AC Transit

Alameda Contra Costa Transit District

Suzanne Patton, P.E.
Environmental Engineer
(510) 577-8869
October 17, 2003

RO 296

Mr. Barney Chan
Alameda County Health Division
Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway, Second Floor
Alameda, CA 94502

Dear Mr. Chan:

Subject: Quarterly Groundwater Monitoring Report – August 2003 Sampling
AC Transit, 1100 Seminary Avenue, Oakland, CA

AC Transit hereby submits the enclosed quarterly groundwater monitoring report for the August 2003 sampling event at the 1100 Seminary Avenue, Oakland, facility. Other than observing an increase in diesel, gasoline and benzene concentrations in well MW-2, analytical results of grab water samples showed parameter concentrations consistent with past quarterly monitoring events. The free phase product in well MW-2 has not been observed to be present since the second quarter of 2002.

Groundwater sampling of monitoring wells MW-1 through MW-3 and MW-9 through MW-11 was performed by Cameron-Cole in accordance with directives from your office. Groundwater samples were collected from the six on-site monitoring wells and analyzed for total petroleum hydrocarbons (TPH) as gasoline and diesel using EPA Method 8015, benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl-tert butyl ether (MTBE) using EPA Method 8260B and nitrate and sulfate using Standard Methods 300.0A. Field parameters collected during sampling included pH, temperature, electrical conductivity, dissolved oxygen, ferrous iron and oxidation reduction potential. In addition, monitoring well MW-2 is being purged dry monthly and during each quarterly sampling event.

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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MONITORING REPORT
FOR THE AC TRANSIT FACILITY
LOCATED AT 1100 SEMINARY AVENUE,
OAKLAND, CALIFORNIA

September 2003

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

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

Project No: 2016

CAMERON-COLE

MONITORING REPORT FOR THE AC TRANSIT FACILITY LOCATED AT 1100 SEMINARY AVENUE, OAKLAND, CALIFORNIA

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CAMERON-COLE

Written By
Andrew Wyckoff
Geologist

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STATE OF CALIFORNIA
REGISTERED GEOLOGIST
BRADLEY D. WRIGHT
CERTIFIED GEOLOGIST

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INTRODUCTION

This report presents the results of the August 2003 sampling event for the AC Transit facility located at 1100 Seminary Avenue, Oakland, California (Site) (Figure 1). Groundwater sampling of monitor wells MW-1 through MW-3 and MW-9 through MW-11 was performed by Cameron-Cole, in accordance with directives from the Alameda County Health Care Services Agency (ACHCS).

OBJECTIVES AND SCOPE OF WORK

Work performed during quarterly sampling included measuring depth to water and presence of free phase hydrocarbons in the monitor wells and collecting water samples. Field parameters collected during sampling included pH, temperature, electric conductivity, dissolved oxygen (DO), ferrous iron (Fe^{2+}) and oxygen reduction potential (ORP). Groundwater samples were collected for laboratory analysis using United States Environmental Protection Agency (USEPA) Method 8015 for total petroleum hydrocarbons (TPH) gasoline/diesel, USEPA Method 8260B for benzene, toluene, ethylbenzene, and xylene (BTEX) and methyl-tert butyl ether (MTBE) and methods of chemical analysis for water and waste (MCAWW) 300.0A for nitrate and sulfate.

Chain-of-custody documents and certified analytical reports are presented in Appendix A. Field data sheets are included in Appendix B.

Groundwater Elevations and Flow Direction

Prior to purging and sample collection, all six Site monitor wells were inspected and measured for 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 0.0053 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, DO, ORP, Fe^{2+} and temperature were monitored using calibrated field meters.

In addition, MW-2 is now being purged of ten casing volumes monthly and during all quarterly sampling events to expedite the removal of free phase hydrocarbons from the vicinity of the well. Field data sheets the over-purge events are included in Appendix B.

Groundwater samples were transferred to appropriate laboratory supplied and preserved containers and placed in an ice-filled cooler for shipment under chain-of-custody to a State of California certified laboratory.

Groundwater Analytical Results

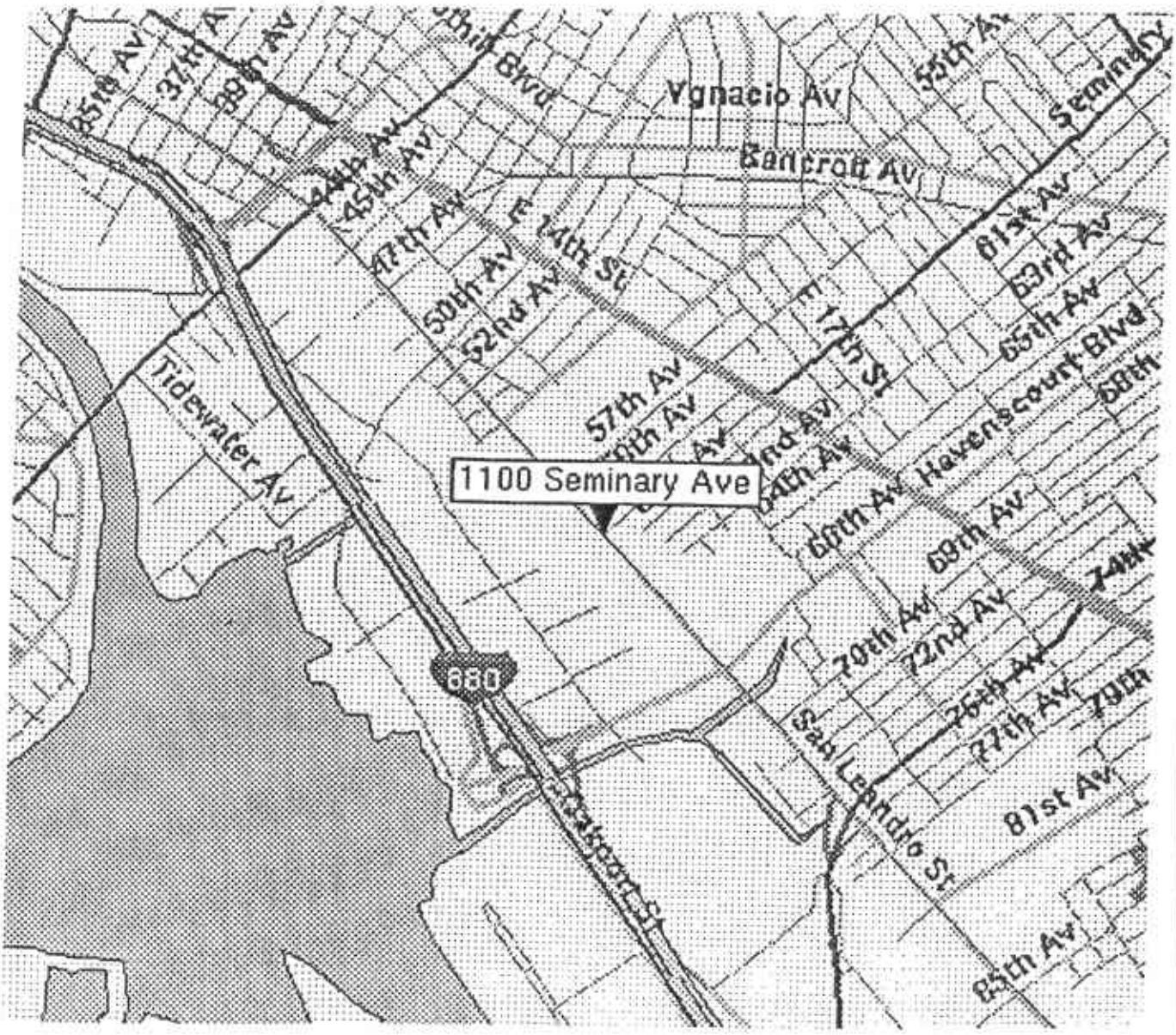
Table 2 presents groundwater historic and third quarter 2003 analytical results. Concentrations of benzene above the State of California maximum contaminant level (MCL) of 1.0 part per billion (ppb) were detected in monitor wells MW-2 and MW-3. Toluene was detected above the MCL of 150 ppb in monitor well MW-2. Ethylbenzene was detected above the MCL of 700 ppb in monitor well MW-2. Total xylenes were detected above the MCL of 1,750 ppb in MW-2. TPH-Gas was detected above the reporting limit in monitor wells MW-1, MW-2 and MW-3. TPH-Diesel was detected above the reporting limit in all monitor wells. A lab control spike and lab control spike duplicate passed the USEPA's criteria for acceptance.

SUMMARY OF RESULTS

- Groundwater flow direction is towards the west at a gradient of 0.0053 feet/foot.
- Chemical concentrations in excess of MCLs were limited to benzene in wells MW-2 and MW-3, toluene in well MW-2, ethylbenzene in well MW-2 and xylenes in well MW-2.
- The free phase product level previously measured in well MW-2 has not been detected since the second quarter 2002.

PROJECTED WORK AND RECOMMENDATIONS

- Quarterly groundwater monitoring is scheduled for November 2003.
- Continued monthly over purges of MW-2.



CAMERON-COLE

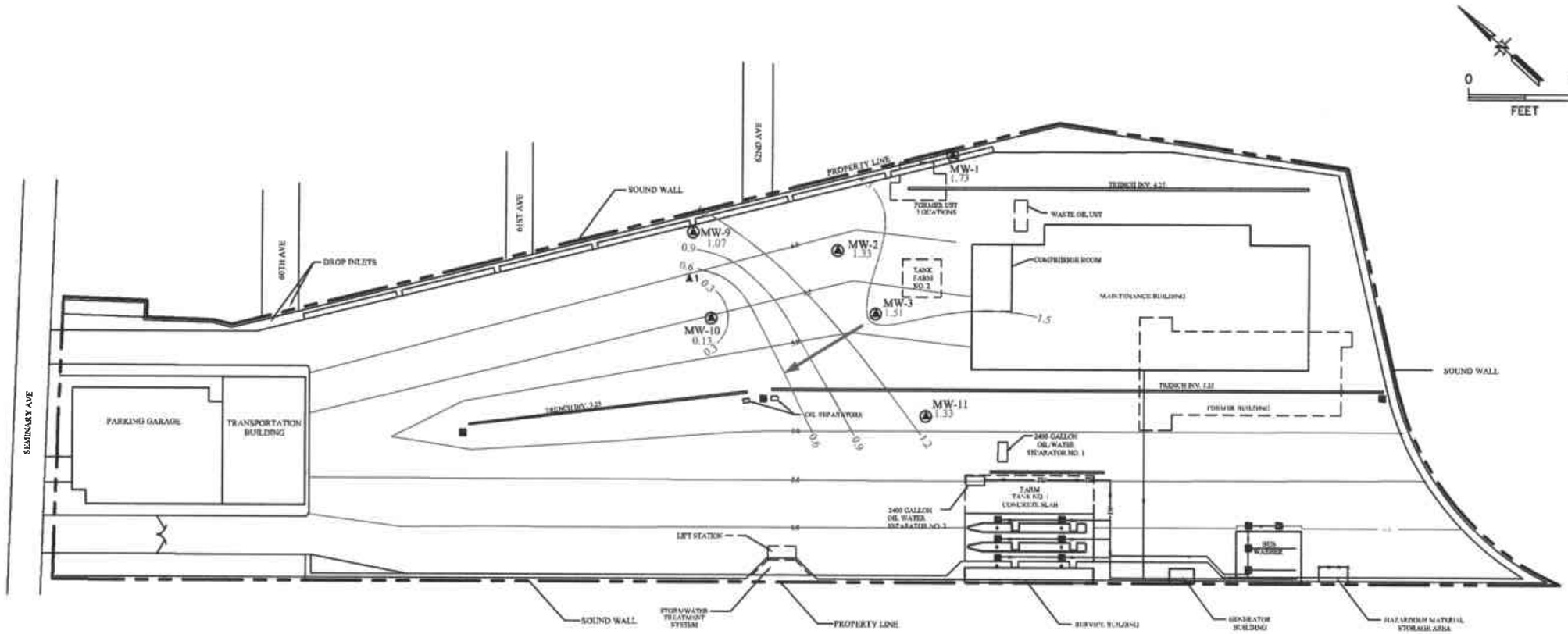
AC TRANSIT - OAKLAND, CALIFORNIA

FIGURE 1
SITE LOCATION MAP
1100 SEMINARY ROAD

SCALE	DATE
NO SCALE	3/22/00

North

LOCMAP



LEGEND

1.0 — GROUNDWATER ELEVATION CONTOUR	EXISTING MONITORING WELL
1.07 GROUNDWATER ELEVATION (FT. MSL)	MANHOLE
REPORTED GROUNDWATER FLOW	CATCH BASIN
6.0 — CONTOUR	
IW — INDUSTRIAL WASTE PIPELINE	
SURFACE DRAINAGE TRENCH	

BY	DATE
DRAWN WRB	9/24/03
CHECKED	
APPROVED	
APPROVED	
APPROVED	

CAMERON-COLE

FIGURE 2

AC TRANSIT - OAKLAND, CALIFORNIA

1100 SEMINARY ROAD-POTENTIOMETRIC SURFACE MAP
AUGUST 22, 2003

SCALE: 1" = 120'

DWG. NO.: 2011-08

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC Transit Facility
1100 Seminary Avenue, Oakland, California

Well	Date	Top of Casing Elevation (ft-msl)*	Product Thickness (feet)	DTW (feet)	Measured Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected for Product Thickness**
MW-1	7-Jan-99	6.25	None	5.13	1.12	
	7-Feb-00		None	3.75	2.5	
	25-May-00		None	3.69	2.56	
	22-Aug-00		None	4.79	1.46	
	20-Nov-00		None	4.92	1.33	
	1-Mar-01		None	2.75	3.50	
	14-May-01		None	3.67	2.58	
	26-Jul-01		None	4.73	1.52	
	16-Oct-01		None	5.35	0.90	
	21-Feb-02		None	3.30	2.95	
	29-May-02		None	3.70	2.55	
	17-Sep-02		None	4.85	1.40	
	14-Nov-02		None	4.59	1.66	
	5-Feb-03		None	3.37	2.88	
	14-May-03		None	3.17	3.08	
	22-Aug-03		**None**	**4.52**	**1.73**	
MW-2	7-Jan-99	5.53	2.27	6.91	-1.38	0.44
	8-Jun-99		2.23	5.83	-0.3	1.48
	9-Jun-99		0	3.9	1.63	1.63
	10-Jun-99		0	3.9	1.63	1.63
	15-Jun-99		0.42	3.92	1.61	1.95
	8-Jul-99		0.2	4.3	1.23	1.39
	7-Feb-00		Sheen	3.8	1.73	
	25-May-00		0.12	3.23	2.3	2.40
	22-Aug-00		0.23	4.45	1.08	1.10
	20-Nov-00		0.23	4.70	0.83	0.85
	1-Mar-01		0.13	2.75	2.78	2.79
	14-May-01		Sheen	3.30	2.23	
	26-Jul-01		None	3.27	2.26	
	16-Oct-01		0.02	5.25	0.28	0.28
	21-Feb-02		0.01	3.32	2.21	2.21
	29-May-02		0.02	2.98	2.55	2.55
	17-Sep-02		None	4.83	0.70	
	14-Nov-02		None	5.43	0.10	
	5-Feb-03		None	3.85	1.68	
	14-May-03		None	2.94	2.59	
	22-Aug-03		**None**	**4.20**	**1.33**	
MW-3	7-Jan-99	4.76	None	4.11	0.65	
	7-Feb-00		None	3.1	1.66	
	25-May-00		None	2.41	2.35	
	22-Aug-00		None	3.45	1.31	
	20-Nov-00		None	3.42	1.34	
	1-Mar-01		None	2.00	2.76	
	14-May-01		None	2.64	2.12	
	26-Jul-01		None	3.17	1.59	
	16-Oct-01		None	3.97	0.79	
	21-Feb-02		None	2.20	2.56	
	29-May-02		None	2.52	2.24	
	17-Sep-02		None	3.65	1.11	
	14-Nov-02		None	3.47	1.29	
	5-Feb-03		None	2.19	2.57	
	14-May-03		None	2.12	2.64	
	22-Aug-03		**None**	**3.25**	**1.51**	

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC Transit Facility
1100 Seminary Avenue, Oakland, California

Well	Date	Top of Casing Elevation (ft-msl)*	Product Thickness (feet)	DTW (feet)	Measured Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected for Product Thickness**
MW-9	7-Feb-00	5.8	None	4.37	1.43	
	25-May-00		None	4.95	0.85	
	22-Aug-00		None	5.18	0.62	
	20-Nov-00		None	4.70	1.10	
	1-Mar-01		None	3.03	2.77	
	14-May-01		None	4.56	1.24	
	26-Jul-01		None	5.17	0.63	
	16-Oct-01		None	5.19	0.61	
	21-Feb-02		None	4.79	1.01	
	29-May-02		None	4.07	1.73	
	17-Sep-02		None	4.94	0.86	
	14-Nov-02		None	4.87	0.93	
	5-Feb-03		None	3.88	1.92	
	14-May-03		None	3.77	2.03	
	22-Aug-03		**None**	**4.73**	**1.07**	
MW-10	7-Feb-00	4.65	None	3.19	1.46	
	25-May-00		None	3.11	1.54	
	22-Aug-00		None	4.35	0.30	
	20-Nov-00		None	4.18	0.47	
	1-Mar-01		None	3.14	1.51	
	14-May-01		None	3.27	1.38	
	26-Jul-01		None	3.95	0.70	
	16-Oct-01		None	4.57	0.08	
	21-Feb-02		None	3.29	1.36	
	29-May-02		None	3.30	1.35	
	17-Sep-02		None	4.11	0.54	
	14-Nov-02		None	3.86	0.79	
	5-Feb-03		None	3.36	1.29	
	14-May-03		None	3.23	1.42	
	22-Aug-03		**None**	**4.52**	**0.13**	
MW-11	7-Feb-00	4.19	None	4.97	-0.78	
	25-May-00		None	7.58	-3.39	
	22-Aug-00		None	3.01	1.18	
	20-Nov-00		None	2.88	1.31	
	1-Mar-01		None	1.91	2.28	
	14-May-01		None	4.49	-0.3	
	26-Jul-01		None	2.95	1.24	
	16-Oct-01		None	3.35	0.84	
	21-Feb-02		None	1.85	2.34	
	29-May-02		None	2.36	1.83	
	17-Sep-02		None	3.11	1.08	
	14-Nov-02		None	2.55	1.64	
	5-Feb-03		None	2.75	1.44	
	14-May-03		None	1.98	2.21	
	22-Aug-03		**None**	**2.86**	**1.33**	

Notes:

* ft-msl: feet-mean sea level
** used 0.8 specific gravity of product
DTW: Depth to Water

TABLE 2
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES (ppb)
AC Transit Facility
1100 Seminary Avenue, Oakland, California

Well	Date	TPH-G	TPH-D	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	Nitrate	Sulfate	DO	Fe
	MCL (ppb)				1.0	150	700	1,750	13				
MW-1	7-Jan-99	<100	470	NA	17.0	2	31.0	18	<50	150	3,400	360	53
	7-Feb-00	390	<60	1,300	13.0	<10	<10	<10	<20	<50	1,200	1,220	11,800
	25-May-00	<50	<50	1,000	12.0	<1.0	<1.0	<1.0	<2.0	140	1,500	1,950	1,380
	22-Aug-00	<50	<50	600	6.3	<1.0	2.3	<1.0	<2.0	75	2,100	6,850	2,350
	20-Nov-00	<50	<50	630	2.8	<1.0	1.1	<1.0	<2.0	<50	4,500	11,210	1,170
	1-Mar-01	<50	<50	900	29.0	1.2	16.0	6	<2.0	<50	2,800	6,020	2,920
	14-May-01	<50	<50	540	4.1	<1.0	3.1	<1.0	<2.0	<50	2,500	13,970	1,870
	26-Jul-01	190	<50	500	<1.0	<1.0	<1.0	<1.0	<2.0	75	3,700	8,480	1,950
	16-Oct-01	<50	<50	650	16.0	1.1	4.6	1.6	<2.0	<50	3,600	9,480	2,560
	21-Feb-02	560	<50	550	21	1.0	19	15	<2.0	<50	3,000	5,890	2,200
	29-May-02	130	<50	510	<1.0	<1.0	<1.0	<1.0	<2.0	<50	2,300	6,820	1,300
	17-Sep-02	140	<50	330	<1.0	<1.0	<1.0	<1.0	<2.0	<50	5,200	5,840	>3300
	14-Nov-02	150	570	NA	4.8	0.57	2.7	1.1	<1.0	<200	12,000	4,720	>3300
	5-Feb-03	250	210	NA	16.0	<0.5	0.93	<1.0	<1.0	<200	6,500	5,630	>3300
	14-May-03	220	<50	NA	9.9	<0.5	1.6	<1.0	<1.0	<200	5,200	3,280	2,750
	22-Aug-03	**150**	**770**	**NA**	**<0.5**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<200**	**6,300**	**2,980**	**2,570**
MW-2	8-Jun-99	11,000	434,000	117,000	1,000,000	<100,000	260,000	<300,000	<5,000,000	NA	NA	NA	NA
	7-Feb-00	51,000	160,000	<5000	19,000	<500	920	<500	<1000	51	<1000	6,660	7,300
	25-May-00	<1200	<50000	65,000	11,000	<500	670	530	<1000	330	<1000	5,670	0
	22-Aug-00	<2500	<2500	150,000	23,000	<500	1,100	1,100	<1000	370	<1000	4,530	3,680
	20-Nov-00	<1200	<25000	430,000	18,000	<500	840	610	<1000	<250	<500	1,700	3,300
	3-Mar-01	<500	<25000	610,000	14,000	<830	<830	<830	<1700	<250	<5000	7,880	3,300
	14-May-01	<1000	280,000	51,000	19,000	240	1,100	1,200	<330	<50	<1000	3,330	>3300
	26-Jul-01	54,000	590,000	<25000	19,000	<500	1,300	1,500	<1000	<50	<1000	9,960	>3300
	16-Oct-01	43,000	560,000	<25000	18,000	280	1,100	1,300	<100	<50	1,500	17,630	>3300
	21-Feb-02	46,000	180,000	<12000	18,000	<500	950	1,500	<1000	<100	<2000	3,650	>3300
	29-May-02	49,000	130,000	<5000	17,000	350	970	1,700	<500	<50	1,000	2,220	>3300
	17-Sep-02	60,000	<25000	470,000	21,000	<500	1,600	2,700	<1000	<50	<1000	4,270	>3300
	14-Nov-02	36,000	490,000	NA	14,000	280	970	2,200	<400	<200	<500	6,050	>3300
	5-Feb-03	47,000	28,000	NA	15,000	360	1,200	2,100	<100	<200	<500	6,940	>3300
	14-May-03	39,000	200,000	NA	13,000	370	1,000	2,000	<100	<200	<500	2,140	>3300
	22-Aug-03	**43,000**	**480,000**	**NA**	**22,000**	**490**	**1,500**	**2,100**	**<400**	**<200**	**<500**	**1,960**	**>3300**

TABLE 2
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES (ppb)
AC Transit Facility
1100 Seminary Avenue, Oakland, California

Well	Date	TPH-G	TPH-D	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	Nitrate	Sulfate	DO	Fe
	MCL (ppb)				1.0	150	700	1,750	13				
MW-3	7-Jan-99	199	2,680	NA	450	<10	250	190	<500	170	3,300	880	0
	7-Feb-00	2,000	<150	3,100	26	<2	5	2	<4	<50	47,300	6,480	17,800
	25-May-00	<50	<50	1,000	35	<1.0	6	4	<2.0	<50	21,700	4,640	600
	22-Aug-00	<50	<50	2,400	240	<10	<10	<10	<20	<50	19,300	3,970	20
	20-Nov-00	<50	<50	2,400	<25	<25	<25	<25	<50	<50	26,500	4,120	20
	1-Mar-01	<50	<50	1,200	100	<5.0	8.3	<5.0	<10	<50	27,000	1,510	50
	14-May-01	<50	<50	860	8.4	<1.0	1.2	<1.0	<2.0	<50	21,100	9,800	0
	26-Jul-01	1,200	<50	790	140	<5.0	12	<5.0	<10	<50	18,700	8,650	80
	16-Oct-01	1,000	<50	1,600	5.1	<1.0	4.3	<1.0	<2.0	<50	29,800	11,360	640
	21-Feb-02	1,700	<50	990	200	<10	29.0	12	<20	<50	20,500	5,730	0
	29-May-02	630	<50	840	68	<1.0	4.2	3.3	<2.0	<50	14,300	5,870	1,070
	17-Sep-02	<50	<50	1,100	4.1	<1.0	1.8	1.0	<2.0	<50	17,000	6,820	2,820
	14-Nov-02	2,800	460	NA	200	1.1	28	9.0	<2.0	<200	19,000	9,780	1,210
	5-Feb-03	720	270	NA	55	<0.5	20	7.1	<1.0	<200	22,000	8,320	>3300
	14-May-03	540	130	NA	18	<0.5	3.6	1.0	<1.0	<200	19,000	8,460	1,980
	22-Aug-03	**400**	**540**	**NA**	**2.7**	**<1.0**	**1.6**	**<1.0**	**<1.0**	**<200**	**18,000**	**6,620**	**190**
MW-9	7-Feb-00	<50	<50	240	<1	<1	<1	<1	<2	230	183,000	6,940	9,000
	25-May-00	<50	<50	130	<1.0	<1.0	<1.0	<1.0	<2.0	250	172,000	6,020	1,200
	22-Aug-00	<50	<50	120	<1.0	<1.0	<1.0	<1.0	<2.0	280	157,000	7,250	0
	20-Nov-00	<50	<50	130	<1.0	<1.0	<1.0	<1.0	<2.0	340	147,000	9,690	0
	1-Mar-01	<50	<50	150	<1.0	<1.0	<1.0	<1.0	<2.0	230	116,000	4,210	0
	14-May-01	<50	<50	110	<1.0	<1.0	<1.0	<1.0	<2.0	100	140,000	8,290	0
	26-Jul-01	<50	<50	71	<1.0	<1.0	<1.0	<1.0	<2.0	130	143,000	7,560	0
	16-Oct-01	<50	<50	120	<1.0	<1.0	<1.0	<1.0	<2.0	89	141,000	967	50
	21-Feb-02	<50	<50	89	<1.0	<1.0	<1.0	<1.0	<2.0	94	137,000	3,500	70
	29-May-02	<50	<50	95	<1.0	<1.0	<1.0	<1.0	<2.0	94	141,000	4,590	90
	17-Sep-02	<50	<50	96	<1.0	<1.0	<1.0	<1.0	<2.0	100	143,000	3,860	2,130
	14-Nov-02	<50	82	NA	<0.5	<0.5	<0.5	<1.0	<1.0	<200	130,000	10,120	670
	5-Feb-03	<50	82	NA	<0.5	<0.5	<0.5	<1.0	<1.0	<200	140,000	8,630	2,870
	14-May-03	<50	140	NA	<0.5	<0.5	<0.5	<1.0	1.3	<200	130,000	8,760	2,570
	22-Aug-03	**<50**	**220**	**NA**	**<0.5**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<200**	**140,000**	**6,140**	**0**

TABLE 2
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES (ppb)
AC Transit Facility
1100 Seminary Avenue, Oakland, California

Well	Date	TPH-G	TPH-D	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	Nitrate	Sulfate	DO	Fe
	MCL (ppb)				1.0	150	700	1,750	13				
MW-10	7-Feb-00	<50	<50	470	<1	<1	<1	<1	<2	53	114,000	1,200	55,000
	25-May-00	<50	<50	220	<1.0	<1.0	<1.0	<1.0	<2.0	480	136,000	1,940	0
	22-Aug-00	<50	<50	140	<1.0	<1.0	<1.0	<1.0	<2.0	69	126,000	4,350	0
	20-Nov-00	<50	<50	300	<1.0	<1.0	<1.0	<1.0	<2.0	<50	76,200	3,790	0
	1-Mar-01	<50	<50	250	<1.0	<1.0	<1.0	<1.0	<2.0	<250	106,000	7,440	0
	14-May-01	<50	<50	74	<1.0	<1.0	<1.0	<1.0	<2.0	<50	135,000	6,790	0
	26-Jul-01	<50	<50	120	<1.0	<1.0	<1.0	<1.0	<2.0	<50	125,000	9,680	1,970
	16-Oct-01	<50	<50	190	<1.0	<1.0	<1.0	<1.0	<2.0	<50	90,100	28,000	570
	21-Feb-02	<50	<50	190	<1.0	<1.0	<1.0	<1.0	<2.0	<50	77,700	4,280	0
	29-May-02	<50	<50	110	<1.0	<1.0	<1.0	<1.0	<2.0	<50	126,000	7,230	270
	17-Sep-02	<50	<50	170	<1.0	<1.0	<1.0	<1.0	<2.0	<50	107,000	4,230	>3300
	14-Nov-02	<50	270	NA	<0.5	<0.5	<0.5	<1.0	1.5	<200	64,000	1,680	1,400
	5-Feb-03	<50	160	NA	<0.5	<0.5	<0.5	<1.0	<1.0	<200	110,000	5,260	>3300
	14-May-03	<50	<50	NA	<0.5	<0.5	<0.5	<1.0	<1.0	<200	93,000	2,990	1,720
	22-Aug-03	**<50**	**320**	**NA**	**<0.5**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<200**	**120,000**	**1,950**	**0**

TABLE 2
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES (ppb)
AC Transit Facility
1100 Seminary Avenue, Oakland, California

Well	Date	TPH-G	TPH-D	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	Nitrate	Sulfate	DO	Fe
	MCL (ppb)				1.0	150	700	1,750	13				
MW-11	7-Feb-00	<50	<50	400	<1	<1	<1	<1	25	800	167,000	7,300	16,200
	25-May-00	<50	<50	200	<1.0	<1.0	<1.0	<1.0	16	480	207,000	6,540	0
	22-Aug-00	<50	<50	170	<1.0	<1.0	<1.0	<1.0	9.3	610	168,000	4,640	20
	20-Nov-00	<50	<50	190	<1.0	<1.0	<1.0	<1.0	7.5	550	143,000	2,380	0
	1-Mar-01	<50	<50	250	<1.0	<1.0	<1.0	<1.0	15.0	170	80,300	5,860	0
	14-May-01	<50	<50	160	<1.0	<1.0	<1.0	<1.0	14.0	230	103,000	6,060	2,910
	26-Jul-01	<50	<50	220	5.9	<1.0	<1.0	2.7	20.0	180	71,300	7,360	>3300
	16-Oct-01	<50	<50	170	<1.0	<1.0	<1.0	<1.0	12.0	190	101,000	8,810	>3300
	21-Feb-02	<50	<50	170	<1.0	<1.0	<1.0	<1.0	2.2	110	75,600	4,280	0
	29-May-02	<50	<50	290	<1.0	<1.0	<1.0	<1.0	2.3	140	98,700	8,350	0
	17-Sep-02	<50	<500	1,900	<1.0	<1.0	<1.0	<1.0	3.8	54	141,000	6,260	90
	14-Nov-02	<50	740	NA	0.88	<0.5	<0.5	1.2	5.3	<200	120,000	8,380	0
	5-Feb-03	<50	410	NA	<0.5	<0.5	<0.5	<1.0	3.4	<200	8,800	9,590	0
	14-May-03	<50	<50	NA	<0.5	<0.5	<0.5	<1.0	2.5	<200	91,000	1,560	1,960
	22-Aug-03	**<50**	**540**	**NA**	**<0.5**	**<1.0**	**<1.0**	**<1.0**	**2.2**	**<200**	**130,000**	**2,210**	**1,720**

Notes:
ppb: parts per billion
TPH-G: total petroleum hydrocarbons as gasoline
TPH-D: total petroleum hydrocarbons as diesel
TPH: total petroleum hydrocarbons as motor oil or unknown hydrocarbon
MCL: Maximum Contaminant Level
MTBE: Methyl-tert,butylether
DO: Dissolved Oxygen
Fe: Ferrous Iron
NA: Not Analyzed

APPENDIX A

CERTIFIED ANALYTICAL REPORTS

CHAIN-OF-CUSTODY DOCUMENTS

Entech Analytical Labs, Inc.

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

September 04, 2003

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

Order:	35560	**Date Collected:**	8/22/2003
Project Name:	ACTransit	**Date Received:**	8/22/2003
Project Number:	2016	**P.O. Number:**	2016
Project Notes:	Report reissued on 9/4/03 to correct EPA 8260 compound list and TPH as Diesel Comments. Please disregard previously submitted data.		

On August 22, 2003, samples were received under documentented chain of custody. Results for the following analyses are attached:

Matrix	Test	Method
Liquid	BTEX+MTBE by EPA 8260B	EPA 8260B
	Fuel Scan	EPA 8015 MOD. (Extractable)
		EPA 8015 MOD. (Purgeable)

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: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-001 **Client Sample ID:** MW-10

Sample Time: 9:25 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	97.4	68 - 118
Dibromofluoromethane	122.0	57 - 156
Toluene-d8	104.0	77 - 150

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.

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

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-002 **Client Sample ID:** MW-3

Sample Time: 10:15 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Benzene	2.7		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Ethyl Benzene	1.6		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	99.1	68 - 118
Dibromofluoromethane	118.0	57 - 156
Toluene-d8	101.0	77 - 150

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

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Attn: Brad Wright

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-003 **Client Sample ID:** MW-9

Sample Time: 11:30 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	96.9	68 - 118
Dibromofluoromethane	123.0	57 - 156
Toluene-d8	102.0	77 - 150

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

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

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-004 **Client Sample ID:** MW-11

Sample Time: 11:45 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Methyl-t-butyl Ether	2.2		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.8	68 - 118
Dibromofluoromethane	122.0	57 - 156
Toluene-d8	102.0	77 - 150

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

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Cameron-Cole
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Alameda, CA 94501
Attn: Brad Wright

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-005 **Client Sample ID:** MW-1

Sample Time: 12:30 PM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	8/26/2003	WMS110222	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L	8/26/2003	WMS110222	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	97.0	68 - 118
Dibromofluoromethane	121.0	57 - 156
Toluene-d8	102.0	77 - 150

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

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Alameda, CA 94501
Attn: Brad Wright

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-006 **Client Sample ID:** MW-2

Sample Time: 1:30 PM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Benzene	22000		400	0.5	200	µg/L	8/26/2003	WMS110225	EPA 8260B
Ethyl Benzene	1500		400	0.5	200	µg/L	8/26/2003	WMS110225	EPA 8260B
Methyl-t-butyl Ether	ND		400	1	400	µg/L	8/26/2003	WMS110225	EPA 8260B
Toluene	490		400	0.5	200	µg/L	8/26/2003	WMS110225	EPA 8260B
Xylenes, Total	2100		400	1	400	µg/L	8/26/2003	WMS110225	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.2	68 - 118
Dibromofluoromethane	110.0	57 - 156
Toluene-d8	98.6	77 - 150

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

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Alameda, CA 94501
Attn: Brad Wright

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-007 **Client Sample ID:** Trip Blank

Sample Time: 9:20 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L		WMS110222	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L		WMS110222	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L		WMS110222	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L		WMS110222	EPA 8260B
Xylenes, Total	ND		1	1	1	µg/L		WMS110222	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.7	68 - 118
Dibromofluoromethane	109.0	57 - 156
Toluene-d8	98.3	77 - 150

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

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Attn: Brad Wright

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-001 **Client Sample ID:** MW-10
Sample Time: 9:25 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	320		1	50	50	µg/L	8/25/2003	8/28/2003	DW4409A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	85.0	21 - 142

Comment: Reported TPH as Diesel value is a result of an overlapping heavy end hydrocarbon (C11-C40) into the Diesel quantitation range (C9-C26).

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	8/25/2003	WGC42915B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.9	65 - 135

Order ID: 35560 **Lab Sample ID:** 35560-002 **Client Sample ID:** MW-3
Sample Time: 10:15 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	540		2	50	100	µg/L	8/25/2003	8/28/2003	DW4409A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	78.0	21 - 142

Comment: Reported TPH as Diesel value is a result of an overlapping heavy end hydrocarbon (C11-C40) into the Diesel quantitation range (C9-C26).

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	400		1	50	50	µg/L	N/A	8/25/2003	WGC42915B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	116.9	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)

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

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-003 **Client Sample ID:** MW-9

Sample Time: 11:30 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	220		1	50	50	µg/L	8/25/2003	8/28/2003	DW4409A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	83.0	21 - 142

Comment: Reported TPH as Diesel value is a result of an overlapping heavy end hydrocarbon (C11-C40) into the Diesel quantitation range (C9-C26).

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	8/25/2003	WGC42915B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	93.9	65 - 135

Order ID: 35560 **Lab Sample ID:** 35560-004 **Client Sample ID:** MW-11

Sample Time: 11:45 AM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	540		2	50	100	µg/L	8/25/2003	8/28/2003	DW4409A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	90.0	21 - 142

Comment: Reported TPH as Diesel value is a result of an overlapping heavy end hydrocarbon (C11-C40) into the Diesel quantitation range (C9-C26).

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	8/25/2003	WGC42915B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.9	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)

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Attn: Brad Wright

Date: 9/4/03
Date Received: 8/22/2003
Project Name: ACTransit
Project Number: 2016
P.O. Number: 2016
Sampled By: Emily Waters

Certified Analytical Report

Order ID: 35560 **Lab Sample ID:** 35560-005 **Client Sample ID:** MW-1

Sample Time: 12:30 PM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	770		2	50	100	µg/L	8/25/2003	8/28/2003	DW4409A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery	Control Limits (%)
o-Terphenyl	77.0	21 - 142

Comment: Reported TPH as Diesel value is a result of an overlapping heavy end hydrocarbon (C11-C40) into the Diesel quantitation range (C9-C26).

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	150		1	50	50	µg/L	N/A	8/25/2003	WGC42915B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	108.7	65 - 135

Comment: Reported TPH as Gasoline value contains light hydrocarbon compounds in the TPH as Gasoline quantitation range.

Order ID: 35560 **Lab Sample ID:** 35560-006 **Client Sample ID:** MW-2

Sample Time: 1:30 PM **Sample Date:** 8/22/2003 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	480000		500	50	25000	µg/L	8/25/2003	8/28/2003	DW4409A	EPA 8015 MOD. (Extractable)

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

Comment: NR = Not Reportable. Surrogate recovery not reportable due to dilution.

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	43000		500	50	25000	µg/L	N/A	8/25/2003	WGC42915B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	97.2	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 (408) 588-0200
Santa Clara, CA 95054 (408) 588-0201 - Fax

Chain of Custody / Analysis Request

Attention to: Brad Wright	Phone No.: 510 769 3563	Purchase Order No.:	Invoice to: (If Different)	Phone:	
Company Name: Cameron Cole	Fax No.: 510 337 3994	Project No.: 2016	Company:		
Mailing Address: 101 W. Atlantic Ave Bldg 90	Email Address:	Project Name: AC Transit Seminary	Billing Address: (If Different)		
City: Alameda	State: CA	Zip Code: 94501	Project Location:	City:	State: / Zip:

Sampler: EW | Field Org. Code:

Global ID:

Turn Around Time
- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☐ 4 Day ☐ 5 Day
- ☒ 6-10 Day (std)

Order ID: 35560

Client ID / Field Point	Lab. No.	Sample Date	Sample Time	Matrix	Composite	Grab	Containers	Preservative	Volatile Organics by GC/MS: 601/602 ☐ 624 ☐	Oxygenates by 8260 ☐ 8010 by 8260 ☐	MTBE by 8260B ☐ Eth/Meth ☐	TPH as Gas/BTEX ☐ Gas by GC/MS ☐ 8260B	TPH as Gas/BTEX/MTBE ☐	Diesel ☐ w/ Si-gel Standard Cleanup ☐ (8015GRO)	Motor Oil ☐ w/ Si-gel Column Cleanup ☐	Fuel Scan	Base/Neutral/Acid Organics Purgeable ☐ Extractable ☐ 8270 ☐	Pesticides-8081 ☐ 8270-SIM ☐ PAH ☐	PCBs - 8082 ☐	8260B	pH ☐	TSS ☐ SC ☐ TOC ☐	TRPH ☐ Oil & Grease ☐	CN ☐ Phenols ☐	Anions: F ☐ Cl ☐ Br ☐ SO4 ☐ NO3 ☐ NO2 ☐ PO4 ☐	Perchlorate	8015-DRO	Metals: Total ☐ Dissolved ☐	STLC ☐ TCLP ☐	TO-14 ☐ TO-15 ☐ (Tedlar Bag Only)	Remarks
Trip Blank	-007	8/22/03	0920	W			3	HCl												X											
MW-10	-001		0925				3	HCl			X																				
							3	HCl												X											
							2	NA														X								
							1	NA																	X					
MW-3	-002		1015				3	HCl			X																				
							3	HCl												X											
							2	NA														X								
							1	NA																	X					
MW-9	-003		1130				3	HCl			X																				
							3	HCl												X											
							2	NA														X								
							1	NA																	X					

Relinquished by:	Received by:	Date: 8/22/03	Time: 3:55
Relinquished by:	Received by:	Date: 8/22/03	Time: 1705
Relinquished by:	Received by:	Date:	Time:

Special Instructions or Comments

Semi-Conductor Metals: Bi, Ce, Cs, Ga, Ge, In, Li, P, S, Ta, Te, Zr

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, Zn, V, W

- ☐ EDD Report ☐ PDF Report
- ☐ EDF Report
- ☐ NPDES Detection Limits
- ☐ LUFT-5 ☐ RCRA-8
- ☐ PPM-13 ☐ CAM-17

Entech Analytical Labs, Inc.

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

Chain of Custody / Analysis Request

Attention to: Brad Wright	Phone No.: 510 769 3563	Purchase Order No.:	Invoice to: (If Different) / Phone:
Company Name: Cameron Cole	Fax No.: 510 337 3994	Project No.: 2016	Company:
Mailing Address: 101 W. Atlantic Ave Bldg 90	Email Address:	Project Name: AC Transit Seminary	Billing Address: (If Different)
City: Alameda	State: CA Zip Code: 94501	Project Location:	City: / State: / Zip:

Sampler: EW

Field Org. Code:

Global ID:

Turn Around Time
❑ Same Day ❑ 1 Day
❑ 2 Day ❑ 3 Day
❑ 4 Day ❑ 5 Day
☒ 6-10 Day (std)

Order ID:

Client ID / Field Point	Lab. No.	Sample Date	Sample Time	Matrix	Composite	Grab	Containers	Preservative	Volatile Organics by GCMS: 601/602 ❑ 624 ❑ 8010 by 8260 ❑ 8260B ❑	Oxygenates by 8260B ❑ Eth/Meth ❑ MTBE by 8260B ❑ Gas by GCMS ❑	TPH as Gas/BTEX ❑ TPH as Gas/BTEX/MTBE ❑ 8015 GRO	Diesel ❑ w/ Si-gel Standard Cleanup ❑ Motor Oil ❑ w/ Si-gel Column Cleanup ❑	Fuel Scan Extractable ❑ Purgeable ❑	Base/Neutral/Acid Organics 8270 ❑ 8270-SIM ❑ PAH ❑	Pesticides-8081 ❑ PCBs - 8082 ❑	8260B	pH ❑ TSS ❑ SC ❑ TOC ❑	TRPH ❑ Oil & Grease ❑	CN ❑ Phenols ❑ 8015 DRO	Anions: F ❑ Cl ❑ Br ❑ SO4 ❑ NO3 ❑ NO2 ❑ PO4 ❑	Perchlorate	Nitrate/Sulfate	Metals - Circle Below Total ❑ Dissolved ❑	STLC ❑ TCLP ❑	TO-14 ❑ TO-15 ❑ (Tedlar Bag Only)	Remarks
MW-11	-004	8/22/03	1145	W			3	HCl			X															
↓		↓	↓				3	HCl								X										
↓		↓	↓				2	NA											X							
↓		↓	↓				1	NA														X				
MW-1	-005	↓	1230				3	HCl			X															
↓		↓	↓				3	HCl								X										
↓		↓	↓				2	NA											X							
↓		↓	↓				1	NA														X				
MW-2	-006	↓	1330				3	HCl			X															
↓		↓	↓				3	HCl								X										
↓		↓	↓				2	NA											X							
↓		↓	↓				1	NA														X				

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	8/22/03	3:55
[signature]	[signature]	8/22/03	1705

Special Instructions or Comments

❑ EDD Report ❑ PDF Report
❑ EDF Report
❑ NPDES Detection Limits

Semi-Conductor Metals: Bi, Ce, Cs, Ga, Ge, In, Li, P, S, Ta, Te, Zr

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, Zn, V, W

❑ LUFT-5 ❑ RCRA-8
❑ PPM-13 ❑ CAM-17

Entech Analytical Labs, Inc.

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

Chain of Custody / Analysis Request

Attention to: Brad Wright	Phone No.: 510 769 3563	Purchase Order No.:	Invoice to: (If Different)	Phone:	
Company Name: Cameron Cole	Fax No.: 510 337 3994	Project No.: 2016	Company:		
Mailing Address: 101 W Atlantic Ave Bldg 9	Email Address:	Project Name: AC Transit Seminary	Billing Address: (If Different)		
City: Alameda	State: CA / Zip Code: 94501	Project Location:	City:	State:	Zip:

Sampler: EW | Field Org. Code:

Global ID:

Turn Around Time
- ❑ Same Day ❑ 1 Day
- ❑ 2 Day ❑ 3 Day
- ❑ 4 Day ❑ 5 Day
- ☒ 6-10 Day (std)

Order ID:

Client ID / Field Point	Lab. No.	Sample Date	Sample Time	Matrix	Composite	Grab	Containers	Preservative
Trip Blank		8/21/03	0930	W			3	HCl
MW-10			0925				3	HCl
↓							3	HCl
↓							2	NA
↓			↓				1	NA
MW-3			1015				3	HCl
↓							3	HCl
↓							2	NA
↓			↓				1	NA
MW-9			1130				3	HCl
↓							3	HCl
↓							2	NA
↓		↓	↓	↓			1	NA

Volatile Organics by GCMS: 624 ❑ 601/602 ❑
Oxygenates by 8260 ❑ 8010 by 8260 ❑
MTBE by 8260B ❑ Eth/Meth ❑ 8260B ❑
TPH as Gas/BTEX ❑ Gas by GCMS ❑
TPH as Gas/BTEX/MTBE ❑
Diesel ❑ w/ Si-gel ❑ (8015CA)
Motor Oil ❑ w/ Si-gel ❑
Fuel Scan Extractable ❑ Standard Cleanup ❑
Base/Neutral/Acid Organics ❑ Column Cleanup ❑
8270 ❑ Purgeable ❑
Pesticides-8081 ❑ PAH ❑
8270-SIM ❑ PCBs - 8082 ❑
8260B
pH ❑ TSS ❑ SC ❑ TOC ❑
TRPH ❑ Oil & Grease ❑
CN ❑ Phenols ❑
Anions: F ❑ Cl ❑ Br ❑ SO4 ❑ NO3 ❑
NO2 ❑ PO4 ❑
Perchlorate
8015 - DRO
WATER SOLUBLE
Metals - Circle Below
Total ❑ Dissolved ❑
STLC ❑ TCLP ❑
TO-14 ❑ TO-15 ❑ (Tedlar Bag Only)

Remarks

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	8/21/03	3:55
Relinquished by:	Received by:	Date:	Time:
Relinquished by:	Received by:	Date:	Time:

Special Instructions or Comments

❑ EDD Report ❑ PDF Report
❑ EDF Report
❑ NPDES Detection Limits

Semi-Conductor Metals: Bi, Ce, Cs, Ga, Ge, In, Li, P, S, Ta, Te, Zr

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, Zn, V, W

❑ LUFT-5 ❑ RCRA-8
❑ PPM-13 ❑ CAM-17

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	Purchase Order No.:	Invoice to: (If Different)		Phone:
Company Name: Cameron Cole	Fax No.: 510 337 3994	Project No.: 2016	Company:		
Mailing Address: 101 W. Atlantic Ave Bldg 90	Email Address:	Project Name: AC Transit Seminary	Billing Address: (If Different)		
City: Alameda	State: CA / Zip Code: 94501	Project Location:	City:	State:	Zip:
Sampler: EW	Field Org. Code:				
Global ID:					

Turn Around Time
☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ 4 Day ☐ 5 Day
☒ 6-10 Day (std)

Order ID:

Client ID / Field Point	Lab No.	Sample Date	Sample Time	Matrix	Composite	Grab	Containers	Preservative	Volatile Organics by GCMS: 601/602 ☐ 624 ☐ 8010 by 8260 ☐ 8260B ☐	Oxygenates by 8260B ☐ Eth/Meth ☐ MTBE by 8260B ☐ Gas by GCMS ☐	~~TPH as Gas/BTEX ☐ TPH as Gas/BTEX/MTBE ☐~~ 8015 GRO	Diesel ☐ w/ Si-gel Standard Cleanup ☐ Motor Oil ☐ w/ Si-gel Column Cleanup ☐	Fuel Scan Extractable ☐ Purgeable ☐	Base/Neutral/Acid Organics 8270 ☐ 8270-SIM ☐ PAH ☐	Pesticides-8081 ☐ PCBs - 8082 ☐	8260B	pH ☐ TSS ☐ SC ☐ TOC ☐	TRPH ☐ Oil & Grease ☐	~~CN ☐~~ Phenols ☐ 8015 DRO	Anions: F ☐ Cl ☐ Br ☐ SO4 ☐ NO3 ☐ NO2 ☐ PO4 ☐	Perchlorate	Nitrate/Sulfate	Metals - Circle Below Total ☐ Dissolved ☐	STLC ☐ TCLP ☐	TO-14 ☐ TO-15 ☐ (Tedlar Bag Only)	Remarks
MW-11		8/22/08	1145	W			3	HCl			X															
↓		↓	↓				3	HCl								X										
↓		↓	↓				2	NA											X							
↓		↓	↓				1	NA														X				
MW-1		↓	1230				3	HCl			X															
↓		↓	↓				3	HCl								X										
↓		↓	↓				2	NA											X							
↓		↓	↓				1	NA														X				
MW-2		↓	1330				3	HCl			X															
↓		↓	↓				3	HCl								X										
↓		↓	↓				2	NA											X							
↓		↓	↓				1	NA														X				

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	8/22/08	3:55
Relinquished by:	Received by:	Date:	Time:
Relinquished by:	Received by:	Date:	Time:

Special Instructions or Comments

☐ EDD Report ☐ PDF Report
☐ EDF Report
☐ NPDES Detection Limits

Semi-Conductor Metals: Bi, Ce, Cs, Ga, Ge, In, Li, P, S, Ta, Te, Zr

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, Zn, V, W

☐ LUFT-5 ☐ RCRA-8
☐ PPM-13 ☐ CAM-17

APPENDIX B

SAMPLING EVENT DATA

DEPTH TO WATER

DATE: 8-22-03

PROJECT AC Transit Seminary EVENT Quarterly TECHNICIAN EW

NO.	WELL OR LOCATION	DATE	TIME	MEASUREMENT	CODE	COMMENTS
1	MW-1	8/22/03	0843	4.52	SWL	
2	MW-2	↓	0832	4.20	↓	
3	MW-3		0851	3.25		
4	MW-9		0836	4.73		
5	MW-10		0854	4.52		
6	MW-11	↓	0857	2.86	↓	
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

CODES: SWL - Static Water Level
OIL - Oil Level

Project Name: AC Transit Seminary
Project Number: 2016
Well ID: MW-1
Casing Diameter (in): 2"
Sample Date: 8/22/03
Total Well Depth (ft): 15.35
Sample ID:
Depth to Water (ft) before purging: 4.59

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)
1212	6.74	1120	24.6	5.21	1.5	0.3
1217	6.76	1140	25.0	5.23	3.0	↓
1222	6.78	1210	25.4	5.23	4.5	↓
				Total vol	5.5	

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
15.35 - 4.59 = 10.76 x .165 = 1.77 x 3 = 5.33
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: 8260 8015 GRO/DRO Nitrate/Sulfate _____

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

Decontamination Performed:
washed/rinsed sounder/meters

Start - 1207
Stop - 1225
Sample - 1230

Fe - 2.57 mg/L
DO - 2.98 mg/L
ORP - -40 mV

Comments / Calculations:

Name: _____ Date: 8/22/03

Project Name: AC Transit Seminary
Project Number: 2016
Well ID: HW-2
Casing Diameter (in): 2"
Sample Date: 8/22/03
Total Well Depth (ft): 23.51
Sample ID:
Depth to Water (ft) before purging: 4.20

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)
1257	6.61	2910	27.6	5.31	3	0.25
1309	6.67	2880	28.2	6.80	6	↓
1321	6.70	2930	28.4	7.21	9	↓
				total vol	9.75	

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
23.51 - 4.20 = 19.31 x 0.165 = 3.19 x 3 = 9.56
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: 8260 8015 GRO/DRO Nitrate/Sulfate _____

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

Fe - > 3.30 mg/L
DO - 1.96 mg/L
ORP - -75 mV

Decontamination Performed:
washed/rinsed sounder/meters

Start - 1245
Stop - 1324
Sample - 1330

Comments / Calculations:

Name: _____ Date: 8/22/03

Well ID: MW-3

Project Name: AC Transit Seminary
Project Number: 2016
Casing Diameter (in): 2"
Sample Date: 8/22/03
Total Well Depth (ft): 16.81
Sample ID:
Depth to Water (ft) before purging: 3.25

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)
1000	7.14	660	23.6	5.52	2	0.4
1005	7.21	710	23.4	8.02	4	
1010	7.24	730	23.2	10.56	6	
				total vol =	6.75 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
16.81 - 3.25 = 13.56 x 0.165 = 2.24 x 3 = 6.71
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: 8260 8015 GRO/DRO Nitrate/Sulfate _____

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

Fe - 0.19 mg/L
DO - 6.62 mg/L
ORP - -72 mV

Decontamination Performed:
washed/rinsed sounder/meters

start - 0956
stop - 1012
sample - 1015

Comments / Calculations:

Name: _____ Date: 8/22/03

Well ID: MW-9

Project Name: AC Transit Seminary
Project Number: 2016
Casing Diameter (in): 4"
Sample Date: 8/22/03
Total Well Depth (ft): 19.50
Sample ID:
Depth to Water (ft) before purging: 4.71

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)
1101	7.53	1310	21.8	6.43	2.25	0.25
1110	7.49	1450	22.4	6.45	4.50	
1119	7.47	1470	22.6	6.48	6.75	
				Total Vol	7.5 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
19.50 - 4.71 = 14.79 x 0.165 = 2.44 x 3 = 7.32
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: 8260 8015 GRO/DRO Nitrate/Sulfate _____

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

Decontamination Performed:
washed/rinsed
sounder/meters

Start - 1052
Stop - 1122
Sample - 1130

Fe - 0.00
DO - 6.14
ORP - -10 mV

Comments / Calculations:

Name: _____ Date: 8/22/03

Project Name: AC Transit Seminary
Project Number: 2016
Well ID: MW-10
Casing Diameter (in): 2"
Sample Date: 8/22/03
Total Well Depth (ft): 11.40
Sample ID:
Depth to Water (ft) before purging: 4.52

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)
0910	6.81	3190	25.2	6.02	1	0.25
0915	6.82	3220	25.0	6.40	2	↓
0917	6.87	3260	25.2	6.53	3	↓
				Total Vol = 3.5gal		

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
11.40 - 4.52 = 6.88 x 0.165 = 1.14 x 3 = 3.40
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: 8260 8015 GRO/DRO Nitrate/Sulfate _____

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

Start - 0905
Stop - 0920
sample - 0925

Fe - 0.00
DO - 1.95
ORP - -25 mV

Decontamination Performed:
washed / rinsed sounder / meters

Comments / Calculations:
Cent pump used to purge
disposable bailer used to sample

Trip blank collected @ 0920

Name: _____ Date: 8/22/03

Well ID: MW-11

Project Name: AC Transit Seminary
Casing Diameter (in): 2
Total Well Depth (ft): 13.50
Depth to Water (ft) before purging: 2.86

Project Number: 2016
Sample Date: 8/22/03
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)
	6.98	992	20.2		1.5	
0947	7.02	998	20.6	8.84	2.5	
1035	7.05	1010	21.0	11.60	5.5	
				Total Vol =	5.5	

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
13.50 - 2.86 = 10.64 x .165 = 1.76 x 3 = 5.27
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: 8260 8015 GRO/DRO Nitrate/Sulfate _____

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

Fe - 1.72
DO - 2.21
ORP - 45 mV

Decontamination Performed:
washed/rinsed sounder/meters

Start - 0902
STOP - 1035
sample - 1145

Comments / Calculations:
peri pump used to purge
disposable bailer used to sample

Name: [signature] Date: 8/22/03

CAMERON-COLE

SAMPLING EVENT DATA SHEET

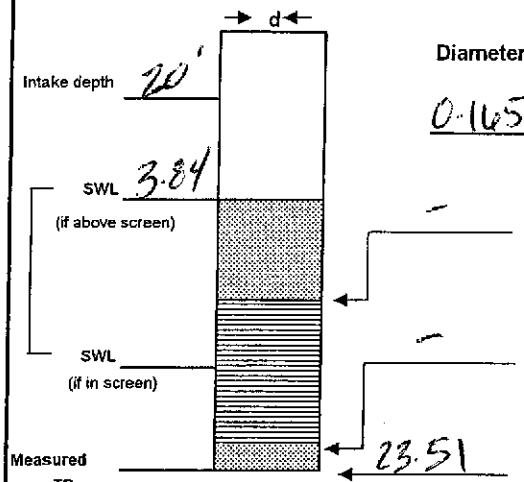
WELL OR LOCATION MW-2 Overpurge

PROJECT AC Transit (Seminary) EVENT Monthly Overpurge SAMPLER TT DATE 7/29/03

Well type MW
(MW, EW, PZ, etc.)

Diameter 2"

0.165 gal/ft. casing



ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	1120	0.27	
	1244		20.01
	1300		20.55
Stop	1318		
Sampled			
Final IWL			

PURGE CALCULATION

0.165 gal/ft. * 19.67 ft. = 3.25 gals. X 10 = 32.5 gals.

(SWL to BOP or TD; one volume; purge volume - 3 casings)

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Decription of Event:
Centrifugal Pump used to purge.

Actual gallons purged 33

Actual volumes purged 3+/10 volumes

Well Yield ⊕ HY

COC # NA

Additional Comments:

Sample I.D.	Analysis	Lab

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other
1. NA					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returing later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

Project Name: AC Transit Seminary
Project Number: 2016
Well ID: HW-2 over purge
Casing Diameter (in): 2"
Sample Date: 8/22/03
Total Well Depth (ft): 23.51
Sample ID:
Depth to Water (ft) before purging: 4.20

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)
			total Volume		31.90	
			3 case vol than sampling		9.75	2.20
start - 1335					22.15	
stop - 1451						↓
					23	
			total vol		~~22.15~~ @	

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
23.51 - 4.20 = 19.31 x 0.165 = 3.19 X 10 = 31.90
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: ~~8260~~ (a) 8015 GRO/DRO (a) ~~Nitrate/Sulfate~~ (a) _____

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

~~Fe~~ (a)
~~DO~~
~~ORP~~

Decontamination Performed:
washed/rinsed
sounder/meters

Comments / Calculations:

Name: [signature] Date: 8/22/03

Project Name:
Casing Diameter (in): 2"
Total Well Depth (ft): 23.51
Depth to Water (ft) before purging: 5.46

Project Number: 2016
Sample Date: 9/18/03
Sample ID:

Well ID: MW-2
Overpurge

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)
1015				5.46		
1020 - Startpurge						
1155 - Stoppurge					30gal.	0.31
			tot. vol. = 30gal			

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 _____ 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: _____ _____ _____ _____

Sample Appearance

_____OVA Reading (ppm)
_____Suspended Solids (describe):

Decontamination Performed:
washed/rinsed sounder & oil/water interface probe with Liquinox & DI water

Comments / Calculations:

$$23.51 - 5.46 = \frac{(18.05 \times 0.165)}{2.97\,gal} \times 10 = 29.8\,gal.$$

$\frac{30\,gal}{2.97\,gal/casing\,vol.} =$ 10.1 casing vols.

Name: Mike Poisson Date: 9/18/03