Treadwell&Rollo

9 March 2009
Project 3494.01

Ms. Barbara Jakub
Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Letter Report
Groundwater Monitoring Conducted 23 December 2008
Fuel Leak Case No. RO0000052
Former Peterson Manufacturing Company Facility
1600 63rd Street
Emeryville, California

Dear Ms. Jakub:

This letter report is submitted by Treadwell & Rollo, Inc. (T&R) on behalf of Wareham Property Group to document groundwater monitoring conducted on 23 December 2008 at 1600 63rd Street, Emeryville, California (the "Site"). The monitoring is being conducted to address item 5 in the 11 September 2008 letter from Alameda County Environmental Health Services (ACEHS).

BACKGROUND

The Site is located at 1600 63rd Street, Emeryville, California (Figure 1). The Site occupies 2.75 acres bounded by 63rd Street to the south, Overland Avenue to the west, 64th Street to the north, and the City of Emeryville Fire Station Number 2 to the east (Figure 2). The surrounding land use is primarily commercial and light industrial.

Numerous environmental investigation and remediation activities have been conducted by others at the Site since 1987. Historical environmental activities are documented in previous reports (SOMA, 1999a and T&R 2007a), and are not described in this report.

GROUNDWATER MONITORING

On 23 December 2008, groundwater monitoring and sampling were conducted for monitoring wells TR-1, TR-3, and TR-4. Monitoring wells TR-2, TR-5, and MW-2 were not sampled due to the presence of free phase product in the wells. Figure 2 shows the monitoring well locations.

Groundwater Sampling and Analytical Methods

Treadwell and Rollo used an oil/water interface meter to measure the depth to groundwater in monitoring wells TR-1, TR-2, TR-3, TR-4, TR-5 and MW-2. A sheen (<0.01 foot in thickness) of free phase product was detected in wells MW-2, TR-2, and TR-5. Groundwater elevations are summarized in Table 1. Free phase product measurements are summarized in Table 2.

Groundwater is interpreted to flow towards the west based on groundwater elevations measured on 23 December 2008. Groundwater gradient information is shown on Figure 3.

Groundwater samples from monitoring wells (TR-1, TR-3, and TR-4) were collected by purging at least three casing volumes of water from each well using a submersible purge pump. During purging, water-quality parameters (pH, temperature, conductivity, turbidity, and dissolved oxygen) were measured. Groundwater sampling forms are included in Appendix A. Stabilized groundwater quality measurements are presented in Table 3.

Purged groundwater samples were collected and placed into appropriately-preserved containers prepared by the laboratory for analysis. Each sample was immediately sealed, labeled, placed in an ice-cooled chest, and delivered to Curtis & Tompkins, a State-certified laboratory in Berkeley, California, under chain-of-custody procedures.

Groundwater samples were analyzed for:

- Total petroleum hydrocarbons quantified as diesel (TPHd) by EPA Method 8015M;
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA Method 8260;
- Fuel oxygenates and total petroleum hydrocarbons quantified as gasoline (TPHg) by EPA Method 8260B; and
- Total lead.

Groundwater Analytical Results

TPHg and BTEX were not detected above laboratory reporting limits in any samples. TPHd was detected in all three samples, and concentrations ranged from 0.20 mg/L to 1.1 mg/L. The laboratory reported that the chromatograms do not match the diesel standard (Table 4 and Appendix B). Previous investigations (SOMA Corporation, 1999a and 1999b) have also reported that the chromatograms do not match the diesel standard and that Friedman & Bruya results indicate “patterns displayed by these peaks are indicative of Bunker C or crude oil.” MTBE was detected in wells TR-1 and TR-4 at concentrations of 0.0097 mg/L and 0.0025 mg/L. Total lead was not detected above laboratory reporting limits in any sample.

Groundwater analytical results are presented in Table 4. Groundwater Sampling Forms are presented in Appendix A. Certified analytical laboratory reports are provided in Appendix B. Figure 2 shows the monitoring well locations.

The concentrations are similar to the historical groundwater data. The next round of groundwater monitoring will be conducted in March 2009.

Free Phase Product Results

The observed free phase product is dark brown to black in color and viscous. Free phase product is passively collected and removed by using hydrophobic collection socks and canisters located in wells MW-2, TR-2, and TR-5. The passive remediation system is monitored periodically. Removal volume measurements are collected and free phase product thickness measurements are performed. In the period of 11 November 2008 to 23 December 2008, 0.16 liters (L) of product was removed in well MW-2, 0.48 L was removed in well TR-2, and 0.42 L of product was removed in well TR-5.

CONCLUSIONS

Based on the monitoring results from the period January 2007 to December 2008, concentrations of the analyzed constituents are not increasing in any of the sampled wells. Total lead has not been detected above laboratory reporting limits in wells TR-3 and TR-4, and was detected above laboratory reporting limits only once, in July 2007, in well TR-1. TPH-g and the BTEX compounds have not been detected above laboratory reporting limits in wells TR-1, TR-3, or TR-4. We recommend that total lead, TPH-g, and BTEX be removed from the analytical suite based on these results. In addition, fuel oxygenates are not associated with the heavy fuel ("Bunker C") type that is the contaminant of concern at the Site. We recommend that fuel oxygenates also be removed from the analytical suite.

The next groundwater monitoring event will occur in March 2009. The results of the monitoring indicate that the hydrophobic socks are appropriate for removal of the free phase product in monitoring wells MW-2, TR-2 and TR-5. The next free phase product monitoring event will occur in March 2009.

Please feel free to contact Louis Arighi at (510) 874-4500 ext. 541 with any questions or comments.

Sincerely yours,
TREADWELL & ROLLO, INC.

PROFESSIONAL GEOLOGIST
LOUIS M. ARIGHI
NO. 8501
STATE OF CALIFORNIA

Louis M. Arighi, PG
Senior Staff Geologist

Matthew B. Hall, PE
Senior Project Scientist

Patrick B. Hubbard, PG, CEG
Principal Geologist

34940114.OAK

Attachments:
References
Figures
Tables
Appendices – On CD-ROM
Appendix A – Groundwater Sampling Forms and Free Phase Product Monitoring Forms
Appendix B – Laboratory Analytical Reports

REFERENCES

SOMA Corporation 1999a. Shallow Groundwater Sampling Results and Addendum to Additional Groundwater investigation Workplan, 1600 63rd Street, Emeryville. 7 July 1999.

SOMA Corporation 1999b. Shallow Groundwater Investigation Results, 1600 63rd Street, Emeryville. 2 September 1999.

Treadwell & Rollo 2007a. Letter Report, Supplemental Soil and Groundwater Investigation, Fuel Leak Case No. RO0000052, Former Peterson Manufacturing Company Facility, 1600 63rd Street, Emeryville, California. 21 March 2007.

Treadwell & Rollo 2007b. Letter Report, Groundwater Monitoring Conducted 26 July 2007, Fuel Leak Case No. RO0000052, Former Peterson Manufacturing Company Facility, 1600 63rd Street, Emeryville, California. 3 October 2007.

Treadwell & Rollo 2007c. Letter Report, Groundwater Monitoring conducted 30 October 2007, Fuel Leak Case No. RO0000052, Former Peterson Manufacturing Company Facility. 1600 63rd Street, Emeryville, California. 20 December 2007.

Treadwell & Rollo 2008a. Letter Report, Groundwater Monitoring conducted 30 January 2008, Fuel Leak Case No. RO0000052, Former Peterson Manufacturing Company Facility, 1600 63rd Street, Emeryville, California. 6 March 2008.

Treadwell & Rollo 2008b. Letter Report, Groundwater Monitoring conducted 3 October 2008, Fuel Leak Case No. RO0000052, Former Peterson Manufacturing Company Facility, 1600 63rd Street, Emeryville, California. 24 October 2008.

FIGURES

Base map: The Thomas Guide
Alameda County
1999

0 1/4 1/2 Mile

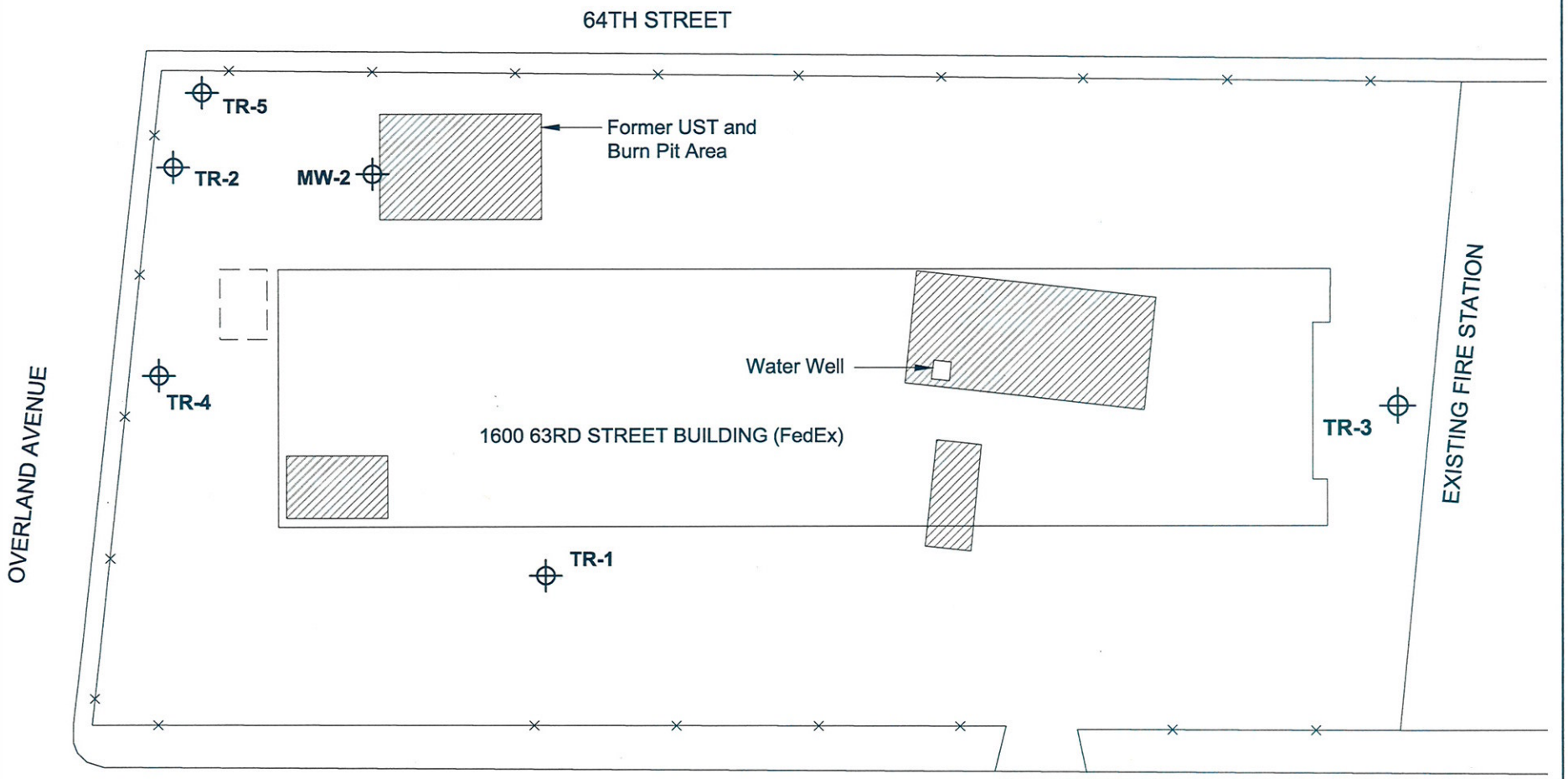
Approximate scale

1600 63RD STREET
Emeryville, California

SITE LOCATION MAP

Treadwell&Rollo

Date 02/17/09	Project No. 3494.01	Figure 1



Map Source: Harding Lawson Associates, 5/91, and SOMA, 2000.

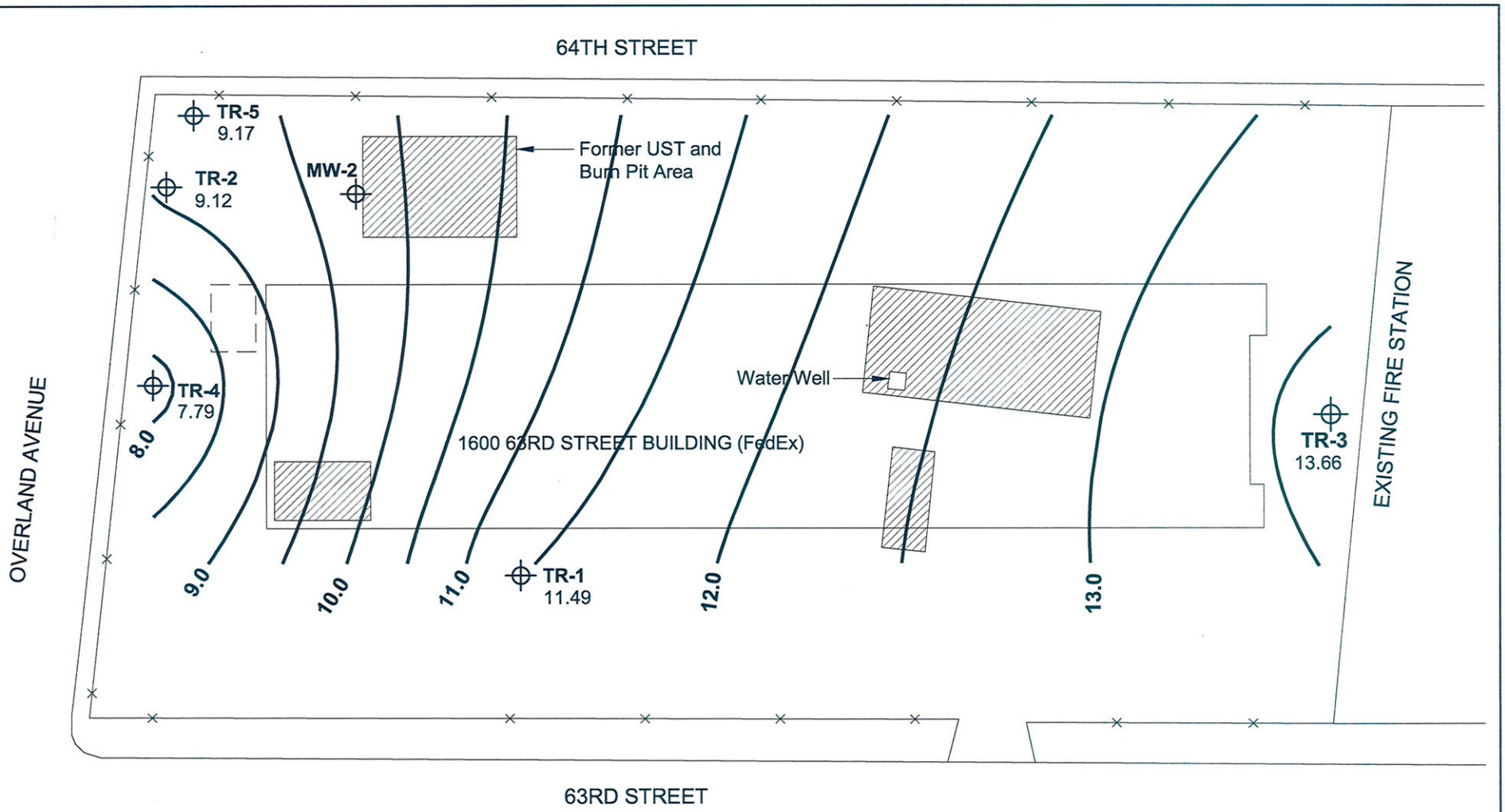
1600 63RD STREET
Emeryville, California

SITE PLAN

Date 02/17/09	Project No. 3494.01	Figure 2

Treadwell&Rollo

S:\Trgraphics-Oak\3400's\3494.01\3494.01-REV_SITE-PLAN 2._2-17-09dwg.dwg 2/17/09



EXPLANATION

- Location of monitoring well
- Soil and Tank excavation areas
- 8.0 — Isopiezometric line

0 60 Feet

Approximate scale

Map Source: Harding Lawson Associates, 5/91, and SOMA, 2000.

1600 63RD STREET
Emeryville, California

GROUNDWATER GRADIENT
MEASURED 23 DECEMBER 2008

Date 02/17/09	Project No. 3494.01	Figure 3

Treadwell&Rollo

S:\Trgraphics-Oak\3400's\3494.01\3494.01-GR-CNTRS-PLAN 3_2-17-09.dwg 2/27/09

TABLES

Treadwell&Rollo

TABLE 1
GROUNDWATER
ELEVATION DATA
1600 63rd Street, Emeryville, California

Well Number	Top-of-Casing Elevation (feet)	Depth of Well Screen Interval (feet)	Date Measured	Depth to Water (feet)	Water Elevation (feet)	Change in Elevation (feet)
MW-2	16.53	12.5-20.5	8/3/1989	6.66	9.87	
			9/21/1989	6.32	10.21	0.34
			10/20/1989	6.78	9.75	-0.46
			12/20/1989	7.32	9.21	-0.54
			3/20/1990	6.76	9.77	0.56
			5/11/1990	6.66*	--	--
			7/20/1990	6.74*	--	--
			11/12/1990	6.75*	--	--
			11/21/1990	7.00*	--	--
			2/7/1991	6.88*	--	--
			5/8/1991	6.92*	--	--
			5/14/1999	NM*	--	--
			11/28/2006	6.85*	--	--
			1/15/2007	6.80*	--	--
			1/30/2007	6.40*	--	--
			2/13/2007	5.83*	--	--
			2/27/2007	5.89*	--	--
			7/26/2007	6.67*	--	--
			10/30/2007	7.16	9.37	--
			1/30/2008	5.96	10.57	1.20
			10/3/2008	7.57	8.96	-1.61
			11/20/2008	7.46	9.07	0.11
			12/23/2008	6.73	9.80	0.73
TR-1	17.50	5-20	1/15/2007	6.21	11.29	
			1/30/2007	6.14	11.36	0.07
			7/26/2007	6.33	11.17	-0.19
			10/30/2007	6.35	11.15	-0.02
			1/30/2008	5.45	12.05	0.90
			10/3/2008	6.43	11.07	-0.98
			12/23/2008	6.01	11.49	0.42
TR-2	16.50	5-20	1/15/2007	8.11*	8.39	
			1/30/2007	7.19	7.19	-1.20
			2/13/2007	6.57*	9.93	2.74
			2/27/2007	6.59*	9.91	-0.02
			7/26/2007	7.75	8.75	-1.16
			10/30/2007	7.86	8.64	-1.27
			1/30/2008	6.76	9.74	1.10
			10/3/2008	8.12	8.38	-1.36
			11/20/2008	7.87	8.63	0.25
			12/23/2008	7.38	9.12	0.49
TR-3	18.60	5-20	1/15/2007	4.85	13.75	
			1/30/2007	4.68	13.92	0.17
			7/26/2007	5.16	13.44	-0.48
			10/30/2007	5.14	13.46	-0.46
			1/30/2008	4.53	14.07	0.61
			10/3/2008	5.22	13.38	-0.69
			12/23/2008	4.94	13.66	0.28

Treadwell&Rollo

TABLE 1
GROUNDWATER
ELEVATION DATA
1600 63rd Street, Emeryville, California

Well Number	Top-of-Casing Elevation (feet)	Depth of Well Screen Interval (feet)	Date Measured	Depth to Water (feet)	Water Elevation (feet)	Change in Elevation (feet)
TR-4	16.38	5-20	1/15/2007	8.71	7.67	
			1/30/2007	6.17	10.21	2.54
			7/26/2007	8.68	7.70	-2.51
			10/30/2007	8.79	7.59	-0.11
			1/30/2008	7.88	8.50	0.91
			10/3/2008	8.96	7.42	-1.08
			12/23/2008	8.59	7.79	0.37
TR-5	16.27	5-20	1/15/2007	7.34*	8.93	
			1/30/2007	6.87	9.40	0.47
			2/13/2007	6.22	10.05	0.65
			2/27/2007	6.19	10.08	0.03
			7/26/2007	6.19	9.98	-0.10
			10/30/2007	7.52	8.75	-1.23
			1/30/2008	6.42	9.85	1.10
			10/3/2008	7.85	8.42	-1.43
			11/20/2008	7.59	8.68	0.26
			12/23/2008	7.10	9.17	0.49

Notes:
* - Petroleum product measured in well (0.01- to 3-feet thick)
Survey conducted by CSS Environmental Services (Novato, CA) on 15 January 2007.
Water elevation referenced to mean sea level.
Monitoring wells MW1, MW3, MW4, and MW5 were abandoned on 15 January 2007.

Treadwell&Rollo

TABLE 2
FREE PHASE PRODUCT MEASUREMENTS
FROM WELLS MW-2, TR-2, and TR-5 (Since January 2007)
1600 63rd Street, Emeryville, California

Well Number	Top-of-Casing Elevation (feet)	Depth of Well Screen Interval (feet)	Date Measured	Free Phase Product (feet)	Depth to Water (feet)	Thickness of Free Phase Product (feet)	Unadjusted Water Level (feet)	Adjusted Water Level (feet)
MW-2	16.53	12.5-20.5	1/15/2007	6.72	6.80	0.08	9.73	9.79
			1/30/2007	6.33	6.40	0.07	10.13	10.19
			2/13/2007	5.81	5.83	0.02	10.70	10.72
			2/27/2007	5.78	5.89	0.11	10.64	10.73
			7/26/2007	6.65	6.67	0.02	9.86	9.88
			8/10/2007	6.89	6.91	0.02	9.62	9.64
			9/19/2007	7.05	7.07	0.02	9.46	9.48
			10/4/2007	7.36	7.36	<0.01	9.17	9.17
			10/30/2007	7.16	7.16	<0.01	9.37	9.37
			1/30/2008	5.96	5.96	<0.01	10.57	10.57
			10/3/2008	7.57	7.57	<0.01	8.96	8.96
			11/20/2008	7.46	7.46	<0.01	9.07	9.07
			12/23/2008	6.73	6.73	<0.01	9.80	9.80
TR-2	16.50	5-20	1/15/2007	7.42	8.11	0.69	8.39	8.94
			1/30/2007	7.19	7.19	<0.01	9.31	9.31
			2/13/2007	6.56	6.57	0.01	9.93	9.94
			2/27/2007	6.58	6.59	0.01	9.91	9.92
			7/26/2007	7.75	7.75	<0.01	8.75	8.75
			8/10/2007	7.87	7.87	<0.01	8.63	8.63
			9/19/2007	8.01	8.01	<0.01	8.49	8.49
			10/4/2007	8.15	8.15	<0.01	8.35	8.35
			10/30/2007	7.86	7.86	<0.01	8.64	8.64
			1/30/2008	6.76	6.76	<0.01	9.74	9.74
			10/3/2008	8.12	8.12	<0.01	8.38	8.38
			11/20/2008	7.87	7.87	<0.01	8.63	8.63
			12/23/2008	7.38	7.38	<0.01	9.12	9.12
TR-5	16.27	5-20	1/15/2007	7.14	7.34	0.20	8.93	9.09
			1/30/2007	6.87	6.87	<0.01	9.40	9.40
			2/13/2007	6.22	6.22	<0.01	10.05	10.05
			2/27/2007	6.19	6.19	<0.01	10.08	10.08
			7/26/2007	6.19	6.19	<0.01	10.08	10.08
			8/10/2007	7.56	7.56	<0.01	8.71	8.71
			9/19/2007	7.70	7.70	<0.01	8.57	8.57
			10/4/2007	7.78	7.78	<0.01	8.49	8.49
			10/30/2007	7.52	7.52	<0.01	8.75	8.75
			1/30/2008	6.42	6.42	<0.01	9.85	9.85
			10/3/2008	7.85	7.85	<0.01	8.42	8.42
			11/20/2008	7.59	7.59	<0.01	8.68	8.68
			12/23/2008	7.10	7.10	<0.01	9.17	9.17

General Notes:
Measurements collected from top of casing, north side.
Adjusted water level = unadjusted water level + (Thickness of Free Phase Product x 0.8).

Treadwell&Rollo

TABLE 3
Water Quality Measurements
1600 63rd Street, Emeryville, California

Well Number	Date	Purge Method	Purge Duration (minutes)	Volume Purged (gallons)	Purged Dry? (yes/no)	Dissolved Oxygen (mg/L)	pH	Specific Conductance (µS/cm)	Temperature (C°)	ORP (mV)
TR-1	1/15/2007	SP	30	30.0	No	NM	6.62	830	NM	140
	7/26/2007	SP	10	7.5	No	1.07	7.02	910	22.7	70
	10/30/2007	SP	9	8.5	No	1.49	6.84	900	23.1	10
	1/30/2008	SP	10	10.0	No	1.17	6.90	810	20.6	40
	10/3/2008	SP	5	7.0	No	0.69	6.96	910	24.1	-10
	12/23/2008	SP	6	10	No	1.82	6.84	1,309	17.6	NM
TR-3	1/15/2007	SP	35	20.0	Yes	NM	7.75	1,330	21.4	NM
	7/26/2007	SP	20	7.5	No	1.19	6.90	1,530	18.8	120
	10/30/2007	SP	13	10.0	No	1.21	6.88	1,420	19.1	150
	1/30/2008	SP	14	10.0	No	0.95	7.04	1,310	17.5	70
	10/3/2008	SP	5	7.0	No	1.07	7.21	1,500	21.4	70
	12/23/2008	SP	5	10	No	0.52	6.92	1,362	18.1	NM
TR-4	1/15/2007	SP	25	25.0	No	NM	6.76	1,780	NM	130
	7/26/2007	SP	7	7.0	No	1.59	7.00	1,800	20.4	50
	10/30/2007	SP	6	8.0	No	1.07	7.06	1,920	20.3	-10
	1/30/2008	SP	6	9.0	No	1.25	7.26	1,670	19.0	40
	10/3/2008	SP	3	5.0	No	1.03	6.97	1,970	21.4	0
	12/23/2008	SP	4	8	No	0.76	6.93	1,719	18.7	NM

General Notes
ORP = Oxidation Reduction Potential
mV = millivolts
mg/L = milligrams per Liter
µS/cm = microseimens per centimeter
SP = submersible pump

Treadwell&Rollo

TABLE 4
GROUNDWATER SAMPLING RESULTS FROM MONITORING WELLS
1600 63rd Street, Emeryville, California

Sample No.	Date Sampled	Notes	Chemical Concentrations Detected (mg/L)												
			TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	PCBs	EPA 8080 Analytes	EPA 8270 Analytes	EPA 8240 Analytes	Fuel Oxygenates (including Ethanol)	Total Lead	Motor Oil
HLA															
MW-2	6/25/1989		<0.5	0.3	<0.005	<0.005	<0.005	<0.005	<0.0005	--	(2)	<0.01	--	--	--
	9/21/1989		**1**	<0.5	<0.005	<0.005	<0.005	<0.005	<0.0005	(3)	(4)	<0.01	--	--	--
	12/20/1989		<0.5	**0.53**	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	(5)	<0.01	--	--	--
	2/20/1990		**49**	0.42	<0.005	<0.005	<0.005	<0.005	<0.0005	(6)	(7)	0.044 (8)	--	--	--
	5/11/1990		**8.4**	**1.2**	<0.005	<0.005	<0.005	<0.005	--	--	--	<0.01	--	--	--
	5/11/1990		**<2.5**	<0.5	<0.01	<0.01	<0.01	<0.01	--	--	--	<0.02	--	--	--
	7/20/1990		**27**	**3.9**	<0.005	<0.005	<0.005	0.011	--	ND	--	--	--	--	--
	7/20/1990		**30**	**2.3**	<0.005	<0.0025	<0.0025	0.0033	--	ND	--	--	--	--	--
	11/12/1990		**61**	**380**	<0.005	<0.0005	<0.0005	0.0005	<0.0005	ND	--	--	--	--	--
	11/12/1990		**35**	**7**	<0.005	0.0009	0.0001	0.0079	<0.0005	ND	--	--	--	--	--
	2/7/1991		**41**	**11**	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	ND	--	--	--	--	--
	2/7/1991		**27**	**13**	<0.005	<0.0005	<0.0005	0.043	<0.0005	ND	--	--	--	--	--
	5/8/1991		**43**	**88**	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	5/8/1991		**26**	**150**	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
Certified															
MW-2	11/19/1992		**22**	**0.59**	<0.0003	0.0014	<0.0003	0.0015	--	--	--	--	--	--	--
	7/13/1994		**6**	<2	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--
SOMA Corporation-Monitoring Wells															
MW-2	5/14/1999	(1)	**550**	**210**	**<2.5**	**<2.5**	**<2.5**	**4.9**	<0.5	--	--	--	--	--	<3,500
Treadwell & Rollo, Inc.															
MW-2	1/10/2007	(9)	**10**	**0.6**	<0.0005	<0.0005	<0.0005	0.00053	--	--	--	--	MtBE = 0.00095 Di-isopropyl ether = 0.00097 Others <0.0005 to <0.1	<0.1	--
TR-1	1/15/2007	(9)	0.14	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.0074 Others <0.0005 to <0.1	<0.1	--
	7/26/2007		0.20	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.0085 Others <0.0005 to <0.01	0.0038	--
	10/30/2007	(9)	0.25	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.0078 Others <0.0005 to <0.01	<0.0034	--
	1/30/2008	(9)	0.12	< 0.05	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	--	--	--	MtBE = 0.0078 Others <0.0005 to <0.01	<0.003	
	10/3/2008	(9)	0.20	< 0.05	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	--	--	--	MtBE = 0.008 Others <0.0005 to <0.01	<0.003	--
	12/23/2008	(9)	0.26	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.0097 Others <0.0005 to <0.01	<0.003	--
TR-2	1/10/2007	(9)	**480**	**3.4**	<0.005	<0.005	<0.005	<0.005	--	--	--	--	<0.005 to <1	<0.1	--
TR-3	1/10/2007	(9)	0.098	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	Other <0.0005 to <0.1	<0.1	--
	7/26/2007		0.37	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	Other <0.0005 to <0.01	<0.003	--
	10/30/2007	(9)	0.17	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	Other <0.0005 to <0.05	<0.003	--
	1/30/2008	(9)	0.27	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	Other <0.0005 to <0.05	<0.003	--
	10/3/2008	(9)	0.21	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	Other <0.0005 to <0.01	<0.003	--
	12/23/2008	(9)	0.22	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	Other <0.0005 to <0.01	<0.003	--
TR-4	1/10/2007	(9)	0.43	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.0022 Di-isopropyl ether = 0.001 Other <0.0005 to <0.1	<0.1	--
	7/26/2007		**0.76**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.003 Di-isopropyl ether = 0.0014 Other <0.0005 to <0.01	<0.003	--
	10/30/2007	(9)	**1.00**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	Other <0.0005 to <0.05	<0.0034	--
	1/30/2008	(9)	**1.00**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.0022 Di-isopropyl ether = 0.0012 Other <0.0005 to <0.01	<0.003	--
	10/3/2008	(9)	**0.67**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.0021 Di-isopropyl ether = 0.0012 Other <0.0005 to <0.01	<0.003	--
	12/23/2008	(9)	**1.1**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	MtBE = 0.0025 Di-isopropyl ether = 0.0017 Other <0.0005 to <0.01	<0.003	--
TR-5	1/10/2007	(9)	**31**	**12**	<0.005	<0.005	<0.005	<0.005	--	--	--	--	<0.005 to <1	<0.1	--
ESL			0.64	0.5	0.046	0.13	0.29	0.1	0.014				MtBE = 1.8		

General Notes:
- mg/L = milligrams per liter
- TPHd = Total Petroleum Hydrocarbons as Diesel
- TPHg = Total Petroleum Hydrocarbons as Gasoline
- PCBs = Polychlorinated biphenyls
- MtBE = Methyl tert-Butyl Ether
- < = Below Specified Reporting Limits.
- -- = Not Analyzed.
- ESL = Environmental Screening Level, Shallow Soil, Groundwater not a source of drinking water, Commercial/Industrial Land Use (RWQCB 2005)
- **1** = **Bold** values exceed the environmental screening levels.

Footnotes:
- (1) Product sample collected; Chromalab (STL San Francisco) results indicate hydrocarbon reported does not match diesel standard. Friedman & Bruya results indicate "patterns displayed by these peaks are indicative of Bunker C or crude oil"
- (2) Trace fluorene detected
- (3) 0.00016 ppm heptachlor and 0.00015 ppm 4,4'-DDD detected.
- (4) 0.006 ppm fluorene, 0.005 ppm bis (2-ethyl-hexyl) phthalate, and 0.0061 ppm 2-methyl-napthalene detected.
- (5) 0.012 ppm 2-methyl-napthalene detected.
- (6) 0.00035 ppm Gamma-BHC detected.
- (7) 0.0061 ppm fluorene, 0.018 ppm 2-methyl-napthalene, and 0,0055 ppm phenanthrene detected.
- (8) 0.044 ppm acetone detected.
- (9) Laboratory reported that the TPH compounds detected in samples did not match their respective laboratory standard.

Table 5
Free Phase Product Monitoring Table
1600 63rd Street
Emeryville, California

Treadwell&Rollo

	MW-2		TR-2		TR-5		
FPP Extraction System	Hydrophobic Sock		Hydrophobic Sock		Hydrophobic Sock		
Date	Volume (L)	Extraction Rate (L/day)	Volume (L)	Extraction Rate (L/day)	Volume (L)	Extraction Rate (L/day)	Notes
8/15/2007	--	--	0.00	--	0.00	--	
9/19/2007	--	--	0.00	0.000	0.21	0.006	Sock changed out in TR-2 & TR-5
10/4/2007	--	--	0.34	0.023	0.13	0.009	
10/30/2007	--	--	0.34	0.013	0.05	0.002	
11/16/2007	--	--	0.03	0.002	0.37	0.022	Sock changed out in TR-2 & TR-5
1/30/2008	--	--	0.95	0.013	0.55	0.007	Sock changed out in TR-2 & TR-5; installed Hydrophobic Sock in MW-2
5/2/2008	0.48	0.005	0.95	0.010	0.95	0.010	
8/8/2008	0.24	0.002	0.34	0.002	0.58	0.003	
11/20/2008	0.24	0.002	0.48	0.005	0.42	0.004	Sock changed out in TR-2 & TR-5; installed Hydrophobic Sock in MW-2
12/23/2008	0.16	0.005	0.48	0.015	0.42	0.013	
extracted	1.12		3.91		3.68		

Notes:
L - liters
FPP - free phase product
Hydrophobic Sock - Durham Geo Slope Indicator, model no. TB2-100, SoakEase™ absorbent sock

APPENDIX A
Groundwater Sampling Forms and Free Phase Product Monitoring Forms

GROUNDWATER SAMPLING FORM

Project Name 1600 63rd St Well No. TR-1

Project Number 3494.01 Well Type [X] Monitor [ ] Extraction [ ] Other

Recorded By LMA Sampled by LMA Date 12/23/08

WELL PURGING

PURGE VOLUME

Well casing diameter

[X] 2-inch [ ] 3/8-inch [ ] Other 1

Well Total Depth (TD, ft. below TOC): 25

Depth to Water (WL, ft. below TOC): 6.01

Depth to free phase (FP, ft. below TOC):

Number of casing volumes to be purged

[ ] 4 [ ] 10 [ ] Other

PURGE METHOD

[ ] Bailer \ Type

[X] Pump \ Type submersible

[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)

[X] Near Bottom Depth (ft) 25

[ ] Other

PURGE VOLUME CALCULATION

18.99 (Water Column Length) x 0.17 (Multiplier) x 3 (No. Vols) = 9.7 gals CALCULATED PURGE VOLUME

Total Purge Time

Recharge Rate

(Multiplier : 2" = 0.17, 4" = 0.66, 6" = 1.5)

Purge Rate

gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENTS

Meter ir Meter Type Horiba U22 Flow Through Cell

Time	gal / Liters	pH	Temp °F	Cond. (mS/cm)	Turbidity NTU	DO (%)	DO (mg/L)	ORP (mV)	Comments
1256	1 0	7.37	20.5	1218	Clear		3.36		
1257	1 3	7.05	20.9	1008	Slightly cloudy		1.34		
1259	1 5	6.84	17.6	1309	Clear		1.82		
1302	1 10								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								

Comments Purge water storage/disposal [X] Drummed onsite [ ] Other

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 12/23/08 1315

Bailer - Type [X] Poly Sample port [ ] Other [ ]

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
TR-1-1208	3 VOAs	gas/BTEX/oxys	HCl	Curtis & Tompkins	
	1 1-L Amber	TPH-d	none		
	1 poly	lead	HNO_3		

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinsate	
Transfer	
Other:	

Treadwell&Rollo
Environmental and Geotechnical Consultant

GROUNDWATER SAMPLING FORM

Project Name 1600 63rd St Well No. TR-3

Project Number 3494.01 Well Type [X] Monitor [ ] Extraction [ ] Other

Recorded By LMA Sampled by LMA Date 12/23/08

WELL PURGING

PURGE VOLUME

Well casing diameter

[X] 2-inch [ ] 3/8-inch [ ] Other

Well Total Depth (TD, ft. below TOC): 25.

Depth to Water (WL, ft. below TOC): 4.94

Depth to free phase (FP, ft. below TOC): --

Number of casing volumes to be purged

[ ] 4 [ ] 10 [ ] Other

PURGE METHOD

[ ] Bailer \ Type

[X] Pump \ Type Submersible pump

[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)

[X] Near Bottom Depth (ft) 25

[ ] Other

PURGE VOLUME CALCULATION

20.06 (Water Column Length) x 0.17 (Multiplier) x 3 (No. Vols) = 10.2 gals CALCULATED PURGE VOLUME

Total Purge Time

Recharge Rate

(Multiplier : 2" = 0.17, 4" = 0.66, 6" = 1.5)

Purge Rate

gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENTS

Meter or Meter Type Horiba U22 Flow Through Cell

Time	/ Liters gal	pH	Temp °F	Cond. µS (mS/cm)	Turbidity NTU	DO (%)	DO (mg/L)	ORP (mV)	Comments
1151	/ 0.0	8.03	17.4	1288	Clear		3.59		
1152	/ 3.0	7.32	17.6	1291	clear		1.09		
1154	/ 5.0	7.01	18.1	1358	clear		0.71		
1156	/ 10.0	6.92	18.1	1362	clear		0.57		
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								

Comments Purge water storage/disposal [X] Drummed onsite [ ] Other

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 12/23/08, 1120

Bailer - Type [X] poly Sample port [ ] Other [ ]

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
TR-3-4Q08	3 VOAs	gas/BTEX/fuel ox	HCl	Curtis & Tompkins	
	1 1-L amber	TPH-d	none		
	1 poly	lead	HNO_3		

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinsate	
Transfer	
Other:	

Treadwell&Rollo
Environmental and Geotechnical Consultant

GROUNDWATER SAMPLING FORM

Project Name 1600 63rd St Well No. TR-4

Project Number 3494.01 Well Type [X] Monitor [ ] Extraction [ ] Other

Recorded By LMA Sampled by LMA Date

WELL PURGING

PURGE VOLUME

Well casing diameter

[X] 2-inch [ ] 3/8-inch [ ] Other

Well Total Depth (TD, ft. below TOC): 25

Depth to Water (WL, ft. below TOC): 8.59

Depth to free phase (FP, ft. below TOC):

Number of casing volumes to be purged

[ ] 4 [ ] 10 [ ] Other

PURGE METHOD

[ ] Bailer \ Type

[X] Pump \ Type Submersible

[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)

[X] Near Bottom Depth (ft)

[ ] Other

PURGE VOLUME CALCULATION

16.41 (Water Column Length) x 0.17 (Multiplier) x 3 (No. Vols) = 8.4 gals CALCULATED PURGE VOLUME

Total Purge Time (Multiplier : 2" = 0.17, 4" = 0.66, 6" = 1.5) gals ACTUAL PURGE VOLUME

Recharge Rate Purge Rate

GROUNDWATER PARAMETER MEASUREMENTS

Meter or Meter Type Horiba U22 Flow Through Cell

Time	Liters (991)	pH	Temp °C *F	Cond. (mS/cm)	Turbidity NTU	DO (%)	DO (mg/L)	ORP (mV)	Comments
1344	0	7.72	11.7	1.700			7.43		
1346	3	7.10	18.5	1.747			1.35		
1348	8	6.93	18.7	1.719			0.76		
				1					

Comments Purge water storage/disposal [X] Drummed onsite [ ] Other

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 12/23/08 1410

Bailer - Type [X] poly Sample port [ ] Other [ ]

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
TR-4-4Q08	3 VOAs	8260/oxygenates	HCl	Curtis & Tompkins	
	1 1-L amber	TPH-d	none		
	1 Poly	total lead	HNO_3		

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinsate	
Transfer	
Other:	

Treadwell&Rollo
Environmental and Geotechnical Consultant

1600 63rd Street
Free Phase Product
O&M Form
3494.01

Date: 12/23/08 **Field Engineer:** Louis Arighi

TR-2

DTW	DTP	Thickness of Product	Interval of Sock	Measured fpp on Sock	Volume fpp 1)	Comments
7.38	- -*	<0.01	6-9' below TOC	18 inches	18/36 * 0.95 = 0.48L	Sock turned upside down

TR-5

DTW	DTP	Thickness of Product	Interval of Sock	Measured fpp on Sock	Volume fpp 1)	Comments
7.10	- -*	<0.01	6-9' below TOC	16"	16/36 * 0.95 = 0.42L	Sock turned upside down

MW-2

DTW	DTP	Thickness of Product	Collected fpp (in)	Volume fpp	Comments
6.73	- -*	~~0 in coniter~~	0 in coniter ~6 in on sock	~~no fpp in our sock~~ 6/36 * 0.95 = 0.16	Sock left in place

1) Volume of FPP on Sock calculated using the formula: length of stained sock/total length of sock [36 inches] * volume of saturated sock [0.95 liters]
2) Sock interval changed

*sheen on probe

Treadwell&Rollo

FIELD REPORT NO. ____
Sheet 1 of 1

Project: 1600 63rd St, Emeryville
Project No: 3494.01
Subject: FIELD INVESTIGATION DAILY REPORT
Date: 12/23/08
Field Engineer: Louis Arighi
To: MBH
Time: ____
Weather: Cloudy
Reviewed by: ____ Date: ____

1015 Arrived on-site after getting purge water buckets at Home Depot.
Began taking DTW Measurements, and sorbent sock measurements. (See O&M sheet). Take DTW measurements in TR-4, TR-1, TR-3.

	DTW	DTP
TR-4	8.59	none
TR-1	6.01	none
TR-3	4.94	none

1130 Began sampling GW @ TR-3 1230 Lunch 1245 Return from lunch

1430 Left site to submit samples to Curtis & Tompkins

Attachments: ____

Initials ZMA

APPENDIX B
Laboratory Analytical Reports


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 208890
ANALYTICAL REPORT

Treadwell & Rollo	Project : 3494.01
501 14th Street	Location : 1600 63rd St
Oakland, CA 94612	Level : II

Sample ID	Lab ID
TR-1-4Q08	208890-001
TR-3-4Q08	208890-002
TR-4-4Q08	208890-003
TRIP BLANK	208890-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 01/06/2009
Project Manager

Signature: _____ Date: 01/06/2009
Senior Program Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**208890**
Client:	**Treadwell & Rollo**
Project:	**3494.01**
Location:	**1600 63rd St**
Request Date:	**12/23/08**
Samples Received:	**12/23/08**

This data package contains sample and QC results for three water samples, requested for the above referenced project on 12/23/08. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High surrogate recoveries were observed for bromofluorobenzene in TR-1-4Q08 (lab # 208890-001) and TR-4-4Q08 (lab # 208890-003); no associated target analytes were detected in the sample. No other analytical problems were encountered.

Metals (EPA 6010B):
No analytical problems were encountered.

006969

2045810

Treadwell&Rollo

Environmental and Geotechnical Consultant

CHAIN OF CUSTODY RECORD

Page 1 of 1

☐ 555 Montgomery Street, Suite 1300, San Francisco, CA 94111 Ph: 415.955.9040/Fax: 415.955.9041
☒ 501 14th Street, Third Floor, Oakland CA 94612 Ph: 510.874.4500/Fax: 510.874.4507
☐ 777 Campus Commons Road, Suite 200, Sacramento, CA 95825 Ph: 916.565.7412/Fax: 916.565.7413
☐ 50 Airport Parkway, Suite 175, San Jose, CA 95110 Ph: 408.437.7708/Fax: 408.437.7709

Site Name: 1600 63rd St
Job Number: 3494.01
Project Manager\Contact: Matt Hall (MHall@treadwellrollo.com)
Samplers: Louis Arighi (LArighi@treadwellrollo.com)
Recorder (Signature Required): [signature]

Turnaround Time: 5-day

	Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix: Soil	Water	Air	Other	No. Containers & Preservative: HCL	H_2SO_4	HNO_3	Ice	Analysis Requested: TPH-g	BTEX	fuel oxygenates	TPH-d	total lead	Silica gel clean-up	Hold	Remarks
1	TR-1-4Q08	12/23/08	1315			X			3		1	1	X	X	X	X	X			
2	TR-3-4Q08	↓	1120			X			3		1	1	X	X	X	X	X			
3	TR-4-4Q08	↓	1410			X			3		1	1	X	X	X	X	X			

	Date	Time		Date	Time
Relinquished by: (Signature) [signature]	12/23/08	1445	Received by: (Signature) [signature]	12/23/08	1445
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by Lab: (Signature)	Date	Time

Sent to Laboratory (Name): Curtis & Tompkins
Laboratory Comments/Notes:

Method of Shipment: ☐ Lab courier ☐ Fed Ex ☐ Airborne ☐ UPS ☒ Hand Carried ☐ Private Courier (Co. Name)

White Copy - Original Yellow Copy - Laboratory Pink Copy - Field COC Number:

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 208890 Date Received 12/23/8 Number of coolers 1
Client TREADWELL + ROLLO Project 1600 63RD ST

Date Opened 12/23/8 By (print) S. EVANS (sign)
Date Logged in / By (print) (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES ~~NO~~
   Shipping info
2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ~~NO~~
   How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

~~Bubble Wrap~~	~~Foam blocks~~	~~Bags~~	☐ None
☐ Cloth material	☐ Cardboard	☐ Styrofoam	~~Paper towels~~

7. Temperature documentation:

   Type of ice used: ~~Wet~~ ☐ Blue/Gel ☐ None Temp(°C) 6

   ☐ Samples Received on ice & cold without a temperature blank

   ~~Samples received on ice directly from the field. Cooling process had begun~~

8. Were Method 5035 sampling containers present? YES ~~NO~~
   If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are samples in the appropriate containers for indicated tests? YES NO
11. Are sample labels present, in good condition and complete? YES NO
12. Do the sample labels agree with custody papers? YES NO
13. Was sufficient amount of sample sent for tests requested? YES NO
14. Are the samples appropriately preserved? YES NO N/A
15. Are bubbles > 6mm absent in VOA samples? YES NO N/A
16. Was the client contacted concerning this sample delivery? YES NO
    If YES, Who was called? By Date:

COMMENTS
3 VOAs w/ HCl + H^2O RECEIVED, NO LABELS, LOGGED IN ON HOLD.

SOP Volume: Client Services
Section: 1.1.2
Page: 1 of 1

Rev. 6 Number 1 of 3
Effective: 23 July 2008
Z:\qc\forms\checklists\Cooler Receipt Checklist_rv6.doc

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3520C
Project#:	3494.01	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/23/08
Units:	ug/L	Received:	12/23/08
Diln Fac:	1.000	Prepared:	12/30/08
Batch#:	146528		

Field ID:	TR-1-4Q08	Lab ID:	208890-001
Type:	SAMPLE	Analyzed:	12/31/08

Analyte	Result	RL
Diesel C10-C24	260 Y	50

Surrogate	%REC	Limits
o-Terphenyl	97	63-124

Field ID:	TR-3-4Q08	Lab ID:	208890-002
Type:	SAMPLE	Analyzed:	01/01/09

Analyte	Result	RL
Diesel C10-C24	220 Y	50

Surrogate	%REC	Limits
o-Terphenyl	99	63-124

Field ID:	TR-4-4Q08	Lab ID:	208890-003
Type:	SAMPLE	Analyzed:	01/01/09

Analyte	Result	RL
Diesel C10-C24	1,100 Y	50

Surrogate	%REC	Limits
o-Terphenyl	101	63-124

Type:	BLANK	Analyzed:	12/31/08
Lab ID:	QC477602		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	102	63-124

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3520C
Project#:	3494.01	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC477603	Batch#:	146528
Matrix:	Water	Prepared:	12/30/08
Units:	ug/L	Analyzed:	12/31/08

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,941	78	52-120

Surrogate	%REC	Limits
o-Terphenyl	87	63-124

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3520C
Project#:	3494.01	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	146528
MSS Lab ID:	208897-002	Sampled:	12/22/08
Matrix:	Water	Received:	12/23/08
Units:	ug/L	Prepared:	12/30/08
Diln Fac:	1.000	Analyzed:	12/31/08

Type: MS Cleanup Method: EPA 3630C
Lab ID: QC477604

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	<11.75	2,500	1,802	72	43-121

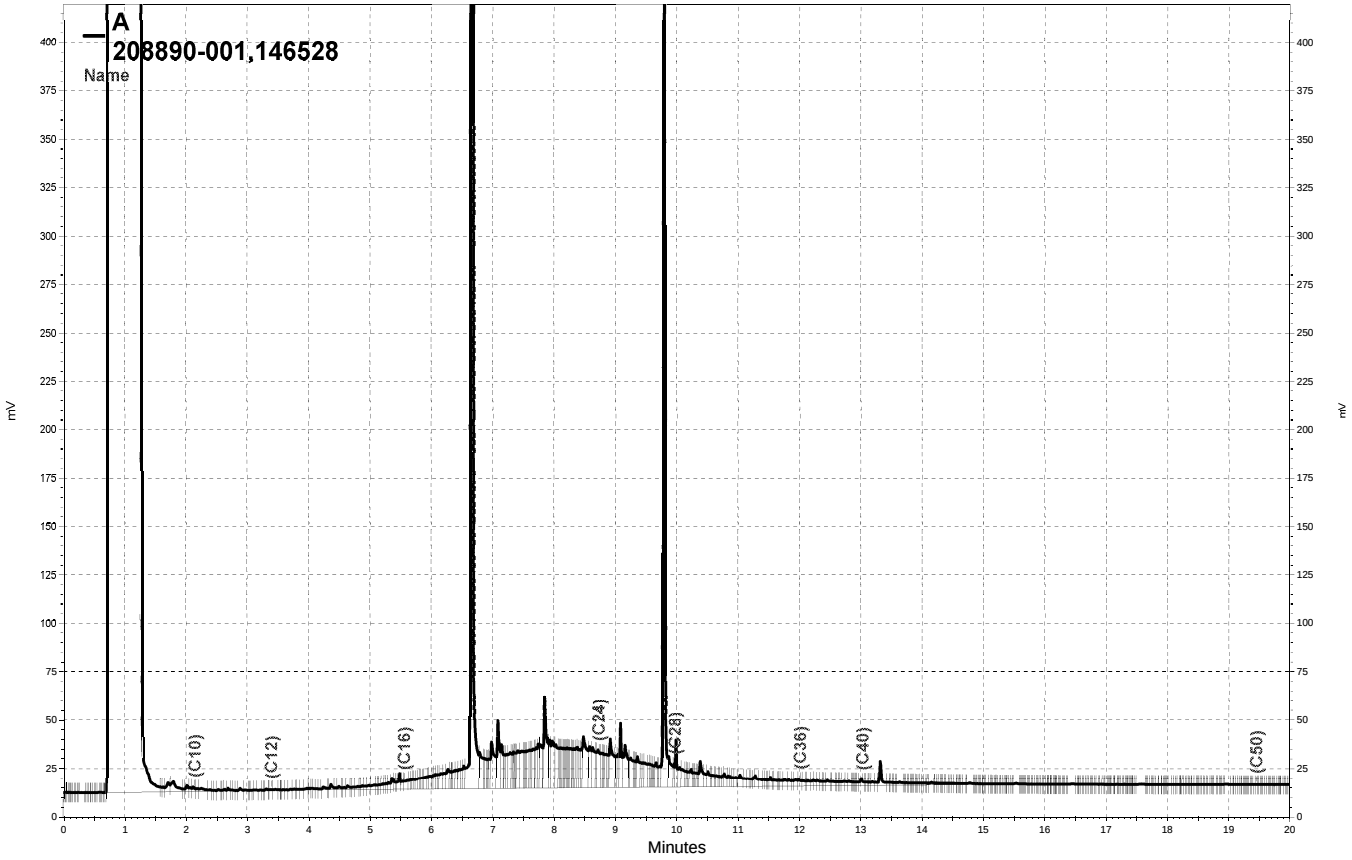
Surrogate	%REC	Limits
o-Terphenyl	80	63-124

Type: MSD Cleanup Method: EPA 3630C
Lab ID: QC477605

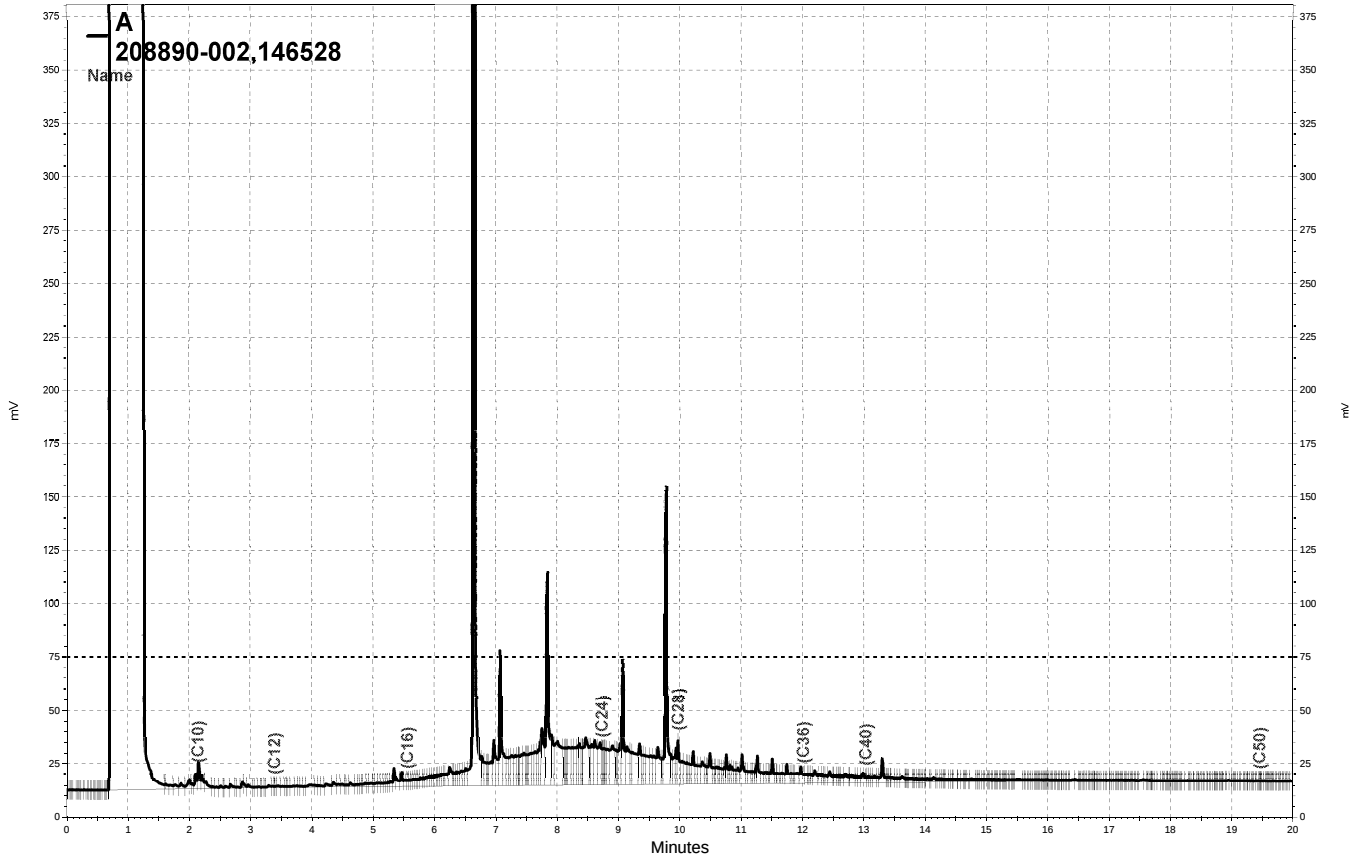
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,758	70	43-121	2	36

Surrogate	%REC	Limits
o-Terphenyl	81	63-124

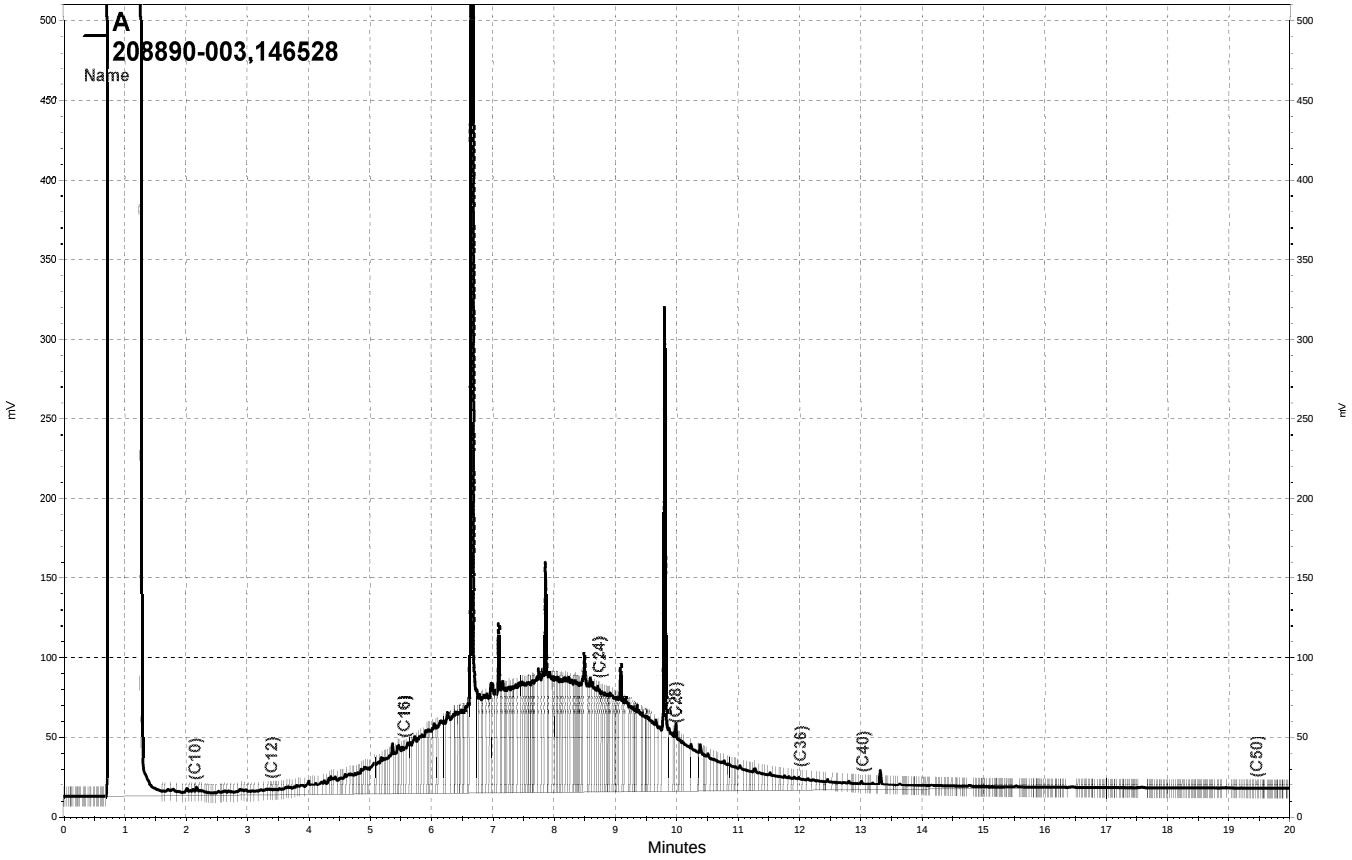
RPD= Relative Percent Difference



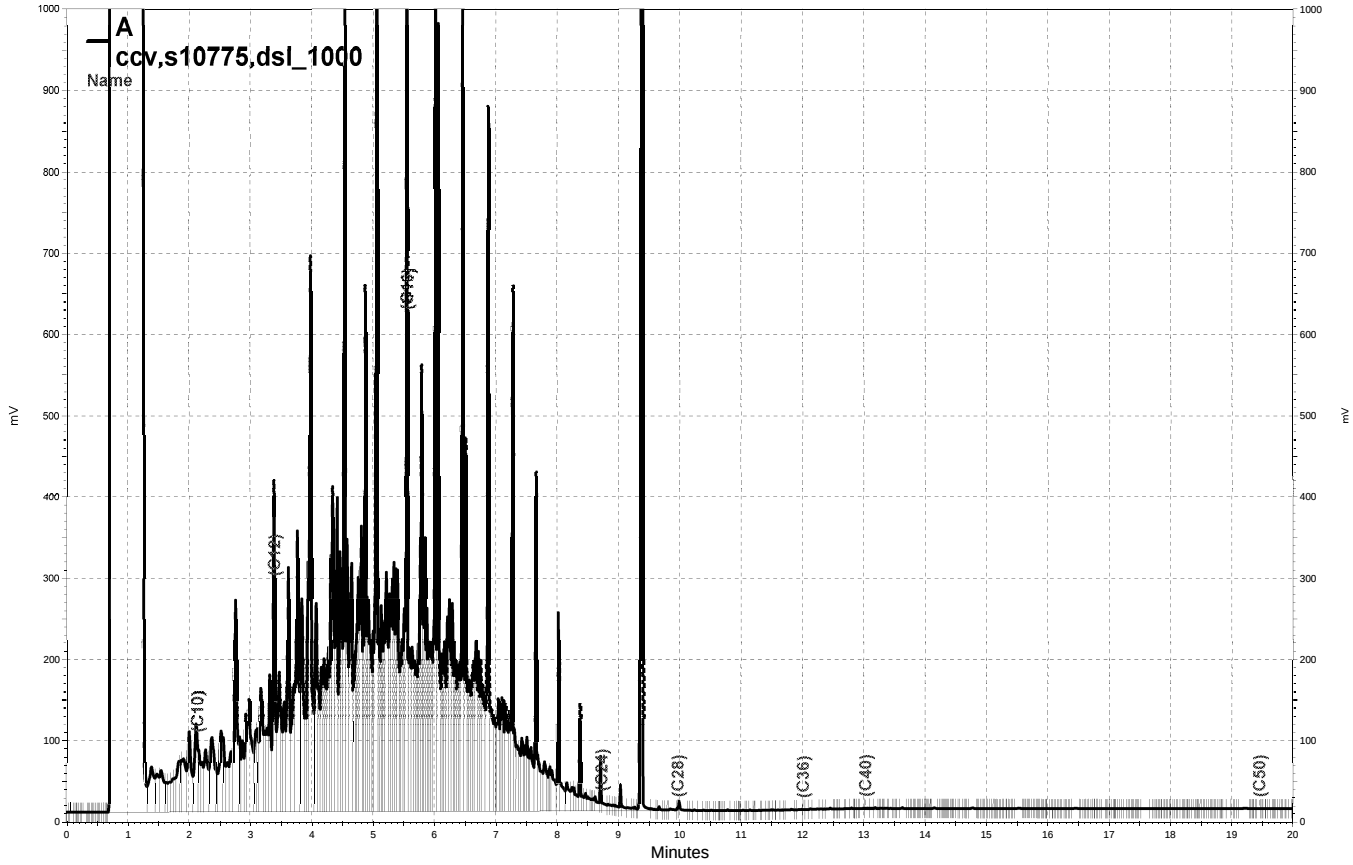
\\Lims\gdrive\ezchrom\Projects\GC17A\Data\364a121, A



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\364a122, A



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\364a123, A



\\Lims\gdrive\ezchrom\Projects\GC17A\Data\364a106, A

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Field ID:	TR-1-4Q08	Batch#:	146511
Lab ID:	208890-001	Sampled:	12/23/08
Matrix:	Water	Received:	12/23/08
Units:	ug/L	Analyzed:	12/30/08
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	9.7	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-125
1,2-Dichloroethane-d4	100	80-137
Toluene-d8	110	80-120
Bromofluorobenzene	123 *	80-122

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Field ID:	TR-3-4Q08	Batch#:	146511
Lab ID:	208890-002	Sampled:	12/23/08
Matrix:	Water	Received:	12/23/08
Units:	ug/L	Analyzed:	12/30/08
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-125
1,2-Dichloroethane-d4	100	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	122	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Field ID:	TR-4-4Q08	Batch#:	146511
Lab ID:	208890-003	Sampled:	12/23/08
Matrix:	Water	Received:	12/23/08
Units:	ug/L	Analyzed:	12/30/08
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	1.7	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	2.5	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-125
1,2-Dichloroethane-d4	101	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	124 *	80-122

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC477535	Batch#:	146511
Matrix:	Water	Analyzed:	12/30/08
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-125
1,2-Dichloroethane-d4	98	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	121	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	146511
Units:	ug/L	Analyzed:	12/30/08
Diln Fac:	1.000		

Type: BS Lab ID: QC477536

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	750.0	715.3	95	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-125
1,2-Dichloroethane-d4	95	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	110	80-122

Type: BSD Lab ID: QC477537

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	750.0	661.1	88	80-120	8	20

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-125
1,2-Dichloroethane-d4	93	80-137
Toluene-d8	107	80-120
Bromofluorobenzene	112	80-122

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	146511
Units:	ug/L	Analyzed:	12/30/08
Diln Fac:	1.000		

Type: BS Lab ID: QC477538

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	90.38	90	59-152
Isopropyl Ether (DIPE)	20.00	22.21	111	67-126
Ethyl tert-Butyl Ether (ETBE)	20.00	20.08	100	69-127
Methyl tert-Amyl Ether (TAME)	20.00	21.19	106	80-122
MTBE	20.00	16.10	80	70-125
1,2-Dichloroethane	20.00	19.19	96	78-132
Benzene	20.00	22.48	112	80-120
Toluene	20.00	20.35	102	80-120
1,2-Dibromoethane	20.00	19.09	95	80-120
Ethylbenzene	20.00	19.32	97	80-122
m,p-Xylenes	40.00	36.52	91	80-126
o-Xylene	20.00	18.29	91	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-125
1,2-Dichloroethane-d4	90	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	108	80-122

Type: BSD Lab ID: QC477539

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	100.0	90.72	91	59-152	0	20
Isopropyl Ether (DIPE)	20.00	21.80	109	67-126	2	20
Ethyl tert-Butyl Ether (ETBE)	20.00	20.12	101	69-127	0	20
Methyl tert-Amyl Ether (TAME)	20.00	21.38	107	80-122	1	20
MTBE	20.00	15.84	79	70-125	2	20
1,2-Dichloroethane	20.00	19.54	98	78-132	2	20
Benzene	20.00	22.40	112	80-120	0	20
Toluene	20.00	19.95	100	80-120	2	20
1,2-Dibromoethane	20.00	19.06	95	80-120	0	20
Ethylbenzene	20.00	19.03	95	80-122	2	20
m,p-Xylenes	40.00	35.60	89	80-126	3	20
o-Xylene	20.00	18.05	90	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-125
1,2-Dichloroethane-d4	92	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	107	80-122

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Lead

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3010A
Project#:	3494.01	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	12/23/08
Units:	ug/L	Received:	12/23/08
Diln Fac:	1.000	Prepared:	12/24/08
Batch#:	146433	Analyzed:	12/24/08

Field ID	Type	Lab ID	Matrix	Result	RL
TR-1-4Q08	SAMPLE	208890-001	Water	ND	3.0
TR-3-4Q08	SAMPLE	208890-002	Water	ND	3.0
TR-4-4Q08	SAMPLE	208890-003	Water	ND	3.0
	BLANK	QC477206	Filtrate	ND	3.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	208890	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3010A
Project#:	3494.01	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	146433
Field ID:	ZZZZZZZZZZ	Sampled:	12/18/08
MSS Lab ID:	208868-004	Received:	12/20/08
Matrix:	Filtrate	Prepared:	12/24/08
Units:	ug/L	Analyzed:	12/24/08
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC477207		100.0	94.91	95	80-120		
BSD	QC477208		100.0	92.94	93	80-120	2	20
MS	QC477209	<0.8532	100.0	77.47	77	71-120		
MSD	QC477210		100.0	74.80	75	71-120	4	20

RPD= Relative Percent Difference