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

Prepared for

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

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 May 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, a pump station, and storm water treatment 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 islands. 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 May 25, 2008 to measure the water level in the 16 wells (MW-1 through MW-13, W-1, W-3, and W-4), 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, 15 of the 16 wells were purged of water using a submersible pump and discharge hose. 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. Well MW-13 was not purged because the well contained free-phase petroleum product.

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-1 through MW-12, W-1, W-3, and W-4 on May 25, 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 Chain-of-Custody forms for the ground-water samples collected and these forms accompanied the samples to the laboratory. Copies of the Chain-of-Custody forms are 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 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 total thickness of 1.1 feet of free-phase petroleum product was measured in well MW-13 on May 25, 2008. No measurable free-phase petroleum product was detected in the other 15 wells. The measured depth to the static ground-water surface ranged from 2.80 to 11.80 feet below the tops of the well casings. Essel Tech used wellhead elevation data and the depth-to-water measurements made on May 25 to calculate the elevation of the ground-water surface, which varied from 13.10 to 29.96 feet above mean sea level in the wells. Water-level measurements show that between the November 2007 and May 2008 monitoring events, the ground-water surface dropped from 0.05- to 0.90-foot (average 0.36-foot) in six wells (MW-6, MW-7, MW-10 through MW-12, and W-4) located in the western and southwestern portions of the site; rose from 0.05- to 0.95-foot (average 0.21-foot) in six wells (MW-2 through MW-5, MW-9, and W-3) located in the northern and eastern portions of the site; and remained static in wells MW-1, MW-8, and W-1, which are located generally between the two above-mentioned sets of well. The ground-water surface in 13 wells ranged from 0.15- to 0.90-foot (average 0.53-foot) lower in May 2008 than at the equivalent time (May) in 2007. In wells MW-1 and MW-9, the ground-water surface in May 2008 was at a higher elevation (0.25- and 0.63-foot, respectively) than in May 2007. Based on the range of elevations calculated from water levels measured on May 25, 2008, ground water beneath the site is estimated to flow approximately toward the west at a gradient of 0.019 (1.9 feet vertical distance per 100 feet horizontal distance). Table 1 presents data since November 2005 on product thickness, depth to ground water, and ground-water elevation for the 16 wells. Plate 3 is a contour map of the shallow ground-water surface interpreted from water-level data collected on May 25, 2008.

3.2 Laboratory Analyses

Results of laboratory analyses show gasoline-range hydrocarbons (i.e., TPHg) were detected in seven of the 15 wells sampled. The highest detected concentrations were found in wells W-1 (5,700 parts per billion [ppb]) and MW-6 (5,000 ppb), located near the center of the AC Transit facility. Concentrations of 120 to 620 ppb TPHg were detected in samples from wells MW-7, MW-8, MW-10, and MW-12. The lowest detectable concentration of 82 ppb was detected in well MW-5. No TPHg was detected in samples from wells MW-1 through MW-4, MW-9, MW-11, W-3, and W-4, which historically have not contained detectable gasoline hydrocarbons. The trends of detected concentrations of TPHg have varied among wells. In well W-1 (south-central portion of the site), the level of TPHg declined from 6,200 ppb in November 2005 to 2,600 ppb in November 2006 and increased to 6,100 ppb in November 2007 and declined to 5,700 ppb in May 2008. A fluctuating pattern of lower TPHg level in November and higher level in May is observed in wells MW-6 and MW-7 (central portion of the site) and generally, the concentrations of TPHg in these wells have increased. In northern wells MW-5, MW-8, and MW-10, trends of increasing levels of TPHg generally occurred through November 2007; in all three wells, the concentrations of TPHg declined between the November 2007 and May 2008 monitoring events. In western well MW-12, the level of TPHg increased between November 2005 (440 ppb) and November 2006 (740 ppb) and has generally declined between November 2006 and May 2008 (120 ppb).

The aromatic hydrocarbons benzene, toluene, ethylbenzene, and total xylenes were detected in well W-1 during the latest monitoring event at concentrations ranging from 1.8 to 18 ppb. Higher concentrations of benzene (88 ppb), ethylbenzene (31 ppb), and total xylenes (14 ppb) were found in

well MW-6, but toluene was not detected in this well. In wells MW-7, MW-8, and MW-10, trace to very low levels (0.61- to 1.8 ppb) of benzene, ethylbenzene, or total xylenes were detected. No BTEX was found in water samples from wells MW-5 or MW-12, in which TPHg was detected. The fuel oxygenate MTBE was detected in well MW-12 only at a concentration of 8.9 ppb. In other wells, the detection limits for MTBE vary from 5.0 to 25 ppb and no MTBE was detected. Table 2 presents the cumulative results since November 2005 of analyses of water samples for TPHg, BTEX, and MTBE and Appendix B contains a copy of the laboratory report.

Diesel-range hydrocarbons (i.e., TPHd) were detected in 12 of the 15 wells sampled at concentrations ranging from 60 to 20,000 ppb. The highest concentrations were found in wells MW-6 (20,000 ppb) and W-1 (1,300 ppb). The laboratory report notes product sheen was observed on the sample from MW-6. Concentrations of TPHd between 500 and 1,000 ppb were found in wells MW-10 (930 ppb), MW-3 (910 ppb), MW-12 (850 ppb), and MW-9 (740 ppb) and concentrations of TPHd ranging from 60 to 270 ppb were detected in wells MW-1, MW-5, MW-7, MW-8, MW-11, and W-4. No TPHd was found in wells MW-2, MW-4, and W-3. The dissolved concentration of TPHd detected in wells MW-3, MW-6, and MW-12 during the latest monitoring event are notably higher than levels detected previously during monitoring performed by Essel Tech and the concentration detected in well MW-7 is also the highest level found in this well since November 2005. In the remaining wells, concentrations of TPHd in May 2008 were either approximately the same or lower than levels previously detected in the respective wells. Table 2 presents the cumulative results since November 2005 of analyses of water samples for TPHd and Appendix B contains a copy of the laboratory report.

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 August 2008 and would include measuring depth to water and product thickness in wells MW-11, MW-12, and MW-13 and purging and sampling the wells for laboratory analysis.

Please call if you have any questions.

Sincerely;
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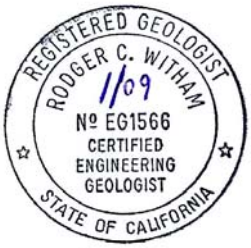

Table 1: Well Monitoring Data
Table 2: Results of Laboratory Analyses of Ground-Water Samples
Plate 1: Site Vicinity Map
Plate 2: Site Plan
Plate 3: Ground-Water-Surface Map, May 25, 2008
Appendix A: Field Purging and Sampling Forms
Appendix B: Chain-of-Custody Records and Laboratory Report

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
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
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

See notes on page 3 of 3.

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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**

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**
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

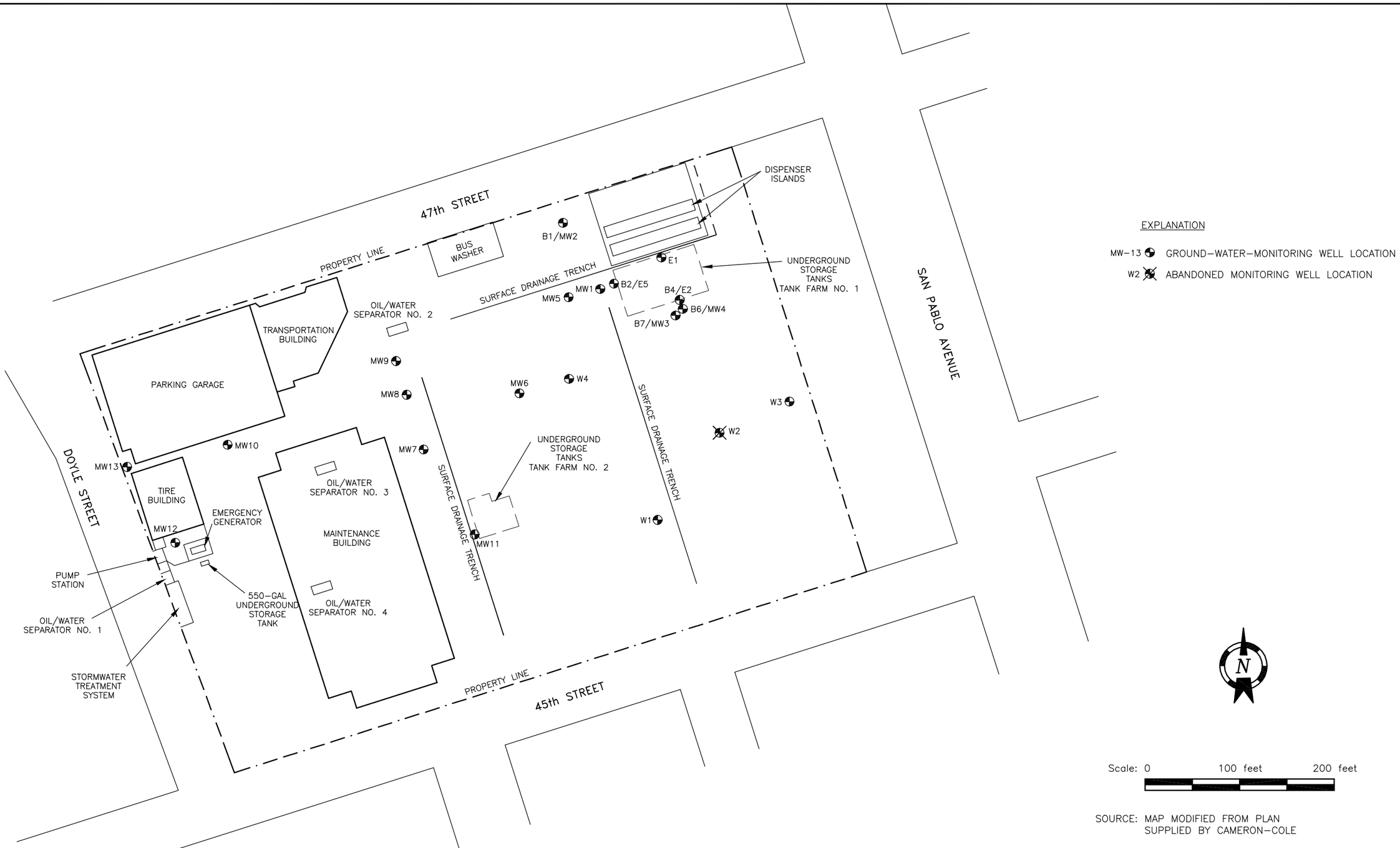
Scale: 0 2000 feet 4000 feet

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

PROJECT NO.	DRAWN BY	REPORT DATE		PLATE
07-68-03	EC	June 2008	SITE VICINITY MAP	1

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

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



EXPLANATION

MW-13 GROUND-WATER-MONITORING WELL LOCATION

W2 ABANDONED MONITORING WELL LOCATION

Scale: 0 100 feet 200 feet

SOURCE: MAP MODIFIED FROM PLAN SUPPLIED BY CAMERON-COLE

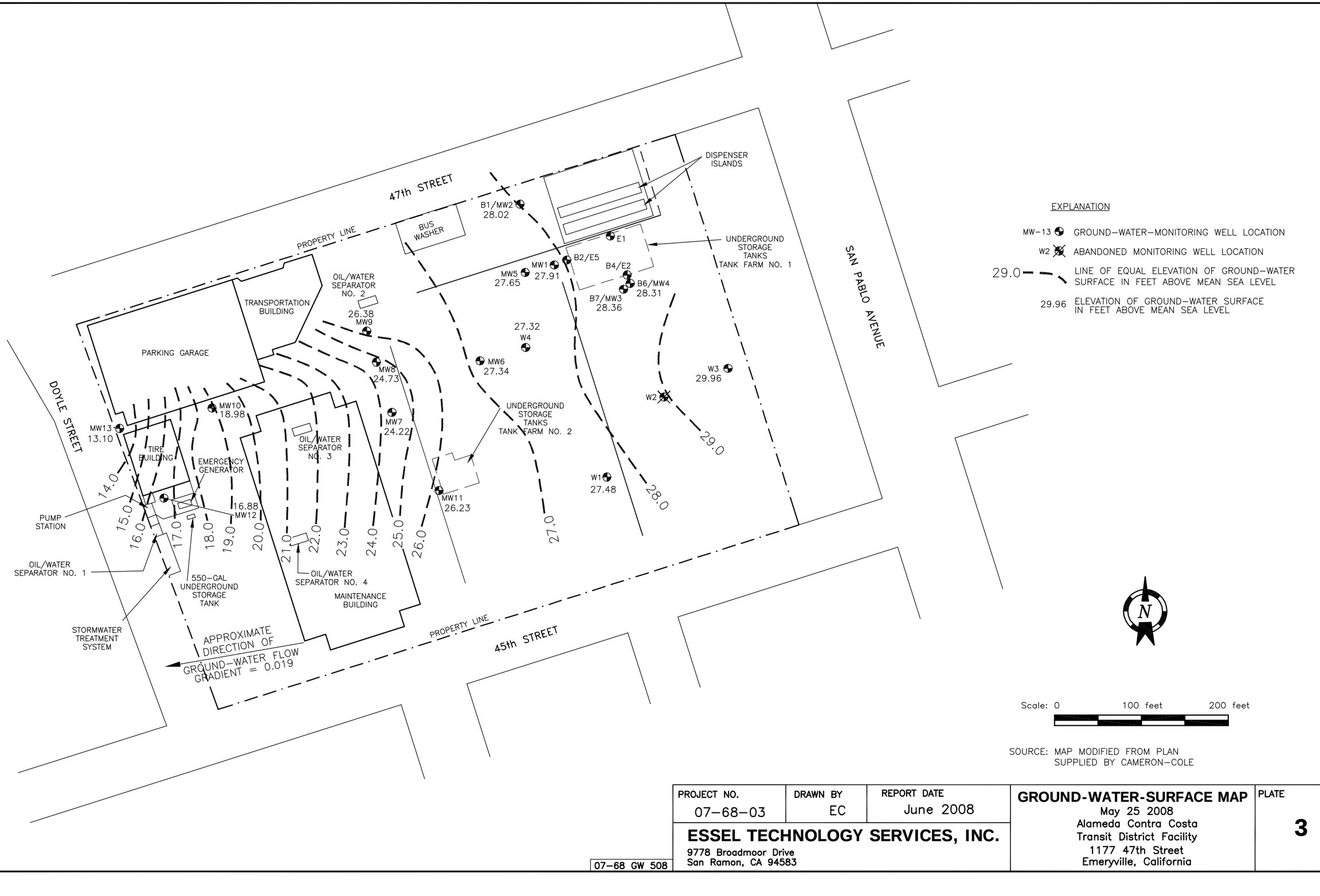
05-69 608

PROJECT NO.	DRAWN BY	REPORT DATE
07-68-03	EC	June 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**



EXPLANATION

MW-13 GROUND-WATER-MONITORING WELL LOCATION

W2 ABANDONED MONITORING WELL LOCATION

29.0 LINE OF EQUAL ELEVATION OF GROUND-WATER SURFACE IN FEET ABOVE MEAN SEA LEVEL

29.96 ELEVATION OF GROUND-WATER SURFACE IN FEET ABOVE MEAN SEA LEVEL

Scale: 0 100 feet 200 feet

SOURCE: MAP MODIFIED FROM PLAN SUPPLIED BY CAMERON-COLE

PROJECT NO.	DRAWN BY	REPORT DATE
07-68-03	EC	June 2008

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

07-68 GW 508

GROUND-WATER-SURFACE MAP
May 25 2008
Alameda Contra Costa
Transit District Facility
1177 47th Street
Emeryville, California

PLATE **3**

APPENDIX A

FIELD PURGING AND SAMPLING FORMS

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-1

Job Number: 0568-MAY 08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 14.55	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.65	[ ] Pump
Purge Volume Calculation (14.55) – (4.65) x 3 x 0.17 = 5.05 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [✓] 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)
	21.69	608	5.41	6.60	111.3	1	1.55	
	20.95	638	2.16	6.62	106.4	2		
	20.43	644	1.35	6.63	94.1	3		
	19.98	611	0.84	6.26	96.2	4		

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: 5/25/08 Time: 1020

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-2

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 14.5	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.1	[✓] Pump
Purge Volume Calculation (14.5) – (4.1) x 3 x 0.17 = 5.3 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [✓] 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)
	21.42	538	3.16	5.63	316	1	1.11	
	21.02	576	1.84	5.88	282	2		
	20.56	579	1.29	6.11	229.3	3		
	20.40	576	1.11	6.18	186.2	4		
	20.35	575	1.02	6.18	161.2	5		
	20.33	575	.99	6.25	147.5	5.5		

Total gallons pumped:

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

Low turbidity - Slight odor

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

Well Sampling Date: 5/25/08 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-3

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [/] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 14.65	[/] Bail Bailer Type: _____
Depth to water (DTW) in Feet 5.7	[/] Pump
Purge Volume Calculation (14.65) – (5.7) x 3 x 0.17 = 4.56 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [/] 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)
	21.08	707	1.02	5.44	375.9	1	1.13	
	21.66	755	.81	5.61	346.4	2		
	21.28	741	.58	6.15	271.7	3		
	20.86	739	.56	6.36	245.9	4		
	20.75	730	.57	6.39	242.0	4.5		

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: 5/25/08 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-4

Job Number: 0568-MA-Y08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [X] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 11.70	[X] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 5.80	[X] Pump
Purge Volume Calculation (11.7) – (5.8) x 3 x 0.17 = 3.01 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)
	20.31	671	4.33	5.25	392.1	1	1.02	
	21.66	717	2.17	5.85	340.2	2		
	21.25	719	1.80	6.11	330.2	3		

Total gallons pumped:

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

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-5

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 19.60	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.05	[✓] Pump
Purge Volume Calculation (19.6) – (4.05) x 3 x .17 = 7.93 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [✓] 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)
	20.12	646	6.32	6.67	16.1	1	.87	
	19.88	640	3.03	6.27	34.6	2		
	19.90	638	1.98	6.21	40.2	3		
	19.88	642	1.39	6.13	44.0	4		
	19.88	643	0.92	6.18	36.1	5		
	19.91	644	0.77	6.29	32.2	6		
	19.92	645	0.68	6.20	37.2	7		

Total gallons pumped:

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

Low turbidity - moderate odor

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

Well Sampling Date: 5/25/08 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-6

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 19.7 Depth to water (DTW) in Feet 3.7	[✓] Bail Bailer Type: Disposable [✓] Pump
Purge Volume Calculation (19.7) – (3.7) x 3 x 0.17 = 8.16 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [✓] 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)
	20.15	862	1.47	5.63	16.6	1	1.56	
	20.49	875	.49	5.86	-16.6	2		
	20.51	891	.36	6.14	-41.7	3		
	20.52	895	.36	6.19	-48.0	4		
	20.54	900	.39	6.27	-54.4	5		
	20.53	905	.46	6.33	-61.4	6		
	20.53	907	.49	6.34	-62.9	7		
	20.53	907	.52	6.33	-64.1	8		

Total gallons pumped:

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

Moderate turbidity Moderate odor

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-7

Job Number: 0508-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 24.6 Depth to water (DTW) in Feet 5.4	[✓] Bail Bailer Type: Disposable [✓] Pump
Purge Volume Calculation (24.6) – (5.4) x 3 x .17 = 9.8 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [✓] 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)
	19.55	932	1.41	6.22	43.2	1	1.44	
	19.57	920	1.00	6.01	48.2	2		
	19.96	932	1.20	5.73	40.1	3		
	19.62	939	1.35	5.73	38.0	4		
	19.69	943	1.14	5.75	53.9	5		
	19.73	945	1.09	5.72	61.8	5.4		

Total gallons pumped:

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

Low turbidity

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-8

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [/] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 20.6	[/] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.7	[/] Pump
Purge Volume Calculation (20.6) – (4.7) x 3 x .17 = 3.1 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [ ] 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)
	19.74	977	1.37	6.43	28.6	1	1.37	
	20.02	956	.84	6.18	34.7	2		
	20.16	935	.72	6.07	43.4	3		
	19.54	983	.57	6.00	44.2	4		
	19.52	984	.59	6.01	44.2	4.9		

Total gallons pumped:

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

Clear - Low turbidity ; High Odor (Fuel)

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-9

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 20.1	[ ] Bail Bailer Type: _____
Depth to water (DTW) in Feet 2.8	[ ] Pump
Purge Volume Calculation (20.1) – (2.8) x 3 x .17 = 8.8 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [ ] 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)
	21.55	795	2.36	6.52	-45.9	1	.79	
	21.89	761	1.36	6.24	-30.8	2		
	20.03	969	1.04	6.02	-15.3	3		
	19.63	980	.94	5.87	-4.4	4		
	19.60	975	.94	5.76	-2.2	5		
	19.58	969	.93	5.76	-3.7	6		
	19.55	963	.92	5.74	-2.3	7		
	19.61	956	1.25	5.55	9.0	8		
	19.60	955	1.28	5.74	4.2	8.8		

Total gallons pumped:

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

High turbidity; Strong odor After 4 gallon → clear water w/ same odor

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-10

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [ ] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 24.15	[ ] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 10.15	[ ] Pump
Purge Volume Calculation (24.15) – (10.15) x 3 x 0.17 = 7.14 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [ ] 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)
	18.16	794	5.86	6.18	-8.8	1	3.12	
	18.11	792	5.26	6.14	-11.9	2		
	18.07	786	4.21	6.02	-12.7	3		
	18.07	773	3.24	5.95	-16.8	4		
	18.05	759	2.22	5.78	-14.3	5		
	18.04	758	1.68	5.79	-14.6	6		
	18.04	761	1.47	5.78	-15.9	7		
	18.03	762	1.30	5.78	-17.2	8		
	18.03	764	1.18	5.77	-17.7	9		
	18.02	771	1.07	5.92	-30.0	10.15		

Total gallons pumped:

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

Moderate fuel odor; Low turbidity

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

Well Sampling Date: 5/25/08 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-11

Job Number: 0568-01 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 17.35	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 3.70	[ ] Pump
Purge Volume Calculation (17.35) – (3.7) x 3 x 0.17=6.96 gallons	Pump type: [ ] Submersible [ ] Centrifuge [ ] Bladder [ ] Other
(TD) – (DTW) x V x F = Purge Volume	

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)
	19.37	548	5.06	6.29	73.4	1	6.01	
	20.62	524	3.01	6.27	69.1	2		
	20.73	528	2.55	6.44	55.0	3		
	20.75	530	2.19	6.40	52.6	4		
	20.77	530	1.38	6.52	42.8	5		
	20.78	530	0.88	6.54	36.1	6		
	20.79	529	0.66	6.66	30.2	6.96		

Total gallons pumped:

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

high turbidity, low odor

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

Well Sampling Date: 5/25 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW-12

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 38.5	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 11.8	[ ] Pump
Purge Volume Calculation (38.5) – (11.8) x 3 x .17 = ____ gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [✓] 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)
	19.25	797	6.74	6.17	66.9	1	3.21	
	19.16	796	5.48	5.91	71.1	2		
	19.20	797	3.06	5.55	66.7	3		
	19.22	798	2.08	5.48	60.8	4		
	19.23	802	1.90	5.53	56.4	5		
	19.21	803	1.83	5.54	55.4	6		
	19.24	803	1.78	5.53	54.9	7		
	19.25	802	1.70	5.55	51.6	8		
	19.26	802	1.54	5.55	46.8	9		
	19.25	802	1.49	5.56	45.0	10		
	19.25	801	1.43	5.61	41.2	11		
	19.24	802	1.36	5.61	38.7	11.8		

Total gallons pumped:

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

Cloudy water - Low odor observed

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** MW 13 (outside)

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 22.2	[ ] Bail Bailer Type: _____
Depth to water (DTW) in Feet 9.4	[ ] Pump
Purge Volume Calculation (____) – (____) x ____ x ____ = _____ gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [ ] 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)

Total gallons pumped:

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

Product Thickness 9.4" – 10.5"

9.4
10.5
22.2

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** W-1

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 16.85	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 5.95	[ ] Pump
Purge Volume Calculation (16.85) – (5.95) x 3 x 0.17 = 5.56 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [✓] 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)
	18.33	825	3.01	5.55	30.0	1	1.55	
	19.79	842	.72	5.66	3.7	2		
	19.80	841	.65	5.88	-12.9	3		
	19.83	839	.67	6.14	-32.8	4		
	19.84	838	.65	6.28	-43.8	5		
	19.85	838	.63	6.28	-44.4	6		

Total gallons pumped:

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

Low turbidity - Moderate fuel odor

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** W 3

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [ ] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other
Total Depth (TD) of casing in Feet 28.5	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 7.5	[ ] Pump
Purge Volume Calculation (28.5) – (7.5) x 3 x 0.17 = 10.71 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [ ] 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)
	20.42	568	1.72	5.05	176.7	1	.81	
	20.74	564	.75	6.06	121.2	2		
	20.87	496	.58	6.50	53.2	3		
	20.96	494	.56	6.52	61.3	4		
	20.95	527	.58	6.51	67.7	5		
	20.92	537	.57	6.47	87.8	6		
	20.91	530	.58	6.46	99.1	7		
	20.91	556	.53	6.45	106.3	8		
	20.92	563	.51	6.43	118.7	9		
	20.93	564	.51	6.42	120.9	10		
	20.93	564	.52	6.43	121	11		

Total gallons pumped:

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

Low Odor - Low turbidity → after 3gal - High turbidity

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

Well Sampling Date: Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: Emeryville **Well Number:** W-4

Job Number: 0568-MAY08 **Date:** 05/25/08

Sampled By: Lahiri, S.

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [✓] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 16.90	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.40	[✓] Pump
Purge Volume Calculation 6.37 (16.9) – (4.4) x 3 x 0.17 = ~~2.64~~ gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [✓] 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)
	19.95	947	1.51	6.00	40.3	1	1.93	
	20.38	940	.58	6.06	38.8	2		
	20.62	936	.50	6.22	30.2	3		
	20.60	934	.46	6.37	21.1	4		
	20.50	932	.45	6.35	17.9	5		
	20.48	930	.46	6.44	12.3	6		

Total gallons pumped:

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

Moderate turbidity

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

Well Sampling Date: Time:

APPENDIX B

CHAIN-OF-CUSTODY RECORDS
AND
LABORATORY REPORT

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Services, Inc. 414 Pendleton Way, Ste 3 Oakland, CA 94621	Client Project ID: # 07-68-03; GR.WAT.Monitoring	Date Sampled: 05/25/08-05/28/08
		Date Received: 05/27/08
	Client Contact: Samhita Lahiri	Date Reported: 06/04/08
	Client P.O.:	Date Completed: 06/02/08

WorkOrder: 0805661

June 04, 2008

Dear Samhita:

Enclosed within are:

1) The results of the **16** analyzed samples from your project: **# 07-68-03; GR.WAT.Monitoring,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0805661 ETSR 1/8

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: Samhte Lahiri Bill To: Essel Technology
Company: Essel Technology Services Inc
414 Pendleton way # 3
Oakland, CA E-Mail: Labresults@Esseltek.com
Tele: (510)206 0270 Fax: (925)833-7977
Project #: 07-68-03 Project Name: Gr. wat. monitoring
Project Location: Emeryville, CA
Sampler Signature: Samlute dal

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-1-01	MW-1	5/15/08	9:00	1	Amb	X						X			X	X																Filter Samples for Metals analysis: Yes / No
02	↓		↓	3	VOA	↓						↓			↓	↓																
03	↓		↓	↓	↓	↓						↓			↓	↓																
04	↓		↓	↓	↓	↓						↓			↓	↓																
MW-2-01	MW-2		9:30	1	Amb	↓						↓			↓	↓																
02	↓		↓	3	VOA	↓						↓			↓	↓																
03	↓		↓		↓	↓						↓			↓	↓																
04	↓		↓		↓	↓						↓			↓	↓																
MW-3-01	MW-3		10:00	1	Amb	↓						↓			↓	↓																
02	↓		↓	3	VOA	↓						↓			↓	↓																
03	↓		↓	↓	↓	↓						↓			↓	↓																
04	↓		↓	↓	↓	↓						↓			↓	↓																

Relinquished By:	Date:	Time:	Received By:
S. Lahiri	5/27/08	4:30	Maria Vez 1600
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 6.8
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB ____
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB ____

COMMENTS:

PRESERVATION VOAS O&G METALS pH<2 OTHER

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: Sambuto Vahiga Bill To: Essel Technology
Company: Essel Technology Services Inc
414 Pendleton Way # 3
Oakland, CA E-Mail: Labresults@Esseltek.com
Tele: (510) 206 0270 Fax: (925) 833-7977
Project #: 0768-03 Project Name:
Project Location: Emeryville, CA
Sampler Signature: Sambuto [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-4-01	MW-4	5/15/08	11:00	1	Amb	X									X	✓																
02	↓	↓	↓	3	VOA	↓									↓	↓																
03	↓	↓	↓	↓	↓	↓									↓	↓																
04	↓	↓	↓	↓	↓	↓									↓	↓																
MW-5-01	MW-5	↓	11:30	1	Amb	↓									↓	↓																
02	↓	↓	↓	3	VOA	↓									↓	↓																
03	↓	↓	↓	↓	↓	↓									↓	↓																
04	↓	↓	↓	↓	↓	↓									↓	↓																
MW-6-01	MW-6	↓	12:00	1	Amb	↓									↓	↓																
02	↓	↓	↓	3	VOA	↓									↓	↓																
03	↓	↓	↓	↓	↓	↓									↓	↓																
04	↓	↓	↓	↓	↓	↓									↓	↓																

Comments: Filter Samples for Metals analysis: Yes / No

Relinquished By:	Date:	Time:	Received By:
[signature]	5/27/08	1700	[signature]

ICE/t° ______
GOOD CONDITION ______
HEAD SPACE ABSENT ______
DECHLORINATED IN LAB ______
APPROPRIATE CONTAINERS ______
PRESERVED IN LAB ______

VOAS O&G METALS OTHER
PRESERVATION pH<2

COMMENTS:

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: Sambita Lahiri	**Bill To:** ESSEL TECHNOLOGY
Company: ESSEL TECHNOLOGY SERVICES INC.	
	E-Mail: Labresults@ESSEL
Tele: (510) 206-0270	**Fax:** (925) 833-7977 TEK.com
Project #: 076808	**Project Name:** Groundwater
Project Location: ACT / Emeryville	monitoring
Sampler Signature: Samlab	

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			Comments
+ MW-9-01	MW-9	5/25	1:00	1	Amb	X						X			X	X																			
02				3	VOAs																														
03																																			
04																																			
+ MW-8-01	MW-8	5/25	1:30	1	Amb										X	X																			
02				3	VOA																														
03																																			
04																																			
+ MW-7-01	MW-7	5/25	2:00	1	Amb										X	X																			
02				3	VOA																														
03																																			
04																																			

Relinquished By:	Date:	Time:	Received By:
Sambita Lahiri	5/27/25	4 PM	1700
Relinquished By:	Date:	Time:	Received By:
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.

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: Sambito Lahiri **Bill To:** Essel Technology Services
Company: Essel Technology Services Inc
414 Pendleton way, #3, Oakland, CA.
E-Mail: Labreuelk@Esseltek.com
Tele: (510) 206 0270 **Fax:** (925) 833-7977
Project #: 0768-03 **Project Name:** Gr. water monitoring
Project Location: Emeryville
Sampler Signature: S. Lalo

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	Comments: Filter Samples for Metals analysis: Yes / No
MW-10-01	MW-10	5/28	2.30	1	Amb	X						X			X	X																
02	↓	↓	↓	3	VOAs	↓						↓			↓	↓																
03	↓	↓	↓	↓	↓	↓						↓			↓	↓																
04	↓	↓	↓	↓	↓	↓						↓			↓	↓																
MW-11-01	MW-11	5/28	3.00	1	Amb	↓						↓			↓	↓																
02	↓	↓	↓	3	VOAs	↓						↓			↓	↓																
03	↓	↓	↓	↓	↓	↓						↓			↓	↓																
04	↓	↓	↓	↓	↓	↓						↓			↓	↓																
MW-12-01	MW-12	5/28	3.30	1	Amb	↓						↓			↓	↓																
02	↓	↓	↓	3	VOAs	↓						↓			↓	↓																
03	↓	↓	↓	↓	↓	↓						↓			↓	↓																
04	↓	↓	↓	↓	↓	↓						↓			↓	↓																
Trip Blank 1															⊗																	per client
↓ 2																																

Relinquished By:	Date:	Time:	Received By:
S. Lalo	5/27	4:30	[signature] /TC
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° ______
GOOD CONDITION ______
HEAD SPACE ABSENT ______
DECHLORINATED IN LAB ______
APPROPRIATE CONTAINERS ______
PRESERVED IN LAB ______

PRESERVATION VOAS O&G METALS OTHER pH<2

COMMENTS:

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: Samhite Jahigu Bill To: Essel Technology
Company: Essel Technology Services Inc
414 Pendleton Way # 3
Oakland, CA E-Mail: Labresults@Esseltek.com
Tele: (510) 206 0270 Fax: (925) 833-7977
Project #: 076803 Project Name:
Project Location: Emeryville, CA
Sampler Signature: Samhite Jahigu

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	Other	Other	Comments: Filter Samples for Metals analysis: Yes / No
W-1-01	W-1	5/15/08	3 30	1	Amb	X						X			X	↓																		
02	↓	↓	↓	3	VOA	↓						↓			↓	↓																		
03	↓	↓	↓	↓	↓	↓						↓			↓	↓																		
04	↓	↓	↓	↓	↓	↓						↓			↓	↓																		
W-3-01	W-3	↓	4:00	1	Amb	↓						↓			↓	↓																		
02	↓	↓	↓	3	VOA	↓						↓			↓	↓																		
03	↓	↓	↓	↓	↓	↓						↓			↓	↓																		
04	↓	↓	↓	↓	↓	↓						↓			↓	↓																		
W-4-01	W-4	↓	4:30	1	Amb	↓						↓			↓	↓																		
02	↓	↓		3	VOA	↓						↓			↓	↓																		
03	↓	↓		↓	↓	↓						↓			↓	↓																		
04	↓	↓		↓	↓	↓						↓			↓	↓																		

Relinquished By:	Date:	Time:	Received By:
S. Jahigu	5/17	4:30	[signature] 1700
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° ______
GOOD CONDITION ______
HEAD SPACE ABSENT ______
DECHLORINATED IN LAB ______
APPROPRIATE CONTAINERS ______
PRESERVED IN LAB ______

COMMENTS:

PRESERVATION ______ VOAS ______ O&G ______ METALS pH<2 ______ OTHER ______

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0805661 **ClientCode: ETSO**

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

Report to:
Samhita Lahiri
Essel Technology Services, Inc.
414 Pendleton Way, Ste 3
Oakland, CA 94621
(510) 206-0270 FAX (925) 833-7977

Email: labresults@esseltech.com
cc:
PO:
ProjectNo: # 07-68-03; GR.WAT.Monitoring

Bill to:
Samhita Lahiri
Essel Technology Services, Inc.
414 Pendleton Way, Ste 3
Oakland, CA 94621

Requested TAT: 5 days

Date Received: **05/27/2008**
Date Printed: **06/03/2008**

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
0805661-001	MW-1	Water	5/25/2008 9:00	☐	A	A	B									
0805661-002	MW-2	Water	5/25/2008 9:30	☐	A		B									
0805661-003	MW-3	Water	5/25/2008 10:00	☐	A		B									
0805661-004	MW-4	Water	5/25/2008 11:00	☐	A		B									
0805661-005	MW-5	Water	5/25/2008 11:30	☐	A		B									
0805661-006	MW-6	Water	5/25/2008 12:00	☐	A		B									
0805661-007	MW-9	Water	5/25/2008 1:00	☐	A		B									
0805661-008	MW-8	Water	5/25/2008 1:30	☐	A		B									
0805661-009	MW-7	Water	5/25/2008 2:00	☐	A		B									
0805661-010	MW-10	Water	5/28/2008 2:30	☐	A		B									
0805661-011	MW-11	Water	5/28/2008 3:00	☐	A		B									
0805661-012	MW-12	Water	5/28/2008 3:30	☐	A		B									
0805661-013	Trip Blank	Water		☐	A											
0805661-014	W-1	Water	5/25/2008 3:30	☐	A		B									

Test Legend:

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

Prepared by: Kimberly Burks

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.

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0805661 **ClientCode: ETSO**

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

Report to:
Samhita Lahiri
Essel Technology Services, Inc.
414 Pendleton Way, Ste 3
Oakland, CA 94621
(510) 206-0270 FAX (925) 833-7977

Email: labresults@esseltech.com
cc:
PO:
ProjectNo: # 07-68-03; GR.WAT.Monitoring

Bill to:
Samhita Lahiri
Essel Technology Services, Inc.
414 Pendleton Way, Ste 3
Oakland, CA 94621

Requested TAT: 5 days

Date Received: **05/27/2008**
Date Printed: **06/03/2008**

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
0805661-015	W-3	Water	5/25/2008 4:00	☐	A		B									
0805661-016	W-4	Water	5/25/2008 4:30	☐	A		B									

Test Legend:

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

Prepared by: Kimberly Burks

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.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **Essel Technology Services, Inc.**

Date and Time Received: **5/27/08 5:41:11 PM**

Project Name: **# 07-68-03; GR.WAT.Monitoring**

Checklist completed and reviewed by: Kimberly Burks

WorkOrder N°: **0805661** Matrix Water

Carrier: Client Drop-In

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: 6.8°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 ☑

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

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Services, Inc. 414 Pendleton Way, Ste 3 Oakland, CA 94621	Client Project ID: # 07-68-03; GR.WAT.Monitoring	Date Sampled: 05/25/08-05/28/08
		Date Received: 05/27/08
	Client Contact: Samhita Lahiri	Date Extracted: 05/28/08-05/30/08
	Client P.O.:	Date Analyzed: 05/28/08-05/30/08

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0805661

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	ND	ND	ND	ND	ND	1	101
002A	MW-2	W	ND	ND	ND	ND	ND	ND	1	103
003A	MW-3	W	ND	ND	ND	ND	ND	ND	1	93
004A	MW-4	W	ND	ND	ND	ND	ND	ND	1	98
005A	MW-5	W	82,m	ND	ND	ND	ND	ND	1	98
006A	MW-6	W	5000,a,m,h	ND<25	88	ND<2.5	31	14	5	91
007A	MW-9	W	ND	ND	ND	ND	ND	ND	1	94
008A	MW-8	W	230,g	ND	ND	ND	ND	0.61	1	95
009A	MW-7	W	620,a	ND<10	0.81	ND	0.85	1.8	1	106
010A	MW-10	W	330,g,m	ND	ND	ND	0.92	1.1	1	98
011A	MW-11	W	ND	ND	ND	ND	ND	ND	1	99
012A	MW-12	W	120,m	8.9	ND	ND	ND	ND	1	97
013A	Trip Blank	W	ND	ND	ND	ND	ND	ND	1	94
014A	W-1	W	5700,a,m	ND<17	18	1.8	11	13	3.3	96
015A	W-3	W	ND	ND	ND	ND	ND	ND	1	92
016A	W-4	W	ND	ND	ND	ND	ND	ND	1	93
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
		S	NA	NA	NA	NA	NA	NA	1	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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Services, Inc. 414 Pendleton Way, Ste 3 Oakland, CA 94621	Client Project ID: # 07-68-03; GR.WAT.Monitoring	Date Sampled: 05/25/08-05/28/08
		Date Received: 05/27/08
	Client Contact: Samhita Lahiri	Date Extracted: 05/27/08
	Client P.O.:	Date Analyzed 05/28/08-05/30/08

Total Extractable Petroleum Hydrocarbons*

Extraction method SW3510C Analytical methods: SW8015C Work Order: 0805661

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0805661-001B	MW-1	W	60,b	1	119
0805661-002B	MW-2	W	ND	1	114
0805661-003B	MW-3	W	910,g,b	1	113
0805661-004B	MW-4	W	ND	1	118
0805661-005B	MW-5	W	200,g,b	1	116
0805661-006B	MW-6	W	20,000,n,b,h	5	108
0805661-007B	MW-9	W	740,g,b	1	117
0805661-008B	MW-8	W	160,n,b	1	117
0805661-009B	MW-7	W	270,d,b	1	118
0805661-010B	MW-10	W	930,m	1	116
0805661-011B	MW-11	W	110,b	1	118
0805661-012B	MW-12	W	850,g,b	1	117
0805661-014B	W-1	W	1300,d	1	119
0805661-015B	W-3	W	ND	1	109
0805661-016B	W-4	W	71,b	1	111

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: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range/jet fuel range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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"When Quality Counts"

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0805661

EPA Method SW8021B/8015Cm **Extraction SW5030B** **BatchID: 35867** **Spiked Sample ID: 0805661-011A**

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(btex)£	ND	60	91.2	98.2	7.45	101	99.2	2.26	70 - 130	20	70 - 130	20
MTBE	ND	10	105	119	12.5	112	102	9.12	70 - 130	20	70 - 130	20
Benzene	ND	10	89.3	92.7	3.81	102	96.7	5.04	70 - 130	20	70 - 130	20
Toluene	ND	10	98.4	102	4.07	101	95.9	4.94	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	96.4	101	4.50	105	101	4.50	70 - 130	20	70 - 130	20
Xylenes	ND	30	107	112	4.42	118	112	4.86	70 - 130	20	70 - 130	20
%SS:	99	10	94	94	0	91	92	0.798	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 35867 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805661-001A	05/25/08 9:00 AM	05/28/08	05/28/08 2:34 PM	0805661-002A	05/25/08 9:30 AM	05/28/08	05/28/08 3:04 PM
0805661-003A	05/25/08 10:00 AM	05/28/08	05/28/08 5:05 PM	0805661-004A	05/25/08 11:00 AM	05/28/08	05/28/08 5:39 PM
0805661-005A	05/25/08 11:30 AM	05/28/08	05/28/08 6:13 PM	0805661-006A	05/25/08 12:00 PM	05/29/08	05/29/08 2:56 PM
0805661-007A	05/25/08 1:00 AM	05/29/08	05/29/08 10:02 AM	0805661-008A	05/25/08 1:30 AM	05/29/08	05/29/08 9:36 PM
0805661-009A	05/25/08 2:00 AM	05/29/08	05/29/08 11:28 PM	0805661-010A	05/28/08 2:30 AM	05/30/08	05/30/08 1:27 AM
0805661-011A	05/28/08 3:00 AM	05/28/08	05/28/08 6:46 PM	0805661-012A	05/28/08 3:30 AM	05/28/08	05/28/08 8:26 PM
0805661-014A	05/25/08 3:30 AM	05/30/08	05/30/08 2:56 AM	0805661-015A	05/25/08 4:00 AM	05/28/08	05/28/08 8:59 PM
0805661-016A	05/25/08 4:30 AM	05/28/08	05/28/08 9:32 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.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0805661

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 35932 Spiked Sample ID: 0805702-011A

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(btex)£	ND	60	92.5	97.8	5.65	88.7	86.5	2.58	70 - 130	20	70 - 130	20
MTBE	ND	10	110	107	2.37	93.8	90.3	3.84	70 - 130	20	70 - 130	20
Benzene	ND	10	96.5	96.3	0.157	91.5	88.3	3.52	70 - 130	20	70 - 130	20
Toluene	ND	10	107	107	0	87.8	85.2	3.05	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	104	104	0	88.7	82.4	7.34	70 - 130	20	70 - 130	20
Xylenes	ND	30	115	114	0.607	81.8	81	1.03	70 - 130	20	70 - 130	20
%SS:	94	10	94	96	2.43	105	101	3.47	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 35932 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805661-013A	Not Provided	05/30/08	05/30/08 9:23 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.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0805661

EPA Method SW8015C **Extraction SW3510C** **BatchID: 35879** **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	117	118	1.04	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	95	97	1.95	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 35879 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805661-001B	05/25/08 9:00 AM	05/27/08	05/30/08 7:18 PM	0805661-002B	05/25/08 9:30 AM	05/27/08	05/28/08 4:34 PM
0805661-003B	05/25/08 10:00 AM	05/27/08	05/28/08 5:42 PM	0805661-004B	05/25/08 11:00 AM	05/27/08	05/28/08 6:50 PM
0805661-005B	05/25/08 11:30 AM	05/27/08	05/28/08 9:07 PM	0805661-006B	05/25/08 12:00 PM	05/27/08	05/28/08 11:24 PM
0805661-007B	05/25/08 1:00 AM	05/27/08	05/28/08 10:16 PM	0805661-008B	05/25/08 1:30 AM	05/27/08	05/29/08 2:49 AM
0805661-009B	05/25/08 2:00 AM	05/27/08	05/29/08 3:57 AM	0805661-010B	05/28/08 2:30 AM	05/27/08	05/29/08 5:06 AM
0805661-011B	05/28/08 3:00 AM	05/27/08	05/29/08 6:14 AM	0805661-012B	05/28/08 3:30 AM	05/27/08	05/29/08 7:22 AM
0805661-014B	05/25/08 3:30 AM	05/27/08	05/30/08 8:27 PM	0805661-015B	05/25/08 4:00 AM	05/27/08	05/28/08 4:35 PM
0805661-016B	05/25/08 4:30 AM	05/27/08	05/28/08 5:42 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.

DHS ELAP Certification 1644

QA/QC Officer