Alameda-Contra Costa Transit District

RO296 AC

9/20/04 RO

Alameda County
JUL 29 2004
Environmental Health

July 19, 2004

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 – May 2004 Sampling
AC Transit, 1100 Seminary Avenue, Oakland, CA

AC Transit hereby submits the enclosed quarterly groundwater monitoring report for the May 2004 sampling event at the 1100 Seminary Avenue, Oakland, facility. Based on the results of this and 18 previous sampling events, AC Transit requests that the sampling frequency of groundwater wells be reduced from quarterly to semi-annually.

Groundwater sampling of six 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 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.

Sample results continue to show that TPH and related compounds are primarily restricted to monitoring wells MW-1, MW-2 and MW-3, installed near the former underground tank farm. Free phase product has not been measured in well MW-2 since the second quarter of 2002.

AC Transit concurs with Cameron-Cole's recommendation that the sampling frequency of the monitoring wells be reduced to a semi-annual schedule. Sampling should take place in February and August of each year to evaluate seasonal fluctuations in groundwater quality. In addition, the overpurging of well MW-2 will be performed every quarter instead of each month. 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

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

May 2004

7/20/04

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

May 2004

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

for:

Written By
Mark Duffy
Geologist

Approved By
Brad Wright, RG, CHG
Principle Hydrogeologist

STATE OF CALIFORNIA
REGISTERED GEOLOGIST
#6276
Exp. 9/04

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INTRODUCTION

This report presents the results of the May 2004 sampling event for the AC Transit facility located at 1100 Seminary Avenue, Oakland, California (Site) (Figure 1). Cameron-Cole performed groundwater sampling of monitor wells MW-1 through MW-3 and MW-9 through MW-11, 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 0.007 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 of 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

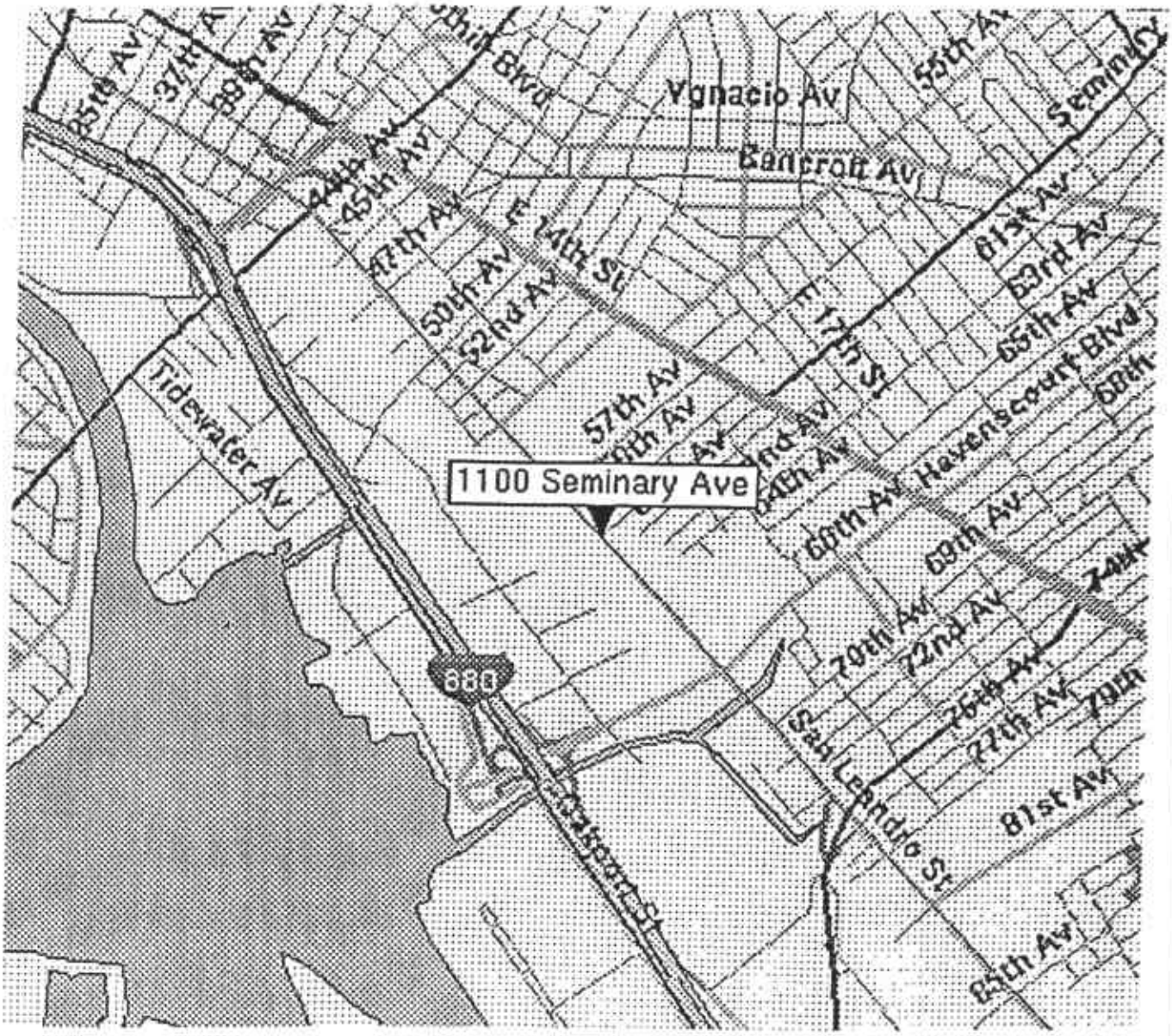
Table 2 presents groundwater historic and second quarter 2004 analytical results. Concentrations of benzene above the State of California maximum contaminant level (MCL) of 1.0 part per billion (ppb) were detected in monitor wells MW-1, MW-2 and MW-3. Toluene detected above the MCL of 150 ppb in monitor 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 well MW-2. 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 0.007 feet/foot.
- Chemical concentrations in excess of MCLs were limited to benzene in wells MW-1, MW-2 and MW-3 and toluene, ethylbenzene 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 monitoring has been conducted at the site since February 2000. Analytical data collected over this period has been consistent and shows that TPH and related compounds are primarily restricted to monitor wells MW-1 through MW-3 installed nearest the former underground storage tanks (UST). Results from guard wells MW-9 through MW-11 demonstrate that the extent of TPH is not expanding. Because there is very little change observed in site groundwater conditions, it is recommended that the monitoring program be reduced to semi-annual. In order to evaluate seasonal fluctuations in groundwater quality, sampling would be conducted in February and August of each year. Additionally, monthly overpurging of MW-2, has resulted in the absence of a free product layer since May 2002. Therefore, it is recommended that the overpurge events be reduced to quarterly. In the event that a free product layer is detected in MW-2, ACHCS will be notified in the semi-annual monitoring report and the overpurge events may be conducted more frequently.



CAMERON-COLE

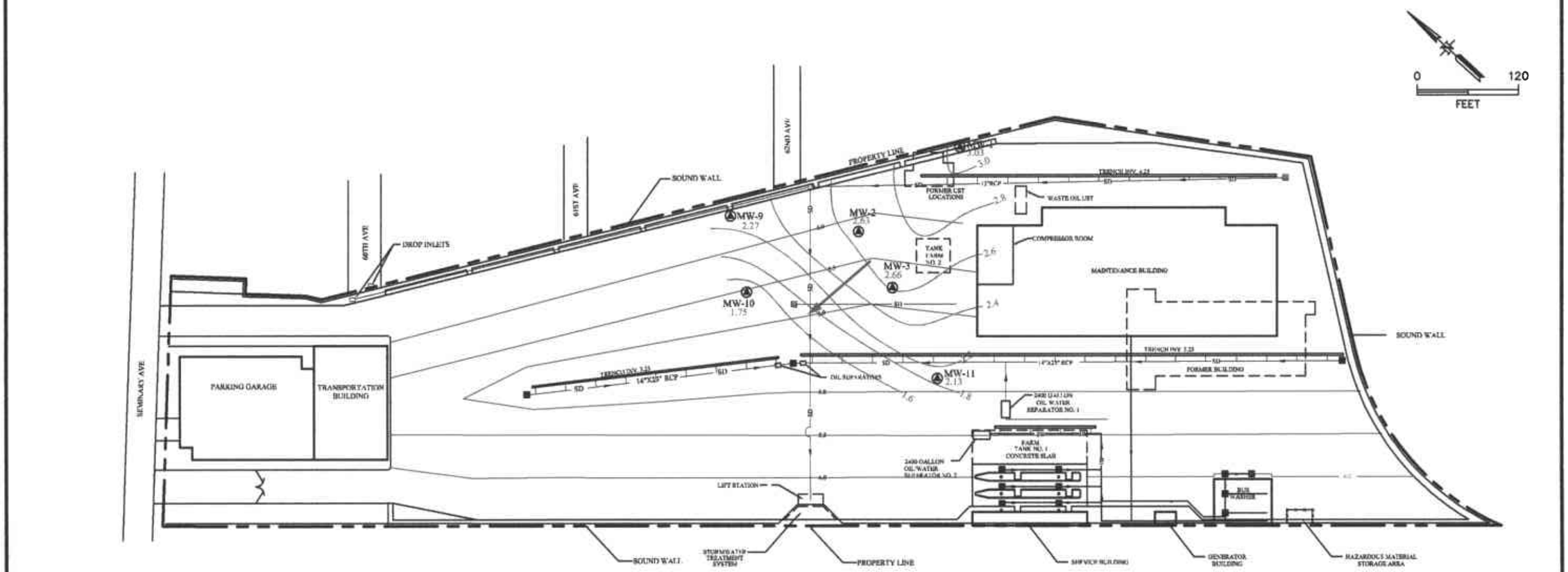
AC TRANSIT - OAKLAND, CALIFORNIA

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
1.59 GROUNDWATER ELEVATION (FT. MSL)	MANHOLE
REPORTED GROUNDWATER FLOW	CATCH BASIN
SD — STORM DRAIN PIPELINE	
6.0 — CONTOUR	
IW — INDUSTRIAL WASTE PIPELINE	
SURFACE DRAINAGE TRENCH	

	BY	DATE
DRAWN	WRB	6/4/04
CHECKED		
APPROVED		
APPROVED		
APPROVED		

CAMERON-COLE

FIGURE 2

AC TRANSIT - OAKLAND, CALIFORNIA

1100 SEMINARY ROAD-POTENTIOMETRIC SURFACE MAP
MAY 2004

SCALE: 1" = 120'

DWG. NO.: 2011-11

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	
	20-Nov-03		None	4.61	1.64	
	9-Feb-04		None	3.05	3.20	
	25-May-04		**None**	**3.22**	**3.03**	
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	
	20-Nov-03		None	4.68	0.85	
	9-Feb-04		None	2.94	2.59	
	25-May-04		**None**	**2.90**	**2.63**	

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-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	
	20-Nov-03		None	3.40	1.36	
	9-Feb-04		None	2.06	2.70	
	25-May-04		**None**	**2.10**	**2.66**	
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	
	20-Nov-03		None	4.46	1.34	
	9-Feb-04		None	3.23	2.57	
	25-May-04		**None**	**3.53**	**2.27**	

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-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	
	20-Nov-03		None	3.56	1.09	
	9-Feb-04		None	2.51	2.14	
	25-May-04		**None**	**2.90**	**1.75**	
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	
	20-Nov-03		None	2.73	1.46	
	9-Feb-04		None	2.60	1.59	
	25-May-04		**None**	**2.06**	**2.13**	

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
	20-Nov-03	300	320	NA	3.0	<0.5	0.56	<1.0	<1.0	<200	7,900	3,030	2,680
	9-Feb-04	210	370	NA	<0.5	0.50	0.52	<1.0	<1.0	<200	7,000	4,190	>3300
	26-May-04	**470**	**<50**	**NA**	**5.0**	**<0.5**	**7.20**	**1.9**	**<1.0**	**<200**	**2,400**	**3,780**	**>3300**
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
	20-Nov-03	59,000	320,000	NA	22,000	<100	1,700	3,200	<200	<200	<500	2,100	>3300
	9-Feb-04	19,000	55,000	NA	5,400	160	800	1,800	<100	<200	1,200	4,730	>3300
	26-May-04	**60,000**	**340,000**	**NA**	**22,000**	**410**	**1,700**	**2,800**	**<250**	**<200**	**<500**	**4,520**	**>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
	20-Nov-03	240	520	NA	8.8	<0.5	2.2	<1.0	<1.0	<200	16,000	5,820	100
	9-Feb-04	700	700	NA	5.6	<0.5	3.8	1.3	<1.0	<200	17,000	4,080	0
	26-May-04	**700**	**<100**	**NA**	**83.0**	**<0.5**	**11.0**	**1.7**	**<1.0**	**<200**	**18,000**	**4,210**	**0**
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
	20-Nov-03	<50	80	NA	<0.5	<0.5	<0.5	<1.0	1.8	<200	140,000	6,030	200
	9-Feb-04	<50	65	NA	<0.5	<0.5	<0.5	<1.0	<1.0	<200	98,000	5,800	0
	26-May-04	**<50**	**<250**	**NA**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**<1.0**	**<200**	**88,000**	**5,200**	**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
	20-Nov-03	<50	300	NA	<0.5	<0.5	<0.5	<1.0	1.7	<200	65,000	1,750	0
	9-Feb-04	<50	250	NA	<0.5	<0.5	<0.5	<1.0	1.1	<200	110,000	1,650	0
	26-May-04	**<500**	**<50**	**NA**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**<1.0**	**<200**	**160,000**	**1,630**	**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
	20-Nov-03	<50	290	NA	<0.5	<0.5	<0.5	<1.0	1.8	<200	120,000	2,300	1,910
	9-Feb-04	<50	270	NA	<0.5	<0.5	<0.5	<1.0	<1.0	<200	120,000	10,400	0
	26-May-04	**<50**	**<50**	**NA**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**<1.0**	**<200**	**140,000**	**10,100**	**0**

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

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

6/3/2004

Order: 39089
Project Name: ACTransit
Project Number: 2016

Date Collected: 5/25/2004
Date Received: 5/25/2004
P.O. Number:

Certificate of Analysis - Partial

On May 25, 2004, samples were received under documented chain of custody. Results for the following analyses are attached:

Matrix	Test	Method	Comments
Liquid	EPA 8260B	EPA 8260B	btex/mtbe only
	Nitrate as N	EPA 300.0	
	Sulfate by IC	EPA 300.0	
	TPH as Gasoline	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,

Laurie Glantz-Murphy
Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

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

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-002 **Sample ID:** MW-11 **Matrix:** Liquid **Sample Date:** 5/25/2004 11:10 A

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Nitrate as N	ND		1	0.2	0.2	mg/L	5/26/2004	WIC040525	EPA 300.0
Sulfate	140		5	0.5	2.5	mg/L	5/26/2004	WIC040525	EPA 300.0

Analyzed by: pcasilang - 5/26/2004
Data entry by: PCASILANG - 05/26/04
Reviewed by: DQUEJA - 05/27/04
Approved by: PSANDROCK - 05/27/04

Laboratory ID: 39089-003 **Sample ID:** MW-3 **Matrix:** Liquid **Sample Date:** 5/25/2004 10:45 A

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Nitrate as N	ND		1	0.2	0.2	mg/L	5/26/2004	WIC040525	EPA 300.0
Sulfate	18		1	0.5	0.5	mg/L	5/26/2004	WIC040525	EPA 300.0

Analyzed by: pcasilang - 5/26/2004
Data entry by: PCASILANG - 05/26/04
Reviewed by: DQUEJA - 05/27/04
Approved by: PSANDROCK - 05/27/04

Laboratory ID: 39089-004 **Sample ID:** MW-2 **Matrix:** Liquid **Sample Date:** 5/25/2004 12:05 P

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Nitrate as N	ND		1	0.2	0.2	mg/L	5/26/2004	WIC040525	EPA 300.0
Sulfate	ND		1	0.5	0.5	mg/L	5/26/2004	WIC040525	EPA 300.0

Analyzed by: pcasilang - 5/26/2004
Data entry by: PCASILANG - 05/26/04
Reviewed by: DQUEJA - 05/27/04
Approved by: PSANDROCK - 05/27/04

Laboratory ID: 39089-005 **Sample ID:** MW-1 **Matrix:** Liquid **Sample Date:** 5/25/2004 12:40 P

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Nitrate as N	ND		1	0.2	0.2	mg/L	5/26/2004	WIC040525	EPA 300.0
Sulfate	2.4		1	0.5	0.5	mg/L	5/26/2004	WIC040525	EPA 300.0

Analyzed by: pcasilang - 5/26/2004
Data entry by: PCASILANG - 05/26/04
Reviewed by: DQUEJA - 05/27/04
Approved by: PSANDROCK - 05/27/04

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-006 **Sample ID:** MW-10 **Matrix:** Liquid **Sample Date:** 5/25/2004 1:45 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Nitrate as N	ND		1	0.2	0.2	mg/L	5/26/2004	WIC040525	EPA 300.0
Sulfate	160		5	0.5	2.5	mg/L	5/26/2004	WIC040525	EPA 300.0

Analyzed by: pcasilang - 5/26/2004
Data entry by: PCASILANG - 05/26/04
Reviewed by: DQUEJA - 05/27/04
Approved by: PSANDROCK - 05/27/04

Laboratory ID: 39089-007 **Sample ID:** MW-9 **Matrix:** Liquid **Sample Date:** 5/25/2004 1:15 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Nitrate as N	ND		1	0.2	0.2	mg/L	5/26/2004	WIC040525	EPA 300.0
Sulfate	88		2	0.5	1	mg/L	5/26/2004	WIC040525	EPA 300.0

Analyzed by: pcasilang - 5/26/2004
Data entry by: PCASILANG - 05/26/04
Reviewed by: DQUEJA - 05/27/04
Approved by: PSANDROCK - 05/27/04

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-001 **Sample ID:** Trip Blank **Matrix:** Liquid **Sample Date:** 5/25/2004 1:15 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	5/27/2004	WGC43116D	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.7	65 - 135

Analyzed by: JAMES - 5/27/2004
Reviewed by: MTU - 05/28/04
Approved by: GGUEORGUIEVA - 06/03/04
Days to analysis: 2

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-002 **Sample ID:** MW-11 **Matrix:** Liquid **Sample Date:** 5/25/2004 11:10 A

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	5/26/2004	WGC43116C	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.2	65 - 135

Analyzed by: JAMES - 5/26/2004
Reviewed by: MTU - 05/27/04
Approved by: GGUEORGUIEVA - 05/27/04
Days to analysis: 1

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-003 **Sample ID:** MW-3 **Matrix:** Liquid **Sample Date:** 5/25/2004 10:45 A

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Gasoline	700		2.5	50	125	µg/L	5/26/2004	WGC43116C	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	121.8	65 - 135

Analyzed by: JAMES - 5/26/2004
Reviewed by: MTU - 05/27/04
Approved by: GGUEORGUIEVA - 05/27/04
Days to analysis: 1

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-004 **Sample ID:** MW-2 **Matrix:** Liquid **Sample Date:** 5/25/2004 12:05 P

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Gasoline	60000		500	50	25000	µg/L	5/27/2004	WGC43116D	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	96.4	65 - 135

Analyzed by: JAMES - 5/27/2004
Reviewed by: MTU - 05/28/04
Approved by: GGUEORGUIEVA - 06/03/04
Days to analysis: 2

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-005 **Sample ID:** MW-1 **Matrix:** Liquid **Sample Date:** 5/25/2004 12:40 P

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Gasoline	470		1	50	50	µg/L	5/26/2004	WGC43116C	EPA 8015 MOD. (Purgeable)

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

Analyzed by: JAMES - 5/26/2004
Reviewed by: MTU - 05/27/04
Approved by: GGUEORGUIEVA - 05/27/04
Days to analysis: 1

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-006 **Sample ID:** MW-10 **Matrix:** Liquid **Sample Date:** 5/25/2004 1:45 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	5/26/2004	WGC43116C	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	97.2	65 - 135

Analyzed by: JAMES - 5/26/2004
Reviewed by: MTU - 05/27/04
Approved by: GGUEORGUIEVA - 05/27/04
Days to analysis: 1

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-007 **Sample ID:** MW-9 **Matrix:** Liquid **Sample Date:** 5/25/2004 1:15 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	5/26/2004	WGC43116C	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	101.1	65 - 135

Analyzed by: JAMES - 5/26/2004
Reviewed by: MTU - 05/27/04
Approved by: GGUEORGUIEVA - 05/27/04
Days to analysis: 1

ND = Not Detected at or above the PQL
PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

Entech Analytical Labs, Inc.

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

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

Date: 6/7/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-005 **Sample ID:** MW-1 **Matrix:** Liquid **Sample Date:** 5/25/2004 12:40 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	50	50	µg/L	6/4/2004	DW4757A	EPA 8015 MOD. (Extractable)
1200ppb Unidentified hydrocarbon (C12-C40)									

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	95.0	16 - 137

Analyzed by: JZaininger - 6/4/2004
Data entry by: JZAININGER - 06/04/04
Reviewed by: LGLANTZ - 06/07/04

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel-SGCU	ND		1	50	50	µg/L	6/5/2004	DW4757AS	EPA 8015 MOD. (Extractable)
320ppb Unidentified hydrocarbon (C12-C40)									

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	57.0	16 - 137

Analyzed by: JZaininger - 6/5/2004
Data entry by: JZAININGER - 06/07/04
Reviewed by: LGLANTZ - 06/07/04

Entech attempts to identify the hydrocarbons based on the sample's chromatographic pattern. Due to the overlap of distillation ranges and environmental factors influencing these characteristic patterns; they may be subjective, however all hydrocarbons found in the sample will be accounted for in the sum of the concentration(s) reported.

ND = Not Detected at or above the PQL
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DF = Dilution Factor SGCU = Silica Gel Cleanup
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

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P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-004 **Sample ID: MW-2** **Matrix:** Liquid **Sample Date:** 5/25/2004 12:05 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel	520000		500	50	25000	µg/L	6/4/2004	DW4757A	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	NR	16 - 137

Analyzed by: JZaininger - 6/4/2004
Data entry by: JZAININGER - 06/04/04
Reviewed by: LGLANTZ - 06/07/04

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

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel-SGCU	340000		500	50	25000	µg/L	6/5/2004	DW4757AS	EPA 8015 MOD. (Extractable)

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	NR	16 - 137

Analyzed by: JZaininger - 6/5/2004
Data entry by: JZAININGER - 06/07/04
Reviewed by: LGLANTZ - 06/07/04

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

Entech attempts to identify the hydrocarbons based on the sample's chromatographic pattern. Due to the overlap of distillation ranges and environmental factors influencing these characteristic patterns; they may be subjective, however all hydrocarbons found in the sample will be accounted for in the sum of the concentration(s) reported.

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Project Name: ACTransit
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P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-003 **Sample ID: MW-3** **Matrix:** Liquid **Sample Date:** 5/25/2004 10:45 A

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		2	50	100	µg/L	6/4/2004	DW4757A	EPA 8015 MOD. (Extractable)

Not a diesel pattern; 170ppb higher boiling gasoline compounds in the diesel range. Sample also contains 2200ppb unidentified hydrocarbons C20-C40.

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	88.0	16 - 137

Analyzed by: JZaininger - 6/4/2004
Data entry by: JZAININGER - 06/04/04
Reviewed by: LGLANTZ - 06/07/04

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel-SGCU	ND		1	50	50	µg/L	6/4/2004	DW4757AS	EPA 8015 MOD. (Extractable)

Not a diesel pattern; 58ppb higher boiling gasoline compounds in the diesel range. Sample also contains 1000ppb unidentified hydrocarbons C20-C40.

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	55.0	16 - 137

Analyzed by: JZaininger - 6/4/2004
Data entry by: JZAININGER - 06/07/04
Reviewed by: GGUEORGUIEVA - 06/07/04

Entech attempts to identify the hydrocarbons based on the sample's chromatographic pattern. Due to the overlap of distillation ranges and environmental factors influencing these characteristic patterns, they may be subjective, however all hydrocarbons found in the sample will be accounted for in the sum of the concentration(s) reported.

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PQL = Practical Quantitation Limit (No Dilution)
DF = Dilution Factor SGCU = Silica Gel Cleanup
PQLR = Practical Quantitation Limit for Reporting (Includes Dilution)

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Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-007 **Sample ID: MW-9** **Matrix:** Liquid **Sample Date:** 5/25/2004 1:15 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		5	50	250	µg/L		DW4757A	EPA 8015 MOD. (Extractable)

2700ppb unidentified hydrocarbons C20-C40.

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	106.0	16 - 137

Analyzed by: -
Data entry by: GGUEORGUIEVA - 06/07/04
Reviewed by: LGLANTZ - 06/07/04

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel-SGCU	ND		5	50	250	µg/L	6/4/2004	DW4757AS	EPA 8015 MOD. (Extractable)

1500ppb unidentified hydrocarbons C20-C40.

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	71.0	16 - 137

Analyzed by: JZaininger - 6/4/2004
Data entry by: JZAININGER - 06/07/04
Reviewed by: LGLANTZ - 06/07/04

Entech attempts to identify the hydrocarbons based on the sample's chromatographic pattern. Due to the overlap of distillation ranges and environmental factors influencing these characteristic patterns; they may be subjective, however all hydrocarbons found in the sample will be accounted for in the sum of the concentration(s) reported.

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DF = Dilution Factor SGCU = Silica Gel Cleanup
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Date: 6/7/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-006 **Sample ID: MW-10** **Matrix: Liquid** **Sample Date:** 5/25/2004 1:45 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel	ND		1	50	50	µg/L	6/4/2004	DW4757A	EPA 8015 MOD. (Extractable)

No Diesel pattern present. 55ppb unidentified discrete peaks(C9-C16) and 690ppb unidentified hydrocarbons C16-C40.

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	107.0	16 - 137

Analyzed by: JZaininger - 6/4/2004
Data entry by: JZAINNINGER - 06/04/04
Reviewed by: LGLANTZ - 06/07/04

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel-SGCU	ND		1	50	50	µg/L	6/5/2004	DW4757AS	EPA 8015 MOD. (Extractable)

<50ppb unidentified hydrocarbons C9-C16 and <250ppb unidentified hydrocarbons C16-C40.

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	57.0	16 - 137

Analyzed by: JZaininger - 6/5/2004
Data entry by: JZAINNINGER - 06/07/04
Reviewed by: LGLANTZ - 06/07/04

Entech attempts to identify the hydrocarbons based on the sample's chromatographic pattern. Due to the overlap of distillation ranges and environmental factors influencing these characteristic patterns; they may be subjective, however all hydrocarbons found in the sample will be accounted for in the sum of the concentration(s) reported.

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Date: 6/7/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-002 **Sample ID: MW-11** **Matrix:** Liquid **Sample Date:** 5/25/2004 11:10 A

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel	**ND**		1	50	50	µg/L	6/2/2004	DW4757A	EPA 8015 MOD. (Extractable)

No diesel pattern present. 860ppm unidentified hydrocarbon C18-C40.

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	72.0	16 - 137

Analyzed by: JZaininger - 6/2/2004
Data entry by: JZAINNGER - 06/02/04
Reviewed by: MTU - 06/02/04

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
TPH as Diesel-SGCU	**ND**		1	50	50	µg/L	6/5/2004	DW4757AS	EPA 8015 MOD. (Extractable)

No diesel pattern present. 310ppm unidentified hydrocarbon C18-C40.

Surrogate	Surrogate Recovery (%)	Control Limits (%)
o-Terphenyl	70.0	16 - 137

Analyzed by: JZaininger - 6/5/2004
Data entry by: JZAINNGER - 06/07/04
Reviewed by: LGLANTZ - 06/07/04

Entech attempts to identify the hydrocarbons based on the sample's chromatographic pattern. Due to the overlap of distillation ranges and environmental factors influencing these characteristic patterns; they may be subjective, however all hydrocarbons found in the sample will be accounted for in the sum of the concentration(s) reported.

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DF = Dilution Factor SGCU = Silica Gel Cleanup
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Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-001 **Sample ID:** Trip Blank **Matrix:** Liquid **Sample Date:** 5/25/2004 1:15 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	5/28/2004	WMS110710	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Xylenes, Total	ND		1	1.5	1.5	µg/L	5/28/2004	WMS110710	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	106.0	64 - 125
Dibromofluoromethan	98.4	23 - 172
Toluene-d8	111.0	70 - 134

Analyzed by: Xbian - 5/28/2004
Reviewed by: MTU - 06/01/04
Approved by: GGUEORGUIEVA - 06/01/04
Days to analysis: 3
Customer Specific parameter list.

Laboratory ID: 39089-002 **Sample ID:** MW-11 **Matrix:** Liquid **Sample Date:** 5/25/2004 11:10 A

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	5/28/2004	WMS110710	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Xylenes, Total	ND		1	1.5	1.5	µg/L	5/28/2004	WMS110710	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	101.0	64 - 125
Dibromofluoromethan	95.5	23 - 172
Toluene-d8	106.0	70 - 134

Analyzed by: Xbian - 5/28/2004
Reviewed by: MTU - 06/01/04
Approved by: GGUEORGUIEVA - 06/01/04
Days to analysis: 3
Customer Specific parameter list.

Laboratory ID: 39089-003 **Sample ID:** MW-3 **Matrix:** Liquid **Sample Date:** 5/25/2004 10:45 A

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Benzene	83		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Ethyl Benzene	11		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	5/28/2004	WMS110710	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Xylenes, Total	1.7		1	1.5	1.5	µg/L	5/28/2004	WMS110710	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	109.0	64 - 125
Dibromofluoromethan	91.0	23 - 172
Toluene-d8	104.0	70 - 134

Analyzed by: Xbian - 5/28/2004
Reviewed by: MTU - 06/01/04
Approved by: GGUEORGUIEVA - 06/01/04
Days to analysis: 3
Customer Specific parameter list.

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Date: 6/3/2004
Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-004 **Sample ID:** MW-2 **Matrix:** Liquid **Sample Date:** 5/25/2004 12:05 P

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Benzene	22000		250	0.5	125	µg/L	5/28/2004	WMS110710	EPA 8260B
Ethyl Benzene	1700		250	0.5	125	µg/L	5/28/2004	WMS110710	EPA 8260B
Methyl-t-butyl Ether	ND		250	1	250	µg/L	5/28/2004	WMS110710	EPA 8260B
Toluene	410		250	0.5	125	µg/L	5/28/2004	WMS110710	EPA 8260B
Xylenes, Total	2800		250	1.5	375	µg/L	5/28/2004	WMS110710	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	105.0	64 - 125
Dibromofluoromethan	91.4	23 - 172
Toluene-d8	105.0	70 - 134

Analyzed by: Xbian - 5/28/2004
Reviewed by: MTU - 06/01/04

Approved by: GGUEORGUIEVA - 06/01/04
Days to analysis: 3

Customer Specific parameter list.

Laboratory ID: 39089-005 **Sample ID:** MW-1 **Matrix:** Liquid **Sample Date:** 5/25/2004 12:40 P

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Benzene	5.0		1	0.5	0.5	µg/L	5/27/2004	WMS110705	EPA 8260B
Ethyl Benzene	7.2		1	0.5	0.5	µg/L	5/27/2004	WMS110705	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	5/27/2004	WMS110705	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	5/27/2004	WMS110705	EPA 8260B
Xylenes, Total	1.9		1	1.5	1.5	µg/L	5/27/2004	WMS110705	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	109.0	64 - 125
Dibromofluoromethan	97.7	23 - 172
Toluene-d8	108.0	70 - 134

Analyzed by: Xbian - 5/27/2004
Reviewed by: MTU - 05/28/04

Approved by: GGUEORGUIEVA - 05/28/04
Days to analysis: 2

Customer Specific parameter list.

Laboratory ID: 39089-006 **Sample ID:** MW-10 **Matrix:** Liquid **Sample Date:** 5/25/2004 1:45 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	5/28/2004	WMS110710	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Xylenes, Total	ND		1	1.5	1.5	µg/L	5/28/2004	WMS110710	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	106.0	64 - 125
Dibromofluoromethan	97.4	23 - 172
Toluene-d8	105.0	70 - 134

Analyzed by: Xbian - 5/28/2004
Reviewed by: MTU - 06/01/04

Approved by: GGUEORGUIEVA - 06/01/04
Days to analysis: 3

Customer Specific parameter list.

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Date Received: 5/25/2004
Project Name: ACTransit
Project Number: 2016
P.O. Number:
Sampled By:

Certified Analytical Report

Laboratory ID: 39089-007 **Sample ID:** MW-9 **Matrix:** Liquid **Sample Date:** 5/25/2004 1:15 PM

Parameter	Result	Flag	DF	PQL	PQLR	Units	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Ethyl Benzene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Methyl-t-butyl Ether	ND		1	1	1	µg/L	5/28/2004	WMS110710	EPA 8260B
Toluene	ND		1	0.5	0.5	µg/L	5/28/2004	WMS110710	EPA 8260B
Xylenes, Total	ND		1	1.5	1.5	µg/L	5/28/2004	WMS110710	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	104.0	64 - 125
Dibromofluoromethan	97.4	23 - 172
Toluene-d8	106.0	70 - 134

Analyzed by: Xbian - 5/28/2004
Reviewed by: MTU - 06/01/04

Approved by: GGUEORGUIEVA - 06/01/04
Days to analysis: 3

Customer Specific parameter list.

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Quality Control - Method Blank

Prep Batch ID:
Prep Date:

Entered by: JHSIANG - 05/26/04
Validated by: MTU - 05/27/04
Approved by: GGUEORGUIEVA - 05/27/04

QC Batch ID: WGC43116C
Matrix: Liquid
Date of Analysis: 5/26/2004

Method: EPA 8015 MOD. (Purgeable)

Parameter	Result	DF	PQL	PQLR	Units
TPH as Gasoline	ND	1	50	50	µg/L

Surrogate	Surrogate Recovery	Control Limits (%
4-Bromofluorobenzene	98.1	65 - 135

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Quality Control - Laboratory Control Spike / Duplicate Results

Prep Batch ID:

Prep Date:

Data entry by: JHSIANG - 05/26/04
Reviewed by: MTU - 05/27/04
Approved by: GGUEORGUIEVA - 05/27/04

QC Batch ID: WGC43116C
Date of Analysis: 5/26/2004
Matrix: Liquid

Method EPA 8015 MOD. (Purgeable) **Conc. Units:** µg/L

Parameter	Blank	Spike Amt	SpikeResult	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	ND	250.0	223.8	LCS	5/26/2004	89.5			65 - 135
Surrogate		**Surrogate Recovery**		**Control Limits (%)**					
4-Bromofluorobenzene		**80.1**		65 - 135					
TPH as Gasoline	ND	250.0	233.4	LCSD	5/26/2004	93.4	4.2	25	65 - 135
Surrogate		**Surrogate Recovery**		**Control Limits (%)**					
4-Bromofluorobenzene		**83.7**		65 - 135					

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Quality Control - Method Blank

Prep Batch ID:
Prep Date:

Entered by: JHSIANG - 05/28/04
Validated by: MTU - 05/28/04

QC Batch ID: WGC43116D
Matrix: Liquid
Date of Analysis: 5/27/2004

Method: EPA 8015 MOD. (Purgeable)

Parameter	Result	DF	PQL	PQLR	Units
TPH as Gasoline	ND	1	50	50	µg/L

Surrogate	Surrogate Recovery	Control Limits (%
4-Bromofluorobenzene	91.4	65 - 135

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Quality Control - Laboratory Control Spike / Duplicate Results

Prep Batch ID:

Prep Date:

Data entry by: JHSIANG - 05/28/04

Reviewed by: MTU - 05/28/04

QC Batch ID: WGC43116D

Date of Analysis: 5/27/2004

Matrix: Liquid

Method EPA 8015 MOD. (Purgeable)

Conc. Units: µg/L

Parameter	Blank	Spike Amt	SpikeResult	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	ND	250.0	237.	LCS	5/27/2004	94.8			65 - 135
Surrogate		**Surrogate Recovery**		**Control Limits (%)**					
4-Bromofluorobenzene		86.0		65 - 135					
TPH as Gasoline	ND	250.0	247.4	LCSD	5/27/2004	99.0	4.3	25	65 - 135
Surrogate		**Surrogate Recovery**		**Control Limits (%)**					
4-Bromofluorobenzene		91.6		65 - 135					

Entech Analytical Labs, Inc.

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Quality Control - Method Blank

Prep Batch ID:
Prep Date:

Entered by: PCASILANG - 05/26/04
Validated by: DQUEJA - 05/27/04
Approved by: PSANDROCK - 05/27/04

QC Batch ID: WIC040525
Matrix: Liquid
Date of Analysis: 5/26/2004

Method: EPA 300.0

Parameter	Result	DF	PQL	PQLR	Units
Nitrate as N	ND	1	0.2	0.2	mg/L
Sulfate	ND	1	0.5	0.5	mg/L

Entech Analytical Labs, Inc.

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Quality Control - Laboratory Control Spike / Duplicate Results

Prep Batch ID:

Prep Date:

Data entry by: DQUEJA - 05/27/04
Reviewed by: DQUEJA - 05/27/04
Approved by: PSANDROCK - 05/27/04

QC Batch ID: WIC040525
Date of Analysis: 5/26/2004
Matrix: Liquid

Method EPA 300.0

Conc. Units: mg/L

Parameter	Blank	Spike Amt	SpikeResult	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Nitrate as N	ND	4.0	4.06	LCS	5/26/2004	101.5			80 - 120
Sulfate	ND	20.0	19.7	LCS	5/26/2004	98.5			80 - 120
Nitrate as N	ND	4.0	3.97	LCSD	5/26/2004	99.3	2.2	20	80 - 120
Sulfate	ND	20.0	19.6	LCSD	5/26/2004	98.0	0.5	20	80 - 120

Entech Analytical Labs, Inc.

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Quality Control - Method Blank

Prep Batch ID:
Prep Date:

Entered by: XBIAN - 05/27/04
Validated by: MTU - 05/28/04
Approved by: GGUEORGUIEVA - 05/28/04

QC Batch ID: WMS110705
Matrix: Liquid
Date of Analysis: 5/27/2004

Method: EPA 8260B

Parameter	Result	DF	PQL	PQLR	Units
1,1,1,2-Tetrachloroethane	ND	1	0.5	0.5	µg/L
1,1,1-Trichloroethane	ND	1	0.5	0.5	µg/L
1,1,2,2-Tetrachloroethane	ND	1	0.5	0.5	µg/L
1,1,2-Trichloroethane	ND	1	0.5	0.5	µg/L
1,1-Dichloroethane	ND	1	0.5	0.5	µg/L
1,1-Dichloroethene	ND	1	0.5	0.5	µg/L
1,1-Dichloropropene	ND	1	0.5	0.5	µg/L
1,2,3-Trichlorobenzene	ND	1	5	5	µg/L
1,2,3-Trichloropropane	ND	1	0.5	0.5	µg/L
1,2,4-Trichlorobenzene	ND	1	5	5	µg/L
1,2,4-Trimethylbenzene	ND	1	5	5	µg/L
1,2-Dibromo-3-Chloropropane	ND	1	5	5	µg/L
1,2-Dibromoethane (EDB)	ND	1	0.5	0.5	µg/L
1,2-Dichlorobenzene	ND	1	0.5	0.5	µg/L
1,2-Dichloroethane	ND	1	0.5	0.5	µg/L
1,2-Dichloropropane	ND	1	0.5	0.5	µg/L
1,3,5-Trimethylbenzene	ND	1	5	5	µg/L
1,3-Dichlorobenzene	ND	1	0.5	0.5	µg/L
1,3-Dichloropropane	ND	1	0.5	0.5	µg/L
1,4-Dichlorobenzene	ND	1	0.5	0.5	µg/L
1,4-Dioxane	ND	1	50	50	µg/L
2,2-Dichloropropane	ND	1	0.5	0.5	µg/L
2-Butanone (MEK)	ND	1	20	20	µg/L
2-Chloroethyl-vinyl Ether	ND	1	5	5	µg/L
2-Chlorotoluene	ND	1	5	5	µg/L
2-Hexanone	ND	1	20	20	µg/L
4-Chlorotoluene	ND	1	5	5	µg/L
4-Methyl-2-Pentanone(MIBK)	ND	1	20	20	µg/L
Acetone	ND	1	20	20	µg/L
Acetonitrile	ND	1	5	5	µg/L
Acrolein	ND	1	5	5	µg/L
Acrylonitrile	ND	1	5	5	µg/L
Benzene	ND	1	0.5	0.5	µg/L
Benzyl Chloride	ND	1	5	5	µg/L
Bromobenzene	ND	1	0.5	0.5	µg/L
Bromochloromethane	ND	1	0.5	0.5	µg/L
Bromodichloromethane	ND	1	0.5	0.5	µg/L
Bromoform	ND	1	0.5	0.5	µg/L
Bromomethane	ND	1	0.5	0.5	µg/L
Carbon Disulfide	ND	1	0.5	0.5	µg/L
Carbon Tetrachloride	ND	1	0.5	0.5	µg/L
Chlorobenzene	ND	1	0.5	0.5	µg/L
Chloroethane	ND	1	0.5	0.5	µg/L
Chloroform	ND	1	0.5	0.5	µg/L
Chloromethane	ND	1	0.5	0.5	µg/L
cis-1,2-Dichloroethene	ND	1	0.5	0.5	µg/L
cis-1,3-Dichloropropene	ND	1	0.5	0.5	µg/L
Cyclohexanone	ND	1	20	20	µg/L
Dibromochloromethane	ND	1	0.5	0.5	µg/L
Dibromomethane	ND	1	0.5	0.5	µg/L

Entech Analytical Labs, Inc.

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Quality Control - Method Blank

Prep Batch ID:
Prep Date:

Entered by: XBIAN - 05/27/04
Validated by: MTU - 05/28/04
Approved by: GGUEORGUIEVA - 05/28/04

QC Batch ID: WMS110705
Matrix: Liquid
Date of Analysis: 5/27/2004

Dichlorodifluoromethane	ND	1	0.5	0.5	µg/L
Diisopropyl Ether	ND	1	5	5	µg/L
Ethyl Benzene	ND	1	0.5	0.5	µg/L
Freon 113	ND	1	1	1	µg/L
Hexachlorobutadiene	ND	1	5	5	µg/L
Iodomethane	ND	1	1	1	µg/L
Isopropanol	ND	1	20	20	µg/L
Isopropylbenzene	ND	1	1	1	µg/L
Methyl-t-butyl Ether	ND	1	1	1	µg/L
Methylene Chloride	ND	1	5	5	µg/L
n-Butylbenzene	ND	1	5	5	µg/L
n-Propylbenzene	ND	1	5	5	µg/L
Naphthalene	ND	1	5	5	µg/L
p-Isopropyltoluene	ND	1	5	5	µg/L
Pentachloroethane	ND	1	0.5	0.5	µg/L
sec-Butylbenzene	ND	1	5	5	µg/L
Styrene	ND	1	0.5	0.5	µg/L
tert-Amyl Methyl Ether	ND	1	5	5	µg/L
tert-Butanol (TBA)	ND	1	10	10	µg/L
tert-Butyl Ethyl Ether	ND	1	5	5	µg/L
tert-Butylbenzene	ND	1	5	5	µg/L
Tetrachloroethene	ND	1	0.5	0.5	µg/L
Tetrahydrofuran	ND	1	20	20	µg/L
Toluene	ND	1	0.5	0.5	µg/L
trans-1,2-Dichloroethene	ND	1	0.5	0.5	µg/L
trans-1,3-Dichloropropene	ND	1	0.5	0.5	µg/L
trans-1,4-Dichloro-2-butene	ND	1	1	1	µg/L
Trichloroethene	ND	1	0.5	0.5	µg/L
Trichlorofluoromethane	ND	1	0.5	0.5	µg/L
Vinyl Acetate	ND	1	5	5	µg/L
Vinyl Chloride	ND	1	0.5	0.5	µg/L
Xylenes, Total	ND	1	1	1	µg/L

Surrogate	Surrogate Recovery	Control Limits (%
4-Bromofluorobenzene	102.0	64 - 125
Dibromofluoromethane	94.8	23 - 172
Toluene-d8	111.0	70 - 134

Entech Analytical Labs, Inc.

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Quality Control - Laboratory Control Spike / Duplicate Results

Prep Batch ID:

Prep Date:

Data entry by: XBIAN - 05/27/04
Reviewed by: MTU - 05/28/04
Approved by: GGUEORGUIEVA - 05/28/04

QC Batch ID: WMS110705
Date of Analysis: 5/27/2004
Matrix: Liquid

Method EPA 8260B

Conc. Units: µg/L

Parameter	Blank	Spike Amt	SpikeResult	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
1,1-Dichloroethene	ND	20.0	17.0699	LCS	5/27/2004	85.3			60 - 132
Benzene	ND	20.0	20.1909	LCS	5/27/2004	101.0			77 - 154
Chlorobenzene	ND	20.0	19.0226	LCS	5/27/2004	95.1			66 - 141
Methyl-t-butyl Ether	ND	20.0	19.0343	LCS	5/27/2004	95.2			58 - 127
Toluene	ND	20.0	19.258	LCS	5/27/2004	96.3			47 - 137
Trichloroethene	ND	20.0	18.941	LCS	5/27/2004	94.7			57 - 159

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	109.1	64 - 125
Dibromofluoromethane	96.3	23 - 172
Toluene-d8	105.0	70 - 134

1,1-Dichloroethene	ND	20.0	16.3095	LCSD	5/27/2004	81.5	4.6	25	60 - 132
Benzene	ND	20.0	19.9675	LCSD	5/27/2004	99.8	1.1	25	77 - 154
Chlorobenzene	ND	20.0	18.9622	LCSD	5/27/2004	94.8	0.3	25	66 - 141
Methyl-t-butyl Ether	ND	20.0	18.1161	LCSD	5/27/2004	90.6	4.9	25	58 - 127
Toluene	ND	20.0	18.8499	LCSD	5/27/2004	94.2	2.1	25	47 - 137
Trichloroethene	ND	20.0	18.7964	LCSD	5/27/2004	94.0	0.8	25	57 - 159

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	105.8	64 - 125
Dibromofluoromethane	93.6	23 - 172
Toluene-d8	103.9	70 - 134

Entech Analytical Labs, Inc.

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Quality Control - Matrix Spike / Duplicate Results

Prep Batch ID:

Prep Date:

Data entry by: XBIAN - 05/28/04
Reviewed by: MTU - 05/28/04
Approved by: GGUEORGUIEVA - 05/28/04

QC Batch ID: WMS110705
Date of Analysis: 5/27/2004
Matrix: Liquid

Method EPA 8260B

Conc. Units: µg/L

Parameter	Sample Result	Spike Amount	Spike Result	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
MS SampleNumber: 39068-006									
1,1-Dichloroethene	ND	20.0	16.7	MS	5/27/2004	83.5			59 - 133
Benzene	ND	20.0	20.6	MS	5/27/2004	102.9			73 - 134
Chlorobenzene	ND	20.0	19.5	MS	5/27/2004	97.4			86 - 121
Methyl-t-butyl Ether	ND	20.0	19.1	MS	5/27/2004	95.5			42 - 157
Toluene	ND	20.0	20.5	MS	5/27/2004	102.0			79 - 117
Trichloroethene	ND	20.0	18.6	MS	5/27/2004	93.0			71 - 119

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	104.0	64 - 125
Dibromofluoromethane	97.5	23 - 172
Toluene-d8	108.0	70 - 134

MSD SampleNumber: 39068-006									
1,1-Dichloroethene	ND	20.0	16.5	MSD	5/27/2004	82.5	1.2	25	59 - 133
Benzene	ND	20.0	20.7	MSD	5/27/2004	103.4	0.5	25	73 - 134
Chlorobenzene	ND	20.0	19.1	MSD	5/27/2004	95.4	2.1	25	86 - 121
Methyl-t-butyl Ether	ND	20.0	18.5	MSD	5/27/2004	92.5	3.2	25	42 - 157
Toluene	ND	20.0	19.5	MSD	5/27/2004	97.0	5.0	25	79 - 117
Trichloroethene	ND	20.0	18.9	MSD	5/27/2004	94.5	1.6	25	71 - 119

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	103.0	64 - 125
Dibromofluoromethane	95.7	23 - 172
Toluene-d8	106.0	70 - 134

Entech Analytical Labs, Inc.

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

Quality Control - Method Blank

Prep Batch ID:
Prep Date:

Entered by: XBIAN - 06/01/04
Validated by: MTU - 06/01/04
Approved by: GGUEORGUIEVA - 06/01/04

QC Batch ID: WMS110710
Matrix: Liquid
Date of Analysis: 5/28/2004

Method: EPA 8260B

Parameter	Result	DF	PQL	PQLR	Units
1,1,1,2-Tetrachloroethane	ND	1	0.5	0.5	µg/L
1,1,1-Trichloroethane	ND	1	0.5	0.5	µg/L
1,1,2,2-Tetrachloroethane	ND	1	0.5	0.5	µg/L
1,1,2-Trichloroethane	ND	1	0.5	0.5	µg/L
1,1-Dichloroethane	ND	1	0.5	0.5	µg/L
1,1-Dichloroethene	ND	1	0.5	0.5	µg/L
1,1-Dichloropropene	ND	1	0.5	0.5	µg/L
1,2,3-Trichlorobenzene	ND	1	5	5	µg/L
1,2,3-Trichloropropane	ND	1	0.5	0.5	µg/L
1,2,4-Trichlorobenzene	ND	1	5	5	µg/L
1,2,4-Trimethylbenzene	ND	1	5	5	µg/L
1,2-Dibromo-3-Chloropropane	ND	1	5	5	µg/L
1,2-Dibromoethane (EDB)	ND	1	0.5	0.5	µg/L
1,2-Dichlorobenzene	ND	1	0.5	0.5	µg/L
1,2-Dichloroethane	ND	1	0.5	0.5	µg/L
1,2-Dichloropropane	ND	1	0.5	0.5	µg/L
1,3,5-Trimethylbenzene	ND	1	5	5	µg/L
1,3-Dichlorobenzene	ND	1	0.5	0.5	µg/L
1,3-Dichloropropane	ND	1	0.5	0.5	µg/L
1,4-Dichlorobenzene	ND	1	0.5	0.5	µg/L
1,4-Dioxane	ND	1	50	50	µg/L
2,2-Dichloropropane	ND	1	0.5	0.5	µg/L
2-Butanone (MEK)	ND	1	20	20	µg/L
2-Chloroethyl-vinyl Ether	ND	1	5	5	µg/L
2-Chlorotoluene	ND	1	5	5	µg/L
2-Hexanone	ND	1	20	20	µg/L
4-Chlorotoluene	ND	1	5	5	µg/L
4-Methyl-2-Pentanone(MIBK)	ND	1	20	20	µg/L
Acetone	ND	1	20	20	µg/L
Acetonitrile	ND	1	5	5	µg/L
Acrolein	ND	1	5	5	µg/L
Acrylonitrile	ND	1	5	5	µg/L
Benzene	ND	1	0.5	0.5	µg/L
Benzyl Chloride	ND	1	5	5	µg/L
Bromobenzene	ND	1	0.5	0.5	µg/L
Bromochloromethane	ND	1	0.5	0.5	µg/L
Bromodichloromethane	ND	1	0.5	0.5	µg/L
Bromoform	ND	1	0.5	0.5	µg/L
Bromomethane	ND	1	0.5	0.5	µg/L
Carbon Disulfide	ND	1	0.5	0.5	µg/L
Carbon Tetrachloride	ND	1	0.5	0.5	µg/L
Chlorobenzene	ND	1	0.5	0.5	µg/L
Chloroethane	ND	1	0.5	0.5	µg/L
Chloroform	ND	1	0.5	0.5	µg/L
Chloromethane	ND	1	0.5	0.5	µg/L
cis-1,2-Dichloroethene	ND	1	0.5	0.5	µg/L
cis-1,3-Dichloropropene	ND	1	0.5	0.5	µg/L
Cyclohexanone	ND	1	20	20	µg/L
Dibromochloromethane	ND	1	0.5	0.5	µg/L
Dibromomethane	ND	1	0.5	0.5	µg/L

Entech Analytical Labs, Inc.

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

Quality Control - Method Blank

Prep Batch ID:
Prep Date:

Entered by: XBIAN - 06/01/04
Validated by: MTU - 06/01/04
Approved by: GGUEORGUIEVA - 06/01/04

QC Batch ID: WMS110710
Matrix: Liquid
Date of Analysis: 5/28/2004

Dichlorodifluoromethane	ND	1	0.5	0.5	µg/L
Diisopropyl Ether	ND	1	5	5	µg/L
Ethyl Benzene	ND	1	0.5	0.5	µg/L
Freon 113	ND	1	1	1	µg/L
Hexachlorobutadiene	ND	1	5	5	µg/L
Iodomethane	ND	1	1	1	µg/L
Isopropanol	ND	1	20	20	µg/L
Isopropylbenzene	ND	1	1	1	µg/L
Methyl-t-butyl Ether	ND	1	1	1	µg/L
Methylene Chloride	ND	1	5	5	µg/L
n-Butylbenzene	ND	1	5	5	µg/L
n-Propylbenzene	ND	1	5	5	µg/L
Naphthalene	ND	1	5	5	µg/L
p-Isopropyltoluene	ND	1	5	5	µg/L
Pentachloroethane	ND	1	0.5	0.5	µg/L
sec-Butylbenzene	ND	1	5	5	µg/L
Styrene	ND	1	0.5	0.5	µg/L
tert-Amyl Methyl Ether	ND	1	5	5	µg/L
tert-Butanol (TBA)	ND	1	10	10	µg/L
tert-Butyl Ethyl Ether	ND	1	5	5	µg/L
tert-Butylbenzene	ND	1	5	5	µg/L
Tetrachloroethene	ND	1	0.5	0.5	µg/L
Tetrahydrofuran	ND	1	20	20	µg/L
Toluene	ND	1	0.5	0.5	µg/L
trans-1,2-Dichloroethene	ND	1	0.5	0.5	µg/L
trans-1,3-Dichloropropene	ND	1	0.5	0.5	µg/L
trans-1,4-Dichloro-2-butene	ND	1	1	1	µg/L
Trichloroethene	ND	1	0.5	0.5	µg/L
Trichlorofluoromethane	ND	1	0.5	0.5	µg/L
Vinyl Acetate	ND	1	5	5	µg/L
Vinyl Chloride	ND	1	0.5	0.5	µg/L
Xylenes, Total	ND	1	1	1	µg/L

Surrogate	Surrogate Recovery	Control Limits (%
4-Bromofluorobenzene	**104.0**	64 - 125
Dibromofluoromethane	**93.6**	23 - 172
Toluene-d8	**110.0**	70 - 134

Entech Analytical Labs, Inc.

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

Quality Control - Laboratory Control Spike / Duplicate Results

Prep Batch ID:

Prep Date:

Data entry by: XBIAN - 06/01/04
Reviewed by: MTU - 06/01/04
Approved by: GGUEORGUIEVA - 06/01/04

QC Batch ID: WMS110710
Date of Analysis: 5/28/2004
Matrix: Liquid

Method EPA 8260B

Conc. Units: µg/L

Parameter	Blank	Spike Amt	SpikeResult	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
1,1-Dichloroethene	ND	20.0	16.3	LCS	5/28/2004	**81.5**			60 - 132
Benzene	ND	20.0	19.9	LCS	5/28/2004	**99.5**			77 - 154
Chlorobenzene	ND	20.0	19.2	LCS	5/28/2004	**96.0**			66 - 141
Methyl-t-butyl Ether	ND	20.0	19.	LCS	5/28/2004	**95.0**			58 - 127
Toluene	ND	20.0	19.2	LCS	5/28/2004	**96.0**			47 - 137
Trichloroethene	ND	20.0	18.8	LCS	5/28/2004	**94.0**			57 - 159

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	**110.0**	64 - 125
Dibromofluoromethane	**95.9**	23 - 172
Toluene-d8	**104.0**	70 - 134

1,1-Dichloroethene	ND	20.0	16.6	LCSD	5/28/2004	**83.0**	**1.8**	25	60 - 132
Benzene	ND	20.0	20.3	LCSD	5/28/2004	**101.5**	**2.0**	25	77 - 154
Chlorobenzene	ND	20.0	18.9	LCSD	5/28/2004	**94.5**	**1.6**	25	66 - 141
Methyl-t-butyl Ether	ND	20.0	18.6	LCSD	5/28/2004	**93.0**	**2.1**	25	58 - 127
Toluene	ND	20.0	19.2	LCSD	5/28/2004	**96.0**	**0.0**	25	47 - 137
Trichloroethene	ND	20.0	18.8	LCSD	5/28/2004	**94.0**	**0.0**	25	57 - 159

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	**106.0**	64 - 125
Dibromofluoromethane	**95.0**	23 - 172
Toluene-d8	**103.0**	70 - 134

Entech Analytical Labs, Inc.

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

Quality Control - Matrix Spike / Duplicate Results

Prep Batch ID:

Prep Date:

Data entry by: XBIAN - 06/01/04
Reviewed by: MTU - 06/01/04
Approved by: GGUEORGUIEVA - 06/01/04

QC Batch ID: WMS110710
Date of Analysis: 5/28/2004
Matrix: Liquid

Method EPA 8260B

Conc. Units: µg/L

Parameter	Sample Result	Spike Amount	Spike Result	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
MS SampleNumber: 39089-006									
1,1-Dichloroethene	ND	20.0	16.1	MS	5/28/2004	**80.5**			59 - 133
Benzene	ND	20.0	20.6	MS	5/28/2004	**103.0**			73 - 134
Chlorobenzene	ND	20.0	19.2	MS	5/28/2004	**96.0**			86 - 121
Methyl-t-butyl Ether	ND	20.0	18.3	MS	5/28/2004	**91.5**			42 - 157
Toluene	ND	20.0	19.6	MS	5/28/2004	**98.0**			79 - 117
Trichloroethene	ND	20.0	18.4	MS	5/28/2004	**92.0**			71 - 119

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	**104.0**	64 - 125
Dibromofluoromethane	**97.2**	23 - 172
Toluene-d8	**108.0**	70 - 134

MSD SampleNumber: 39089-006									
1,1-Dichloroethene	ND	20.0	16.7	MSD	5/28/2004	**83.5**	**3.7**	25	59 - 133
Benzene	ND	20.0	20.4	MSD	5/28/2004	**102.0**	**1.0**	25	73 - 134
Chlorobenzene	ND	20.0	19.4	MSD	5/28/2004	**97.0**	**1.0**	25	86 - 121
Methyl-t-butyl Ether	ND	20.0	19.0	MSD	5/28/2004	**95.0**	**3.8**	25	42 - 157
Toluene	ND	20.0	19.7	MSD	5/28/2004	**98.5**	**0.5**	25	79 - 117
Trichloroethene	ND	20.0	18.9	MSD	5/28/2004	**94.5**	**2.7**	25	71 - 119

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	**104.0**	64 - 125
Dibromofluoromethane	**95.4**	23 - 172
Toluene-d8	**106.0**	70 - 134

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.: 510-337-8660	Purchase Order No.:	Invoice to: (If Different)	Phone:	
Company Name: Cameron-Cole	Fax No.: 510 337 3994	Project No.: 2016 MO 5/26/04	Company:		
Mailing Address: 1011 W. Atlantic Ave. Old #93	Email Address:	Project Name: AC Trans Seminary	Billing Address: (If Different)		
City: Alameda	State: Zip Code:	Project Location:	City:	State:	Zip:

Sampler: MO | 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: 624 ☐ / 8010 by 8260 ☐ / 601/602 ☐	Oxygenates by GCMS: MTBE by 8260 ☐ / 8260 ☐ / Eth/Meth ☐	TPH as Gas/BTEX ☐ / TPH as Gas/BTEX/MTBE ☐ / Gas by GCMS ☐	Diesel ☐ / Motor Oil ☐ w/ Si-gel / w/ Si-gel Column Cleanup ☐	Fuel Scan Extractable ☐ / Purgeable ☐	Base/Neutral/Acid Organics 8270 ☐ / 8270-SIM ☐ / PAH ☐	Pesticides-8081 ☐ / PCBs - 8082 ☐	8260	pH ☐ / TSS ☐ / SC ☐ / TOC ☐	TRPH ☐ / Oil & Grease ☐	CN ☐ / Phenols ☐	Anions: F ☐ Cl ☐ Br ☐ SO4 ☐ NO3 ☐ NO2 ☐ PO4 ☐ / Perchlorate	8015 GRO	8015 DRO / Metals - Circle Below Total / Dissolved ☐ / NH4+/Sulfate	STLC ☐ / TCLP ☐	TO-14 ☐ / TO-15 ☐ (Tedlar Bag Only)	Remarks
Tr. Blank		5/25/04	1315	W			3	HCl								X										
MW-11			1110				3	HCl								X										
							2	NO											X							
							1													X						
MW-3			1045				3	HCl								X										
							2	Na											X							
							1													X						
MW-2			1205				3	HCl								X										
							2	Na											X							
							1													X						

Relinquished by:	Received by:	Date:	Time:
		5/25/04	1455
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 (408) 588-0200
Santa Clara, CA 95054 (408) 588-0201 - Fax

Chain of Custody / Analysis Request

Attention to: Brad Wright	Phone No.: 510 337 8660	Purchase Order No.:	Invoice to: (If Different)	Phone:	
Company Name: Cameron Colo	Fax No.: 510 337 3994	Project No.: 2016 (MD 5/26/04)	Company:		
Mailing Address: 101 W. Atlantic Ave Old #93	Email Address:	Project Name: AC Trans Seminary	Billing Address: (If Different)		
City: Alameda	State: / Zip Code:	Project Location:	City:	State:	Zip:

Sampler: MD | 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:

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

Client ID / Field Point	Lab. No.	Sample Date	Sample Time	Matrix	Composite	Grab	Containers	Preservative	8260	pH	TRPH	CN	Anions	8015 GRO	8015 DRO	Metals	Remarks
MW-1		5/25/04	1240	W			3		X								
							2						X				
							1							X			
MW-10			1345				3		X								
							2						X				
							1							X			
MW-9			1315				3		X								
							2						X				
							1							X			

Relinquished by:	Received by:	Date: 5/25/04	Time: 1455
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

HYDRODATA

PROJECT: AC Transit Seminary EVENT: Quarterly SAMPLER: MO

NO.	WELL OR LOCATION	DATE	TIME	MEASUREMENT	CODE	COMMENTS
1	MW-11	5-25-04	900	2.06	SWL	
2	MW-3	↓	904	2.10	↓	
3	MW-2		909	2.90		
4	MW-1		913	3.22		
5	MW-9		917	3.53		
6	MW-10	↓	920	2.90	↓	
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

CODES:

SWL - Static Water Level

OIL - Oil Level

OWI - Oil/Water Interface

MTD - Measured Total Depth

Project Name: Seminary
Casing Diameter (in): 2"
Total Well Depth (ft): 15.30
Depth to Water (ft) before purging: 3.87

Project Number: 2016
Sample Date: 5/25/04
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)
12 18	7.23	841	23.0	4.52	1	
12 25	7.18	852	22.9	4.89	3	
12 32	7.23	848	22.9	5.68	5	
				total vol.	6	

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

15.30 - 3.87 = 11.43 x .165 = 1.88 x 3 = 5.65

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 8015 DRO Nitrate/Sulfate

Sample Appearance

_____OVA Reading (ppm)
_____Suspended Solids (describe):

Fe: 73.30
DO: 3.78
ORP: -41

Decontamination Performed:

washed / Rinsed
Sounder / meters

Comments / Calculations:

start 12 15
stop 12 35
sample 12 40

Name: MD

Date: 5/25/04

MW-2

Project Name: Seminary
Casing Diameter (in): 2"
Total Well Depth (ft): 23.30
Depth to Water (ft) before purging: 2.90

Project Number: 2016
Sample Date: 5/25/04
Sample ID:

Well ID: ~~MW-2~~ MO

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)
1128	6.98	1866	25.9	5.45	3	
1132	6.86	1852	25.8	6.98	6	
1155	6.82	1780	25.5	8.02	9	
				total vol.	10	

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
23.00 - 2.90 = 20.10 x .165 3.30 x 3 = 10.01

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 8015 DRO Nitrate/Sulfate

Sample Appearance

_____OVA Reading (ppm)

_____Suspended Solids (describe):

Fe: > 330 mg/L

DO: 4.52 mg/L

ORP: -28 mV

Decontamination Performed:
Washed / Rinsed
Sounder / Meters

Comments / Calculations:
Start: 1120
Stop: 1200
Sample: 1255

2

Name: MD

Date: 5/25/04

Project Name: Seminary
Casing Diameter (in): 2"
Total Well Depth (ft): 23.30
Depth to Water (ft) before purging: 2.90

Project Number: 2016
Sample Date: 5/25/04
Sample ID:

Well ID: MW-2
0 Ven Purge

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 vol.	33.6 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

23.30 - 2.90 = 20.40 x .165 = 3.40 x 10 = 33.6 gal

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

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

Sample Collection Method:

X **Bailer:** _____Teflon _____Stainless Steel _____PVC _____ABS Plastic

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

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

Parameter Collected: ~~8260~~ ~~8015 GRO~~ ~~8015 DRO~~ ~~Nitrate~~/Sulfate

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

Fe:
DO:
ORP:

Decontamination Performed:
washed / Rinsed
Sounder / Meters

Comments / Calculations:
Start 1330
Stop 1430

Name: MD

Date: 5/25/04

Project Name: Seminary
Casing Diameter (in): 2"
Total Well Depth (ft): 17.00
Depth to Water (ft) before purging: 2.10

Project Number: 2016
Sample Date: 5/25/04
Sample ID: mw-3

Well 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)
1025	7.91	574	25.1	6.02	2	
1030	7.56	552	25.6	8.09	4	
1035	7.41	526	24.9	8.21	6	
			no			
				total vol.	8	

Water Volume to be Purged (gal):
(Casing Length in Ft – Depth to Water in Ft) (X) (3)
Where X =1 Well Volume in Gal/ft, X=0.165 for 2" wells, X=0.37 for 3" wells, X=0.65 for 4" wells
17.00 - 2.10 = 14.9 x .165 2.45 x 3 = 7.3

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 8015 DRO Nitrate/Sulfate

Sample Appearance

_____OVA Reading (ppm)
_____Suspended Solids (describe):

Fe: 0.00

DO: 4.21 mg/L

ORP: 17 mV

Decontamination Performed:
Washed / Rinsed
Sounder / meters

Comments / Calculations:

start 1020
stop 1040
sample 1045

Name: MD

Date: 5/25/04

Project Name: Seminary
Casing Diameter (in): 2"
Total Well Depth (ft): 19.70
Depth to Water (ft) before purging: 4.17

Project Number: 2016
Sample Date: 5/25/04
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)
1254	7.75	478	24.4	5.26	2.5	
1300	7.66	521	24.4	6.32	5.0	
1305	7.52	561	24.3	7.21	7.5	
				total vol.	8	

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

NOTE: 3 to 5 Well Casing Volumes required prior to sample collection. 19.70 - 4.17 = 15.56 x .165 = 2.56 x 3 = 7.7

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 8015 DRO Nitrate/Sulfate

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

Fe: 0.00
DO: 5.20 mg/L
ORP: 70 mv

Decontamination Performed:
Washed / Rinsed
Sounder / Meters

Comments / Calculations:
Trip Blank @ 1315

Start 1250
Stop 1310
Sampl 1315

Name: MD

Date: 5/25/04

Project Name: Seminary
Casing Diameter (in): 2"
Total Well Depth (ft): 11.40
Depth to Water (ft) before purging: 2.90

Project Number: 2016
Sample Date: 5/25/04
Sample ID: MW-10

Well 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)
1328	6.90	1827	28.7	3.5	1	
1332	6.66	1810	28.6	3.6	2	
1337	6.52	1790	28.0	3.7	3	
				total vol.	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
11.40 – 2.90 = 8.5 x .165 = 4.2

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 8015 DRO Nitrate/Sulfate

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

Fe: 0 mg/L
DO: 1.63 mg/L
ORP: 120 MV

Decontamination Performed:
washed / Rinsed
Sounder / Meters

Comments / Calculations:
Start: 1325
stop: 1340
sample 1345

Name: MD

Date: 5/25/04

Project Name: Seminary
Project Number: 2016
Well ID: MW-11
Casing Diameter (in): 2"
Sample Date: 5/25/04
Total Well Depth (ft): 13.44
Sample ID: MW-11
Depth to Water (ft) before purging: 2.06

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)
0940	7.44	911	23.7	5.89	1	
1015	7.25	903	23.6	9.21	3	
1100	7.21	905	23.7	10.56	5	
				total vol.	6	

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
13.44 - 2.06 = 11.38 x .165 = 1.87 x 3 = 5.6
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 (3 VOA) 8015 GRO (3 VOA) 8015 DRO (2 AMBER) Nitrate/Sulfate (1 Poly)

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

Fe: 0.0
DO: 10.1 mg/L
ORP: 28 mV

Decontamination Performed:
washed / Rinsed
Sounder / meters

Comments / Calculations:
Start: 0923
stop: 1100
Sample: 1110

MD

Project Name: AC Seminary
Project Number: 2016
Well ID: MW-2
Overpurge

Casing Diameter (in): 2"
Sample Date: 4/29/04
Total Well Depth (ft): 23.35
Sample ID: NA
Depth to Water (ft) before purging: 3.39

Development Method:

_____**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	Vol =	33gal	

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
23.35 – 3.39 = 19.96 x 0.165 = 3.29 x10 = 33 gal
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

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

Sample Collection Method:

_____**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):

Start: 1020
Stop: 1130

Decontamination Performed:

Comments / Calculations:

Name: M. Duffy
Date: 4/29/04

Overpurge

Project Name: Seminary
Casing Diameter (in): 2"
Total Well Depth (ft): 23.33
Depth to Water (ft) before purging: 4.49

Project Number:
Sample Date: 6/15/04
Sample ID: MW-2

Well ID: MW-2

Development Method:

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

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

Time	pH	Conductivity (umho/cm)	Temperature (Celsius)	Water Level (to 0.01 ft.)	Cum. Vol. (gal)	Pump Rate (GPM)

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
(23.33 - 4.49) = 18.84 x .165 = 3.10 x 10 = 31 gallons

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:

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: _____ _____ _____ _____

Sample Appearance

_____OVA Reading (ppm)

_____Suspended Solids (describe):

Start: 1230
Stop: 1400

Decontamination Performed:

Comments / Calculations: +10 Casing Vol purged using Cent. Pump

Name: _____