RO 402

Alameda-Contra Costa Transit District

March 28, 2006

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

Dear Mr. Amir:

Subject: Quarterly Groundwater Monitoring Report – November 2005 Sampling
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. This report was prepared by our consultant, Essel Technology Services, Inc, and contain the results of the November 2005 sampling event.

The quarterly groundwater monitoring involved collecting groundwater samples from 15 on-site monitoring wells and measuring depth to water in all monitoring wells. These samples were analyzed for total petroleum hydrocarbons (TPH) using modified EPA Method 8015 and benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert-butyl ether (MTBE) using EPA Method 8021B. TPH as diesel-range hydrocarbons were detected in 13 of the 15 wells sampled with the highest concentrations detected in wells W-1 at 2400 ppb and MW-6 at 2000 ppb. TPH as gasoline-range hydrocarbons was detected in six of the 15 wells sampled with the highest concentration in wells W-1 at 6200 ppb and MW-6 at 750 ppb. MTBE, ethylbenzene, toluene, and xylenes were detected in wells W-1 and MW-6 at concentrations ranging from 1.9 to 20 ppb.

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

Sincerely,

Suzanne Chaewsky

Suzanne Chaewsky, P.E.
Environmental Engineer
enclosure

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

GROUND-WATER MONITORING
IN
NOVEMBER 2005
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.

January 2006

Essel Technology Services, Inc.

1305 Franklin Street # 200, Oakland, California 94612 • Tel: 925/833-7991, 510/206-0270 • Fax: 925/833-7977
EsselTekServices@aol.com

March 5, 2006

Ms. Suzanne Chaewsky
AC Transit District
10626 International Blvd
Oakland, CA 94603

Re: **FINAL REPORT**
Quarterly Groundwater Monitoring Report – November 2005 Sampling
AC Transit 1177 47th Street, Emeryville, California

Dear Ms. Chaewsky:

ETS is pleased to submit this final report for quarterly groundwater monitoring sampling event for the above site.

ETS carried out groundwater sampling on November 2 and November 3, 2005 of sixteen monitoring wells (MW 1 through MW 13 and W 1 through W 4) in accordance with the Contract requirement.

If you have any questions feel free to give us a call.

Sincerely,

Samhita Lahiri
Principal

Attachment: 1 additional copy

GROUND-WATER MONITORING
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ALAMEDA CONTRA COSTA
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GROUND-WATER MONITORING
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NOVEMBER 2005
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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 2005.

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 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). One group of USTs, referred to as Tank Farm No. 1, is located near the northeastern corner of the property and just south of fuel dispenser islands. A second group of USTs, referred to as Tank Farm No. 2 was 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 also 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 UST that provides fuel for the emergency generator. Three of the 16 wells are located in the southeastern quadrant of the property. Well M-3 is at the eastern edge of the property at a location that is upgradient of Tank Farm No. 1, well W-1 is located approximately 220 feet south of Tank Farm No. 1, and MW-11 is near the southwestern corner of Tank Farm No. 2. Three additional wells, that are not part of the ground-water-monitoring program, are located adjacent to Tank Farm No. 1. These wells are referred to as E-1,

E-2, and E-5. Plate 2 is a Site Plan that shows the relative locations of the AC Transit facilities, the 16 ground-water-monitoring wells, and the three additional wells.

2.0 FIELD AND LABORATORY WORK

2.1 Field Procedures

Essel Tech personnel visited the site on November 2 and 3, 2005 to measure the water level in wells MW-1 through MW-13 and W-1, W-3, and W-4, to measure the thickness of free petroleum product in the wells, and to purge the wells for ground-water sampling. The depth to free-phase product and to 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. Well MW-13 was not purged for sampling because of the presence of free-phase product. 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-development and sampling forms, which are included in Appendix A.

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

Essel Tech personnel collected water samples from the 15 wells on November 3, 2005. A clean, disposable polyethylene bailer was lowered 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; to clean, 1-liter brown glass liter bottles containing sulfuric acid as a preservative; and to clean, 1-liter plastic bottles. 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 Pacheco, 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 8015, for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) using EPA Method 8260, and for nitrate (as nitrogen) and sulfate using EPA Method 300.1.

3.0 RESULTS OF MONITORING AND SAMPLING

3.1 Ground-Water Monitoring

The measured depths to the static ground-water surface in wells MW-1 through MW-13 and W-1, W-3, and W-4 ranged from 4.21 to 10.76 feet below the tops of the well casings on November 2, 2005. A measurable amount (0.063-foot) of free-phase petroleum product was found in well MW-2. Essel Tech used wellhead elevation data and depth-to-water measurements made on November 2, 2005 to calculate the elevation of the ground-water surface in the wells. The elevation of the ground-water surface ranged from 29.22 feet to 13.67 feet above mean sea level. Based on the range of elevations, ground water is estimated to flow toward the west-southwest at a gradient of 0.022 (2.2 feet vertical distance per 100 feet horizontal distance). Table 1 presents data 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 2, 2005.

3.2 Laboratory Analyses

Results of laboratory analyses show gasoline-range hydrocarbons (i.e., TPHg) were detected in six of the 15 wells sampled. The highest concentrations were detected in water samples from wells W-1 (6,200 parts per billion [ppb]) and MW-6 (750 ppb). These wells are located approximately 220 feet south and 140 feet southwest, respectively, of Tank Farm No. 1. Gasoline-range hydrocarbons were also detected in water samples from wells MW-7 (310 ppb), MW-8 (150 ppb), MW-10 (300 ppb) and MW-12 (440 ppb). These wells are from 120 to 400 feet west of well MW-6. No TPHg was detected in samples from wells MW-1 through MW-5, located in the vicinity of Tank Farm No. 1 and the fuel dispenser islands. Total petroleum hydrocarbons as gasoline also were not detected in samples from well MW-9, located in the north-central portion of the site; well MW-11 at Tank Farm No. 2; upgradient well W-3, located at the eastern edge of the site; or W-4, located approximately 100 feet southwest of Tank Farm No. 1.

Diesel-range hydrocarbons (i.e., TPHd) were detected in 13 of the 15 wells sampled. As with TPHg, the highest concentrations were detected in wells W-1 (2,400 ppb) and MW-6 (2,000 ppb). A concentration of 1,500 ppb TPHd was found in the water sample from well MW-5, located approximately 50 feet west of Tank Farm No. 1. In other wells, concentrations of TPHd ranged from 66 ppb (well W-4) to 600 ppb (well MW-10). No TPHd was detected in samples from well MW-4, located just south of Tank Farm No. 1 or upgradient well W-3.

The aromatic hydrocarbons benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in wells W-1 and MW-6, which contained the highest concentrations of TPHg and TPHd. The detected concentrations of BTEX, however, are relatively low and range from 1.9 to 20 ppb. No BTEX was detected in samples from the 13 other wells. The fuel oxygenate, methyl tertiary butyl ether (MTBE), was detected in 14 of the 15 wells sampled, but at trace to low concentrations of 0.69-ppb (well MW-8) to 6.6 ppb (well MW-12). No MTBE was detected in the water sample from well MW-11, located adjacent to Tank Farm No. 2. Table 2 presents the results of analyses of water samples from the 15 wells and Appendix B contains copies of the laboratory reports of analyses.

4.0 RECOMMENDATIONS

Essel Tech recommends that ground-water monitoring and sampling continue on a quarterly basis. The next sampling event should be scheduled for February 2006 and would include measuring depth to water and product thickness in the 16 ground-water-monitoring wells and purging and sampling wells MW-11, MW-12, and MW-13 for laboratory analysis.

Essel Tech recommends that water samples be analyzed for the same compounds for which analyses were performed during the November 2005 sampling event. Essel Tech, however, recommends that EPA Method 8020 (gas chromatography) be used for the analysis for BTEX and MTBE instead of EPA Method 8260 (gas chromatography followed by confirmation with mass spectrometry). Analysis of the November 2005 samples using EPA Method 8260 has confirmed the presence or absence of MTBE in site wells. Using EPA Method 8020 in future analyses would be sufficient for the detection of MTBE.

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

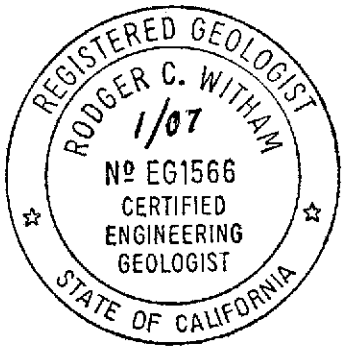


Table 1: Well Monitoring Data
Table 2: Results of Laboratory Analyses of Ground-Water Samples

Plate 1: Site Vicinity Map
Plate 2: Site Plan
Plate 3: Ground-Water-Surface Map

Appendix A: Well Development and Sampling Forms
Appendix B: Chain-of-Custody Forms and Laboratory Reports

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
MW-2	11/02/05	32.12	0.00	4.65	27.47	27.47
MW-3	11/02/05	34.06	0.00	6.21	27.85	27.85
MW-4	11/02/05	34.11	0.00	6.30	27.81	27.81
MW-5	11/02/05	31.70	0.00	4.55	27.15	27.15
MW-6	11/02/05	31.02	0.00	4.21	26.81	26.81
MW-7	11/02/05	29.62	0.00	5.50	24.12	24.12
MW-8	11/02/05	29.43	0.00	5.05	24.38	24.38
MW-9	11/02/05	29.18	0.00	4.26	24.92	24.92
MW-10	11/02/05	29.13	0.00	9.81	19.32	19.32
MW-11	11/02/05	29.93	0.00	4.30	25.63	25.63
MW-12	11/02/05	28.68	0.00	10.76	17.92	17.92
MW-13	11/02/05	22.72	0.063	9.10	13.62	13.67
W-1	11/02/05	33.43	0.00	6.59	26.84	26.84
W-3	11/02/05	37.46	0.00	8.24	29.22	29.22
W-4	11/02/05	31.72	0.00	4.70	27.02	27.02

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.
#Multiply product thickness by specific gravity of 0.8 and subtract from top of casing elevation.

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

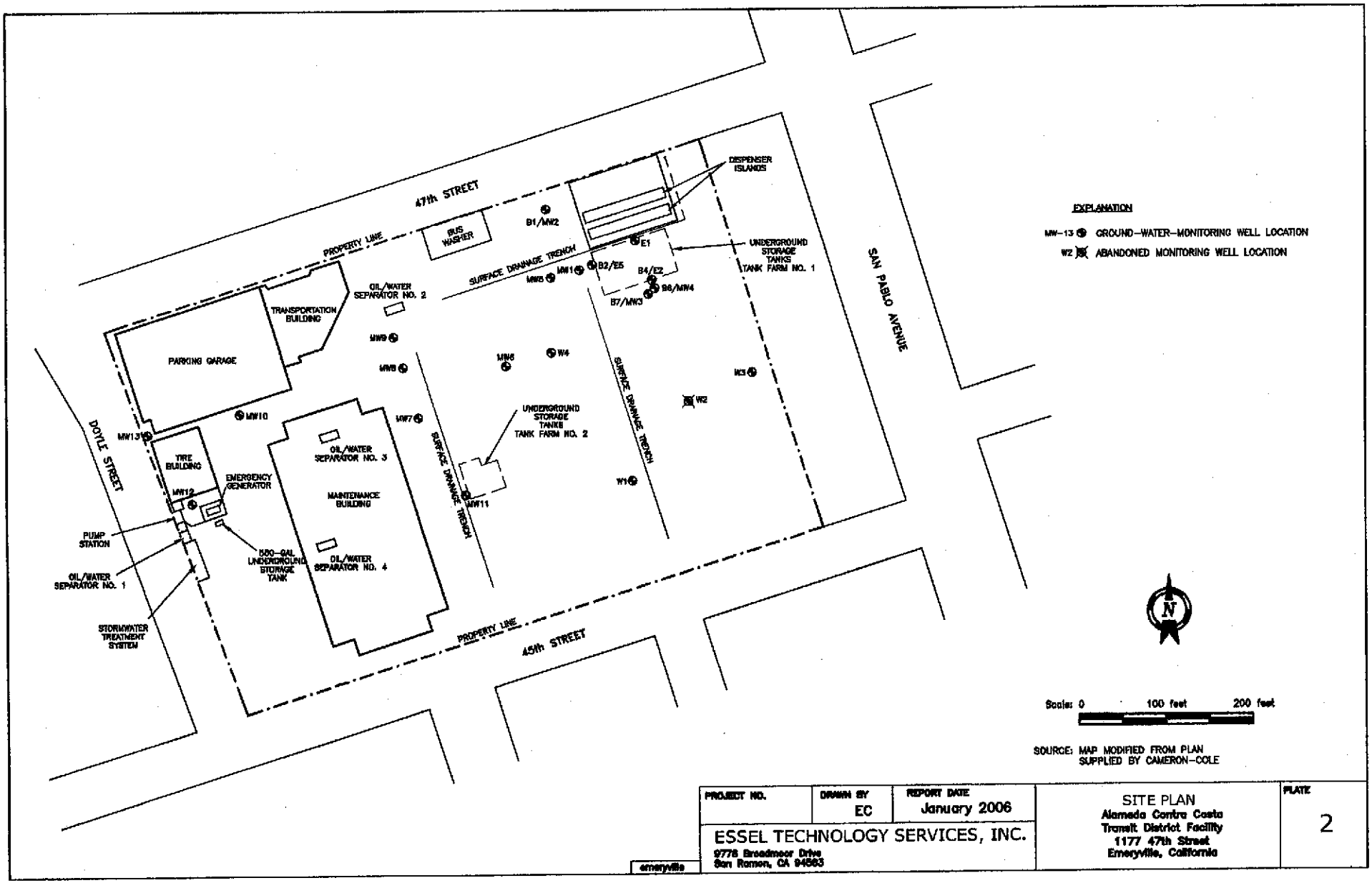
Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-1	11/03/05	<50	70	NA	<0.5	<0.5	<0.5	<0.5	4.5	<100	56,000	2,330	0
MW-2	11/03/05	<50	110	NA	<0.5	<0.5	<0.5	<0.5	4.9	430	53,000	2,090	130
MW-3	11/03/05	<50	180	NA	<0.5	<0.5	<0.5	<0.5	3.2	3,500	67,000	1,850	0
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
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
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
MW-7	11/03/05	310	140	NA	<0.5	<0.5	<0.5	<0.5	2.3	<100	3,100	3,190	30
MW-8	11/03/05	150	280	NA	<0.5	<0.5	<0.5	<0.5	0.69	<100	24,000	1,630	860
MW-9	11/03/05	<50	470	NA	<0.5	<0.5	<0.5	<0.5	4.8	110	28,000	1,720	450
MW-10	11/03/05	300	600	NA	<0.5	<0.5	<0.5	<0.5	4.1	<100	780	2,350	2,670
MW-11	11/03/05	<50	290	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<100	21,000	1,360	0
MW-12	11/03/05	440	120	NA	<0.5	<0.5	<0.5	<0.5	6.6	<100	3,700	1,700	740
MW-13	11/03/05	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
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
W-4	11/03/05	<50	66	NA	<0.5	<0.5	<0.5	<0.5	2.0	<100	32,000	1,620	970

Results 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
MCL = maximum contaminant level
NA = not analyzed
< = less than the laboratory method detection limit

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

PROJECT NO.	DRAWN BY	REPORT DATE	SITE VICINITY MAP	PLATE
	EC	January 2006	Alameda Contra Costa Transit District Facility 1177 47th Street Emeryville, California	1

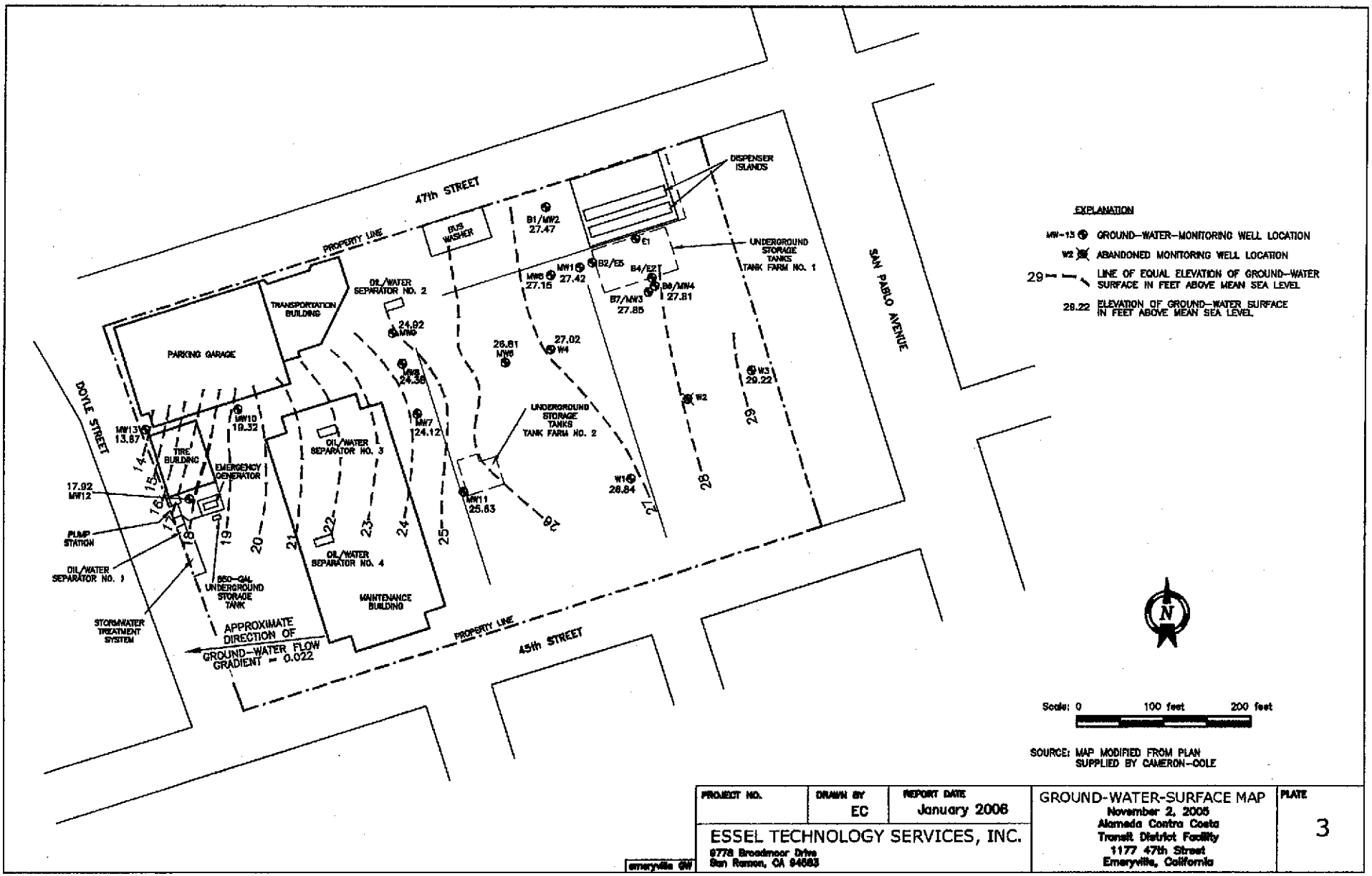
ESSEL TECHNOLOGY SERVICES, INC.
9778 Broadmoor Drive
San Ramon, CA 94583



PROJECT NO.	DRAWN BY	REPORT DATE	SITE PLAN	PLATE
	EC	January 2006	Alameda Contra Costa Transit District Facility 1177 47th Street Emeryville, California	2

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

emeryville



PROJECT NO.	DRAWN BY	REPORT DATE	GROUND-WATER-SURFACE MAP	PLATE
	EC	January 2006	November 2, 2005 Alameda Contra Costa Transit District Facility 1177 47th Street Emeryville, California	3

ESSEL TECHNOLOGY SERVICES, INC.
6778 Broadmoor Drive
San Ramon, CA 94583

emeryville GW

APPENDIX A

WELL DEVELOPMENT AND SAMPLING FORMS

Well Development and Sampling Form

Job Name AC TRANSIT WELL MONITORING/ EMERYVILLE SITE **Well Number** MW-1

Job Number 056912 **Date** Nov 2, 2005

Sample By Bill Storth

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [X] 4-inch [ ] Other ______	[ ] Swab [ ] Surge Other ______
Total depth (TD) of casing in feet 14-0 +	[ ] Bail Bailer Type: ______
Depth to water (DTW) in feet 5.14	[ ] Pump
Purge Volume Calculation	Pump Type: [X] Submersible [X] Centrifuge
(14 - 5.14) x 3 x .17 = 4.52 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot — V= well volume — 0.5 GPM.

For 4" diameter well: V = 3, F+ 0.66 gallon/foot — F= gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [ ] °C [ ] °F	ORP	Turbidity	DO	FE	Gallons pumped	Depth
Start									
						2.33	0		
12-37 S.	7.42	621	23.5	162				1	
12-39 F.									6.35
12.41	7.30	611	23.5	120				2	6.9
12:43	7.33	602	23.5	120				3	7.05
12.47	7.31	~~606~~	~~23.5~~	149				5 GAL PURGED TO DRC	7.35

Total Gallons Pumped ______

Observations during purging (well condition, turbidity, color, odor): EMULSION / TURBID

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other STEM BAY @ SITE

Well Sampling Date: Nov 2, 2005 **Time:** ______

Well Development and Sampling Form

Job Name AC TRANSIT NEED WATER MONITORING/EMERYVILLE SITE **Well Number** MW-2

Job Number 0569/2 **Date** Nov. 2, 2005

Sample By Bill Storte

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [X] 4-inch [ ] Other	[ ] Swab [ ] Surge Other
Total depth (TD) of casing in feet 14.6 +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 4.65	[ ] Pump
Purge Volume Calculation	Pump Type: [X] Submersible [X] Centrifuge
(14.6 - 4.56) x 3 x 0.17 = 5.12 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Flow Rate - 0.5 GPM

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	ORP	Turbidity	DO	Gallons pumped	
Start						2.09	973	DEPTH
1-24 235.	7.43	553	23	154			1	5.55
1-25								
1-27	7.4	553	23	151			2	5.6
1-29	7.39	553	23	152			3	5.7

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): Turbid, Lt. Brown

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other Stem Dump Site

Well Sampling Date: Nov 2, 2005 Time: _____

Well Development and Sampling Form

AC TRANSIT WELL WATER MONITORING

Job Name EMERYVILLE SITE Well Number MW-3

Job Number 0569/2 Date NOV. 2, 2005

Sample By DAN STORTZ

Purge Volume

Casing Diameter: 2-inch [X] 4-inch [ ] Other _____

Total depth (TD) of casing in feet 14'-6" +

Depth to water (DTW) in feet 6.21

Purge Volume Calculation

14'6" (6.21) x 3 x .17 = 4.25 gallons

TD - DTW x V x F = purge volume

Development/Purge Method(s)

[ ] Swab [ ] Surge Other _____

[ ] Bail Bailer Type: _____

[X] Pump

Pump Type: [X] Submersible [X] Centrifuge

[ ] Bladder [ ] Other

Explanation

For 2" diameter well: V = ~~5~~ 3, F = 0.17 gallon/foot

For 4" diameter well: V = ~~3~~ 4, F= 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

flow 0.5 gpm 6pm.

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	ORP	Turbidity	FE	Gallons pumped	
Start								Depth
12-13 S	6.86	659	24	32	1.85	0.10	1	7'9
12-20 F								
12-22 F	6.73	670	24	26			2	8.9
12-24	6.54	663	24	15			3	9'3
12-28							5 gal	10'-8"
							Pumped out	

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other STEAM BACK ON SITE

[X] Sampling Date: NOV 2, 2005 Time: _____

Well Development and Sampling Form

AC TRANSIT WELL WATER

Job Name MONITORING / EMERY VILLE SITE **Well Number** MW-4

Job Number 0569/2 **Date** NOV 2, 2005

Sample By DAN STORTE

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other	[ ] Swab [ ] Surge Other
Total depth (TD) of casing in feet 15'-0" +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 6.3'	[ ] Pump Pump Type: [ ] Submersible [ ] Centrifuge
Purge Volume Calculation 8.7) x 5 x 0.17 = 4.4 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = ~~5~~ 9, F = 0.17 gallon/foot

For 4" diameter well: V = ~~3~~ 5, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

1/2 Gal/Min.

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	ORP	Turbidity	DO	FC	Gallons pumped	
Start 12:02	7.47	649	24	162	1.86		106	1	depth 7.5
12:05	7.36	646	24	158					8'
								2	
12:07	7.32	647	24.1 C.	156				3	8.45
12:11			END.					5 Gal	9.2

Total Gallons Pumped

Observations during purging (well condition, turbidity, color, odor):

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [ ] Other STEAM BY @ SITE.

Well Sampling Date: NOV 2, 2005 **Time:**

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING / ENERGY VICE SITE **Well Number** MW-5

Job Number 0569/2 **Date** NOV 2, 05

Sample By DAN STORTZ

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [X] 4-inch [ ] Other	[ ] Swab [ ] Surge Other
Total depth (TD) of casing in feet 19.58 +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 4.55	[ ] Pump
Purge Volume Calculation	Pump Type: [ ] Submersible [X] Centrifuge
19.58 - 4.55) x 3 x .17 = 7.66 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot — V= well volume

For 4" diameter well: V = 3, F+ 0.66 gallon/foot — F= gallon of water per foot of casing

0.66 GPM

Field Parameters

Time a.m. [ ] p.m. [ ]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	Turbidity		Gallons pumped		
Start								DEPTH
1102 12:59=5	7.51	6412	23	153	1193	.15	2	6.2'
03 F								
1106	7.47	644	22	152			4	0.7 GPM 6.75
1109	7.45	644	23	152			6	6.89
1112							8 Gal	Purged

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other STREAM BACK @ SITE.

Well Sampling Date: NOV 2, '05 **Time:** _____

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING / EMERYVILLE SITE. **Well Number** MW-6

Job Number 056962. **Date** 11/2

Sample By BILL STORTZ.

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 +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 4.21	[ ] Pump
Purge Volume Calculation	Pump Type: [X] Submersible [X] Centrifuge
(19.7 - 4.21) x 3 x 0.17 = 7.9 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	Turbidity ORP	DO	FE	Gallons pumped	
Start					1.57	3.3		Depth
4.37 S	7.41	852	23.2	117			2	4.5
4-41 P								
4-45	7.56	870	23.5	97			4	4.6
4.49	7.6	879	23.6	93			6	4.73
							8 Purged	

Total Gallons Pumped

Observations during purging (well condition, turbidity, color, odor): FUEL ODOR. / DARK TURBID

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other STEAM BAY @ SITE.

Well Sampling Date: NOV. 2, '05 **Time:**

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING EMERYVILLE SITE **Well Number** MW-7

Job Number 0569/02 **Date** Nov 2, 05

Sample By Bill Scott

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other	[ ] Swab [ ] Surge Other
Total depth (TD) of casing in feet 24.58 +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 5.5	[ ] Pump
Purge Volume Calculation (24.58 - 5.5) x 3 x .17 = 10.75 gallons	Pump Type: [ ] Submersible [X] Centrifuge
TD - DTW x V x F = purge volume	[ ] Bladder [ ] Other

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Flow 0.5 GPM

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	Turbidity ORP	Turbidity DO	Gallons pumped FE	Gallons pumped	
Start					3.19	0.03		
2-25	7.25	718	22	145			2	10
2-25 F								
2-31	6.95	919	21	147			4	14.8
2-40	6.8	923	21.7	151			8	20.18
2-48							11 Gal	Purge.

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other Steam Bay @ Site

Well Sampling Date: Nov 2, 05 **Time:** _____

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING / EMERYVILLE SITE **Well Number** MW-8

Job Number 0569.2 **Date** Nov. 02, '05

Sample By Bill Stortz

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet 20.58 +	[ ] Bail Bailer Type: _____
Depth to water (DTW) in feet 5.05	[ ] Pump
Purge Volume Calculation (20.58 - 5.05) x 3 x 0.17 = 7.92 gallons	Pump Type: [X] Submersible [ ] Centrifuge
TD - DTW x V x F = purge volume	[ ] Bladder [ ] Other

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

1.56 h.

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [ ]°C [ ] °F	Turbidity ORP	DO	Gallons pumped		
Start					1.63	.86		DEPTH
1:57	7.33	938	23.	155			1	7.75
1:59							2	8.15
2:01	7.32	939	23.	152			2	2.35
2:07	7.26	942	23	150			5	9.65
2:14							8	Pump d.

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other Steam Bay (2) Site.

Well Sampling Date: Nov. 02, 05 **Time:** _____

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING / EMERYVILLE SITE. Well Number MW-9

Job Number 0569/2 Date Nov. 2, 05

Sample By Blue Stoltz

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other	[ ] Swab [ ] Surge Other
Total depth (TD) of casing in feet 20.50 +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 4.26	[ ] Pump Pump Type: [X] Submersible [X] Centrifuge
Purge Volume Calculation (20.50 - 4.26) x 3 x 0.17 = 8.28 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Ito 0.5 GPM.

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	Turbidity ORP	Turbidity DO	Turbidity FE	Gallons pumped	
Start								
1:42					1.72	45	1	
1:44	7.36	788	22.6	159				8.5
1:46	7.25	842	22.5	159			2	7.16
1:48	7.2	872	22.5	156			3	9.23
1:37							9 One Purge	

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other Steam Bay @ Site.

Well Sampling Date: Nov. 2, 05 Time: _____

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING / EMERYVILLE SITE **Well Number** MW-10

Job Number 05692 **Date** 11/2/05

Sample By BILL STORTZ NO COVER

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other	[ ] Swab [ ] Surge Other
Total depth (TD) of casing in feet 24.13 ~~24.69~~ +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 9.81	[ ] Pump Pump Type: [X] Submersible [X] Centrifuge
~~24.13~~ Purge Volume Calculation ~~14.1~~ - 9.81 x 3 x 0.17 = ~~17.42~~ 7.3 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot — V= well volume

For 4" diameter well: V = 3, F+ 0.66 gallon/foot — F= gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [ ]°C [ ] °F	ORP	Turbidity DO	Gallons pumped Fe.		
Start								Dark
3:33 S.	7.86	695	20.2	121	2.35	2.67	2	Wr 9'
3:37 F.								
3:41	7.83	689	20.3	117			4	11.1
3:45	7.21	686	20.3	116			6	11.3
3:49							8 GAL Purged	

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): NO COVER /

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other STREAM BED @ SITE.

Well Sampling Date: NOV. 2, 05 Time: _____

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING / EMERYVILLE SITE **Well Number** M/W - 11

Job Number 05691.2 **Date** 11/2/05

Sample By Bill Stortz

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other	[ ] Swab [ ] Surge Other
Total depth (TD) of casing in feet 17.4 +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 4.30	[ ] Pump
Purge Volume Calculation (17.4 - 4.30) x 3 x .17 = 6.68 gallons	Pump Type: [X] Submersible [X] Centrifuge
TD - DTW x V x F = purge volume	[ ] Bladder [ ] Other

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

0.5 GPM.

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	Turbidity ORP	Turbidity DO	Gallons pumped FE	Gallons pumped	Depth
Start					1.36	0		
3-12 S.	7.9	630	23.47	141			1	4.32
3-14 F.								
3-18	7.92	537	23.6	138			3	4.34
3-22	7.87	528	23.6	138			5	
3-26							7 Gal Purge.	

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): TURBID / LT CL.

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other STEAM CLN @ SITE.

Well Sampling Date: NOV 2, '05 Time: _____

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING / EMERYVILLE SITE **Well Number** MW-12

Job Number 0569/02 **Date** Nov. 2, 05

Sample By BILL STORTE

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other	[ ] Swab [ ] Surge Other
Total depth (TD) of casing in feet 29.9 +	[ ] Bail Bailer Type:
Depth to water (DTW) in feet 10.76	[ ] Pump Pump Type: [X] Submersible [X] Centrifuge
Purge Volume Calculation: (29.9 - 10.76) x 3 x .17 = 9.76 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	Turbidity CM	Turbidity DO	Gallons pumped Fe	Gallons pumped	DEPTH
Start								
4:02	7.45	771	20	121	1.70	.174	2	12.65
4-06		✓						
4-10	7.4	760	20.1	120			4	13.8
4-18	7.35	757	20.	122			8	14.2
4:22 STOPPED							10 Gal	Purge

Total Gallons Pumped

Observations during purging (well condition, turbidity, color, odor): DARK BROWN

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other STEAM BAY @ SITE.

Next Sampling Date: Nov. 2, 05 **Time:**

Well Development and Sampling Form

Job Name AL TRANSIT WELL WATER MONITORING / EMERYVILLE SITE **Well Number** MW-13

Job Number 0569/2 **Date** 11/3/05

Sample By BRE STORRE

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet _____ +	[ ] Bail Bailer Type: _____
Depth to water (DTW) in feet _____	[ ] Pump Pump Type: [X] Submersible [X] Centrifuge
Purge Volume Calculation (_____ - _____) x ____ x _____ = _____ gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [ ]	pH	Conductivity Microhos/centimeter	Temperature [ ] °C [ ] °F	Turbidity	Gallons pumped
Start					
					GALLONS PURGED
		EXCESSIVE	FREE PRODUCTS. NOT TESTED.		
	THICK	DARK BROWN LIQUID.		FOUL FREE ODOUR	

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] **Sanitary Sewer** [ ] **Storm Drain** [ ] **Drum** [X] **Other** ~~Drums~~ NOT PURGED

Well Sampling Date: NOV 2, '05 **Time:** _____

Well Development and Sampling Form

Job Name AC TRANSIT WELL WATER MONITORING / EMERYVILLE SITE **Well Number** W-1

Job Number 0569/02 **Date** NOV 2, '05

Sample By DAN STOETZ

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet 16.83 +	[ ] Bail Bailer Type: _____
Depth to water (DTW) in feet 6.59	[ ] Pump
Purge Volume Calculation (16.83 - 6.59) x 3 x 0.17 = 5.22 gallons	Pump Type: [ ] Submersible [ ] Centrifuge
TD - DTW x V x F = purge volume	[ ] Bladder [ ] Other

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [ ]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	Turbidity ORP	Turbidity DO	Gallons pumped FE.	Gallons pumped	
Start								
5:23	7.31	823	22.9	121	1.23	2.30	1	
5:25								6.99
5:29	7.3	825	23°	115°			3	7.1
5:39	7:33	824	23	111			5	7.3
							6 Gal	Pump

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [X] Other STREAM FLOW @ SITE.

Well Sampling Date: NOV 2, 2005 **Time:** _____

Well Development and Sampling Form

Job Name Emeryville Site Well Number W-3

Job Number 0569/02 Date 11-2-05

Sample By Shek Gulu/Bill Scott

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other ______	[ ] Swab [ ] Surge Other ______
Total depth (TD) of casing in feet 28.7 +	[ ] Bail Bailer Type: ______
Depth to water (DTW) in feet 8.24	[ ] Pump
Purge Volume Calculation	Pump Type: [X] Submersible [X] Centrifuge
(28.7 - 8.24) x 3 x 0.17 = 10.48 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot V= well volume

For 4" diameter well: V = 3, F+ 0.66 gallon/foot F= gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [X]	pH	Conductivity Microhos/centimeter	Temperature [X] °C [ ] °F	ORP	Turbidity DO	FE	Gallons pumped	
Start								
5:45	7.2	507	22	130	2.17	0	3	
5-51F.								10.92
5.57	7.26	495	22	114			6	12.69
6.03	7.21	523	21.9	119			9	13.12
							11 Gal	Lgpd

Total Gallons Pumped ______

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

______

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [✓] Other Steam Bay @ Site.

Well Sampling Date: Nov. 2, 05 Time: ______

Well Development and Sampling Form

Job Name 2" AC TRANSIT WELL WATER / HILTORNE / EMERYVILLE SITE **Well Number** W-4

Job Number 0569/2 **Date** Nov 2, 05

Sample By _____

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet 16.99 +	[ ] Bail Bailer Type: _____
Depth to water (DTW) in feet 4.7	[ ] Pump
Purge Volume Calculation	Pump Type: [ ] Submersible [ ] Centrifuge
(16.99 - 4.7) x 3 x .17 = 6.26 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [ ]	pH	Conductivity Microhos/centimeter	Temperature [ ] °C [ ] °F	Turbidity ORP	Turbidity DO	Gallons pumped Fe	Gallons pumped	
Start								
5:01							1	5.74
5:03	7.45	869	23.2	120	1.62	1.97		
5:07	7.34	858	23.1	124			3	5.88
5:11	7.30	852	23.1	125			5	6.05
5:13							7 Gal/Fe	

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [x] Other Storage Tank @ Site

Well Sampling Date: Nov 2, 05 **Time:** _____

APPENDIX B

CHAIN-OF-CUSTODY FORM
AND
LABORATORY REPORTS

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/06/05
	Client P.O.:	Date Analyzed: 11/06/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511100

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-1	W	ND,i	1	108
002A	TRIP BLANK	W	ND	1	100

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

* 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.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511100

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511100-001A	MW-1	W	70,b,f,i	1	102

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 Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511100

					Reporting Limit for DF =1	
Lab ID	0511100-001B					
Client ID	MW-1					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	4.5				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	103					
%SS2:	100					
%SS3:	104					
Comments	i					

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511100

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511100-001C	MW-1	W	ND	56	1	93

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511100

EPA Method: SW8021B/8015Cm | **Extraction: SW5030B** | **BatchID: 18903** | **Spiked Sample ID: 0511100-002A**

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	LCS / LCSD
TPH(btex)£	ND	60	97.3	94	3.46	107	112	4.66	70 - 130	70 - 130
MTBE	ND	10	105	89.8	15.6	108	107	0.433	70 - 130	70 - 130
Benzene	ND	10	88.4	81	8.78	112	111	0.393	70 - 130	70 - 130
Toluene	ND	10	90.3	83	8.38	105	104	0.907	70 - 130	70 - 130
Ethylbenzene	ND	10	89.2	83.4	6.67	110	111	0.205	70 - 130	70 - 130
Xylenes	ND	30	90.3	85	6.08	100	100	0	70 - 130	70 - 130
%SS:	100	10	97	96	0.734	110	108	2.10	70 - 130	70 - 130

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

NONE

BATCH 18903 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511100-001A	1/03/05 12:10 PM	11/06/05	11/06/05 1:57 AM	0511100-002A	11/03/05	11/06/05	11/06/05 2:30 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 applicable or 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 Certification No. 1644

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511100

EPA Method: SW8260B **Extraction: SW5030B** **BatchID: 18898** **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511100-001B	1/03/05 12:10 PM	1/05/05	1/05/05 5:50 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511100

EPA Method: SW8015C **Extraction: SW3510C** **BatchID: 18894** **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511100-001A	1/03/05 12:10 PM	11/04/05	11/05/05 2:26 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.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511100

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18902** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511100-001c	1/03/05 12:10 PM	11/04/05	11/05/05 3:44 AM	0511100-001C	1/03/05 12:10 PM	11/04/05	11/07/05 7:37 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 applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

051100 WELL # 14 10-1

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CHAIN OF CUSTODY RECORD

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

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

Report To: SHEK GUIA Bill To: ESSETEK.
Company: ESSEL TECHNOLOGY SERVICES INC.
9778 BRANDMORE DR SAN RAMON CA 94583
E-Mail: ESSETEKSERVICES@...
Tele: (415) 794-1960. Fax: (925) 833-7977.
Project #: 056912. Project Name: ACTRANSIT DIV. 2
Project Location: EMERVILLE.
Sampler Signature:

Analysis Request columns: (1) ~~MTBE / BTEX &~~ TPH as Gas (602 / 8021 + 8015) [circled]; (2) MTBE / BTEX ONLY (EPA 602 / 8021); (3) TPH as Diesel [circled] / Motor Oil (8015); (4) Total Petroleum Oil & Grease (1664 / 5520 E/B&F); (5) Total Petroleum Hydrocarbons (418.1); (6) EPA 502.2 / 601 / 8010 / 8021 (HVOCs); (7) EPA 505/ 608 / 8081 (Cl Pesticides); (8) EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners; (9) EPA 507 / 8141 (NP Pesticides); (10) EPA 515 / 8151 (Acidic Cl Herbicides); (11) EPA 524.2 / 624 / 8260 [circled] (VOCs) BTEX + MTBE only; (12) EPA 525.2 / 625 / 8270 (SVOCs); (13) EPA 8270 SIM / 8310 (PAHs / PNAs); (14) CAM 17 Metals (200.7 / 200.8 / 6010 / 6020); (15) LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020); (16) Lead (200.7 / 200.8 / 6010 / 6020). Other: Nitrate : Sulfate by EPA 300.0

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	Other: Nitrate : Sulfate by EPA 300.0	Other	Other
MW101-06	Emeryville	11/3	12-40	3	VOA	↓					X	X			X																		
				↓							X	X													X								
MW107-08			12-15	2	Amb						X	X					X																
MW109				1	Poly	↓					X	X																			X		
TRIP BLANK	↓			1	VOA										X																		

Comments: Filter Samples for Metals analysis: Yes / N

x10

Relinquished By:	Date:	Time:	Received By:
Shek Guia	11/4	11:15	[signature]
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 ____

VOAS ✓ O&G METALS OTHER ✓

COMMENTS:

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/06/05
	Client P.O.:	Date Analyzed: 11/06/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511098

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-2	W	ND	1	101
002A	TRIP BLANK	W	ND	1	100

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

* 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.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511098

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511098-001A	MW-2	W	110,b	1	105

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.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511098

					Reporting Limit for DF =1	
Lab ID	0511098-001B					
Client ID	MW-2					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	4.9				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	101					
%SS2:	100					
%SS3:	106					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511098

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511098-001C	MW-2	W	0.43	53	1	94

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511098

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18900** **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex)£	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511098-001A	1/03/05 12:17 PM	11/06/05	1/06/05 12:51 AM	0511098-002A	11/03/05	11/06/05	11/06/05 1:24 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 applicable or 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511098

EPA Method: SW8260B **Extraction: SW5030B** **BatchID: 18898** **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511098-001B	1/03/05 12:17 PM	11/05/05	11/05/05 4:25 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511098

EPA Method: SW8015C | **Extraction: SW3510C** | **BatchID: 18894** | **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511098-001A	1/03/05 12:17 PM	11/04/05	1/05/05 12:05 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.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511098

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18902** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511098-001c	1/03/05 12:17 PM	11/04/05	11/05/05 2:12 AM	0511098-001C	1/03/05 12:17 PM	11/04/05	11/07/05 6:36 AM

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

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

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

N/A = not applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

05H498 Well #4 MW-2

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CHAIN OF CUSTODY RECORD

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

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

Report To: Sher Guha Bill To: EsselTek
Company: Essel Technology Services Inc.
9178 Broadmoore Dr. San Ramon, CA 94583
E-Mail: EsselTechServices@aol.com
Tele: (415) 794-1960 Fax: (925) 830-7977
Project #: 056912 Project Name: AC Transit Div. 2.
Project Location: Emeryville
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO$_3$	Other
MW201-06	Emeryville	11/3	1217	3	VOA	✓					x	x		
	↓			↓		↓					x	x		
MW207-08	↓		12-20	2	Amb	↓					x	x		
MW209	↓			1	Poly	↓					x	x		
Trip Blanks	↓			1	VOA									

Analysis Request

SAMPLE ID	MTBE/BTEX & TPH as Gas (602/8021 + 8015)	MTBE/BTEX ONLY (EPA 602/8021)	TPH as Diesel/Motor Oil (8015)	Total Petroleum Oil & Grease (1664/5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2/601/8010/8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2/625/8270 (SVOCs)	EPA 8270 SIM/8310 (PAHs/PNAs)	CAM 17 Metals (200.7/200.8/6010/6020)	LUFT 5 Metals (200.7/200.8/6010/6020)	Lead (200.7/200.8/6010/6020)	Other: Nitrate; Sulfate by EPA 300.0
MW201-06	X																
											X						
MW207-08			X														
MW209																	X
Trip Blanks	✓																

Comments: Filter Samples for Metals analysis: Yes / No

Relinquished By:	Date:	Time:	Received By:
Sher Guha	11/04	10:56	[signature]
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

VOAS ✓ O&G METALS OTHER ✓

COMMENTS:

McCampbell Analytical, Inc.
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Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0511098 **ClientID: ETSR** **EDF: NO**

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

TEL: (925) 833-7991
FAX: (925) 833-7977
ProjectNo: #0569/2; AC Transit Div. 2
PO:

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

Requested TAT: 5 days

Date Received: 11/04/2005
Date Printed: 11/04/2005

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0511098-001	MW-2	Water	11/3/05 12:17:00	☐	C	A	B									

Test Legend:

1	300_1_W	2	G-MBTEX_W	3	MBTEX-8260B_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Maria Venegas

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.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/06/05
	Client P.O.:	Date Analyzed: 11/06/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511101

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-3	W	ND	1	100
002A	TRIP BLANK	W	ND	1	103

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

* 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.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511101

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511101-001A	MW-3	W	180,g,b	1	103

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.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511101

					Reporting Limit for DF =1	
Lab ID	0511101-001B					
Client ID	MW-3					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	3.2				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	102					
%SS2:	100					
%SS3:	107					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511101

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511101-001C	MW-3	W	3.5	67	1	95

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511101

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 18903 Spiked Sample ID: 0511100-002A

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	LCS / LCSD
TPH(btex)£	ND	60	97.3	94	3.46	107	112	4.66	70 - 130	70 - 130
MTBE	ND	10	105	89.8	15.6	108	107	0.433	70 - 130	70 - 130
Benzene	ND	10	88.4	81	8.78	112	111	0.393	70 - 130	70 - 130
Toluene	ND	10	90.3	83	8.38	105	104	0.907	70 - 130	70 - 130
Ethylbenzene	ND	10	89.2	83.4	6.67	110	111	0.205	70 - 130	70 - 130
Xylenes	ND	30	90.3	85	6.08	100	100	0	70 - 130	70 - 130
%SS:	100	10	97	96	0.734	110	108	2.10	70 - 130	70 - 130

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

NONE

BATCH 18903 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511101-001A	1/03/05 12:25 PM	11/06/05	11/06/05 4:41 AM	0511101-002A	11/03/05	11/06/05	11/06/05 5:13 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 applicable or 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511101

EPA Method: SW8260B | **Extraction: SW5030B** | **BatchID: 18898** | **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511101-001B	1/03/05 12:25 PM	11/05/05	11/05/05 6:32 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511101

EPA Method: SW8015C **Extraction: SW3510C** **BatchID: 18894** **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511101-001A	1/03/05 12:25 PM	11/04/05	11/05/05 3:34 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.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511101

EPA Method: E300.1	Extraction: E300.1			BatchID: 18902		Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511101-001c	1/03/05 12:25 PM	11/04/05	11/05/05 4:15 AM	0511101-001C	1/03/05 12:25 PM	11/04/05	11/07/05 8:08 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 applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

[redacted] 05111A [redacted] Well MW [redacted]

McCAMPBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
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CHAIN OF CUSTODY RECORD

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

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

Report To: Silek Guha **Bill To:** Esseltek.
Company: Essel Technology Services Inc.
9178 Broadmoore Dr. San Ramone, Ca.
E-Mail:
Tele: (415) 794-1960 **Fax:** (925) 833-7977
Project #: 0569/2 **Project Name:** Ac Transit Div 2.
Project Location: Emeryville
Sampler Signature:

Analysis Request columns: (A) MTBE / BTEX & TPH as Gas (602 / 8021 + 8015); (B) MTBE / BTEX ONLY (EPA 602 / 8021); (C) TPH as Diesel / Motor Oil (8015); (D) Total Petroleum Oil & Grease (1664 / 5520 E/B&F); (E) Total Petroleum Hydrocarbons (418.1); (F) EPA 502.2 / 601 / 8010 / 8021 (HVOCs); (G) EPA 505/ 608 / 8081 (Cl Pesticides); (H) EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners; (I) EPA 507 / 8141 (NP Pesticides); (J) EPA 515 / 8151 (Acidic Cl Herbicides); (K) EPA 524.2 / 624 / 8260 (VOCs) BTEX + MTBE only; (L) EPA 525.2 / 625 / 8270 (SVOCs); (M) EPA 8270 SIM / 8310 (PAHs / PNAs); (N) CAM 17 Metals (200.7 / 200.8 / 6010 / 6020); (O) LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020); (P) Lead (200.7 / 200.8 / 6010 / 6020); Other: (Q) Nitrate ; Sulfate by EPA 300.0

SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO_3	Other	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Comments
MW301-06	Emeryville		12-35	3	VOA	✓					X	X			X										X							
MW307-08	↓			2	Amb	↓					X	X					X															
MW309	↓		11-35	1	Poly	↓					X	X																			X	
Trip Blank	↓			1	VOA										X																	

Comments: Filter Sample for Me[tals] analysi[s] Yes / N[o]

Relinquished By:	Date:	Time:	Received By:
Silek Guha	11/4	11:15	[signature]
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:

VOAS O&G METALS OTHER

McCampbell Analytical, Inc.

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Website: www.mccampbell.com E-mail: main@mccampbell.com

Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/05/05-11/08/05
	Client P.O.:	Date Analyzed: 11/05/05-11/08/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511093

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-4	W	ND	1	109
002A	TRIP BLANK	W	ND	1	97

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

* 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.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Website: www.mccampbell.com E-mail: main@mccampbell.com

Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511093

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511093-001A	MW-4	W	ND	1	91

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.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511093

					Reporting Limit for DF =1	
Lab ID	0511093-001B					
Client ID	MW-4					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	4.1				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	102					
%SS2:	100					
%SS3:	104					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/04/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511093

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511093-001C	MW-4	W	3.5	67	1	94

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511093

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18900** **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex)£	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511093-001A	1/03/05 11:15 AM	11/08/05	11/08/05 3:25 AM	0511093-002A	1/03/05 11:15 AM	11/05/05	11/05/05 7:22 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 applicable or 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 Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511093

EPA Method: SW8015C **Extraction: SW3510C** **BatchID: 18894** **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511093-001A	1/03/05 11:15 AM	11/04/05	11/05/05 6:59 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.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511093

EPA Method: SW8260B **Extraction: SW5030B** **BatchID: 18898** **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511093-001B	1/03/05 11:15 AM	11/05/05	1/05/05 12:52 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511093

EPA Method: E300.1	Extraction: E300.1			BatchID: 18820		Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	103	97.4	5.57	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	104	99.5	4.69	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	91	91	0	N/A	90 - 115

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

NONE

BATCH 18820 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511093-001c	1/03/05 11:15 AM	11/04/05	1/04/05 11:38 PM	0511093-001C	1/03/05 11:15 AM	11/04/05	11/07/05 5:03 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 applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

[redacted] 05409 [redacted] Well # MW-4

McCAMPBELL ANALYTICAL, INC.

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 D
GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW) ☐

Report To: Silke Guida	**Bill To:** Essetek
Company: Esset Technology Services Inc.	
7778 Brenmoore Dr. San Ramon, Ca. 94583	
	E-Mail: Essetekservices@aol.com
Tele: (415) 794-1960	**Fax:** (925) 833-7977
Project #: 0569/2	**Project Name:** AC Transit Div. 2.
Project Location: Emeryville.	
Sampler Signature:	

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other
MW-101-06	Emeryville	11/3	11-15	3	VOA						X	X		
MW107-8				2	Amb						X	X		
MW109				1	Poly						X	X		
Trip Blank				1	VOA									

Analysis Request	Other	Comm
MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	Nitrate / Sulfate by EPA 300.0	Filter Samp for M analy Yes /
MTBE / BTEX ONLY (EPA 602 / 8021)		
TPH as Diesel / Motor Oil (8015)		
Total Petroleum Oil & Grease (1664 / 5520 E/B&F)		
Total Petroleum Hydrocarbons (418.1)		
EPA 502.2 / 601 / 8010 / 8021 (HVOCs)		
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) BTEX + MTBE only)		
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)		
X	X	
X		
X		

	Date:	Time:	Received By:
Relinquished By: Silke Guida.	11/4	11-15	
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:

VOAS O&G METALS OTHER

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: 8015Cm Work Order: 0511094

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-5	W	ND	1	99
002A	TRIP BLANK	W	ND	1	99

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

* 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.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/07/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511094

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511094-001A	MW-5	W	1500,b,g	1	91

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 Certification No. 1644

Angela Rydelius, Lab Manager

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Website: www.mccampbell.com E-mail: main@mccampbell.com

Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511094

					Reporting Limit for DF =1	
Lab ID	0511094-001B					
Client ID	MW-5					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	5.7				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	102					
%SS2:	102					
%SS3:	99					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511094

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511094-001C	MW-5	W	ND	62	1	96

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511094

EPA Method: SW8021B/8015Cm | **Extraction: SW5030B** | **BatchID: 18900** | **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex)£	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511094-001A	11/03/05 12:00 PM	11/05/05	11/05/05 8:28 PM	0511094-002A	11/03/05	11/05/05	11/05/05 9:01 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 applicable or 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511094

EPA Method: SW8015C **Extraction: SW3510C** **BatchID: 18894** **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511094-001A	1/03/05 12:00 PM	11/04/05	11/07/05 4:06 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511094

EPA Method: SW8260B	Extraction: SW5030B			BatchID: 18898			Spiked Sample ID: 0511082-002A			
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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511094-001B	1/03/05 12:00 PM	11/05/05	11/05/05 1:35 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511094

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18820** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	103	97.4	5.57	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	104	99.5	4.69	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	91	91	0	N/A	90 - 115

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

NONE

BATCH 18820 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511094-001c	1/03/05 12:00 PM	11/04/05	1/05/05 12:09 AM	0511094-001C	1/03/05 12:00 PM	11/04/05	11/07/05 5:34 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 applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

05110944 Well # MW-5

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CHAIN OF CUSTODY RECORD

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

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

Report To: Siler Guha Bill To: Essertek
Company: Essex Technology Services Inc.
9772 Broadmoore Dr. San Ramon Ca. 94583
E-Mail: Essextech|services@aol.com
Tele: (415) 794-1960 Fax: (925) 833-7977
Project #: 0569/2 Project Name: AC Transit Div. 2
Project Location: Emeryville
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate; Sulfate by EPA 300.0	Other	Comments: Filter Samples for Metals analysis: Yes / No
MW501-06	Emeryville	11/3	12pm	3	VOA	↓					X	X			X																		
	↓			↓							X	X													X								
MW507-08				2	AmB						X	X					X																
MW509				1	Poly	↓					X	X																			X		
TRIP BLANK	↓			1	VOA																												

Relinquished By:	Date:	Time:	Received By:
Siler Guha	11/4	11:15	[signature]
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 ____

VOAS O&G METALS OTHER

COMMENTS:

McCampbell Analytical, Inc.

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Essel Technology Service	Client Project ID: #056912; Ac Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted 11/06/05-11/09/05
	Client P.O.:	Date Analyzed 11/06/05-11/09/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511104

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-6	W	750,a	1	115
002A	Trip Blank	W	ND	1	101

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

* 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.

DHS Certification No. 1644

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Essel Technology Service	Client Project ID: #056912; Ac Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/07/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511104

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511104-001A	MW-6	W	2000,k	5	105

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.

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Essel Technology Service	Client Project ID: #056912; Ac Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/07/05
	Client P.O.:	Date Analyzed: 11/07/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511104

					Reporting Limit for DF =1	
Lab ID	0511104-001B					
Client ID	MW-6					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	13				NA	0.5
Ethylbenzene	2.9				NA	0.5
Methyl-t-butyl ether (MTBE)	1.4				NA	0.5
Toluene	1.9				NA	0.5
Xylenes	4.6				NA	0.5
Surrogate Recoveries (%)						
%SS1:	90					
%SS2:	92					
%SS3:	98					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; Ac Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511104

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511104-001C	MW-6	W	ND	16	1	95

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511104

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18903** **Spiked Sample ID: 0511100-002A**

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	LCS / LCSD
TPH(btex)£	ND	60	97.3	94	3.46	107	112	4.66	70 - 130	70 - 130
MTBE	ND	10	105	89.8	15.6	108	107	0.433	70 - 130	70 - 130
Benzene	ND	10	88.4	81	8.78	112	111	0.393	70 - 130	70 - 130
Toluene	ND	10	90.3	83	8.38	105	104	0.907	70 - 130	70 - 130
Ethylbenzene	ND	10	89.2	83.4	6.67	110	111	0.205	70 - 130	70 - 130
Xylenes	ND	30	90.3	85	6.08	100	100	0	70 - 130	70 - 130
%SS:	100	10	97	96	0.734	110	108	2.10	70 - 130	70 - 130

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

NONE

BATCH 18903 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511104-001A	11/03/05 1:35 AM	11/09/05	1/09/05 12:30 PM	0511104-002A	11/03/05	11/06/05	11/06/05 6:51 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 applicable or 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 Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511104

EPA Method: SW8015C **Extraction: SW3510C** **BatchID: 18894** **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511104-001A	11/03/05 1:35 AM	11/04/05	11/07/05 4:06 PM				

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

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

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

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

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

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511104

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 18898	Spiked Sample ID: 0511082-002A

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511104-001B	11/03/05 1:35 AM	11/07/05	11/07/05 1:57 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511104

EPA Method: E300.1 | **Extraction: E300.1** | **BatchID: 18902** | **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511104-001c	11/03/05 1:35 AM	11/04/05	11/05/05 5:47 AM	0511104-001C	11/03/05 1:35 AM	11/04/05	11/07/05 9:09 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 applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

Well # MWC01-06 05/11/04

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CHAIN OF CUSTODY RECORD

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

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

Report To: Steve Gwin Bill To: Ross Tech
Company: Gwin Technology Service Inc.
9772 Broadmoor Dr. San Ramon CA 94583
E-Mail: [illegible]
Tele: (415) 294-1960 Fax: (925) 838-2977
Project #: 0509/2 Project Name: [illegible]
Project Location: Emeryville
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO3	Other (Preserved)
MWC01-06	Emeryville	1/3	1:35 pm	3	VOA	↓					X	X		
	↓			↓							X	X		
MWC07-08				2	Amb						X	X		
MWC09	↓			1	Poly	↓					X	X		
Trip Blank				1	VOA									

Analysis Request

SAMPLE ID	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate; Sulfate by EPA 300.0	Other	Other	Comments: Filter Samples for Metals analysis Yes / No
MWC01-06	X																			
											X									
MWC07-08			X																	
MWC09																	X			
Trip Blank																				

Relinquished By:	Date:	Time:	Received By:
Steve Gwin	1/4	11:05	[signature]
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 ____

VOAS O&G METALS OTHER

COMMENTS:

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Essel Technology Service	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/06/05-11/07/05
	Client P.O.:	Date Analyzed: 11/06/05-11/07/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511097

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-7	W	310,m	1	97
002A	Trip Blank	W	ND	1	100

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

* 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.

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Angela Rydelius, Lab Manager

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Essel Technology Service	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/04/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511097

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511097-001A	MW-7	W	140,d,b	1	103

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.

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Essel Technology Service	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/07/05
	Client P.O.:	Date Analyzed: 11/07/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511097

					Reporting Limit for DF =1	
Lab ID	0511097-001B					
Client ID	MW-7					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	2.3				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	102					
%SS2:	99					
%SS3:	110					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511097

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511097-001C	MW-7	W	ND	3.1	1	94

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511097

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18900** **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex)£	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511097-001A	11/03/05 1:06 PM	11/07/05	11/07/05 6:52 PM	0511097-002A	11/03/05	11/06/05	1/06/05 12:19 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 applicable or 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 Certification No. 1644

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511097

EPA Method: SW8015C	Extraction: SW3510C			BatchID: 18894		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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511097-001A	11/03/05 1:06 PM	11/04/05	1/04/05 10:53 PM				

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

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

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

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

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

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511097

EPA Method: SW8260B **Extraction: SW5030B** **BatchID: 18898** **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511097-001B	11/03/05 1:06 PM	11/07/05	11/07/05 5:31 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511097

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18902** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511097-001c	11/03/05 1:06 PM	11/04/05	11/05/05 1:41 AM				

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

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

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

N/A = not applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

e1st 051109-7 Well # MW-7

McCAMPBELL ANALYTICAL, INC.

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PACHECO, CA 94553-5560
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Telephone: (877) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

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

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

Report To: Siler Guha Bill To: Essertek
Company: Essex Technology Service Inc
9778 Brookmore Dr. San Ramon, CA 94583
E-Mail: ~~Essextechservices@aol.com~~
Tele: (415) 794-1960 Fax: (925) 833-7977
Project #: 056912 Project Name: AC Transit Div 2
Project Location: Emeryville
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	Sampling Date	Sampling Time	# Containers	Type Containers	Matrix: Water	Soil	Air	Sludge	Other	Method Preserved: ICE	HCL	HNO3	Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate; Sulfate by EPA 300.0	Comments
MW701-06	Emeryville	11/9	1106 P.m.	3	VOA	↓					x	x			X										X							
MW707-08				2	Amb						x	x					X															
MW709				1	Poly						x	x																			X	
Trip Blank				1	VOA										X																	

Comments: Filter Samples for Metals analysis: Yes / No

Relinquished By:	Date:	Time:	Received By:
Siler Guha	11/9	1:15	[signature]
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:

VOAS O&G METALS OTHER

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Essel Technology Service	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05-11/09/05
	Client P.O.:	Date Analyzed: 11/05/05-11/09/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511092

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-8	W	150,m	1	100
002A	Trip Blank	W	ND	1	98

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

* 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.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Website: www.mccampbell.com E-mail: main@mccampbell.com

Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511092

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511092-001A	MW-8	W	280,d,b	1	92

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 Certification No. 1644

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Essel Technology Service	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511092

					Reporting Limit for DF =1	
Lab ID	0511092-001B					
Client ID	MW-8					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	0.69				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	100					
%SS2:	98					
%SS3:	106					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/04/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511092

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511092-001C	MW-8	W	ND	24	1	110

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511092

EPA Method: SW8021B/8015Cm | **Extraction: SW5030B** | **BatchID: 18900** | **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex)£	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511092-001A	11/03/05 12:45 PM	11/05/05	11/05/05 3:59 PM	0511092-002A	11/03/05	11/09/05	11/09/05 6:45 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 applicable or 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.

QA/QC Officer

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511092

EPA Method: SW8015C **Extraction: SW3510C** **BatchID: 18894** **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511092-001A	1/03/05 12:45 PM	11/04/05	11/05/05 5:51 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.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511092

EPA Method: SW8260B | **Extraction: SW5030B** | **BatchID: 18898** | **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511092-001B	1/03/05 12:45 PM	11/05/05	1/05/05 12:10 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511092

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18820** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	103	97.4	5.57	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	104	99.5	4.69	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	91	91	0	N/A	90 - 115

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

NONE

BATCH 18820 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511092-001c	1/03/05 12:45 PM	11/04/05	1/04/05 11:08 AM	0511092-001C	1/03/05 12:45 PM	11/04/05	11/07/05 4:33 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 applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

[redacted] 05692 Well # MW-8

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CHAIN OF CUSTODY RECORD

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

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

Report To: Steve Cosha **Bill To:** Essex Tek.

Company: Essex Technology Services Inc.

9772 Broadmoore Dr. San Ramon CA. 94583.

E-Mail: Essextechservices@aol.com

Tele: (415) 794-1960 **Fax:** (925) 833-7977

Project #: 05692 **Project Name:** AC Transit Div. 2

Project Location: Emeryville.

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: ICE	HCL	HNO_3	Other
MW801-04	Emeryville	11/3	12:45	3	VOA						X	X		
MW807-08				2	AMB						X	X		
MW809				1	Poly						X	X		
Trip Blank.				1	VOA									

Analysis Request

MTBE / BTEX & (TPH as Gas 602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / (8260) VOCs) BTEX + MTBE only	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)
X															
		X								X					
X															

Other

Nitrate + Sulfate by EPA 300.0

	X

Comm

Filter Sampl for Me analys Yes / N

Relinquished By:	Date:	Time:	Received By:
Steve Cosha	11/4	11:15	
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:

VOAS O&G METALS OTHER

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/07/05
	Client P.O.:	Date Analyzed: 11/07/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511103

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-9	W	ND	1	105
002A	TRIP BLANK	W	ND	1	103

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

* 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.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511103

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511103-001A	MW-9	W	470,g,b	1	106

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.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/07/05
	Client P.O.:	Date Analyzed: 11/07/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511103

					Reporting Limit for DF =1	
Lab ID	0511103-001B					
Client ID	MW-9					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	4.8				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	108					
%SS2:	105					
%SS3:	105					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511103

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511103-001C	MW-9	W	0.11	28	1	91

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511103

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18903** **Spiked Sample ID: 0511100-002A**

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	LCS / LCSD
TPH(btex) £	ND	60	97.3	94	3.46	107	112	4.66	70 - 130	70 - 130
MTBE	ND	10	105	89.8	15.6	108	107	0.433	70 - 130	70 - 130
Benzene	ND	10	88.4	81	8.78	112	111	0.393	70 - 130	70 - 130
Toluene	ND	10	90.3	83	8.38	105	104	0.907	70 - 130	70 - 130
Ethylbenzene	ND	10	89.2	83.4	6.67	110	111	0.205	70 - 130	70 - 130
Xylenes	ND	30	90.3	85	6.08	100	100	0	70 - 130	70 - 130
%SS:	100	10	97	96	0.734	110	108	2.10	70 - 130	70 - 130

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

NONE

BATCH 18903 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511103-001A	1/03/05 12:30 PM	11/07/05	11/07/05 8:28 PM	0511103-002A	11/03/05	11/07/05	11/07/05 7:58 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 applicable or 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511103

EPA Method: SW8015C **Extraction: SW3510C** **BatchID: 18894** **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511103-001A	1/03/05 12:30 PM	11/04/05	11/05/05 6:59 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.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511103

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 18898	Spiked Sample ID: 0511082-002A

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511103-001B	1/03/05 12:30 PM	11/07/05	11/07/05 9:41 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511103

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18902** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511103-001c	1/03/05 12:30 PM	11/04/05	11/05/05 5:16 AM	0511103-001C	1/03/05 12:30 PM	11/04/05	11/07/05 8:39 AM

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

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

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

N/A = not applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

05705

Nece # MW-9.

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 D. ☒

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

Report To: Sher Gunn **Bill To:** Esgetech.

Company: Esgee Technology Service Inc.

9778 Bendmere Dr.

San Ramon. CA. 94583 **E-Mail:** Esgeetechservices@aol.com

Tele: (415) 794-1962 **Fax:** (925) 833-7917.

Project #: 05692 **Project Name:** AC Transit Div. 2

Project Location: Emeryville.

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other
MW901	Emeryville	11/3	12:30	3	VOA						X	X		
- 06				↓							X	X		
			12:36	2	Amb.						X	X		
MW907														
08														
MW909				1	Poly	↓					X	X		
	↓													
TRIP BLANK				1	VOA									

Analysis Request

MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE	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)
X															
		X								X					

Other: Nitrate ; Sulfate by EPA 300.0 X

Comm

Filter Sampl for Me analys Yes / N

Relinquished By:	Date:	Time:	Received By:
Sher Gunn	11/4	9-15	
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:

McCampbell Analytical, Inc.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511096

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-10	W	300,m	1	110
002A	TRIP BLANK	W	ND	1	100

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

* 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.

DHS Certification No. 1644

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/07/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511096

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511096-001A	MW-10	W	600,a	1	92

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.

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Essel Technology Service	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/07/05
	Client P.O.:	Date Analyzed: 11/07/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511096

					Reporting Limit for DF =1	
Lab ID	0511096-001B					
Client ID	MW-10					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	4.1				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	101					
%SS2:	100					
%SS3:	110					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511096

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511096-001C	MW-10	W	ND	0.78	1	92

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511096

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18900** **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex) £	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511096-001A	11/03/05 2:15 AM	11/05/05	1/05/05 10:40 PM	0511096-002A	11/03/05	11/05/05	1/05/05 11:13 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 applicable or 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 Certification No. 1644

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511096

EPA Method: SW8015C **Extraction: SW3510C** **BatchID: 18894** **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511096-001A	11/03/05 2:15 AM	11/04/05	11/07/05 2:58 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 Certification No. 1644

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511096

EPA Method: SW8260B	Extraction: SW5030B			BatchID: 18898			Spiked Sample ID: 0511082-002A		
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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511096-001B	11/03/05 2:15 AM	11/07/05	11/07/05 4:49 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511096

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18820** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	103	97.4	5.57	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	104	99.5	4.69	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	91	91	0	N/A	90 - 115

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

NONE

BATCH 18820 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511096-001c	11/03/05 2:15 AM	11/04/05	11/05/05 1:10 AM				

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

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

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

N/A = not applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

WELL # MW - 10

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 D

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

Report To: SHER GUHA Bill To: ESSERTEK.
Company: ESSER TECHNOLOGY SERVICE INC.
9778 BROADMOORE DR.
SAN RAMON, CA. 94583. E-Mail: EsserTechService@aol.com
Tele: (415) 794-1960 Fax: (925) 830-7977
Project #: 0569/2. Project Name: Ac Transit. Div 2.
Project Location: 1774 47TH ST. EMERYVILLE CA.
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time pm.	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other	Analysis Request: MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate; Sulfate by EPA 300.0	Comments
MW10 01-06	Emeryville	11/3	2:15	3	VOA	|					x	x			x										x							
MW1007/08				2	Amb.						x	x					x															
MW1009				1	Poly						x	x																			x	
Trip Blank				1	VOA																											

Comments: Filter Samp for M analy Yes /

Relinquished By:	Date:	Time:	Received By:
Sher Guha.	11/4	11/15	
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 ______

VOAS O&G METALS OTHER

COMMENTS:

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Essel Technology Service	Client Project ID: #056912; Ae Transit Div.2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/06/05-11/09/05
	Client P.O.:	Date Analyzed: 11/06/05-11/09/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511099

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-11	W	ND,i	1	94
002A	Trip Blank	W	ND	1	102

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

* 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.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; Ae Transit Div.2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511099

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511099-001A	MW-11	W	290,g,b,i	1	100

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.

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Essel Technology Service	Client Project ID: #056912; Ae Transit Div.2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511099

					Reporting Limit for DF =1	
Lab ID	0511099-001B					
Client ID	MW-11					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	ND				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	100					
%SS2:	101					
%SS3:	106					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; Ae Transit Div.2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511099

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511099-001C	MW-11	W	ND	21	1	93

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511098

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18900** **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex) £	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511098-001A	1/03/05 12:17 PM	11/06/05	1/06/05 12:51 AM	0511098-002A	11/03/05	11/06/05	11/06/05 1:24 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 applicable or 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 Certification No. 1644

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511099

EPA Method: SW8015C | **Extraction: SW3510C** | **BatchID: 18894** | **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511099-001A	11/03/05 1:25 PM	11/04/05	11/05/05 1:17 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.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511098

EPA Method: SW8260B | **Extraction: SW5030B** | **BatchID: 18898** | **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511098-001B	1/03/05 12:17 PM	11/05/05	11/05/05 4:25 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511099

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18902** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511099-001c	11/03/05 1:25 PM	11/04/05	11/05/05 2:43 AM	0511099-001C	11/03/05 1:25 PM	11/04/05	11/07/05 7:06 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 applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

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CHAIN OF CUSTODY RECORD

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

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

Report To: Sheri Cuha **Bill To:** Essex Inc.

Company: Essex Technology Service Inc.

9778 Brookmore Dr. San Ramon, CA. 94583

E-Mail: Essextechservice@att.net

Tele: (415) 794-1960 **Fax:** (925) 803-7977

Project #: 056912 **Project Name:** AC Transit Div. 2

Project Location: Emeryville

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: ICE	HCL	HNO_3	Other
+5 MW11 01 -06	Emeryville	11/3	1125	3	VOA						X	X		
				↓							X	X		
+5 MW11 07 08				2	Amb						X	X		
+5 MW11 09				1	Poly	↓					X	X		
Trip Blanks	↓			1	VOA									

Relinquished By:	Date:	Time:	Received By:
Sheri Cuha	11/4	11:15am	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Analysis Request

MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate + Sulfate by EPA 300.0	Comm: Filter Sampl for Me analys Yes / N
X										X							
		X														X	

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

COMMENTS:

VOAS O&G METALS OTHER

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Essel Technology Service	Client Project ID: #056912; AC Transit Div.2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/06/05-11/07/05
	Client P.O.:	Date Analyzed: 11/06/05-11/07/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511105

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-12	W	440,m,i	1	111
002A	Trip Blank	W	ND	1	100

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

* 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.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; AC Transit Div.2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511105

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511105-001A	MW-12	W	120,d,b,i	1	93

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.

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Essel Technology Service	Client Project ID: #056912; AC Transit Div.2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/07/05
	Client P.O.:	Date Analyzed: 11/07/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511105

					Reporting Limit for DF =1	
Lab ID	0511105-001B					
Client ID	MW-12					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	6.6				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	101					
%SS2:	97					
%SS3:	107					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; AC Transit Div.2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511105

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511105-001C	MW-12	W	ND	3.7	1	93

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511105

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18903** **Spiked Sample ID: 0511100-002A**

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	LCS / LCSD
TPH(btex)£	ND	60	97.3	94	3.46	107	112	4.66	70 - 130	70 - 130
MTBE	ND	10	105	89.8	15.6	108	107	0.433	70 - 130	70 - 130
Benzene	ND	10	88.4	81	8.78	112	111	0.393	70 - 130	70 - 130
Toluene	ND	10	90.3	83	8.38	105	104	0.907	70 - 130	70 - 130
Ethylbenzene	ND	10	89.2	83.4	6.67	110	111	0.205	70 - 130	70 - 130
Xylenes	ND	30	90.3	85	6.08	100	100	0	70 - 130	70 - 130
%SS:	100	10	97	96	0.734	110	108	2.10	70 - 130	70 - 130

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

NONE

BATCH 18903 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511105-001A	11/03/05	11/07/05	11/07/05 8:58 PM	0511105-002A	11/03/05	11/06/05	11/06/05 7:24 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 applicable or 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511105

EPA Method: SW8015C	Extraction: SW3510C	BatchID: 18894	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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511105-001A	11/03/05	11/04/05	11/05/05 3:34 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.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511105

EPA Method: SW8260B **Extraction: SW5030B** **BatchID: 18905** **Spiked Sample ID: 0511114-004A**

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	LCS / LCSD
Benzene	ND	10	101	99.3	1.77	97.2	96.8	0.382	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	98.5	2.92	94.4	94.4	0	70 - 130	70 - 130
Toluene	ND	10	111	109	2.09	88.6	88.2	0.372	70 - 130	70 - 130
%SS1:	103	10	100	100	0	98	99	1.83	70 - 130	70 - 130
%SS2:	95	10	100	100	0	96	96	0	70 - 130	70 - 130
%SS3:	96	10	104	103	0.465	104	100	4.07	70 - 130	70 - 130

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

NONE

BATCH 18905 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511105-001B	11/03/05	11/07/05	11/07/05 3:23 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511105

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18902** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511105-001c	11/03/05	11/04/05	11/05/05 6:18 AM				

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

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

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

N/A = not applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

OSIIIOS 214 Well # MW-12

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 D

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

Report To: [illegible] Bill To: Essex Tech
Company: Essex Technical Service Inc.
[illegible] Dr.
San Ramon
E-Mail: [illegible]
Tele: (925) 744-1900 Fax: (925) [illegible]
Project #: [illegible] Project Name: [illegible]
Project Location: 1724 11th St. [illegible], CA
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	Sampling Date	Sampling Time	# Containers	Type Containers	Matrix: Water	Soil	Air	Sludge	Other	Method Preserved: ICE	HCL	HNO_3	Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate; Sulfate by EPA 300.0	Other	Other	Comments
MW12-01 – 06	[illegible]	11/3	2:35	3	VOA	x					x	x			x										x									
MW12-07 – 08				2	Amb	x					x	x					x																	
MW12-09				1	Poly	x					x	x																			x			
Trip Blank				1	VOA																													

Filter Samples for Metals analysis: Yes / No

Relinquished By:	Date:	Time:	Received By:
[illegible signature]	11/4	11:15	[illegible signature]
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:

McCampbell Analytical, Inc.

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Essel Technology Service	Client Project ID: #056912; AcTransit Div.2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/06/05-11/07/05
	Client P.O.:	Date Analyzed: 11/06/05-11/07/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511102

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	W-1	W	6200,a,i	3.3	102
002A	Trip Blank	W	ND	1	101

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

* 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.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; AcTransit Div.2	Date Sampled: 11/03/05
		Date Received:
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

Diesel (C10-23) Range Extractable Hydrocarbons as Diesel*

Analytical methods: SW8015C Work Order: 0511102

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511102-001A	W-1	W	2400,n,i	10	105

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; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirits; p) see Case Narrative.

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Essel Technology Service	Client Project ID: #056912; AcTransit Div.2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/07/05
	Client P.O.:	Date Analyzed: 11/07/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511102

					Reporting Limit for DF =1	
Lab ID	0511102-001B					
Client ID	W-1					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	7.2				NA	0.5
Ethylbenzene	5.7				NA	0.5
Methyl-t-butyl ether (MTBE)	0.73				NA	0.5
Toluene	3.6				NA	0.5
Xylenes	20				NA	0.5
Surrogate Recoveries (%)						
%SS1:	94					
%SS2:	101					
%SS3:	123					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service	Client Project ID: #056912; AcTransit Div.2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511102

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511102-001C	W-1	W	0.14	1.3	1	93

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511102

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18903** **Spiked Sample ID: 0511100-002A**

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	LCS / LCSD
TPH(btex)£	ND	60	97.3	94	3.46	107	112	4.66	70 - 130	70 - 130
MTBE	ND	10	105	89.8	15.6	108	107	0.433	70 - 130	70 - 130
Benzene	ND	10	88.4	81	8.78	112	111	0.393	70 - 130	70 - 130
Toluene	ND	10	90.3	83	8.38	105	104	0.907	70 - 130	70 - 130
Ethylbenzene	ND	10	89.2	83.4	6.67	110	111	0.205	70 - 130	70 - 130
Xylenes	ND	30	90.3	85	6.08	100	100	0	70 - 130	70 - 130
%SS:	100	10	97	96	0.734	110	108	2.10	70 - 130	70 - 130

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

NONE

BATCH 18903 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511102-001A	11/03/05 2:05 AM	11/07/05	11/07/05 9:40 PM	0511102-002A	11/03/05	11/06/05	11/06/05 6:19 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 applicable or 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511102

EPA Method: SW8260B **Extraction: SW5030B** **BatchID: 18898** **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511102-001B	11/03/05 2:05 AM	11/07/05	11/07/05 4:06 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511102

EPA Method: SW8015C | **Extraction: SW3510C** | **BatchID: 18894** | **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511102-001A	11/03/05 2:05 AM	11/04/05	11/05/05 4:43 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.

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511102

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18902** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	101	99.6	1.81	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	103	99	3.91	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	90	91	1.05	N/A	90 - 115

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

NONE

BATCH 18902 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511102-001c	11/03/05 2:05 AM	11/04/05	11/05/05 4:45 AM				

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

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

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

N/A = not applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

Well # W-7 051102 eFSR

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CHAIN OF CUSTODY RECORD

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

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

Report To: Sheik Guha Bill To: Essee Tek.
Company: Essee Technology Service Inc.
9778 Bloomquore Dr. San Ramon, CA. 94583.
E-Mail: EsseeTechServices@aol.com
Tele: (415) 794-1960 Fax: (925) 833-7917
Project #: 056912 Project Name: AC Transit Div. 2.
Project Location: Emeryville
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO_3	Other	~~MTBE / BTEX~~ & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate; Sulfate by EPA 300.0	Comments: Filter Sampl… for Me… analysi… Yes / N…
+1 W101-06	Emeryville	11/3	205	3	VOA	↓					X	X			X																	
				↓							X	X													X							
+1 W107-08				2	Amb						X	X					X															
+1 W109				1	Poly	↓					X	X																			X	
Trip Blank	↓			1	VOA																											

Relinquished By:	Date:	Time:	Received By:
[signature]	11/4	11-0	[signature]
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 ____

VOAS O&G METALS OTHER

COMMENTS:

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San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05-11/06/05
	Client P.O.:	Date Analyzed: 11/05/05-11/06/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511091

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	W-3	W	ND,i	1	103
002A	TRIP BLANK	W	ND	1	98

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

* 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.

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	Client P.O.:	Date Analyzed: 11/05/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511091

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511091-001A	W-3	W	ND,i	1	91

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.

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San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/04/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511091

					Reporting Limit for DF =1	
Lab ID	0511091-001B					
Client ID	W-3					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	1.2				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	103					
%SS2:	100					
%SS3:	103					
Comments	i					

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #0569/2; AC Transite Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/04/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511091

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511091-001C	W-3	W	3.7	51	1	94

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511091

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18900** **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex) £	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511091-001A	1/03/05 10:30 AM	11/06/05	11/06/05 4:36 AM	0511091-002A	11/03/05	11/05/05	11/05/05 6:48 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 applicable or 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511091

EPA Method: SW8015C	Extraction: SW3510C	BatchID: 18894	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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511091-001a	1/03/05 10:30 AM	11/04/05	11/05/05 4:43 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.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511091

EPA Method: SW8260B **Extraction: SW5030B** **BatchID: 18898** **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511091-001B	1/03/05 10:30 AM	11/04/05	1/04/05 11:28 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

JR QA/QC Officer

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511091

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18820** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	103	97.4	5.57	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	104	99.5	4.69	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	91	91	0	N/A	90 - 115

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

NONE

BATCH 18820 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511091-001c	1/03/05 10:30 AM	11/04/05	1/04/05 10:37 PM	0511091-001C	1/03/05 10:30 AM	11/04/05	11/07/05 9:40 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.

N/A = not applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 D
GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW) ☐

Report To: Tyler Gulla. Bill To: Esser Tek.
Company: Esser Technology Services Inc.
9778 Brandmore Dr. San Ramon, CA. 94583
E-Mail: Esserteknservices@aol.com
Tele: (415) 794-1960 Fax: (925) 833-7997
Project #: 0569/2 Project Name: Actremist Div 2
Project Location: Livermore
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other
W-307 -06	Engine	11/3	10:30	3 VOA	VOA						X	X		
W307-08		2 Amb	11-	2 Liter	2 Liter						X	X		
W309		1 Pint	11	1 Liter	1 Liter	W					X	X		
Trip Blank				1										

Analysis Request

MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate ; Sulfate by EPA 300.0	Comm: Filter Sampl for M- analys Yes / N
X										X							
		X														X	
X																	

Relinquished By:	Date:	Time:	Received By:
Tyler Gulla	11/4	11:15	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT NO
DECHLORINATED IN LAB ✓
APPROPRIATE CONTAINERS
PRESERVED IN LAB

VOAS ✓ O&G METALS OTHER

COMMENTS:

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Essel Technology Service	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05-11/07/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0511095

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	W-4	W	ND	1	100
002A	Trip Blank	W	ND	1	101

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

* 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.

DHS Certification No. 1644

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Essel Technology Service	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/04/05

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0511095

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0511095-001A	W-4	W	66,b	1	101

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.

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Essel Technology Service	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
9778 Broadmoore Drive		Date Received: 11/04/05
San Ramon, CA 94523	Client Contact: Sher Guha	Date Extracted: 11/05/05
	Client P.O.:	Date Analyzed: 11/05/05

MTBE and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0511095

					Reporting Limit for DF =1	
Lab ID	0511095-001B					
Client ID	W-4					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Benzene	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	2.0				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	102					
%SS2:	101					
%SS3:	102					
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94523	Client Project ID: #056912; AC Transit Div. 2	Date Sampled: 11/03/05
		Date Received: 11/04/05
	Client Contact: Sher Guha	Date Extracted: 11/04/05
	Client P.O.:	Date Analyzed: 11/05/05-11/07/05

Inorganic Anions by IC*

Extraction method: E300.1 Analytical methods: E300.1 Work Order: 0511095

Lab ID	Client ID	Matrix	Nitrate as N	Sulfate	DF	% SS
0511095-001C	W-4	W	ND	32	1	93

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

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

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

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511095

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 18900** **Spiked Sample ID: 0511093-001A**

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	LCS / LCSD
TPH(btex)£	ND	60	113	110	2.60	110	109	0.908	70 - 130	70 - 130
MTBE	ND	10	108	106	1.53	101	99.7	1.09	70 - 130	70 - 130
Benzene	ND	10	102	105	2.49	103	102	1.28	70 - 130	70 - 130
Toluene	ND	10	99.5	102	2.30	104	98.7	4.80	70 - 130	70 - 130
Ethylbenzene	ND	10	105	107	2.25	108	105	2.94	70 - 130	70 - 130
Xylenes	ND	30	96	100	4.08	100	96	4.08	70 - 130	70 - 130
%SS:	109	10	102	103	0.772	104	101	2.52	70 - 130	70 - 130

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

NONE

BATCH 18900 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511095-001A	11/03/05 1:25 PM	11/07/05	1/07/05 11:54 PM	0511095-002A	11/03/05	11/05/05	1/05/05 10:07 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 applicable or 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 Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water | QC Matrix: Water | WorkOrder: 0511095

EPA Method: SW8015C | **Extraction: SW3510C** | **BatchID: 18894** | **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	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	99.5	96.7	2.85	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	100	2.75	N/A	70 - 130

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

NONE

BATCH 18894 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511095-001a	11/03/05 1:25 PM	11/04/05	11/04/05 9:45 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 Certification No. 1644

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511095

EPA Method: SW8260B **Extraction: SW5030B** **BatchID: 18898** **Spiked Sample ID: 0511082-002A**

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	LCS / LCSD
Benzene	ND	10	102	105	2.89	104	101	2.03	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	101	106	5.63	95	95.2	0.235	70 - 130	70 - 130
Toluene	ND	10	112	116	3.29	111	111	0	70 - 130	70 - 130
%SS1:	102	10	101	100	1.57	96	98	1.63	70 - 130	70 - 130
%SS2:	104	10	100	101	0.484	102	103	1.05	70 - 130	70 - 130
%SS3:	102	10	105	102	3.19	108	110	2.28	70 - 130	70 - 130

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

NONE

BATCH 18898 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511095-001B	11/03/05 1:25 PM	11/05/05	11/05/05 2:17 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511095

EPA Method: E300.1 **Extraction: E300.1** **BatchID: 18820** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Nitrate as N	N/A	1	N/A	N/A	N/A	103	97.4	5.57	N/A	85 - 115
Sulfate	N/A	1	N/A	N/A	N/A	104	99.5	4.69	N/A	85 - 115
%SS:	N/A	0.10	N/A	N/A	N/A	91	91	0	N/A	90 - 115

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

NONE

BATCH 18820 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511095-001c	11/03/05 1:25 PM	11/04/05	1/05/05 12:40 AM	0511095-001C	11/03/05 1:25 PM	11/04/05	11/07/05 6:05 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 applicable to this method.

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

DHS Certification No. 1644

QA/QC Officer

UISR 0511095

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CHAIN OF CUSTODY RECORD

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

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

Report To: Sher Guha Bill To:
Company: Essel Technology Service Inc.
9778 Brandmore Dr. San Ramon, CA. 94583
E-Mail: EsselTechService@aol.com
Tele: (415) 794-1960 Fax: (925) 833-7977
Project #: 056912 Project Name: AC Transit Div. 2
Project Location: Emeryville
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	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) BTEX + MTBE only	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Nitrate; Sulfate by EPA 300.0	Other	Other	Comm
W401 06	Emeryville	11/9	1-05	3	VOA	↓					X	X			X																			Filter Samples for Metals analysis: Yes / No
				↓							X	X													X									
W407 08				2	Amb						X	X					X																	
W409	↓		↓	1	Poly	↓					X	X																			X			
Trip Blank				1	VOA										X																			

Relinquished By:	Date:	Time:	Received By:
Sher Guha	11/14	11-15	[signature]
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 ____

VOAS O&G METALS OTHER

COMMENTS: