Alameda-Contra Costa Transit District

December 30, 2008

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

Dear Mr. Plunkett:

Subject: Groundwater Monitoring Report – November 2008
AC Transit, 1177 47th Street, Emeryville

AC Transit hereby submits the enclosed groundwater monitoring report for the AC Transit facility located at 1177 47th Street in Emeryville. The report was prepared by our consultant, Esseltech, and contains the results of groundwater monitoring performed on November 2, 2008, from two on-site monitoring wells (MW-11 and MW-12). Well MW-13 was measured to have 1.1 feet of free product and was not sampled for chemical analysis.

Sampling results indicated gasoline-range hydrocarbons was present in MW-12 (320 ppb) but was not present in MW-11. Diesel-range hydrocarbons were found in both wells MW-11 and MW-12, each at a concentration of 200 ppb. Benzene was detected in MW-11 at a concentration of 2.1 ppb, and ethyl benzene and xylenes were measured at just above the laboratory detection limit of 0.5 ppb. Previous sample results for all BTEX compounds were below laboratory detection limits.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

If you have any questions or comments regarding the enclosed report, please call me at (510) 577-8869.

Sincerely,

Suzanne Chaewsky

Suzanne Chaewsky, P.E.
Environmental Engineer

Enclosure

10626 International Boulevard • Oakland, CA 94603 • TEL (510) 891-4777 • www.actransit.org

GROUND WATER MONITORING
IN
NOVEMBER 2008
ALAMEDA CONTRA COSTA
TRANSIT DISTRICT FACILITY
1177 47TH STREET
EMERYVILLE, CALIFORNIA

Prepared for

Alameda Contra Costa Transit District
10626 International Boulevard
Oakland, California 94603

Prepared by

Essel Technology Services, Inc.
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Project No. 08-ACT-Q-1

November 2008

GROUND WATER MONITORING
IN
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ALAMEDA CONTRA COSTA
TRANSIT DISTRICT FACILITY
1177 47TH STREET
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1.0 INTRODUCTION

The Alameda Contra Costa Transit District (AC Transit) has contracted with Essel Technology Services, Inc. (Essel Tech) to perform ground-water monitoring and sampling at the AC Transit Division 2 facility in Emeryville, California. This report presents the results of monitoring and sampling performed in November 2008.

1.1 Site Location and Description

The Division 2 facility is located at 1177 47th Street in Emeryville, California and occupies nearly the entire city block that is bounded by 47th Street on the north, 45th Street on the south, San Pablo Avenue on the east, and Doyle Street on the west, as shown on Plate 1. The facility is used for storage and maintenance of AC Transit buses. The primary site feature is a maintenance building that is located in the southwestern portion of the site. Other facilities include a parking garage, a transportation building, and a bus washing structure that are located along the northern property line adjacent to 47th Street; and a tire building, an emergency generator building, and storm water facilities that are located at the western edge of the site next to Doyle Street. The site also contains underground storage tanks (USTs). The existing USTs, referred to as Tank Farm No. 1, are located near the northeastern corner of the property and just south of fuel dispenser islands. Former USTs, referred to as Tank Farm No. 2, were located near the center of the property and a short distance east of the present maintenance building. These tanks were removed in 1999. A 550-gallon UST that provides fuel for an emergency generator is located next to the southern side of the emergency generator building.

Sixteen wells used for ground-water monitoring are presently installed at the site. Thirteen of the wells (MW-1 through MW-10, MW-12, MW-13, and W-4) are spaced across the northern half of the site and monitor the ground water near and to the west (approximately downgradient) of Tank Farm No 1 and the fuel dispenser island. Well MW-12 also serves to monitor the ground water at a location northwest of the 550-gallon emergency generator UST. Three of the 16 wells are located in the southeastern quadrant of the property. Well W-3 is at the eastern edge of the property at a location that is upgradient of Tank Farm No. 1, well W-1 is located approximately 220 feet south of Tank Farm No. 1, and MW-11 is near the southwestern corner of Tank Farm No. 2. Three additional wells, that are not part of the ground-water-monitoring program, are located adjacent to Tank Farm No. 1. These wells are referred to as E-1, E-2, and E-5. Plate 2 is a Site Plan that shows the relative locations of the AC Transit facilities, the 16 ground-water-monitoring wells, and the three additional wells.

2.0 FIELD AND LABORATORY WORK

2.1 Field Procedures

Essel Tech personnel visited the site on November 2, 2008 to measure the water level in wells MW-11, MW-12, and MW-13, to measure the thickness of any free-phase petroleum product in the wells, and to purge the wells for ground water sampling. The depths to free-phase petroleum product and the static ground water surface in each well were measured to the nearest 0.01-foot using an electronic oil-water interface probe. Following water-level measurements, wells MW-11 and MW-12 were purged of water using a submersible pump and discharge hose. Well MW-13 was not purged because of the presence of free-phase petroleum product in the well. Approximately three casing volumes of water were pumped from each well. Field measurements of temperature, pH, electrical conductivity, dissolved oxygen, oxygen reduction potential, and ferrous iron were monitored during pumping. Measurements were recorded on field well purging and sampling forms, which are included in Appendix A.

To minimize the potential for inadvertently introducing contaminants, wells were purged in order from least contaminated to most contaminated using the analytical results from the previous monitoring event. In addition, the purge pump and attached discharge hose were cleaned before use in each well by washing the equipment in a soap solution followed by rinsing twice with clean tap water. Discharge water from well purging was directed into 55-gallon drums, which were then emptied into the maintenance building steam bay.

Essel Tech personnel collected water samples from wells MW-11 and MW-12 on November 2, 2008. A clean, disposable polyethylene bailer was lowered partly through the air-water interface in each well and retrieved to collect the samples. The retrieved water samples were then slowly transferred from the bailer to clean, 40-milliliter volatile organic analysis (VOA) glass vials containing hydrochloric acid as a preservative and to clean, 1-liter brown glass liter bottles containing sulfuric acid as a preservative. The various containers were filled completely to eliminate air bubbles, sealed with caps, labeled, and placed in ice storage for transport to an analytical laboratory.

2.2 Laboratory Analyses

Essel Tech personnel prepared a Chain-of-Custody form for the ground water samples collected and this form accompanied the samples to the laboratory. A copy of the Chain-of-Custody form is included in Appendix B. The water samples were delivered to McCampbell Analytical, Inc. (McCampbell) in Pittsburg, California for analysis. McCampbell analyzed the samples for total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd) using Environmental Protection Agency (EPA) modified Method 8015C and Method 8015B, respectively; and for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) using EPA Method 8021B.

3.0 RESULTS OF MONITORING AND SAMPLING

3.1 Ground water Monitoring

A thickness of 1.1 feet of free-phase petroleum product was measured in well MW-13 on November 2, 2008. No free-phase petroleum product was measured in wells MW-11 or MW-12. The measured depth to the static ground water surface in well MW-11 was 2.98 feet below the top of the casing and in well MW-12 was 10.50 feet below the top of the casing. Essel Tech used wellhead elevation data and the depth-to-water measurements made on November 2, 2008 to calculate the elevation of the ground water surface, which was 26.95 and 18.18 feet above mean sea level in wells MW-11 and MW-12, respectively. Water-level measurements show the ground water surface rose 0.72-foot in well MW-11 and 1.3 feet in well MW-12 between the May and November 2008 monitoring events. The ground water surface in two wells was an average 0.36-foot higher in November 2008 than at the equivalent time (November) in 2007. The gradient and direction of ground water flow is not estimated for this latest monitoring event because the water level in only two wells was measured. Water level data from previous monitoring events show ground water beneath the site flows toward the west. Table 1 presents data since November 2005 on product thickness, depth to ground water, and ground water elevation for the 16 wells.

3.2 Laboratory Analyses

Results of laboratory analyses show gasoline-range hydrocarbons (i.e., TPHg) were detected in the water sample from well MW-12 and were not detected in the water sample from well MW-11. The concentration of TPHg found in well MW-12 (320 parts per billion [ppb]) is approximately equivalent to the concentration detected in November 2007 (360 ppb). During the two previous monitoring events in February and May 2008, TPHg was detected at 55 and 120 ppb, respectively. Well MW-12 is located near the western, downgradient edge of the property. No TPHg was detected in the water sample from well MW-11, which is located adjacent to the former locations of the USTs at Tank Farm No. 2. A low concentration of benzene (2.1 ppb) and trace concentrations of ethylbenzene (0.51 ppb) and total xylenes (0.70 ppb) were detected in the water sample from well MW-11. In well MW-12, only a trace concentration of 0.64 ppb benzene was detected. The fuel oxygenate, MTBE, was not found (laboratory method detection limit of 5.0 ppb) in the water samples from the two wells.

Diesel-range hydrocarbons (i.e., TPHd) were found in both wells MW-11 and MW-12, each at a concentration of 200 ppb. In well MW-11, the concentration of TPHd has been increasing steadily since the November 2007 sampling event. The level of TPHd in well MW-12 is lower than in May 2008 (850 ppb), but higher than concentrations detected in February 2008 (160 ppb) and November 2007 (94 ppb). Table 2 presents the cumulative results since November 2005 of analyses of water samples for TPHg, TPHd, BTEX, and MTBE and Appendix B contains a copy of the laboratory report for the November 2008 sampling event.

4.0 RECOMMENDATION

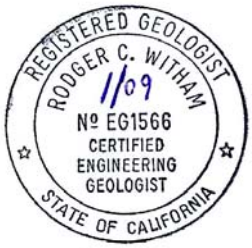
Essel Tech recommends that ground water monitoring and sampling continue on a quarterly basis. The next sampling event should be scheduled for January 2009 and would include measuring depth to water and product thickness in the 16 ground water-monitoring wells (MW-1 through MW-13, W-1, W-3, and W-4) and purging and sampling the wells for laboratory analysis.

Please call if you have any questions.

Sincerely;
Essel Technology Services, Inc.

Samhita Lahiri
Project Manager

Rodger C. Witham



Rodger C. Witham, P.G., C.E.G.
Senior Hydrogeologist

Table 1: Well Monitoring Data
Table 2: Results of Laboratory Analyses of Ground-Water Samples
Plate 1: Site Vicinity Map
Plate 2: Site Plan
Appendix A: Field Purging and Sampling Forms
Appendix B: Chain-of-Custody Record and Laboratory Report

TABLE 1
WELL MONITORING DATA
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well Number	Date	Top of Casing	Product Thickness	Depth to Ground Water	Ground-Water-Surface Elevation	Ground-Water-Surface Elevation Corrected for Product Thickness#
MW-1	11/02/05	32.56	0.00	5.14	27.42	27.42
	05/28/06	32.56	0.00	4.05	28.51	28.51
	11/12/06	32.56	0.00	3.36	29.20	29.20
	05/27/07	32.56	0.00	4.90	27.66	27.66
	11/10/07	32.56	0.00	4.65	27.91	27.91
	05/25/08	32.56	0.00	4.65	27.91	27.91
MW-2	11/02/05	32.12	0.00	4.65	27.47	27.47
	05/28/06	32.12	0.00	3.55	28.57	28.57
	11/16/06	32.12	0.00	3.6	28.52	28.52
	05/27/07	32.12	0.00	3.73	28.39	28.39
	11/10/07	32.12	0.00	4.2	27.92	27.92
	05/25/08	32.12	0.00	4.10	28.02	28.02
MW-3	11/02/05	34.06	0.00	6.21	27.85	27.85
	05/28/06	34.06	0.00	4.95	29.11	29.11
	11/16/06	34.06	0.00	5.5	28.56	28.56
	05/27/07	34.06	0.00	5.28	28.78	28.78
	11/10/07	34.06	0.00	5.75	28.31	28.31
	05/25/08	34.06	0.00	5.70	28.36	28.36
MW-4	11/02/05	34.11	0.00	6.30	27.81	27.81
	05/28/06	34.11	0.00	5.15	28.96	28.96
	11/16/06	34.11	0.00	5.4	28.71	28.71
	05/27/07	34.11	0.00	5.61	28.50	28.50
	11/10/07	34.11	0.00	5.85	28.26	28.26
	05/25/08	34.11	0.00	5.80	28.31	28.31
MW-5	11/02/05	31.70	0.00	4.55	27.15	27.15
	05/28/06	31.70	0.00	3.62	28.08	28.08
	11/12/06	31.70	0.00	2.5	29.20	29.20
	05/27/07	31.70	0.00	3.64	28.06	28.06
	11/10/07	31.70	0.00	4.1	27.60	27.60
	05/25/08	31.70	0.00	4.05	27.65	27.65
MW-6	11/02/05	31.02	0.00	4.21	26.81	26.81
	05/28/06	31.02	0.00	3.00	28.02	28.02
	11/16/06	31.02	0.00	3.3	27.72	27.72
	05/27/07	31.02	0.03	3.20	27.82	27.84
	11/10/07	31.02	0.03	3.65	27.37	27.39
	05/25/08	31.02	0.03	3.70	27.32	27.34
MW-7	11/02/05	29.62	0.00	5.50	24.12	24.12
	05/28/06	29.62	0.00	4.25	25.37	25.37
	11/16/06	29.62	0.00	5.7	23.92	23.92
	05/27/07	29.62	0.00	4.54	25.08	25.08
	11/10/07	29.62	0.00	5.15	24.47	24.47
	05/25/08	29.62	0.00	5.40	24.22	24.22
MW-8	11/02/05	29.43	0.00	5.05	24.38	24.38
	05/28/06	29.43	0.00	4.95	24.48	24.48
	11/12/06	29.43	0.00	4.7	24.73	24.73
	05/27/07	29.43	0.00	4.08	25.35	25.35
	11/10/07	29.43	0.00	4.7	24.73	24.73
	05/25/08	29.43	0.00	4.70	24.73	24.73

See notes on page 3 of 3.

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Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well Number	Date	Top of Casing	Product Thickness	Depth to Ground Water	Ground-Water-Surface Elevation	Ground-Water-Surface Elevation Corrected for Product Thickness#
MW-9	11/02/05	29.18	0.00	4.26	24.92	24.92
	05/28/06	29.18	0.00	3.70	25.48	25.48
	11/12/06	29.18	0.00	3.5	25.68	25.68
	05/27/07	29.18	0.00	3.43	25.75	25.75
	11/10/07	29.18	0.00	3.75	25.43	25.43
	05/25/08	29.18	0.00	2.80	26.38	26.38
MW-10	11/02/05	29.13	0.00	9.81	19.32	19.32
	05/28/06	29.13	0.00	9.55	19.58	19.58
	11/16/06			Well not accessible		
	02/24/07	29.13	0.00	9.0	20.13	20.13
	05/27/07	29.13	0.00	9.45	19.68	19.68
	11/10/07	29.13	0.00	9.7	19.43	19.43
	05/25/08	29.13	0.00	10.15	18.98	18.98
MW-11	11/02/05	29.93	0.00	4.30	25.63	25.63
	02/22/06	29.93	0.00	2.50	27.43	27.43
	05/28/06	29.93	0.00	2.85	27.08	27.08
	08/27/06	29.93	0.00	3.00	26.93	26.93
	11/12/06	29.93	0.00	3.02	26.91	26.91
	02/24/07	29.93	0.00	2.15	27.78	27.78
	05/27/07	29.93	0.00	2.78	27.15	27.15
	09/02/07	29.93	0.00	4.2	25.73	25.73
	11/10/07	29.93	0.00	3.3	26.63	26.63
	02/28/08	29.93	0.00	2.31	27.62	27.62
	05/25/08	29.93	0.00	3.70	26.23	26.23
	11/02/08	**29.93**	**0.00**	**2.98**	**26.95**	**26.95**
MW-12	11/02/05	28.68	0.00	10.76	17.92	17.92
	02/22/06	28.68	0.00	10.50	18.18	18.18
	05/28/06	28.68	0.00	10.82	17.86	17.86
	08/27/06	28.68	0.00	10.50	18.18	18.18
	11/16/06	28.68	0.00	10.8	17.88	17.88
	02/24/07	28.68	0.00	10.3	18.38	18.38
	05/27/07	28.68	0.00	10.88	17.80	17.80
	09/02/07	28.68	0.00	10.7	17.98	17.98
	11/10/07	28.68	0.00	10.9	17.78	17.78
	02/28/08	28.68	0.00	11.35	17.33	17.33
	05/25/08	28.68	0.00	11.80	16.88	16.88
	11/02/08	**28.68**	**0.00**	**10.50**	**18.18**	**18.18**
MW-13	11/02/05	22.72	0.063	9.10	13.62	13.67
	02/22/06	22.72	0.167	NM	NM	NM
	05/28/06	22.72	NM	NM	NM	NM
	11/16/06	22.72	0.017	NM	NM	NM
	05/27/07	22.72	0.45	9.45	13.27	13.63
	09/02/07	22.72	1.1	10.3	12.42	13.30
	11/10/07	22.72	1.22	10.62	12.10	13.07
	02/28/08	22.72	0.7	9.90	12.82	13.38
	05/25/08	22.72	1.1	10.50	12.22	13.10
	11/02/08	**22.72**	**1.1**	**10.40**	**12.32**	**13.20**

See notes on page 3 of 3.

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Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well Number	Date	Top of Casing	Product Thickness	Depth to Ground Water	Ground-Water-Surface Elevation	Ground-Water-Surface Elevation Corrected for Product Thickness#
W-1	11/02/05	33.43	0.00	6.59	26.84	26.84
	05/28/06	33.43	0.00	5.15	28.28	28.28
	11/16/06	33.43	0.00	5.5	27.93	27.93
	05/27/07	33.43	0.00	5.80	27.63	27.63
	11/10/07	33.43	0.00	5.95	27.48	27.48
	05/25/08	33.43	0.00	5.95	27.48	27.48
W-3	11/02/05	37.46	0.00	8.24	29.22	29.22
	05/28/06	37.46	0.00	6.32	31.14	31.14
	11/16/06	37.46	0.00	6.8	30.66	30.66
	05/27/07	37.46	0.00	6.73	30.73	30.73
	11/10/07	37.46	0.00	7.55	29.91	29.91
	05/25/08	37.46	0.00	7.50	29.96	29.96
W-4	11/02/05	31.72	0.00	4.70	27.02	27.02
	05/28/06	31.72	0.00	4.50	27.22	27.22
	11/16/06	31.72	0.00	3.9	27.82	27.82
	05/27/07	31.72	0.00	3.82	27.90	27.90
	11/10/07	31.72	0.00	4.3	27.42	27.42
	05/25/08	31.72	0.00	4.40	27.32	27.32

Most recent monitoring data are in boldface type.
Top of casing in feet above mean sea level.
Product thickness in feet.
Depth to ground water in feet below the top of the well casing.
Ground-water surface elevation in feet above mean sea level.
NM = not measured
#Multiply product thickness by specific gravity of 0.8 and add to ground-water surface elevation.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUND-WATER SAMPLES
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-1	11/03/05	<50	70	NA	<0.5	<0.5	<0.5	<0.5	4.5	<100	56,000	2,330	0
	5/29/06	<50	89	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	5,400	0
	11/12/06	<50	65	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	6,520	0
	5/27/07	<50	65	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	50	1,280
	11/10/07	<50	59	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	460	2,210
	5/25/08	<50	60	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	840	1,550
MW-2	11/03/05	<50	110	NA	<0.5	<0.5	<0.5	<0.5	4.9	430	53,000	2,090	130
	5/29/06	<50	70	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	6,800	60
	11/16/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	8,300	10
	5/27/07	<50	75	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	90	1,540
	11/10/07	<50	62	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	320	130
	5/25/08	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	990	1,110
MW-3	11/03/05	<50	180	NA	<0.5	<0.5	<0.5	<0.5	3.2	3,500	67,000	1,850	0
	5/29/06	<50	180	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,600	0
	11/16/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	360	630
	5/27/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	100	1,480
	11/10/07	<50	730	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,690	3,300
	5/25/08	<50	910	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	570	1,130
MW-4	11/03/05	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	4.1	3,500	67,000	1,860	60
	5/29/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,900	0
	11/16/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,500	1,060
	5/27/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	400	1,360
	11/10/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,930	0
	5/25/08	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,800	1,020
MW-5	11/03/05	<50	1,500	NA	<0.5	<0.5	<0.5	<0.5	5.7	<100	62,000	1,930	150
	5/29/06	<50	200	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,900	40
	11/12/06	<50	130	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,500	2,170
	5/27/07	140	180	NA	<0.5	<0.5	<0.5	<0.5	<10	NA	NA	220	1,350
	11/10/07	170	110	NA	<0.5	<0.5	0.59	1.3	<10	NA	NA	500	300
	5/25/08	82	200	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	680	870
MW-6	11/03/05	750	2,000	NA	13	1.9	2.9	4.6	1.4	<100	16,000	1,570	3,300
	5/29/06	2,700	12,000	NA	55	5.7	16	26	<15	NA	NA	4,900	20
	11/16/06	530	2,100	NA	12	0.82	0.58	2.8	<5.0	NA	NA	3,600	2,370
	5/27/07	5,200	2,500	NA	110	5.1	23	17	<60	NA	NA	50	3,300
	11/10/07	2,100	9,300	NA	30	<1.7	3.9	4.0	<17	NA	NA	510	3,220
	5/25/08	5,000	20,000	NA	88	<2.5	31	14	<25	NA	NA	520	1,560

See notes on page 4 of 4.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUND-WATER SAMPLES
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-7	11/03/05	310	140	NA	<0.5	<0.5	<0.5	<0.5	2.3	<100	3,100	3,190	30
	5/29/06	260	120	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	Anomalous	60
	11/12/06	120	96	NA	<0.5	<0.5	<0.5	0.76	<5.0	NA	NA	1,100	23
	5/27/07	700	220	NA	<0.5	<0.5	1.0	2.0	<5.0	NA	NA	170	1,090
	11/10/07	220	150	NA	<0.5	<0.5	<0.5	1.0	<5.0	NA	NA	4,270	40
	5/25/08	620	270	NA	0.81	<0.5	0.85	1.8	<10	NA	NA	1,090	1,440
MW-8	11/03/05	150	280	NA	<0.5	<0.5	<0.5	<0.5	0.69	<100	24,000	1,630	860
	5/29/06	<50	150	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	8,300	40
	11/12/06	95	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	3,810	860
	5/27/07	140	140	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	390	1,770
	11/10/07	240	160	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,430	30
	5/25/08	230	160	NA	<0.5	<0.5	<0.5	0.61	<5.0	NA	NA	590	1,370
MW-9	11/03/05	<50	470	NA	<0.5	<0.5	<0.5	<0.5	4.8	110	28,000	1,720	450
	5/29/06	<50	190	NA	<0.5	<0.5	<0.5	<0.5	5.2	NA	NA	8,600	0
	11/12/06	<50	65	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	2,470	570
	5/27/07	<50	1,000	NA	<0.5	0.92	<0.5	<0.5	<5.0	NA	NA	290	1,140
	11/10/07	<50	930	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	730	430
	5/25/08	<50	740	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,280	790
MW-10	11/03/05	300	600	NA	<0.5	<0.5	<0.5	<0.5	4.1	<100	780	2,350	2,670
	5/29/06	140	540	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	5,600	10
	11/16/06	Well Not Accessible											
	2/24/07	190	970	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	3,460	1,060
	5/27/07	330	850	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	150	2,530
	11/10/07	420	1,200	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	760	2,510
	5/28/08	330	930	NA	<0.5	<0.5	0.92	1.1	<5.0	NA	NA	1,070	3,120
MW-11	11/03/05	<50	290	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<100	21,000	1,360	0
	2/22/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<100	27,000	100	0
	5/29/06	<50	250	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	6,000	100
	8/27/06	<50	57	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	100	0
	11/12/06	<50	56	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	2,810	0
	2/24/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	950	0
	5/27/07	<50	61	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	40	1,170
	9/2/07	<50	67	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	60	630
	11/10/07	<50	55	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	470	0
	2/28/08	<50	71	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	320	1,890
	5/28/08	<50	110	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	660	6,010
	11/2/08	**<50**	**200**	**NA**	**2.1**	**<0.5**	**0.51**	**0.70**	**<5.0**	**NA**	**NA**	**470**	**2,200**

See notes on page 4 of 4.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUND-WATER SAMPLES
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

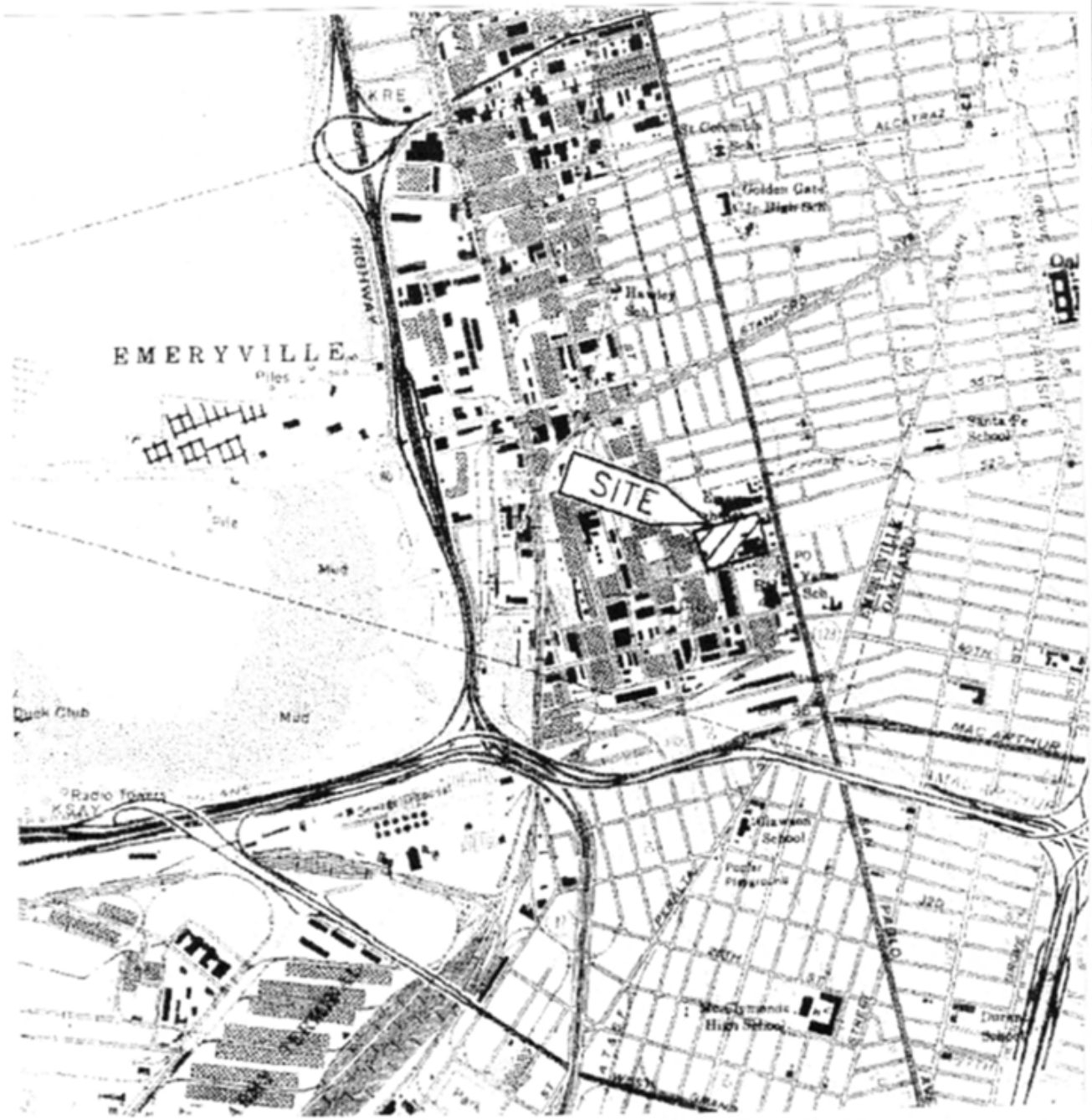
Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-12	11/03/05	440	120	NA	<0.5	<0.5	<0.5	<0.5	6.6	<100	3,700	1,700	740
	2/22/06	400	140	NA	<0.5	<0.5	<0.5	<0.5	7.8	<100	7,600	90	NM
	5/29/06	310	140	NA	<0.5	<0.5	<0.5	<0.5	5.7	NA	NA	7,200	10
	8/27/06	530	120	NA	<0.5	<0.5	<0.5	<0.5	6.6	NA	NA	90	720
	11/16/06	740	200	NA	<0.5	2.1	<0.5	6.3	<10	NM	NM	3,700	680
	2/24/07	200	87	NA	<0.5	<0.5	<0.5	<0.5	<10	NA	NA	750	310
	5/27/07	340	140	NA	<0.5	<0.5	1.4	1.8	<10	NA	NA	130	1,610
	9/2/07	430	130	NA	<0.5	<0.5	<0.5	0.77	8.3	NA	NA	100	3,300
	11/10/07	360	94	NA	<0.5	<0.5	<0.5	<0.5	<10	NA	NA	1,120	1,340
	2/28/08	55	160	NA	<0.5	<0.5	<0.5	<0.5	10	NA	NA	340	2,110
	5/28/08	120	850	NA	<0.5	<0.5	<0.5	<0.5	8.9	NA	NA	1,360	3,210
	11/2/08	**320**	**200**	**NA**	**0.64**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**NA**	**NA**	**740**	**2,700**
MW-13	11/03/05	Not sampled - free-phase product in well											
	2/22/06	Not sampled - free-phase product in well											
	5/29/06	Not sampled - free-phase product in well											
	11/16/06	Not sampled - free-phase product in well											
	5/27/07	Not sampled - free-phase product in well											
	9/2/07	Not sampled - free-phase product in well											
	11/10/07	Not sampled - free-phase product in well											
	2/28/08	Not sampled - free-phase product in well											
	5/25/08	Not sampled - free-phase product in well											
W-1	11/03/05	6,200	2,400	NA	7.2	3.6	5.7	20	0.73	140	1,300	1,230	3,300
	5/29/06	4,600	1,700	NA	18	4.4	17	32	<17	NM	NM	4,500	60
	11/16/06	2,600	760	NA	18	3.7	10	19	<10	NA	NA	5,400	2,010
	5/27/07	4,200	1,200	NA	20	34	12	17	<45	NA	NA	60	2,050
	11/10/07	6,100	1,200	NA	32	<2.5	9.4	14	<25	NA	NA	730	1,570
	5/25/08	5,700	1,300	NA	18	1.8	11	13	<17	NA	NA	630	1,550

See notes on page 4 of 4.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUND-WATER SAMPLES
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
W-3	11/03/05	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	1.2	3,700	51,000	2,170	0
	5/29/06	<50	240	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NM	NM	Anomalous	50
	11/16/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	3,900	2,140
	5/27/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	70	1,130
	11/10/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	880	0
	5/25/08	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	520	810
W-4	11/03/05	<50	66	NA	<0.5	<0.5	<0.5	<0.5	2.0	<100	32,000	1,620	970
	5/29/06	<50	110	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NM	NM	NM	NM
	11/16/06	<50	72	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,500	1,750
	5/27/07	99	180	NA	0.89	<0.5	<0.5	<0.5	<5.0	NA	NA	70	2,770
	11/10/07	<50	83	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	730	1,020
	5/25/08	<50	71	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	460	1,930

Results are in micrograms per liter = parts per billion; detectable results are shaded.
Most recent analytical results are in boldface type.
TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
TPH = total petroleum hydrocarbons as motor oil or unknown hydrocarbon
MTBE = methyl tertiary butyl ether
NA = not analyzed
NM = not measured
< = less than the laboratory method detection limit

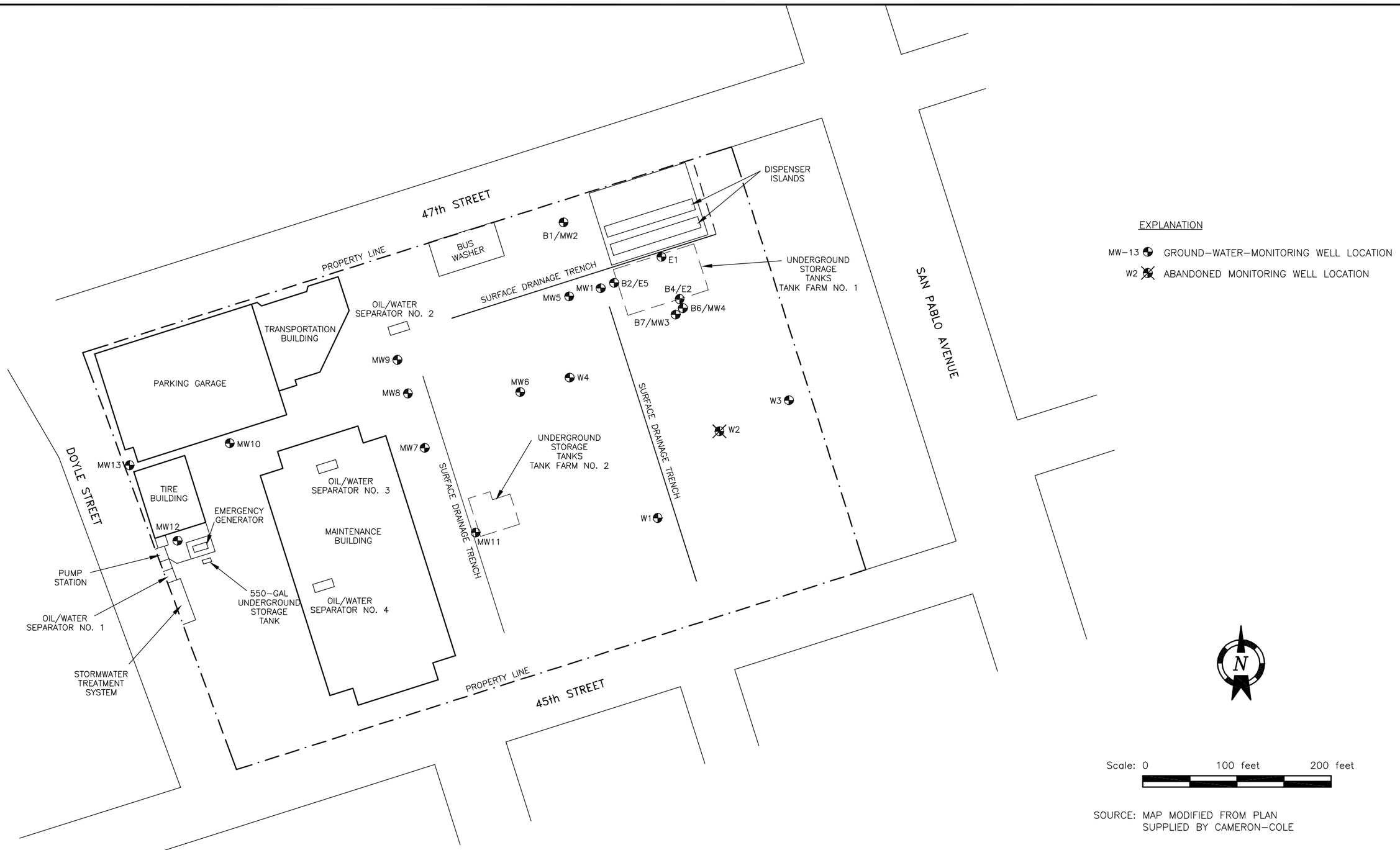


Scale: 0 2000 feet 4000 feet

Source: USGS 7 1/2-Minute Quadrangle,
Oakland West, California, Photorevised 1980.

PROJECT NO.	DRAWN BY	REPORT DATE	SITE VICINITY MAP	PLATE
08-ACT-Q-1	EC	November 2008	Alameda Contra Costa Transit District Facility 1177 47th Street Emeryville, California	1

ESSEL TECHNOLOGY SERVICES, INC.
9778 Broadmoor Drive
San Ramon, CA 94583



SOURCE: MAP MODIFIED FROM PLAN SUPPLIED BY CAMERON-COLE

PROJECT NO.	DRAWN BY	REPORT DATE
08-ACT-Q-1	EC	November 2008

ESSEL TECHNOLOGY SERVICES, INC.
9778 Broadmoor Drive
San Ramon, CA 94583

SITE PLAN
Alameda Contra Costa
Transit District Facility
1177 47th Street
Emeryville, California

PLATE **2**

08-ACT-SP1108 emeryville

APPENDIX A

FIELD PURGING AND SAMPLING FORMS

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: AC Transit – Emeryville **Well Number:** MW-11

Job Number: 0568-May 07 **Date:** ~~5/27/07~~ Nov-2008

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [x] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 17.45	[ ] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 2.98	[ ] Pump
Purge Volume Calculation (17.45) – (2.98) x 3 x .17 = 7.38 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [x] Submersible [ ] Centrifuge [ ] Bladder [ ] Other

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume
F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	22.99	.392	2.90	6.85	29.0	1	2.2	
	23.11	.396	1.28	6.94	-5.2	2		
	23.11	.392	.94	6.95	-11.2	3		
	23.08	.383	.69	6.99	-22.7	4		
	23.07	.377	.59	7.01	-27.2	5		
	23.06	.373	.53	7.02	-30.9	6		
	23.05	.368	.47	7.03	-33.6	7		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

high turbidity

Discharge water disposal: [ ] Sanitary sewer [ ] Storm drain [ ] Drum [ ] Other

Well Sampling Date: 5/27/07 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: AC Transit – Emeryville **Well Number:** MW-12

Job Number: 0568-~~May~~ NOV 08 **Date:** ~~5/27/07~~ 11/08

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [x] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 30.10	[ ] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 10.50	[ ] Pump
Purge Volume Calculation (30.1) – (10.5) x 3 x .17 = 9.99 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [x] Submersible [ ] Centrifuge [ ] Bladder [ ] Other

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume
F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	19.82	.682	5.40	6.65	-63.5	1	2.7	
	19.88	.674	3.09	6.56	-71.5	2		
	20.07	.678	1.61	6.49	-71.7	3		
	20.13	.681	1.37	6.47	-69.4	4		
	20.13	.681	1.21	6.47	-71.2	5		
	20.03	.691	1.02	6.45	-68.2	6		
	19.99	.697	.94	6.45	-66.6	7		
	19.95	.697	.85	6.44	-66.7	8		
	19.68	.696	.77	6.43	-67.0	9		
	19.82	.696	.74	6.42	-66.6	10		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Low fuel odor; Low turbidity; Clear

Discharge water disposal: [ ] Sanitary sewer [ ] Storm drain [ ] Drum [ ] Other _____

Well Sampling Date: ~~5/27/07~~ NOV 08 Time: 1500

APPENDIX B

CHAIN-OF-CUSTODY RECORD
AND
LABORATORY REPORT

0811056 1 of 3

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

GeoTracker EDF ☑ PDF ☐ Excel ☐ Write On (DW) ☐

☐ Check if sample is effluent and "J" flag is required

Report To: Samhita Lahiri Bill To: ESSEL TECHNOLOGY SERVICES, INC.

Company: ESSEL TECH.

E-Mail: Labresults@Gmail.com

Tele: (510) 206 0270 Fax: (925) 833 7977

Project #: 08-ACT-G-1 Project Name:

Project Location: Seminary & ~~Emeryville~~

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate / Sulfate	Comments: Filter Samples for Metals analysis: Yes / No
MW-3-01	MW-3	11/2	1:15	1	Amb							X			X	X				X												
02				1	VOA																												
03				1	VOA																												
04				1	VOA																												
05				1	Plast																											X	
MW-10-01	MW-10	11/2	2:20		Amb																												
02					VOA																												
03					↓																												
04																																	
05					Plast																											X	
MW-2-01	MW-2	11/2	3:06		Amb																												
02					VOA																												
03					VOA																												
04					Plast																											X	

Relinquished By:	Date:	Time:	Received By:
Samhita Lahiri	11/3/08	345	
	11-3-08	600	

ICE/t° 1c2

GOOD CONDITION

HEAD SPACE ABSENT

DECHLORINATED IN LAB

APPROPRIATE CONTAINERS

PRESERVED IN LAB

COMMENTS:

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 DAY

GeoTracker EDF ☑ PDF ☐ Excel ☐ Write On (DW) ☐

☐ Check if sample is effluent and "J" flag is required

Report To: Essel (Sambuta Lahiri) Bill To: Essel

Company: Essel Technology services Inc.

E-Mail:

Tele: (510) 206-0270 Fax: (925) 833-7977

Project #: 08 ACT-Q-1 Project Name: Gr water monitoring

Project Location: Seminary

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate / Sulfate	Comments: Filter Samples for Metals analysis: Yes / No
MW-11-01	MW-11	11/2	10:30	1	Amb	X						X			X	X				X													
02				1	VOA																												
03				1	VOA																												
04				1	Plast																												
MW-9-01	MW-9	11/2	11:30	1	Amb																											X	
02				1	VOA																												
03				1	VOA																												
04				1	Plastic																												
MW-7-01	MW-01			1	Amb																												
02		11/2	12:15	1	VOA																												
03				1	VOA																												
04				1	Plastic																											X	

Relinquished By:	Date:	Time:	Received By:
Sambuta Lahiri	11/3/08	5PM	
Relinquished By:	Date:	Time:	Received By:
	11-3-08	600	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____ COMMENTS:
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____
PRESERVED IN LAB_____

VOAS O&G METALS OTHER
PRESERVATION_____ pH<2

McCAMPBELL ANALYTICAL, INC.

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PITTSBURG, CA 94565-1701
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Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 DAY

GeoTracker EDF ☐ **PDF** ☑ **Excel** ☐ **Write On (DW)** ☐

☐ Check if sample is effluent and "J" flag is required

Report To: Samhita Lahiri Bill To: Essel Technology

Company: Essel Technology services

410 Pendleton Way #2

Oakland, CA E-Mail:

Tele: (510) 206 0270 Fax: (925) 833-7977

Project #: 08-ACT-Q1 Project Name: Gr. water monitoring

Project Location: Emeryville

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: ICE	HCL	HNO_3	Other	BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other	Comments
MW-11-01	(E)	11/2	9:30	1											X					X													
MW-11-02	(E)			1												X																	
MW-11-03	(E)			1												X																	
MW-12-01	(E)		10:30	1											X																		
MW12-02	(E)			1												X																	
MW12-03	(E)			1												X																	
Trip Blank		11/2/08													X																		

Relinquished By:	Date:	Time:	Received By:
Samhita Lahiri	11/3/08	545	
Samhita Lahiri	11/3/08	600	

ICE/t°_____ COMMENTS:
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____
PRESERVED IN LAB_____

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0811056 **ClientCode: ETSR**

☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Samhita Lahiri
Essel Technology Service
9778 Broadmoore Drive
San Ramon, CA 94583
(925) 833-7991 FAX (925) 833-7977

Email: esseltekservices@aol.com
cc:
PO:
ProjectNo: #08-ACTY-Q-1; Seminary

Bill to:
Sher Guha
Essel Technology Service
9778 Broadmoore Drive
San Ramon, CA 94523

Requested TAT: 5 days

Date Received: **11/03/2008**
Date Printed: **11/04/2008**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0811056-001	MW-3	Water	11/2/2008 13:15	☐	C	A	A	B								
0811056-002	MW-10	Water	11/2/2008 14:20	☐	C	A		B								
0811056-003	MW-2	Water	11/2/2008 15:00	☐	C	A		B								
0811056-004	MW-11	Water	11/2/2008 10:30	☐	C	A		B								
0811056-005	MW-9	Water	11/2/2008 11:30	☐	C	A		B								
0811056-006	MW-1	Water	11/2/2008 12:15	☐	C	A		B								
0811056-007	MW-11(E)	Water	11/2/2008 9:30	☐		A		B								
0811056-008	MW-12(E)	Water	11/2/2008 10:30	☐		A		B								
0811056-009	Trip Blank	Water	11/2/2008	☐		A										

Test Legend:

1	300_1_W	2	G-MBTEX_W	3	PREDF REPORT	4	TPH(D)_W	5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **Essel Technology Service**
Date and Time Received: **11/3/08 8:52:39 PM**

Project Name: **#08-ACTY-Q-1; Seminary**
Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **0811056** Matrix Water
Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☐	No ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 7.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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Essel Technology Service	Client Project ID: #08-ACTY-Q-1; Seminary	Date Sampled: 11/02/08
		Date Received: 11/03/08
9778 Broadmoore Drive	Client Contact: Samhita Lahiri	Date Extracted: 11/04/08-11/05/08
San Ramon, CA 94583	Client P.O.:	Date Analyzed 11/04/08-11/05/08

Inorganic Anions by IC*

Extraction method E300.1 Analytical methods E300.1 Work Order: 0811056

Lab ID	Client ID	Matrix	Nitrate as N	Nitrate as $NO3^-$	Sulfate	DF	% SS
001C	MW-3	W	ND	ND	9.7	1	100
002C	MW-10	W	ND	ND	91	1	---#
003C	MW-2	W	0.25	1.1	0.25	1	110
004C	MW-11	W	ND	ND	140	1	97
005C	MW-9	W	ND	ND	97	1	92
006C	MW-1	W	ND	ND	14	1	93

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	0.1	0.45	0.1	mg/L
	S	NA	NA	NA	mg/Kg

* water samples are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in mg/wipe, product/oil/non-aqueous liquid samples in mg/L.

* [Nitrate as $NO3^-$] = 4.4286 x [Nitrate as N]

surrogate diluted out of range or surrogate coelutes with another peak; N/A means surrogate not applicable to this analysis.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Essel Technology Service	Client Project ID: #08-ACTY-Q-1; Seminary	Date Sampled: 11/02/08
		Date Received: 11/03/08
9778 Broadmoore Drive	Client Contact: Samhita Lahiri	Date Extracted: 11/06/08-11/08/08
San Ramon, CA 94583	Client P.O.:	Date Analyzed 11/06/08-11/08/08

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0811056

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-3	W	460,d1	ND	60	3.1	14	3.7	1	118
002A	MW-10	W	ND	ND	ND	ND	ND	ND	1	94
003A	MW-2	W	46,000,d1,b6	ND<1000	9300	190	990	1200	20	96
004A	MW-11	W	680,d1	ND<15	160	4.2	19	23	1	113
005A	MW-9	W	ND	ND	ND	ND	ND	ND	1	94
006A	MW-1	W	54,d9	ND	ND	1.2	ND	ND	1	103
007A	MW-11(E)	W	ND	ND	2.1	ND	0.51	0.70	1	92
008A	MW-12(E)	W	320,d9	ND	0.64	ND	ND	ND	1	94
009A	Trip Blank	W	ND	ND	ND	ND	ND	ND	1	96

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

b6) lighter than water immiscible sheen/product is present
d1) weakly modified or unmodified gasoline is significant
d9) no recognizable pattern

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Service	Client Project ID: #08-ACTY-Q-1; Seminary	Date Sampled: 11/02/08
		Date Received: 11/03/08
9778 Broadmoore Drive	Client Contact: Samhita Lahiri	Date Extracted: 11/03/08
San Ramon, CA 94583	Client P.O.:	Date Analyzed 11/05/08-11/07/08

Total Extractable Petroleum Hydrocarbons*

Extraction method SW3510C Analytical methods: SW8015B Work Order: 0811056

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0811056-001B	MW-3	W	1200,e7,e2	1	92
0811056-002B	MW-10	W	ND	1	96
0811056-003B	MW-2	W	9600,e4,e1,b6	1	112
0811056-004B	MW-11	W	910,e1,e7	1	98
0811056-005B	MW-9	W	58,e2	1	99
0811056-006B	MW-1	W	310,e7,e2	1	88
0811056-007B	MW-11(E)	W	200,e7,e2	1	116
0811056-008B	MW-12(E)	W	200,e2,e4	1	117

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

b6) lighter than water immiscible sheen/product is present
e1) unmodified or weakly modified diesel is significant
e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.
e7) oil range compounds are significant

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 39395 WorkOrder: 0811056

EPA Method: E300.1 **Extraction: E300.1** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Nitrate as N	N/A	1	N/A	N/A	N/A	91.4	92	0.702	N/A	N/A	85 - 115	15
Nitrate as $NO3^{-}$	N/A	4.4	N/A	N/A	N/A	91.4	92	0.702	N/A	N/A	85 - 115	15
Sulfate	N/A	1	N/A	N/A	N/A	101	101	0	N/A	N/A	85 - 115	15
%SS:	N/A	0.10	N/A	N/A	N/A	95	95	0	N/A	N/A	90 - 115	10

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 39395 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811056-001C	11/02/08 1:15 PM	11/04/08	11/04/08 6:40 PM	0811056-002C	11/02/08 2:20 PM	11/04/08	11/04/08 7:15 PM
0811056-002C	11/02/08 2:20 PM	11/05/08	11/05/08 6:49 AM	0811056-003C	11/02/08 3:00 PM	11/04/08	11/04/08 7:49 PM
0811056-004C	11/02/08 10:30 AM	11/04/08	11/04/08 8:24 PM	0811056-004C	11/02/08 10:30 AM	11/05/08	11/05/08 8:04 PM
0811056-005C	11/02/08 11:30 AM	11/04/08	11/04/08 8:59 PM	0811056-005C	11/02/08 11:30 AM	11/05/08	11/05/08 8:39 PM
0811056-006C	11/02/08 12:15 PM	11/04/08	11/04/08 9:34 PM	0811056-006C	11/02/08 12:15 PM	11/05/08	11/05/08 9:08 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 39394 WorkOrder 0811056

EPA Method SW8015B **Extraction SW3510C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	95.7	94.1	1.75	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	107	108	0.845	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 39394 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811056-001B	11/02/08 1:15 PM	11/03/08	11/05/08 5:07 PM	0811056-002B	11/02/08 2:20 PM	11/03/08	11/07/08 5:54 AM
0811056-003B	11/02/08 3:00 PM	11/03/08	11/05/08 11:21 PM	0811056-004B	11/02/08 10:30 AM	11/03/08	11/07/08 7:04 AM
0811056-005B	11/02/08 11:30 AM	11/03/08	11/07/08 8:14 AM	0811056-006B	11/02/08 12:15 PM	11/03/08	11/05/08 10:40 PM
0811056-007B	11/02/08 9:30 AM	11/03/08	11/05/08 6:14 PM	0811056-008B	11/02/08 10:30 AM	11/03/08	11/05/08 7:21 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer