

Alameda-Contra Costa Transit District

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Alameda County
Environmental Health

January 17, 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 2007

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 10, 2007, from 15 on-site monitoring wells.

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 Chaeusky, P.E.
Environmental Engineer

enclosure



GROUND-WATER MONITORING IN NOVEMBER 2007 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. 9778 Broadmoor Drive San Ramon, California 94583 (925) 833-7977

Project No. 07-68-01

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GROUND-WATER MONITORING IN NOVEMBER 2007 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 November 2007.

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.

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2.0 FIELD AND LABORATORY WORK

2.1 Field Procedures

Essel Tech personnel visited the site on November 10, 2007, to measure the water level in 15 of the 16 wells (MW-1 through MW-12, 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 0.1-foot using an electronic oil-water interface probe. Following water-level measurements, the 15 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 November 10, 2007. 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.

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3.0 RESULTS OF MONITORING AND SAMPLING

3.1 Ground-Water Monitoring

A total thickness of 1.22 feet of free-phase petroleum product was measured in well MW-13 on November 10, 2007. No measurable free-phase petroleum product was detected in the other 15 wells. The measured depth to the static ground-water surface ranged from 3.3 to 9.7 feet below the tops of the well casings. Essel Tech used wellhead elevation data and the depth-to-water measurements made on November 10 to calculate the elevation of the ground-water surface, which varied from 17.78 to 29.91 feet above mean sea level in the wells. Water-level measurements show the groundwater surface dropped from 0.02- to 0.82-foot (average 0.42-foot) in 14 of the 15 wells between the May and November 2007 monitoring events and rose 0.25-foot in well MW-1 between these two monitoring events. The ground-water surface in 13 wells ranged from 0.10-foot to 1.6 feet (average 0.56-foot) lower in November 2007 than at the equivalent time (November) in 2006. In wells MW-7 and MW-8 the ground-water surface in November 2007 was at the same or a higher elevation than in November 2006. Based on the range of elevations calculated from water levels measured on November 10, 2007, ground water beneath the site is estimated to flow approximately toward the west at a gradient of 0.018 (1.8 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 November 10, 2007.

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 (6,100 parts per billion [ppb]) and MW-6 (2,100 ppb), located near the center of the site. Lower concentrations of 170 to 420 ppb TPHg were detected in samples from wells MW-5, MW-7, MW-8, MW-10, and MW-12. No TPHg was detected in samples from wells MW-1 through MW-4, MW-9, MW-11, and W-3. The trends of detected concentrations of TPHg have varied among wells. In well W-1 (south-central portion of 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. A fluctuating pattern of lower TPHg level in November and higher level in May is observed in well MW-6 (central portion of site) and generally, the concentration of TPHg in this well has increased. In northern wells MW-5, MW-8, and MW-10, trends of increasing levels of TPHg have occurred recently and in west-central wells MW-7 and MW-12, levels of TPHg have fluctuated from one monitoring event to the next.

The aromatic hydrocarbons benzene, ethylbenzene, and total xylenes were each detected in wells W-1 and MW-6 during the latest monitoring event at concentrations ranging from 3.9 to 32 ppb. Toluene was not detected in either well. In wells MW-5 and MW-7, trace to very low levels (0.59- to 1.3 ppb) of ethylbenzene and total xylenes were detected. No BTEX was found in water samples from wells MW-8, MW-10, or MW-12, in which TPHg was detected. The fuel oxygenate MTBE was not detected (detection limits of 5.0 to 25 ppb) in any of the 15 wells sampled during the November 2007 monitoring event. 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 13 of the 15 wells sampled at concentrations ranging from 55 to 9,300 ppb. The highest concentrations were found in wells MW-6 (9,300 ppb),

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MW-10 (1,200 ppb), and W-1 (1,200 ppb). Concentrations of TPHd between 500 and 1,000 ppb were found in wells MW-9 (930 ppb) and MW-3 (730 ppb) and concentrations ranging from 55 to 160 ppb were detected in wells MW-1, MW-2, MW-5, MW-7, MW-8, MW-11, MW-12, and W-4. No TPHd was found in wells MW-4 and W-3. The highest levels of TPHd, which were detected in wells MW-6, MW-10, and W-1, are equal to or higher than detected during the previous year and the 1,200 ppb detected in well MW-10 is the highest found since Essel Tech began monitoring in November 2005. Higher levels of TPHd are also present in wells MW-9 and MW-3 during recent monitoring events than during monitoring events performed earlier in 2007 or in 2005 to 2006. A notable increase from non-detectable to 730 ppb occurred in well MW-3 between the May and November 2007 monitoring events. Trends of generally decreasing concentrations of TPHd are observed in wells MW-1, MW-2, and MW-5, located in the northeastern (upgradient) portion of the site. In wells MW-7, MW-8, MW-11, and MW-12, the concentrations of TPHd have fluctuated. During the November 2005 to November 2007 time period, concentrations of TPHd in wells MW-8 and MW-11 have declined moderately and in wells MW-7 and MW-12 have not changed, essentially. 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 February 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;

Essel Technology Services, Inc.

Samhita Lahiri

Project Manager

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

Plate 3: Ground-Water-Surface Map, November 10, 2007

Appendix A: Field Purging and Sampling Forms

Appendix B: Chain-of-Custody Records and Laboratory Report

GEOLOGIST

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

						Ground-Water-Surface Elevation
Well Number	Date	Top of Casing	Product Thickness	Depth to Ground Water	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
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
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
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
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
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
MW-7	11/02/05	29.62	0.00	5.50	24.12	24.12
1V1V V ~ /	05/28/06	29.62	0.00	4.25	24.12 25.37	25.37
	11/16/06	29.62	0.00	4.25 5.7	23.92	23.92
	05/27/07	29.62	0.00	4.54	25.92 25.08	25.08
	11/10/07	29.62	0.00	5.15	24.47	24.47
MW-8	11/02/05	29.43	0.00	5.05	24.38	24.38
1V1 V V -O	05/28/06	29.43	0.00	4.95	24.48	24.48
	11/12/06	29.43	0.00	4.95	24.73	24.73
	05/27/07	29.43	0.00	4.7	24.73 25.35	24.73 25.35
	11/10/07	29.43	0.00	4.7	24.73	24.73
MW-9	11/02/05	29.18	0.00	4.26	24.92	24.92
1V1VV-3	05/28/06	29.18	0.00	3.70	25.48	25.48
	11/12/06 05/27/07	29.18 29.18	0.00 0.00	3.5 3.43	25.68 25.75	25.68 25.75
	11/10/07	29.18 29.18	0.00	3.43 3.75	25.75 25.43	25.75 25.43
	n page 2 of	0				

TABLE 1 **WELL MONITORING DATA**

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

						Ground-Water-Surface
		-	D l	De de de	O :	Elevation
Well	Date	Top of	Product	Depth to	Ground-Water-	Corrected for
Number	Date	Casing	Thickness	Ground Water	Surface Elevation	Product Thickness#
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				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
MW-11	11/02/05	29.93	0.00	4.30	25.63	25.63
10100-11	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
	11/10/07	29.93	0.00	5.5	20.03	20.03
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
MW-13	11/02/05	22.72	0.063	9.10	13.62	13.67
10100 13	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
			1.22	10.62		
	11/10/07	22.72	1.22	10.62	12.10	13.07
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
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
W-4	11/02/05	31.72	0.00	4.70	27.02	27.02
V V -44	05/28/06	31.72	0.00	4.50	27.02 27.22	27.02
				4.50 3.9		
	11/16/06 05/27/07	31.72	0.00		27.82 27.90	27.82
		31.72	0.00	3.82		27.90
	11/10/07	31.72	0.00	4.3	27.42	27.42

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

1/03/05 5/29/06 1/12/06 5/27/07 1/10/07 1/03/05 5/29/06 1/16/06 5/27/07 1/10/07	<pre>TPHg <50 <50 <50 <50 <50 <50 <50 <50 <50 <5</pre>	70 89 65 65 59	NA NA NA NA NA	<0.5 <0.5 <0.5 <0.5 <0.5	<0.5 <0.5 <0.5 <0.5	<0.5 <0.5 <0.5	<0.5 <0.5	4.5 <5.0	Nitrate <100 NA	56,000 NA	Oxygen 2,330	Iron 0
5/29/06 1/12/06 5/27/07 1/10/07 1/03/05 5/29/06 1/16/06 5/27/07	<50 <50 <50 <50 <50	89 65 65 59	NA NA NA	<0.5 <0.5 <0.5	<0.5 <0.5	<0.5	<0.5					
5/29/06 1/12/06 5/27/07 1/10/07 1/03/05 5/29/06 1/16/06 5/27/07	<50 <50 <50 <50 <50	89 65 65 59	NA NA NA	<0.5 <0.5 <0.5	<0.5 <0.5	<0.5	<0.5					
1/12/06 5/27/07 1/10/07 1/03/05 5/29/06 1/16/06 5/27/07	<50 <50 <50 <50 <50	65 65 59	NA NA NA	<0.5 <0.5	<0.5					NA	5,400	0
1/10/07 1/03/05 5/29/06 1/16/06 5/27/07	<50 <50 <50	59 110	NA		<0.5		< 0.5	<5.0	NA	NA	6,520	0
1/03/05 5/29/06 1/16/06 5/27/07	<50 <50	110		<0.5		<0.5	<0.5	<5.0	NA	NA	50	1,280
5/29/06 1/16/06 5/27/07	<50				<0.5	<0.5	<0.5	<5.0	NA	NA	460	2,210
1/16/06 5/27/07			NA	<0.5	<0.5	<0.5	<0.5	4.9	430	53,000	2,090	130
5/27/07	<50	70	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	6,800	60
		<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	8,300	10
1/10/07	<50	75	NA	<0.5	<0.5	< 0.5	<0.5	<5.0	NA	NA	90	1,540
	<50	62	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	320	130
1/03/05	<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
1/16/06	<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
1/10/07	<50	730	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,690	3,300
1/03/05	<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
1/16/06	<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
1/10/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,930	0
1/03/05	<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
1/12/06	<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
1/10/07	170	110	NA	<0.5	<0.5	0.59	1.3	<10	NA	NA	500	300
1/03/05	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
1/16/06	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
1/10/07	2,100	9,300	NA	30	<1.7	3.9	4.0	<17	NA	NA	510	3,220
1/ 5/: 1/ 5/: 1/ 5/: 1/ 5/:	/16/06 27/07 /10/07 /03/05 29/06 /12/06 27/07 /10/07 /03/05 29/06 /16/06 27/07	/16/06	/16/06 <50	/16/06 <50	/16/06 <50	/16/06 <50	/16/06 <50	/16/06 <50	716/06 <50	/16/06 <50	716/06 <50	716/06 <50

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

Well	Date						Ethyl-	Total				Dissolved	Ferrous
No.	Sampled	TPHg	TPHd	TPH	Benzene	Toluene	benzene	Xylenes	MTBE	Nitrate	Sulfate	Oxygen	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
										_			
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
MW-9	11/03/05	<50	470	NA	<0.5	<0.5	<0.5	<0.5	4.8	110	28,000	1,720	450
11111	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
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
MW-11	11/03/05	<50	290	NA	0.5	0.5	0.5	0.5	0.5	<100	21.000	4 000	
IVIVV-II	2/22/06	<50 <50	<50	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<100	27,000	1,360 100	0
	5/29/06	<50 <50	250	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <5.0	NA	NA	6,000	100
	8/27/06	<50 <50	57	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<5.0 <5.0	NA NA	NA NA	100	0
	11/12/06	<50 <50	5 <i>7</i> 56	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<5.0 <5.0	NA NA	NA NA	2,810	0
	2/24/07	<50 <50	<50	NA NA		<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<5.0 <5.0	NA NA	NA NA	950	0
	2/24/07 5/27/07	<50 <50	61	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<5.0 <5.0	NA NA	NA NA	950 40	1,170
	5/27/07 9/2/07	<50 <50	67	NA NA	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<5.0 <5.0	NA NA	NA NA	60	630
		<50 <50	67 55	NA NA				<0.5 <0.5			NA NA		
	11/10/07	<50	55	INA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	INA	470	0

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

Well	Date						Ethyl-	Total				Dissolved	Ferrous		
No.	Sampled	TPHg	TPHd	TPH	Benzene	Toluene	benzene	Xylenes	MTBE	Nitrate	Sulfate	Oxygen	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		
MW-13	11/03/05					Not:	sampled - free	-phase produc	t in well						
	2/22/06	Not sampled - free-phase product in well													
	5/29/06						sampled - free								
	11/16/06						sampled - free								
	5/27/07						sampled - free								
	9/2/07						sampled - free								
	11/10/07						sampled - free								
	11/10/01					1400	sampica nec	priase produc	t iii weii						
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		
See notes or	n 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	Date						Ethyl-	Total				Dissolved	Ferrous
No.	Sampled	TPHg	TPHd	TPH	Benzene	Toluene	benzene	Xylenes	MTBE	Nitrate	Sulfate	Oxygen	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
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

Results are in micrograms per liter = parts per billion; detectable results are shaded.

TPHg = total petroleum hydrocarbons as gasoline

TPHd = total petroleum hydrocarbons as diesel

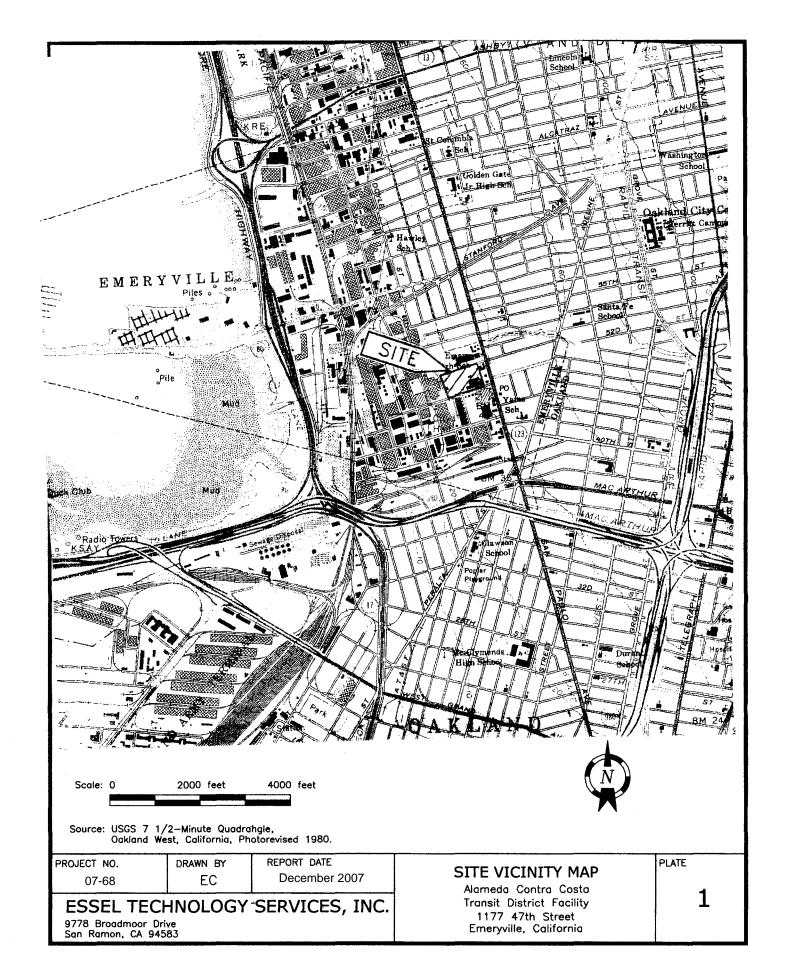
TPH = total petroleum hydrocarbons as motor oil or unknown hydrocarbon

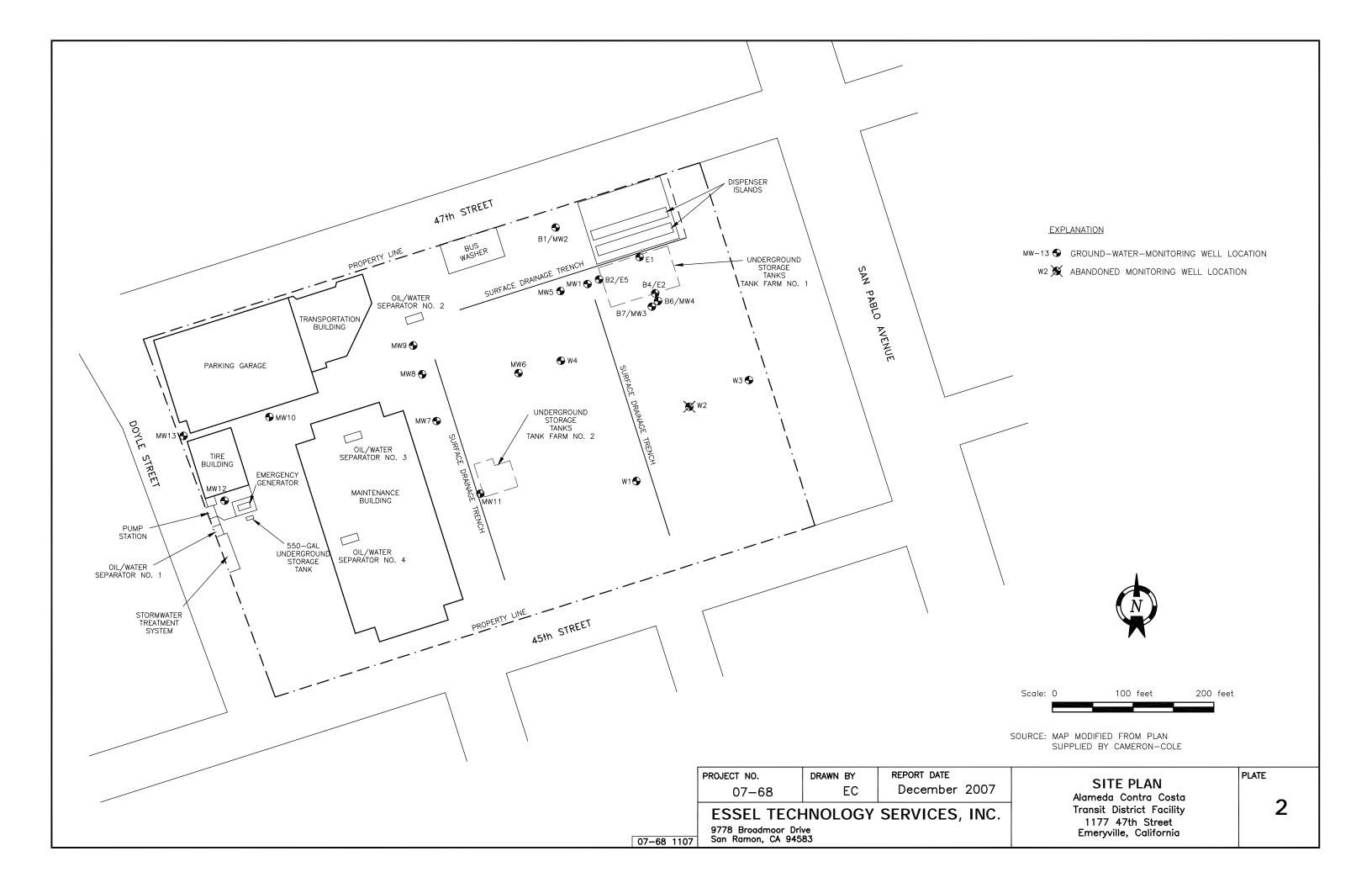
MTBE = methyl tertiary butyl ether

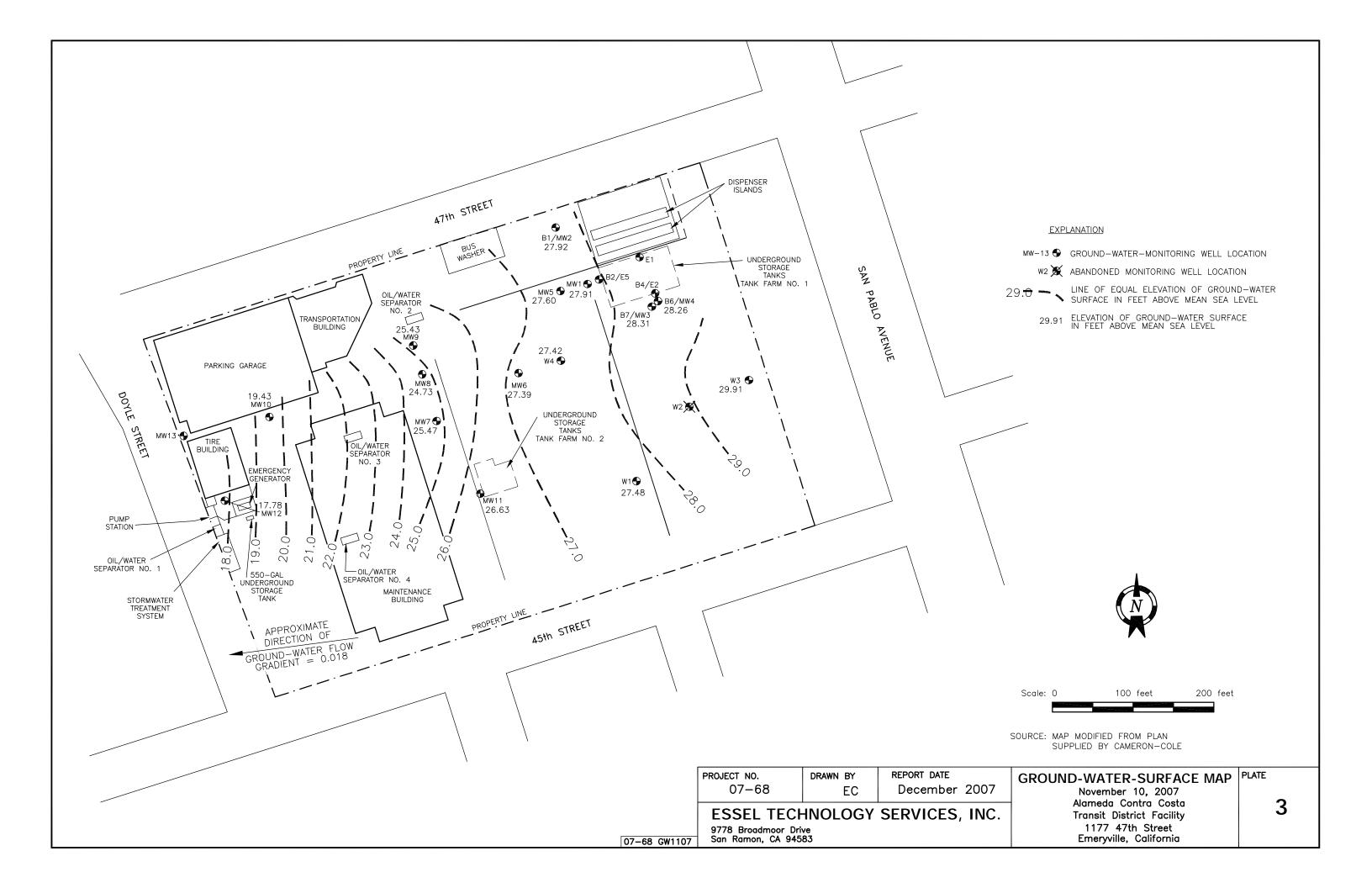
NA = not analyzed

NM = not measured

< = less than the laboratory method detection limit







APPENDIX A FIELD PURGING AND SAMPLING FORMS

Job Nam	e: Emeryville		V	Vell Numb	er:	M	W	
Job Num	ber: 07-68-01	l	Date:	11/10/0	07			
Sampled	By: Lahiri, S.							
	Purge	Volume			Developn	nent/Purg	e Metho	d(s)
Casing D	Diameter: 2 incl	n [] 4 inch [] Other []	[]Swab	[] Surg	ge []Oth	er	
Total De	epth (TD) of ca		14.6	[] Bail	Bailer 7	Гуре:	15 po	50.518
	o water (DTW)		4.65	Pump				
	Purge Volum (<u>4-is</u>)x <u>3</u> (DTW)x V				type: [S	Submersib Bladder		Centrifuge Other
			Expla	nation				
For 2" dia	ameter well: V	=3, F= .17gallo	n/foot		V= well F= gallo	volume on of water	per foot	of casing
			Field Pe	rameters				
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	20-34	-618	5.60	5.37	320-1	1	2.21	
	22.56	,660	1.84	6.29	262.3	2	L -	
	22.72	:684	072	6.20	722.4	3		
	22.75	1086	154	6.14	183.5	5		
				0.52	7 0 0. 7			
	ons pumped: ons during pur	ging (well condected for the second	dition, turbidi	ty, color, o	dor etc.)	iso line		
Discharge	e water disposa	l: [] Sanitary	sewer [] Sto	rm drain [] Drum [1 Other		

Time:

Well Number: ____ M W 2__ Job Name: Emeryville 11/10/07 Date: Job Number: 07-68-01 Sampled By: Lahiri, S. **Development/Purge Method(s) Purge Volume** Casing Diameter: 2 inch [/ 4 inch [] Other [] Swab Surge Other Total Depth (TD) of casing in Feet [] Bail Bailer Type: Disposable Depth to water (DTW) in Feet $\frac{\cancel{4} \cdot \cancel{2}}{\cancel{5}}$ Purge Volume Calculation

($\cancel{14} \cdot \cancel{5} - (\cancel{4} \cdot \cancel{2}) \times \cancel{3} \times \cancel{77} = \cancel{5} \cdot \cancel{3}$ gallons [] Pump Pump type: [YSubmersible [] 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** Conductivity **ORP** Fe Water Level Time Temperature DO(mg/L)pН Gallons °C AM PM μS/cm Pumped mg/L (TD-DTW) 1077 22.33 5.94 ,500 2815 13 22.90 516 651 240.5 1.62 ·72 23.00 .543 214,4 6.66 .46 6,6 4 23.08 6599 202.1 -32 11.08 1877 انها فا Total gallons pumped: Observations during purging (well condition, turbidity, color, odor etc.)

Turbud - Dirty wilm , odor of Tuel; New darkwaln

Time:

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

Job Nam	e: Emeryville		V	Vell Numb	er:	W-3		
Job Num	iber: 07-68-0	1,	Date	11/40/	07			
Sampled	By: Lahiri, S.							
	Purge	Volume			Developn	nent/Purg	e Metho	od(s)
Casing I	Diameter: 2 incl] Other []			ge []Oth		
Total D	epth (TD) of ca	sing in Feet	14/6			Гуре: Д		asie
Depth to	o water (DTW)	in Feet	5.75	[] Pump				
,	Purge Volu	me Calculation		i ji amp	ý	or the sales and		
14:10-	(5.15) x 3	x $11 = 4$	gallons	Pump				Centrifuge
(TD)-	(DTW)x V	x F = Pu	ırge Volume		[] I	Bladder	[]	Other
			Expla	nation				
For 2" dia	ameter well: V=	=3, F= .17gallo	on/foot		V= well F= gallo		per foo	t of casing
			Field Pa	rameters				
Time	Temperature	Conductivity	DO (mg/L)	рН	ORP	Gallons	Fe	Water Level
AM PM	°C	μS/cm	,	6-23	243	Pumped	mg/L	(TD-DTW)
	23 17	.699	4.60	us	62		33	
	23 43	103	9.49	6.23	186.8	3		
	23 83	- 700	2.07	6.48	171.2	y		
	23.81	-705	1.69	6.49	1637	5		
77								
					14			
5.4.1 11	1		,	Δ.				
_	ons pumped: ons during pur	ging (well cond	lition turbidit	ty color or	dor etc.)		T	et me
700011441		ul octori					FH	9h lurlus
ischarge	water disposal	: [] Sanitary	sewer [] Sto	rm drain [1 Drum [1 Other		
			£] = 40.] ~ [1 0 4101 _		
ell Sam	pling Date:					Ti	ime.	

Job Nam	e: Emeryville		V	Vell Numb	er:	Mh) 4					
Job Num	ber: 07-68-01	l	Date:	11/10/(7							
Sampled	By: Lahiri, S.											
					V							
	Purge	Volume			Developn	nent/Purgo	e Metho	d(s)				
Casing D	iameter: 2 incl	n [] 4 inch [] Other []	[] Swab	[] Surg	ge []Oth	er					
Total De	epth (TD) of ca	sing in Feet	,	[]Bail	Bailer 7	Гуре:	1500	isasle				
	water (DTW)		5.85	[] Pump								
Purge Volume Calculation $(1) - (5.35) \times 3 \times 1 = 2.98 \text{ gallons}$ Pump type: [Submersible [] Centrifuge [] Other (TD) - (DTW) x V x F = Purge Volume Explanation For 2" diameter well: V=3, F= .17gallon/foot V= well volume												
	-											
For 2" dia	meter well: V=	=3, F= .17gallo	n/foot				per foo	t of casing				
Time	Temperature	Conductivity	DO (mg/L)	rameters pH	ORP	Gallons	Fe	Water Level				
AM PM	°C	μS/cm		pii	ORI	Pumped	mg/L	(TD-DTW)				
	22.47	.729	3.77	5.91	247	1	0.0					
	23.12	-756	2.66	6.17	224	2						
	23:32	.768	1.93	6.37	209.0	-3						
Observati	ons pumped: ons during pur tripludit	ging (well cond	lition, turbidi									
Discharge	water disposa	l: [] Sanitary	sewer [] Sto	rm drain [] Drum [] Other _						

Time:

Job Nan	Job Name: Emeryville Well Number:									
Job Nun	aber: 07-68-0	1	Date	: 11/10/	07					
Sampled	By: Lahiri, S	•								
	Purge	e Volume			Developr	nent/Purg	e Metho	od(s)		
Casing I	Diameter: 2 inc	h [4 inch [] Other []	[] Swab		ge [] Otl				
Total D	epth (TD) of ca	asing in Feet	19.61			Type:		usable.		
Depth t	o water (DTW)	in Feet 4		[] Pump						
Purge Volume Calculation $(19.6) - (19$										
			Expla	nation						
For 2" diameter well: V=3, F= .17gallon/foot V= well volume F= gallon of water per foot of casing										
			Field Pa	rameters						
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)		
	22.43	.355	6.03	5 59	300.1	1				
	22.63	1633	3,50	5.32	255. 4	2				
	22.54	. 686	1.96	6.68	219.0	3				
	22.54	,693	1.12	6.77	189.3	4	0.30			
	22.55	.694	194	6.77	177.6	5				
	22.55	1695	.58	6 7E	14.3	4				
	22.57	696	154	6.76	134.7	7				
	22.59	1698	650	6.74	125,7	8				
Observati	ons pumped: ons during purp water disposal	V) 76	allor 0	Uservie	1	1 Othor				
Discharge	water disposal	: [] Sanitary	sewer [] Stor	rm drain [] Drum [] Other				

Time:

Job Nam	e: Emeryville		Vell Numb	er:	MW	6					
Job Num	ber: 07-68-0	1	Date								
Sampled	By: Lahiri, S.										
	Purge	Volume			Developn	nent/Purg	e Metho	d(s)			
Casing I	Diameter: 2 incl	h [/] 4 inch [] Other []	[]Swab	[] Surg	ge []Oth	ner				
Total D	epth (TD) of ca		19.7	[] Bail	Bailer 7	Гуре:	is posa	sie			
Depth to	o water (DTW)		.65	[] Pump)						
Purge Volume Calculation $(\cancel{9\cancel{7}}) - (\cancel{3\cancel{6}\cancel{5}}) \times \cancel{\cancel{3}} \times \cancel{\cancel{17}} = \cancel{\cancel{8}\cancel{\cancel{17}}} = \cancel{\cancel{9}\cancel{\cancel{9}}} \text{ gallons}$ Pump type: [Submersible [] Centrifuge [] Bladder [] Other Explanation											
For 2" dia	Explanation For 2" diameter well: V=3, F= .17gallon/foot V= well volume F= gallon of water per foot of casing										
			Field Pa	rameters							
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	рН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)			
	23,14	,916	5.13	6.10	-35.1	t	3.22				
	23.23	,930	1-27	6.60	-103,4	2					
	23.24	.932-	1.07	6.63	-111.12	3					
	23,27	1937	,82	6.66	-120,8						
	23.30	941	.67	6.67	-126.8	5					
	23 3人	.943	.55	6.67	-131.4	7					
	23 33	.945	51	6-67	-133. 2	8					
						0					
_	ons pumped: ions during pur	ging (well conduction)	dition, turbidi	ty, color, o	dor etc.)	Ga	<i>^</i>				
Discharge	e water disposa	l: [] Sanitary	sewer [] Sto	rm drain I	1 Drum f	1 Other					

Time:

Job Nam	e: Emeryville	;	v	Vell Numb	oer:	MW	7			
Job Num	aber: 07-68-0	1	Date	: 11/10/	07					
Sampled	By: Lahiri, S.									
	Purge	Volume			Developn	nent/Purg	e Metho	od(s)		
Casing I	Diameter: 2 incl	h [v] 4 inch [] Other []	[]Swab	[]Surg	ge []Oth	er			
Total D	epth (TD) of ca	asing in Feet	24.6	[] Bail	Bailer	Гуре:	spes	osle		
Depth to	o water (DTW)		5-15	[] Pump)					
	Purge Volume Calculation $(24.6) - (5.15) \times 3 \times (17 = 9.92) \text{gallons}$ Pump type: [] Submersible [] Centrifuge [] Bladder [] Other Explanation For 2" diameter well: V=3, F= .17gallon/foot V= well volume									
For 2" dia	ameter well: V	=3, F= .17gallo		V= well volume F= gallon of water per foot of casing						
			Field Pa	rameters						
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)		
	2183	.872	4.26	6.40	219.3	1	004			
	21.09	.980	1.72	6-37	90-2	2	,			
	21.40	.983	142	6.32	585	3				
	2151	.988	1.12	6.36	21.7	4				
	21.58	996	.75	6.33	74	5				
	2664	1.004	3.72	6:180	123.2	6				
	21.73	1.003	4.92	6.47	135.3	7				
	21.72	1.006	4.27	6.44	145.1	8				
Observati	ons pumped: ons during pur Turke duty	ging (well cond	dition, turbidit	ty, color, o	dor etc.)					

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

Time:

Job Nar	ne: Emeryvill	e	7	Well Number: MW8					
Job Nur	nber: 07-68-0)1	Date	e: 11/10	0/07				
Sample	d By: Lahiri, S	•							
		e Volume			Develop	nent/Purg	e Metho	od(s)	
Casing	Diameter: 2 inc	ch [V] 4 inch [] Other []	[]Swal	b [] Sur	ge []Otl	ner		
Total I	Depth (TD) of c	asing in Feet	20.65	[] Bail	Bailer	Type: <u></u>	spes	nsie	
	to water (DTW		4.71	Pum	n				
				_ [] r will	۲ /	7			
Purge Volume Calculation $(206) - (4.7) \times 3 \times /7 = 2.13 \text{ gallons}$ $(TD) - (DTW) \times V \times F = \text{Purge Volume}$ Pump type: [] Submersible [] Centrifuge [] Other									
			Expla	nation					
For 2" di	ameter well: V	=3, F= .17gallo	on/foot			volume on of water	per foo	t of casing	
			Field Pa	rameters					
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	рН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)	
	21.75	1.013	4.05	6.45	214.5	- 1	.03		
	21.94	1.024	3.59	6.59	199.5	2			
	21-88	1.020	3.19	6.61	183.5	3			
	22,24	1.009	2.15	6.51	149.8	4			
	22.33	1.011	1.72	6.57	112,7	5			
	22.35	1.012	1.58	6.57	1025	6			
	22,34	1.011	1.41	6.57	97.0	/			
	27.31	1.010	1,43	6.55	95.4	В			
D . 1 11	lons pumped:			ty, color, o	1				

Time:

Job Nan	ie: Emeryville	V	Well Numb	oer:	M	WC	1	
Job Nun	nber: 07-68-0	1	Date	: 11/10/	07			
Sampled	By: Lahiri, S.							
	Purge	Volume			Developr	nent/Purg	e Metho	od(s)
Casing l	Casing Diameter: 2 inch [] 4 inch [] Other []				[] Sur	ge []Oth	ner	
Total Depth (TD) of casing in Feet 3.75				[] Bail	Bailer '	Туре:	15 pa	esu81e
Depth to water (DTW) in Feet 20.2				[]Pump				
	Purge Volu (3.75) x 3 (DTW) x V	Pump		Submersib Bladder		Centrifuge Other		
			Expla	nation				
For 2" di	ameter well: V=	V= well volume F= gallon of water per foot of casing						
			Field Pa	rameters				
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	рН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	21.11	.738	5.36	6.15	126.4	1	4 3	
	21.34	,692	1.52	6.58	-14.2	2		
	21,48	. יז טע	1.76	6.53	-24,7	3		
	21.81	. 986	1.56	4.53	-24.4	4		
	22.10	1.023	1-02	653	-23,8	5		
	22.11	1.024	,87	6.54	-24.8	6		
	22.10	1.020	.79	6.54	-25-7	7		
	22.09	1.016	.73	633	-25.2	8		
Observation Div h	ons pumped: ons during pur ons Turtud duryeuses					Water	hurlad	uhy \$

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

Time:

Job Nam	e: Emeryville	:	V	Well Number: MW10						
Job Num	ber: 07-68-0	1	Date	: 11/10/	'07					
Sampled	By: Lahiri, S.	•								
	Purge	Volume			Developm	nent/Purg	e Metho	od(s)		
Casing I	Diameter: 2 inc	[]Swab	[] Surg	ge []Oth	ner					
Total D	epth (TD) of ca	asing in Feet	,	[] Bail	Bailer '	Гуре:	s bosa	816		
	o water (DTW)		9.71	[] Pump)	.50				
Purge Volume Calculation $(24.2) - (9.7) \times 3 \times 12 = 1.3 \text{ Sgallons}$ Pump type: [] Submersible [] Centrifuge [TD) - (DTW) x V x F = Purge Volume [] Other										
For 2" diameter well: V=3, F= .17gallon/foot V= well volume F= gallon of water per foot of casing										
			Field Pa	rameters						
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	рН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)		
	20.08	,792	3.76	6.59	-8-6	l				
	19-99	.811	2.87	6.68	- 35.6	2				
	19.88	804	1-68	6.75	-62.5	3	2.51			
	19,86	. 197	1.11	6.76	-74.3	4				
	19.87	.794	'85	6.76	-81.5	5				
	19.89	792	.78	6.15	-85.9	6				
=======================================	19.90	,790	.76	6.74	89.1					
_	ons pumped: lons during pur	ging (well conc	dition, turbidi	ty, color, o	odor etc.)	5t ; Fuel	oder			
Discharge	water disposa	l: [] Sanitary	sewer [] Sto	rm drain	Drum [] Other_				

Time:

Job Name: Emeryville

Well Number: MW | |

Job Number: 07-68-01

Date: 11/10/07

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 17.2	[] Bail Bailer Type: Disposally					
Depth to water (DTW) in Feet 3.3	[] Pump					
Purge Volume Calculation $(17\cdot 2) - (3\cdot 3) \times 3 \times 17 = 7 \cdot 10 \text{ gallons}$	Pump type: [Submersible [] Centrifuge [] Bladder [] Other					
(TD)-(DTW)x V x F = Purge Volume	[] Diadder [] Other					
Expla	nation					
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)	рН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)		
	22.5	. 507	4.25	6.25	2065		0 30			
	22,53	,507	1.84	7-02	1839	2				
	22.5 8	,508	1.04	7.09	154,2	3				
	22.62	0507	.68	7.11	112.6	Ц				
	22,64	. 504	.55	7.11	79.2	5				
	22.65	.507	,56	7.11	65.8	6				
	22,45	.507	-47	7.11	344	7				

_	ons pumped:							
Observati	ons during purg	ging (well con	ndition, turl	oidity, color, c	odor etc.)			
	n turnalt							
,								
Discharge	e water disposal	: [] Sanitar	y sewer []	Storm drain	[] Drum [] Other		
Well Sam	pling Date:					Tin	ne:	

Job Name: Emeryville

Well Number: MW 17

Job Number: 07-68-01

Date: 11/10/07

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 ろッ・リ	[] Bail Bailer Type: Disposasion					
Depth to water (DTW) in Feet Purge Volume Calculation	[] Pump					
$(30) - (10.7) \times 3 \times 17 = gallons$	Pump type: [] Submersible [] Centrifuge [] Other					
(TD)-(DTW)x V x F = Purge Volume	[]2					
Expla	nation					
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)	pН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)		
0902	19.87	.860	6.37	612	1063	1				
0403	2014	-860	4.21	6.50	65-D	2	1-34			
0403	2013	.867	2.70	6.56	446	3				
0906	20.09	1818	2.02	6.59	33.3	4				
4001	20 04	. 875	1-71	6-58	17-0	5				
0908	19.99	- 868	1.36	6.56	3.3	6				
	19.97	.863	1-28	6.56	1.4	7				
	19.96	862	126	6 55	,4	3				
	19.92	350	112/2/9	1215 653	60x.8	9				

Total gallons pumped:	
Observations during purging (well condition, turbidity, color	r, odor etc.)
Discharge water disposal: [] Sanitary sewer [] Storm drain	n [] Drum [] Other
Well Sampling Date:	Time:

Job Name: Emeryville	Well Number: W 1						
Job Number: 07-68-0	L,	Date:	11/10/0	07			
Sampled By: Lahiri, S.							
Purge	Volume			Developn	nent/Purg	e Metho	d(s)
Casing Diameter: 2 incl	h [√] 4 inch [] Other []	[] Swab	[] Surg	ge []Oth	er	
Total Depth (TD) of ca	[]Bail	Bailer	Гуре:	ispos	a61c		
Depth to water (DTW)		5.95'	[] Pump				
Purge Volum (16-8) - (5-95) x 3 (TD) - (DTW) x V		type: []	Submersibl Bladder		Centrifuge Other		
		Expla	nation				
For 2" diameter well: V=	=3, F= .17gallo	n/foot		V= well F= gallo	volume on of water	per foo	t of casing
1		Field Pa	rameters				
Time Temperature AM PM °C	Conductivity µS/cm	DO (mg/L)	рН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
2-77	. 894	1.53	6.49	-31.8	F	- :1	
27.75	-89 <u>8</u> -8 9 6	1.21	6.61	555 867	-2	1.51	*
22.00	,896	278	6.63	-107-6	-3 - 4		
22 -94	892	. 73	665	-103)	5		
Total gallons pumped: Observations during pur	ging (well cond	dition, turbidi	ty, color, o	dor etc.)			
Discharge water disposa Well Sampling Date:	l: [] Sanitary	sewer [] Sto	orm drain [] Drum [_	ime:	

Job Name: Emeryville				Well Number:						
Job Nun	nber: 07-68-0	1	Date	: 11/10	/07					
Sampled	l By: Lahiri, S	•								
	Purg	e Volume			Develop	nent/Purg	ge Metho	od(s)		
Casing	Diameter: 2 inc	h[] 4 inch [] Other []	[] Swal	o [] Sur	ge []Otl	ner			
Total D	[] Bail	Bailer	Type:	Dispo	sasie					
Depth	to water (DTW	[] Pum	n							
05 7	Purge Volu	լյրաով	þ	<i>y</i>						
(<u>L·</u>)-	$-(\underline{7.5}) \times \underline{5}$	$\mathbf{x} \cdot \mathbf{y} = 10$	gallons	Pump	type:	Submersib	le []	Centrifuge		
(TD)-(DTW)x V x F = Purge Volume				[]]	Bladder	[]	Other			
	(12) (21w)x v x 1 1 tage volume									
T 033 13			Expla	nation						
For 2" di	ameter well: V	=3, F= .17gallo	on/foot			volume				
					F= galle	on of water	r per foo	t of casing		
1112			F74 8 8 8							
Time	Temperature	Conductivity	1	rameters	ODB		1 = 1			
AM PM	°C	μS/cm	DO (mg/L)	pН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)		
	28 79	791	3.07	405	1830	I	0.00	(ID-DIW)		
	23.14	,326	1.40	4-44	109:0	2	0.00			
	22 94	-419	.86	6.51	6800	3				
	22,72	:460	165	4.51	5.0	3				
	22,25	.505	.50	6.51	41.6					
	27.02	.537	741	6.52	52.7	5				
	21-97	.541	.46	650	56.0	9				
	21.17	-582	.94	6.31	95.5	7				
	21.85	. 557	188	6.30	92.9	D				
Total gall	ons pumped:									
	ons during purg	ging (well cond	ition turbidit	u oolon -	1					
	one during para	sing (wen cond	inon, turbiant	y, color, o	dor etc.)					
D: 1										
Discharge	water disposal	: [] Sanitary s	sewer [] Stor	m drain [] Drum [Other				
	pling Date:					- m·				

Time:

Job Nam	e: Emeryville	•	v	Well Number:						
Job Num	ber: 07-68-0	1	Date	: 11/10/	07	,				
Sampled	By: Lahiri, S.	,								
	Purge	Volume			Developi	nent/Purg	e Metho	od(s)		
Casing I	Diameter: 2 inc	h [] 4 inch [] Other []	[] Swab	[] Sur	ge []Oth	ner			
Total D	epth (TD) of ca	[]Bail	Bailer	Туре:	15 009	asie				
	o water (DTW)		4.3	[] Pump						
	Purge Volu (4.3)x 3 (DTW)x V		ype: [1		le []	Centrifuge Other				
Explanation										
For 2" dia	ameter well: V	V= well volume F= gallon of water per foot of casing								
Field Parameters										
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	рН	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)		
	2201	929	1-81	663	64.4	1	1.02			
	22.84	.929	1.44	6.64	50.6	2				
	22.84	928	1.22	664	38.0	3				
	27.86	1976	1.07	6.64	36-0	4				
	27.86	-925	99	6.63	24.2	5				
	22.90	.920	.73	6 blj	-3.8	6				
_	ons pumped: ons during pur	ging (well cond	lition, turbidit	y, color, oo	lor etc.)					
	Turmdu	unter, Fa	lent tu	Oder						
Discharge	water disposa	l: [] Sanitary	sewer [] Sto	rm drain [] Drum [] Other				
	pling Date:						ime:			

Time:

APPENDIX B

CHAIN-OF-CUSTODY RECORDS AND LABORATORY REPORT

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 Service	Client Project ID: #07-68-01; GR Water	Date Sampled: 11/10/07
9778 Broadmoore Drive	Sampling	Date Received: 11/12/07
San Ramon, CA 94583	Client Contact: Samhita Lahiri	Date Reported: 11/16/07
Sui rumon, eri 94505	Client P.O.:	Date Completed: 11/16/07

WorkOrder: 0711297

November 16, 2007

Dear Samhita:

Enclosed are:

- 1). the results of 16 analyzed samples from your #07-68-01; GR Water Sampling project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill 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 please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

4

W. Te	McCAMPBELL ANALYTICAL, INC. 1534 WILLOW PASS ROAD PITTSBURG, CA 94565-1701 Website: www.mccampbell.com Telephone: (877) 252-9262 Email: main@mccampbell.com Telephone: (877) 252-9269 Eport To: Samble Labra Bill To: Same Company: Esset Tek lervice Fac.														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 Analysis Request Other Comments															S 5 DAY W)			
						_5	av	m	e			_		┝	_	_			- A	Ana	ysis	Rec	ques	t					\vdash	-	Othe	r	Comments
9770 A	Broadu	1000	Dr	(6	an	R	m	000	m	-	14	94	502	BE.		(F)					100												Filter
11/6/	0 0 0000		1	E-Ma	il: 🔄	847	27	TE	K 67	FR	me	CE3	0	MTBE		E/B					Buo							_					Samples for Metals
Tele: (50)20	6-0270		1	Fax:	(925	18	3:	3 -7	797	7	Ac	14-	Gin	115)		5520	0	2	8		2/2		0				6020	6020					analysis:
Project #: 07-	Project #: 07-68-01 Project Name: Gr. water Sampling.															664	418.1	100/	/ 802	2	roclo		cides			NAs)	010	/010					Yes / No
Project Location:	Project Location: Energyille															0 80	smo	18	602	licide	Y; A	(sag	Jerbi	8	3	ls/P	8/6	8/6	6020)				
Sampler Signatur	ampler Signature: S. dahn															Grea	carb	802	(EPA	Pest	ONE	sticio	0	(VO	(SVC	PAB	/ 200	200.	10 / 6				
	SAMPLING MATRIX METHOD PRESERVED														(5)	m Oil & Grease (1664 / 5520 E/B&F)	ydro	010	ALY.	11 (C	B's	(P Pe	cidic	3260	8270	310	00.7	00.77	09/8				
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	T	T		TPH as	TPH as Diesel (8015)	Total Petroleum O		EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors /	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 /				
MW-101	MW-1	11/10	900	1	Ans	Х			\top	Ť	1	<		Г	X		Т	Т														Т	
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1 02	Mw-3	-	10 13	2	#W5	Н		-	+	+	+	+	+	X	7	-	-	+		-	-	-		-	-	-	-	-	-		+	+	
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7778 101	Company: ESSEL TECHNOLOGY SERVICES INC. 9778 Broadwor Dry Som Remens Ct E-Mail: Essel TEKSUMUS CAOL														MTB		E/B&					age									1			Samp	
Tele: (5/(2) 2	Tele: (510) 206.0270 Fax: (94) 833-7977 "CM														8015) / MTBE		820			_		0/2						020)	(50)		1			for M	letals
Project #: Project Name:														801		54/8	(8.1)	0Cs)	8021		clor		(sap			A8)	9/0	99/0					analy		
Project Location	Frence	will	0	Toje	20 1 100	me.								1	121		(16	18 (4)	(HV	02/	ides	Are	9	rbici	_	8	/ PN	/ 601	109	(0)				Yes /	No
Sampler Signatu	Project Location: Energy ville Sampler Signature: S. Lale														2 / 80		rease	rboe	921	PA 6	estic	ILY.	cide	3 He	000	VOC	AHS	8.00	8.00	/ 602	1				
				T	90	T	M	TI	OIV				HOD		s (60)		& G	Irocs	8/01	Y Œ	CL F	, O s	Pest	die	V) 00	S) 0.	0 (P.	7/2	7/2	0109					
	SAMPLING E MATRIA PRESERV											RVE	D	s Ga	9015)	0.0	Hyd	/ 80	ONL	1800	PCB	S.	(Aci	/ 82(182	/831	(200	(200.	187						
SAMPLE ID	LOCATION/ Field Point			Containers	ntai									1	ЬHз	TPH as Diesel (8015)	Fotal 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 (CI 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)					
	Name	Date	Time	nta	ပိ	I a	5		Sludge	LI O		3	c c	1	BTEX & TPH	s Die	Petro	Petro	02.2	7 BJ	9/50	180	1/0	15/	24.2	25.2	270	17 M	5 Mi	200.7					
				ರ	ype	Water	Soil	Air	lud	Other	CE	HCL	HNO3	Other	TEX	ь Н п	(leto	otal 1	PA 5	TBE	PAS	PA 6	PA S	PA 5	PA 5	PAS	PA 8	W.	H	ad C					
			_	*	_	-	-	4	0/2	~	-	-	-	4	В	H	I	1	H	×	E	B	X	E	M	E	×	Ü	13	7					
MW-4-01	MW-4	11/10	11.00	1	Ani	-	_					X	1	4		X																			
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						П								T																					
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Emery ville

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McCAMPBELL ANALYTICAL, INC.													CHAIN OF CUSTODY RECORD																				
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We We	bsite: www.me		RG, CA 94 Leom Em			mec	amp	bell	.com	1				L						_	_			RUS			HR		48 F	-		2 HR	
Tel	lephone: (877) 252-92	62		Fax	(92	5) 2	52-	926	9				10	Geo	Tra	ck	er l	eD)	_	_	PI)F	ш	120	ccel	L L	1	Vri	ite	On ((DV	W) 🗆
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Report To: S a	mhite	Ja h	ign B	ill Te	D: S	an	ne	-	_					⊢	_	_		_	- 1	Ana	ysi	s Re	que	st						_	Other		Comments
Company: 588	EL TECH!	VOLOG	A 8E	RY	100	5	10	10	_	_	- 4	,		- N		3					100												Filter
977	8 Brown	denor				000	Co	W	1 Day	j	$C\eta$		_	8015) / MTBE		E/B&					lage												Samples
E-Mail: Tele: (5/0) 2060270 Fax: (910) 833-7977														6		520			_		10						020)	120)					for Metals
													8		14/3	8.1)	S	9021		clor		des			S.	9/0	9/0					analysis: Yes / No	
Project #: 0 /	Project #: 67-68 01 Project Name: G-s- walls months															95	2	M	02/	ides	Are	9	rbici	_	3	NA/	/ 601	109/	602				res/No
	Project Location: Emery ville Sampler Signature: S. Call															8	100	120	PA 6	estic	LY.	cide	HE	00	NO.	AHs	8.00	8.00	/ 60				
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	SAMPLING E MATRIX PRESERV											ő	015)	8	Hyd	108/	ONL	180	2	8	EPA 515 / 8151 (Acidic Cl Herbicides)	185	182	8270 SIM / 8310 (PAHs / PNAs)	8	(200	0.8						
SAMPLE ID	LOCATION/			Containers	l ä	П								TPHa	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 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	1518	\$24.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	SIM	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)				
SAMPLEID	Field Point Name	Data	Time	ig i	S	<u>.</u>			e .			1			De	etro	etro	2.2	/BT	99/6	8/8	12	18	17	5.2	270	7 M	5 Me	200.7				
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Emery rille

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Sam &	2 over ou	, CA9	4383 E	-Mai	il:		9		70	700	7			18		20 E					00/						20)	(02					for Meta	
Tele: (510) 200 Project #: 076	6-02-70		F	ax:	(94) 8	33	3 -	19	7	7_	-	,	8015		1 88	8	3	021)		lor.		683			9	7 60	/ 603					analysis:	
Project #: 076	8-01	111	F	roje	ct Nai	ne:	60	-60	oai	1.	mo	m	ton	1 1		1664	(418	NO	2 / 80	3	Aroc		bicid		_	PNA	0109	0105					Yes / No	
Project Location:	emoup	nlle									_			802		asse	5000	11 (B)	A 60	tick	, K.	(sap	Her	3	000	Is/1	18.	.8/	6020					
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		SAMI	PLING		ers		MA	TR	IX		ME			Gas (602	15)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (FPA 602 / 8021)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Conge	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)					
CAMPLE ID	LOCATION/			Containers	Type Containers	Г	П	Т		Т	Т	Т	Т	BTEX & TPH as	TPH as Diesel (8015)	-	-	/ 105	0 X	8 / 80	82 P	410	151	24/	125/	M/	als C	als (2	200					
SAMPLE ID	Field Point	_		tai	18	١.			9			١.		E	Diese	trole	trole	27	BTE	7 608	1/80	/ 81	1 8	12/2	12/6	70 SI	Met	Met	0.7/					
	Name	Date	Time	l on	l š	Water	=		gpi	i le	HCL	HNO	Other	XX.	l as	al Pe	al Pe	1 502	BE/	1 508	1 608	1 507	1 516	6	123	82	M 17	TS	0C) P					
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Report To: San	white v	ahiar	i I	SILT.	0: ≤	a	m	0	_	-	_	_	-	+	_	_	_		A	Anal					ımp	ie is	em	uen	tan		ther	_	Comment	-
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Tele: (5/0)20					(925									15.		820	323	_	0		3/6						9020	020)					for Metal	S
Project #: 076														8		64/	18.1	OC.	802		oclor		ides)			(As)	10/6	9/0				_	analysis: Yes / No	
Project Location:	Somin	Lay A	CTBU	109	am	ee	-					g2-	cing	120		90,	18 (4	(HIV	205	ides	A.	3	rbic	-	8	/PN	/ 60	/ 601	50)			- 1	I es / No	
Sampler Signatur						_								2/8		reas	urbo	0021	PA	estio	MLY	icide	J He	8	VOC	AHS	8,000	8.00	/ 60			- 1		
			PLING		T-	Г	MA	TR	IX	Τ.		THO		18		fotal 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)	505/ 608 / 8081 (CI 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)	\$25.2 / 625 / 82.70 (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)					
	* OCUMEON!			r	ine	\vdash				ť	RE	SER	VED	as G	8015	lo u	n Hy	1/80	NO.	8081	2	S	(Ac	1/82	28/82	/ 83	62	(200	8.00					
SAMPLE ID	LOCATION/ Field Point			Containers	Type Containers	ı								H	TPH as Diesel (8015)	oleur	olen	09/	TEX	/808	8082	814	100	/62	/ 625	SIM	fetal	etals	7/2(- 1		
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				ů,	Š	Water	Soil	Air	lud :	Other	CE	HNO.	Other	BTEX &	H.	otal	otal	PA 5	E	EPA 5	PA	PA &	PA	PA 8	EPA 8	PA.	AM	UFT	pead (
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W.	ebsite: www.m	COTTABLE	com Er		maina								- 1			_					/	-		RU	SH	24	HR		48 I	IR	72	HR	5 DAY
Te	lephone: (87	7) 252-92	262		Fax	: (92	25) 2	52-9	9269)			- 1	G	eo	Fra	cke	er i	EDI	1116	4	PL)F	u	100	xce.	I L	1 ,	Wr	ite (On (DV	V) 🗀
Report To: Sa	a. l. to	diche	02- 1	Bill T	0. (an	40	-	_	_	_	-	\dashv	_	_	-	-	_	A	nal	veic	Re			amp	le is	eff	luen	t ar	_	J" fla Other		required
Company: Esca	el Techno	lasa	Sons	cu	TNO	a a	ve						1	_					H	mai			que	S.L						-	nner	+	Comments
Company: Esse	woode	in 3	Dr.	-										BE		(A.F.)					ellers											- 1	Filter
]	Е-Ма	il: < (9 L ct Na	sel	Te	KLE	vis	40	Ac	12	66	8015) / MTBE		ESB					800												Samples
Tele: (50°) 20 Project #: 67-6	6-0270)	1	Fax:	(9 L	1)8	33	-7	97	7				(510		552	-	-	0		18/						6020	9020					for Metals
Project #: 67-68	9-01		1	Proje	ct Na	me:	60	- 80	304	to	no	ch	4	35 /+		994	118.1	00/	/ 802	8	roclo		cides			VAs)	/010	10/01					analysis: Yes / No
Project Location:	Enery 2	11e/-	Janin 1	ny										8021		Se (3	oms (8	602	icide	Y; A	8	erbi	8	8	s/P	9/8	1,60	120)				2037110
Sampler Signatur	re: <	1	-	-				-						02 / 3		Grea	arbe	8021	EPA	Pest	NI	ticld	CIB	VOC	SVO	PAH	2007	200.8	9/0			- 1	
		SAM	PLING		828		MA	TRI	X		MET.		D ED	BTEX & TPH as Gas (602	9	Total Petroleum Oil & Greaxe (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 / Congenera	EPA S07 / 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)				
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SAMPLE ID	Field Point	200		tair I	ont	١.			0				- 1	TPE	Niese	rolei	roles	2/6	BILE	809	/800	/ 81	/ 81	2/6	2/6	O SI	Metu	Meta	0.77			- 1	
	Name	Date	Time	000	De la	Water	=		Other	ICE	HCL	HNO3	Other	X&	asi	l Pet	I Pet	502	BE/	505	809	507	515	524	525	82.7	117	T 5.7	100				
				#	E	3	Soil	Ain	O	2	H	H	Ö	BTE	E	Tota	Tota	EPA	MT	EPA	EPA	EPA	EPA	EPA	EPA	EPA	CAN	TO	Lead				
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McCampbell Analytical, Inc.



1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 0711297 ClientID: ETSR ✓ EDF Excel Fax ✓ Email HardCopy ThirdParty Report to: Bill to: Requested TAT: 5 davs Samhita Lahiri Email: esseltekservices@aol.com Sher Guha Essel Technology Service TFI: (925) 833-7991 FAX: (925) 833-7977 Essel Technology Service Date Received: 11/12/2007 9778 Broadmoore Drive ProjectNo: #07-68-01; GR Water Sampling 9778 Broadmoore Drive San Ramon, CA 94583 PO: San Ramon, CA 94523 Date Printed: 11/12/2007 Requested Tests (See legend below) Sample ID ClientSampID Matrix Collection Date Hold 2 3 10 11 12 0711297-001 MW-1-01 Water 11/10/07 9:00:00 В 0711297-002 MW-2-01 11/10/07 9:30:00 Α В Water 0711297-003 MW-3-01 Water 11/10/07 10:15:00 Α В 0711297-004 MW-4-01 11/10/07 11:00:00 Α В Water 0711297-005 MW-5-01 Water 11/10/07 11:30:00 Α В В 0711297-006 MW-6-01 11/10/07 12:15:00 Α Water 0711297-007 MW-7-01 Water 11/10/07 1:00:00 Α В 0711297-008 MW-8-01 Water 11/10/07 1:45:00 Α В 0711297-009 MW-9-01 Water 11/10/07 2:30:00 Α В В 0711297-010 11/10/07 3:00:00 Α MW-10-01 Water 0711297-011 MW-11-01 11/10/07 3:30:00 В Water Α 11/10/07 4:10:00 В 0711297-012 MW-12-01 Water Α 11/10/07 4:30:00 В 0711297-013 W-1-01 Water Α 0711297-014 W-3-01 Water 11/10/07 5:00:00 Α В 0711297-015 W-4-01 11/10/07 5:40:00 Α В Water Test Legend: 1 G-MBTEX_W 2 PREDF REPORT 3 TPH(D)_W 5 6 7 9 10 8 12 11 Prepared by: Ana Venegas

Comments:

McCampbell Analytical, Inc.



1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

5 days

Requested TAT:

Date Received: 11/12/2007

Date Printed: 11/12/2007

WorkOrder: 0711297 ClientID: ETSR

✓ EDF	Excel	Fax	✓ Email	HardCopy	InirdParty	

Report to:

Samhita Lahiri Email: esseltekservices@aol.com Sh

Email: esseltekservices@aol.com Sher Guha
TEL: (925) 833-7991 FAX: (925) 833-7977 Essel Technology Service

Essel Technology Service TEL: (925) 833-7991 FAX: (925) 833-7977 Essel Technology Service 9778 Broadmoore Drive ProjectNo: #07-68-01; GR Water Sampling 9778 Broadmoore Drive

San Ramon, CA 94583 PO: San Ramon, CA 94523

							Regu	uested	Tests (See led	gend be	elow)			
Sample ID	ClientSampID	Matrix	Collection Date Hold	1	2	3	4	5	6	7	8	9	10	11	12
0711297-016	ТВ	Water	11/10/07 5:00:00	Α											

Test Legend:

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

Comments:

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

Sample Receipt Checklist

Client Name:	Essel Technology	Service			Date a	and Time Received:	11/12/07 6	:38:44 PM
Project Name:	#07-68-01; GR Wate	er Sampling			Check	klist completed and r	eviewed by:	Ana Venegas
WorkOrder N°:	0711297 N	Matrix <u>Water</u>			Carrie	er: <u>Derik Cartan (I</u>	MAI Courier)	
		<u>Chain</u>	of Cu	stody (C	OC) Informa	ation		
Chain of custody	present?		Yes	V	No 🗆			
Chain of custody	signed when relinquish	ed and received?	Yes	V	No 🗆			
Chain of custody	agrees with sample lab	els?	Yes	✓	No 🗌			
Sample IDs noted	by Client on COC?		Yes	V	No 🗆			
Date and Time of	collection noted by Clien	t on COC?	Yes	✓	No 🗆			
Sampler's name r	noted on COC?		Yes	✓	No 🗆			
		Sa	ample	Receipt	Information	<u>1</u>		
Custody seals int	tact on shipping containe	er/cooler?	Yes		No 🗆		NA 🔽	
Shipping containe	er/cooler in good condition	on?	Yes	V	No 🗆			
Samples in prope	er containers/bottles?		Yes	V	No 🗆			
Sample containe	rs intact?		Yes	✓	No 🗆			
Sufficient sample	volume for indicated tes	st?	Yes	✓	No 🗌			
		Sample Preser	vatio	n and Ho	old Time (HT) Information		
All samples recei	ved within holding time?		Yes	✓	No 🗌			
Container/Temp B	Blank temperature		Coole	er Temp:	3.6°C		NA \square	
Water - VOA vial	s have zero headspace	/ no bubbles?	Yes	✓	No 🗆	No VOA vials subm	itted \square	
Sample labels ch	necked for correct preser	vation?	Yes	✓	No 🗌			
TTLC Metal - pH	acceptable upon receipt	(pH<2)?	Yes		No 🗆		NA 🔽	
======		======		===	====	======	=====	======
Client contacted:		Date contact	ed:			Contacted	by:	
Comments:								

Essel Technology Service Client Project ID: #07-68-01; GR Water Sampling Date Sampled: 11/10/07

9778 Broadmoore Drive Date Received: 11/12/07

Client Contact: Samhita Lahiri Date Extracted: 11/13/07-11/15/07

Client P.O.: Date Analyzed 11/13/07-11/15/07

	Gasolin	e Range (C6-C12) Vola	tile Hydrocar	bons as Gaso	line with BTE	EX and MTBE	*		
Extracti	on method SW5030B		Analy	ytical methods SV	V8021B/8015Cm			Work Order	:: 0711	297
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1-01	W	ND	ND	ND	ND	ND	ND	1	90
002A	MW-2-01	W	ND	ND	ND	ND	ND	ND	1	93
003A	MW-3-01	W	ND	ND	ND	ND	ND	ND	1	91
004A	MW-4-01	W	ND	ND	ND	ND	ND	ND	1	91
005A	MW-5-01	W	170,b,m	ND<10	ND	ND	0.59	1.3	1	101
006A	MW-6-01	W	2100,g,m	ND<17	30	ND<1.7	3.9	4.0	3.3	95
007A	MW-7-01	W	220,m	ND	ND	ND	ND	1.0	1	113
008A	MW-8-01	W	240,g	ND	ND	ND	ND	ND	1	111
009A	MW-9-01	W	ND	ND	ND	ND	ND	ND	1	102
010A	MW-10-01	W	420,g,m	ND	ND	ND	ND	ND	1	104
011A	MW-11-01	W	ND	ND	ND	ND	ND	ND	1	104
012A	MW-12-01	W	360,m	ND<10	ND	ND	ND	ND	1	115
013A	W-1-01	W	6100,a,m,h	ND<25	32	ND<2.5	9.4	14	5	106
014A	W-3-01	W	ND	ND	ND	ND	ND	ND	1	101
015A	W-4-01	W	ND	ND	ND	ND	ND	ND	1	105
016A	ТВ	W	ND	ND	ND	ND	ND	ND	1	108
Rer	oorting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5	1	па/І
ND	means not detected at or	S	NA	NA	0.5 NA	NA	0.5 NA	NA	1	μg/L mg/Kg
ab	ove the reporting limit	~	11/1	11/1	1,111	1 12 1	11/1	1111	1	

^{*} 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.

⁺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.



[#] cluttered chromatogram; sample peak coelutes with surrogate peak.

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 Service	Client Project ID: #07-68-01; GR Water	Date Sampled: 11/10/07	
9778 Broadmoore Drive	Sampling	Date Received: 11/12/07	
San Ramon, CA 94583	Client Contact: Samhita Lahiri	Date Extracted: 11/12/07	
5.1.7.1.1.1.5.1, 6.1.9 , 16.66	Client P.O.:	Date Analyzed 11/13/07-11/16/07	

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method SW35	510C	Analytical	methods SW8015C	Work Order: 07	11297
Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0711297-001B	MW-1-01	W	59,b	1	94
0711297-002B	MW-2-01	W	62,b	1	77
0711297-003B	MW-3-01	W	730,g	1	103
0711297-004B	MW-4-01	W	ND	1	102
0711297-005B	MW-5-01	W	110,d,b	1	100
0711297-006B	MW-6-01	W	9300,n,a,g	5	93
0711297-007B	MW-7-01	W	150,d	1	107
0711297-008B	MW-8-01	W	160,n,b	1	107
0711297-009B	MW-9-01	W	930,g,b	1	106
0711297-010B	MW-10-01	W	1200,a,g	1	72
0711297-011B	MW-11-01	W	55,b	1	91
0711297-012B	MW-12-01	W	94,d	1	74
0711297-013B	W-1-01	W	1200,d,b,g,h	1	79
0711297-014B	W-3-01	W	ND	1	83
0711297-015B	W-4-01	W	83,b	1	100

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

^{*} water samples are reported in μ g/L, wipe samples in μ g/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.

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0711297

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 31849 Spiked Sample ID: 071128							0711288-00	4A				
Analyte	Sample Spiked MS			MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	1
	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex ^f)	ND	60	112	109	1.96	114	108	5.70	70 - 130	30	70 - 130	30
MTBE	ND	10	88.5	96.2	8.38	94	86.5	8.35	70 - 130	30	70 - 130	30
Benzene	ND	10	91.8	99.1	7.58	96.2	95.6	0.623	70 - 130	30	70 - 130	30
Toluene	ND	10	104	112	7.91	108	107	0.587	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	101	109	7.15	104	105	0.734	70 - 130	30	70 - 130	30
Xylenes	ND	30	113	120	5.71	117	117	0	70 - 130	30	70 - 130	30
%SS:	97	10	85	89	5.16	88	88	0	70 - 130	30	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 31849 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0711297-001A	11/10/07 9:00 AM	11/13/07	11/13/07 6:38 PM	0711297-002A	11/10/07 9:30 AM	11/13/07	11/13/07 7:12 PM
0711297-003A	11/10/07 10:15 AM	11/13/07	11/13/07 7:46 PM	0711297-004A	11/10/07 11:00 AM	11/13/07	11/13/07 8:20 PM
0711297-005A	11/10/07 11:30 AM	11/13/07	11/13/07 8:54 PM	0711297-006A	11/10/07 12:15 PM	11/15/07	11/15/07 1:03 AM
0711297-007A	11/10/07 1:00 PM	11/14/07	11/14/07 10:30 PM	0711297-008A	11/10/07 1:45 PM	I 11/13/07	11/13/07 7:05 PM
0711297-009A	11/10/07 2:30 PM	11/13/07	11/13/07 7:35 PM	0711297-010A	11/10/07 3:00 PM	I 11/14/07	11/14/07 11:32 PM
0711297-011A	11/10/07 3:30 PM	11/14/07	11/14/07 1:12 AM	0711297-012A	11/10/07 4:10 PM	I 11/15/07	11/15/07 12:33 AM
0711297-013A	11/10/07 4:30 PM	11/15/07	11/15/07 1:34 AM	0711297-014A	11/10/07 5:00 PM	I 11/14/07	11/14/07 3:14 AM

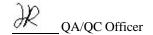
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0711297

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 31854 Spiked Sample ID: 07112							0711297-01	6A				
Analyte	Sample	Sample Spiked MS			MS-MSD	LCS	LCSD	LCS-LCSD	LCS-LCSD Acceptance Criteria (%)			
Analyte	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)	ND	60	79	80	1.27	78.4	89.1	12.8	70 - 130	30	70 - 130	30
MTBE	ND	10	105	104	1.49	100	96.9	3.36	70 - 130	30	70 - 130	30
Benzene	ND	10	102	101	0.605	103	96.5	6.92	70 - 130	30	70 - 130	30
Toluene	ND	10	100	101	0.311	103	96	6.63	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	102	102	0	105	97.5	7.37	70 - 130	30	70 - 130	30
Xylenes	ND	30	96.3	95.7	0.694	100	91.3	9.06	70 - 130	30	70 - 130	30
%SS:	108	10	103	105	1.48	106	107	1.42	70 - 130	30	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 31854 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0711297-015A	11/10/07 5:40 PM	f 11/13/07	11/13/07 11:09 PM	0711297-016A	11/10/07 5:00 PM	11/13/07	11/13/07 11:40 PM

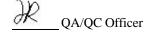
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0711297

EPA Method SW8015C Extraction SW3510C						BatchID: 31783 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(d)	N/A	1000	N/A	N/A	N/A	124	128	2.67	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	87	106	19.9	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 31783 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0711297-007B	11/10/07 1:00 PM	11/12/07	11/14/07 7:32 AM	0711297-008B	11/10/07 1:45 PM	11/12/07	11/14/07 11:33 PM
0711297-009B	11/10/07 2:30 PM	11/12/07	11/15/07 12:43 AM	0711297-010B	11/10/07 3:00 PM	11/12/07	11/13/07 8:47 PM
0711297-011B	11/10/07 3:30 PM	11/12/07	11/13/07 9:53 PM	0711297-012B	11/10/07 4:10 PM	11/12/07	11/13/07 11:00 PM
0711297-013B	11/10/07 4:30 PM	11/12/07	11/14/07 12:07 AM	0711297-014B	11/10/07 5:00 PM	11/12/07	11/14/07 1:14 AM
0711297-015B	11/10/07 5:40 PM	11/12/07	11/13/07 11:00 PM				

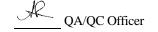
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0711297

EPA Method SW8015C Extraction SW3510C					BatchID: 31794 Spiked Sample ID: N/A							
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
Tillalyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	N/A	1000	N/A	N/A	N/A	98.6	113	13.9	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	83	100	18.0	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 31794 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0711297-001B	11/10/07 9:00 AM	11/12/07	11/14/07 4:11 PM	0711297-002B	11/10/07 9:30 AM	11/12/07	11/14/07 7:54 AM
0711297-003B	11/10/07 10:15 AM	11/12/07	11/14/07 3:27 AM	0711297-004B	11/10/07 11:00 AM	11/12/07	11/14/07 4:34 AM
0711297-005B	11/10/07 11:30 AM	11/12/07	11/14/07 5:41 AM	0711297-006B	11/10/07 12:15 PM	11/12/07	11/16/07 12:16 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 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.

