP: 65
Fe: ~~0.01~~ 0.02 (II)

Name: _____ Date: 2/6/03