

RECEIVED

2:24 pm, Oct 30, 2008

Alameda County Environmental Health

October 28, 2008

Barbara Jakub Hazardous Materials Specialist Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, 2nd Floor Alameda, CA 94502

Subject:

Certification Letter

Letter Report

Groundwater Monitoring Conducted 3 October 2008

1600 63rd Street

Emeryville, California

Fuel Leak Case Site RO0000052, Peterson Manufacturing Company

Dear Ms. Jakub:

Per your request, the enclosed is the Letter Report for Groundwater Monitoring Conduced 23 October 2008 from Treadwell & Rollo for Fuel Leak Case RO0000052 located at 1600 63rd Street, Emeryville, California (the Site). The attached report has been prepared on behalf of the current property owner, 1600 63rd Street Associates.

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

If you have any questions, please call me at (415) 457-4964.

Sincerely yours.

Geøffrey B. Sears
Wareham Development

For: 1600 63rd Street Associates



24 October 2008 Project 3494.01

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

Subject:

Letter Report

Groundwater Monitoring Conducted 3 October 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. on behalf of Wareham Property Group to document groundwater monitoring conducted on 3 October 2008 at 1600 63rd Street, Emeryville, California (the "Site"). This letter report also contains an ongoing evaluation of the free phase product recovery technology.

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.

The property was originally developed as a tallow manufacturing plant by Peterson Manufacturing Company in 1914. Historical records indicate six underground storage tanks (USTs) were previously located at the Site (Figure 2).

The Site has been operated as a Fed Ex shipping facility since 1989, when the Site was redeveloped and construction of the Fed Ex facility was completed. Fed Ex currently operates one 10,000 gallon gasoline UST at the Site.

Numerous environmental investigation and remediation activities by others have occurred at the Site since 1987. Activities included: underground storage tank removal, overexcavation and disposal (or landfarming) of affected soil, numerous soil borings, collection and analysis of soil and groundwater samples, installation and sampling of monitoring wells, and cone penetrometer testing. Details of previous activities have been reported elsewhere and are not duplicated in this report.

In January 2007, Treadwell & Rollo installed five monitoring wells at the Site (TR-1, TR-2, TR-3, TR-4, and TR-5) and abandoned four previously installed monitoring wells (MW-1, MW-3, MW-4, MW-5). Groundwater sampling was performed after the installation of the monitoring wells, and subsequently has been performed periodically (Treadwell and Rollo, 2007a, 2007b, 2007c, and 2008). Groundwater at the Site has been monitored since 1989. Based on historical and current data, groundwater flows towards the west with minor northwest – southwest components.



Ms. Barbara Jakub Hazardous Materials Specialist Alameda County Health Care Services Agency 24 October 2008 Page 2

In September 2007, a free phase product collection system consisting of passive skimmer and canister was installed in MW-2. Hydrophobic socks were installed in wells TR-2 and TR-5. In January 2008 a hydrophobic sock was installed in MW-2 in addition to the skimmer and canister system. The presence and thickness of the free phase product is periodically monitored. The most recent data is presented in Appendix A.

GROUNDWATER MONITORING

On 3 October 2008, groundwater monitoring was conducted for monitoring wells TR-1, TR-3, and TR-4. Groundwater 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 feet) of free phase product was detected in wells MW-2, TR-2, and TR-5. Groundwater elevations are summarized in Table 1.

Groundwater is interpreted to flow towards the west based on groundwater elevations measured on 3 October 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 B. Stabilized groundwater quality measurements are presented in Table 2.

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 the laboratory 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 Xvienes (BTEX) by EPA Method 8260;
- Fuel oxygenates and total petroleum hydrocarbons quantified as gasoline (TPHg) by EPA Method 8260; 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 0.67 mg/L. The laboratory reported



Ms. Barbara Jakub Hazardous Materials Specialist Alameda County Health Care Services Agency 24 October 2008 Page 3

that the chromatograms do not match the diesel standard (Table 4 and Appendix C). 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 0.008 mg/L and 0.0021 mg/L. Total lead was not detected above laboratory reporting limits in any sample.

Groundwater analytical results are presented in Table 3. Groundwater sampling forms are presented in Appendix B. Certified analytical laboratory reports are provided in Appendix C. 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 late December 2008.

CONCLUSIONS

Based on the monitoring results from the period January 2007 to January 2008 concentrations of the analyzed constituents are not increasing in any of the sampled wells. The next groundwater monitoring event will occur in December 2008

The results of the free phase product evaluation suggest that the hydrophobic socks are appropriate for removal of the low viscosity free phase product in monitoring wells TR-2 and TR-5. The concurrent use of both the hydrophobic sock and free-product canister will continue in monitoring well MW-2. The next free phase product monitoring event will occur in December 2008.

Please feel free to contact Matthew Hall at (510) 874-4500 ext. 556 with any questions or comments.

Sincerely yours,

TREADWELL & ROLLO, INC.

Matthew B. Hall, PE Senior Project Engineer

34940113.OAK

Attachments: References

Tables Figures Appendices

ppendices Appendix A – Free Phase Product Monitoring Evaluation Appendix B – Groundwater Sampling Forms

C73178

12/08

Appendix B – Groundwater Sampling Forms
Appendix C – Laboratory Analytical Results

Patrick B. Hubbard, PG, CEG

Principal Geologist



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. R00000052, Former Peterson Manufacturing Company Facility, 1600 63rd Street, Emeryville, California. 21 March 2007.

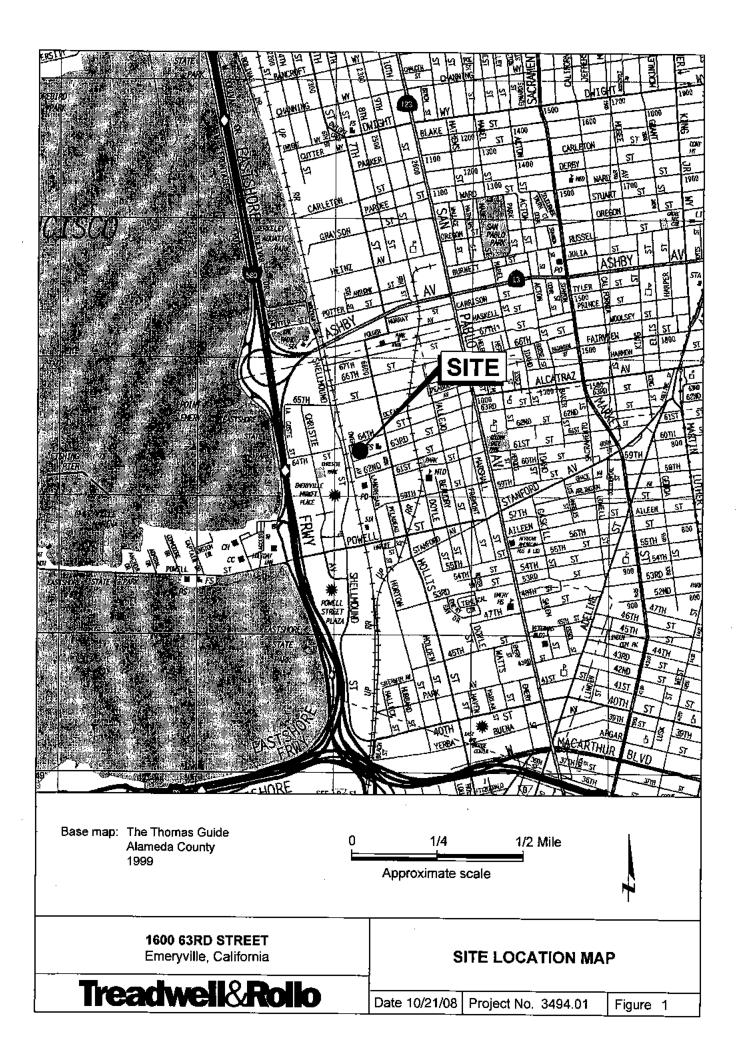
Treadwell & Rollo 2007b. Letter Report, Groundwater Monitoring Conducted 26 July 2007, Fuel Leak Case No. R00000052, Former Peterson Manufacturing Company Facility, 1600 63rd Street, Emeryville, California. 3 October 2007.

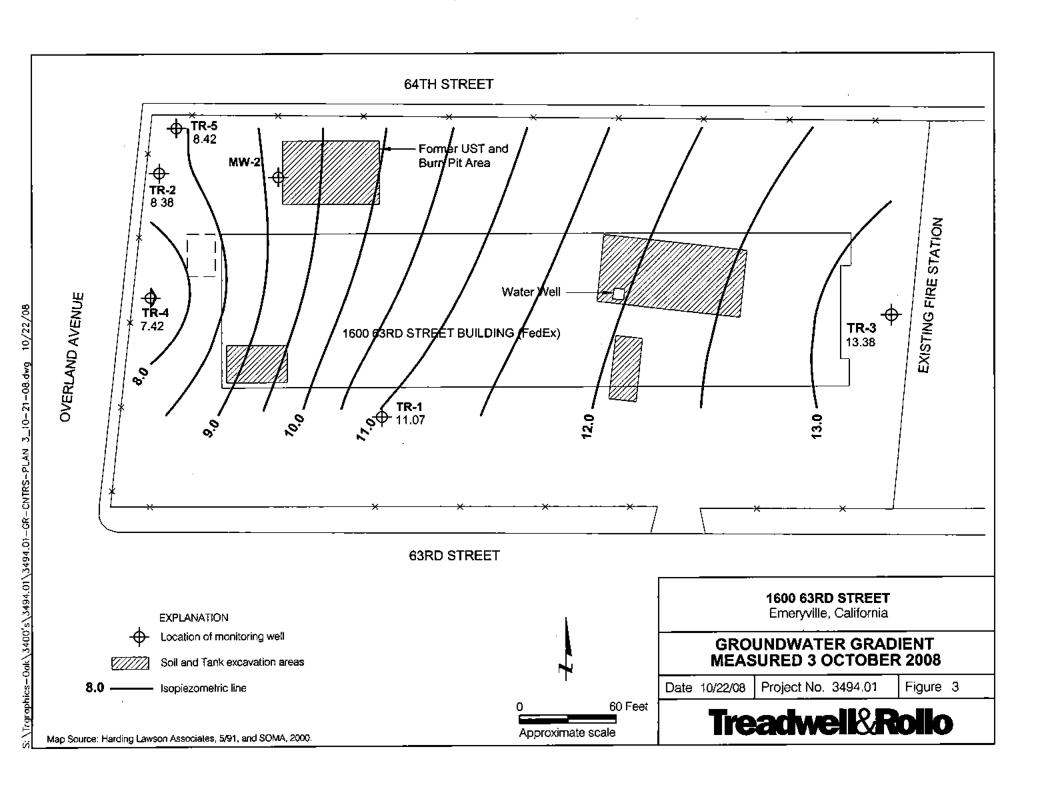
Treadwell & Rollo 2007c. Letter Report, Groundwater Monitoring conducted 30 October 2007, Fuel Leak Case No. RO0000052, Former Peterson Manufacturing Company Facility 1600 63rd Street, Emeryville, California. 20 December 2007.

Treadwell & Rollo 2008. Letter Report, Groundwater Monitoring conducted 30 January 2008, Fuel Leak Case No. R00000052, Former Peterson Manufacturing Company Facility, 1600 63rd Street, Emeryville, California. 6 March 2008.



FIGURES







TABLES



TABLE 1 GROUNDWATER ELEVATION DATA

1600 63rd Street, Emeryville, California

-		Depth of Well		Depth to	Water	Change in
	Top-of-Casing	Screen Interval	Date	Water	Elevation	Elevation
Well Number	Elevation (feet)	(feet)	Measured	(feet)	(feet)	(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
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
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
TR-3	18.60	5-20	10/3/2008 1/15/2007	8.12 4.85	8.38 13.75	-1.36
1K-3	10.00	J 3-20	1/15/2007	4.85 4.68	13.75	0.17
			7/26/2007	5.16	13.44	-0.48
			10/30/2007	5.16	13.46	-0.46
	1	}	1/30/2008	4.53	14.07	0.61
		}	10/3/2008	5.22	13.38	-0.69



TABLE 1 GROUNDWATER ELEVATION DATA

1600 63rd Street, Emeryville, California

	Top-of-Casing	Depth of Well Screen Interval	Date	Depth to Water	Water Elevation	Change in Elevation
Well Number	Elevation (feet)	(feet)	Measured	(feet)	(feet)	(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
	i		1/30/2008	7.88	8.50	0.91
			10/3/2008	8.96	7.42	~1.08
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

Notes:

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.

^{*} Petroleum product measured in well (0.01- to 3-feet thick)



TABLE 2 **Water Quality Measurements** 1600 63rd Street, Emeryville, California

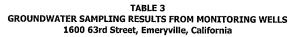
			Purge Duration	Volume Purged	Purged Dry?	Dissolved Oxygen	pН	Specific Conductance	Temperature	ORP
Well Number	Date	Purge Method	(minutes)	(gallons)	(yes/no)	(mg/L)	•	(μS/cm)	(C°)	(mV)
TR-1	1/15/2007	SP	30	30.0	No	NM	6.62	830	NM	140
	7/26/2007	SP	10	7.5	No	1.07	7.02	910	22.7	70
	10/30/2007	SP	9	8.5	No	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
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
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
l	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

General Notes

ORP = Oxidation Reduction Potential

mV = millivolts

mg/L = milligrams per Liter
μS/cm = microseimens per centimeter
SP = submersible pump





								Chemic	cal Concentratio	ns Detected (m	a/L)				
Sample No.	Date Sampled	Notes	TPHd	ТРНд	Benzene	Toluene	Ethylbenzene	Total Xylenes	PCBs	EPA 8080 Analytes	EPA 8270 Analytes	EPA 8240 Analytes	Fuel Oxygenates (including Ethanol)	Total Lead	Motor Oil
IILA	6/25/1989		<0.5	0.3	<0.005	<0.005	<0.005	<0.005	<0.0005	7-	(2)	<0.01	<u> </u>		
1	9/21/1989		1	<0.5	< 0.005	< 0.005	<0.005	<0.005	<0.0005		(4)	<0.01			
	12/20/1989		<0.5	0.53	<0.005	<0.005	<0.005	<0.005	<0.0005	(3) 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)			
1 -	5/11/1990 5/11/1990	****	8.4 <2.5	1.2 <0.5	<0.005	< 0.005	<0.005	< 0.005				<0.01			
l :	7/20/1990		27	3.9	<0.01 <0.005	<0.01 <0.005	<0.01 <0.005	<0.01 0.011		 ND		<0.02			
MW-2	7/20/1990		30	2.3	<0.005	<0.003	<0.005	0.0033		ND ND					
	11/12/1990		61	380	< 0.005	<0.0005	<0.0025	0.0005	<0.0005	ND					
I [11/12/1990		35	7	<0.005	0.0009	0.0001	0.0079	< 0.0005	ND					
1	2/7/1991		41	11	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	ND					
! . }	2/7/1991 5/8/1991		27 43	13 88	<0.005 <0.005	<0.0005 <0.0005	<0.0005 <0.0005	0.043	<0.0005	ND					
!	5/8/1991		26	150	<0.005	<0.0005	<0.0005	<0.005 <0.005	<0.0005 <0.0005	ND ND			*-		
Certified	5, 5, 2222				10.005	₹0.0003	V0.0003	\0.00J	\0.0003	IND					
MW-2	11/19/1992		22	0.59	<0.0003	0.0014	<0.0003	0.0015							
I	7/13/1994		6	<2	< 0.001	< 0.001	< 0.001	<0.001							
	ation-Monitorin														
MW-2	5/14/1999	(1)	550	210	<2.5	<2.5	<2.5	4.9	<0.5					-	<3,500
Treadwell & I	KOIIO, INC.														
	l	l											MtBE = 0.00095		
													Di-isopropyl ether = 0.00097		
MW-2	1/10/2007	(9)	10	0.6	<0.0005	< 0.0005	<0.0005	0.00053		~			Others < 0.0005 to < 0.1	<0.1	
													MtBE = 0.0074	νο.1	
!	1/15/2007	(9)	0.14	<0.05	<0.0005	<0.0005	<0.0005	<0.0005					Others <0.0005 to <0.1	<0.1	
													MtBE = 0.0085		†
	7/26/2007		0.20	<0.05	<0.0005	<0.0005	<0.0005	<0.0005					Others < 0.0005 to < 0.01	0.0038	
TR-1	10/20/2007	(0)	0.05	0.05									MtBE = 0.0078		
	10/30/2007	(9)	0.25	<0.05	<0.0005	<0.0005	<0.0005	<0.0005		~-		=-	Others <0.0005 to <0.01	<0.0034	
	1/30/2008	(9)	0.12	< 0.05	۰,000	٠ 0 000	10,0005	. 0 0005					MtBE = 0.0078		
 	1/30/2006	(9)	0.12	< 0.05	< 0.0005	< 0.0005	< 0.0005	< 0.0005					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		•
TR-2	1/10/2007	(9)	480	3.4	<0.005	<0.005	<0.005	< 0.0005		M			Others < 0.0005 to < 0.01	<0.003	
110-2		<u>\-</u>											<0.005 to <1	<0.1	
[-	1/10/2007	(9)	0.098	<0.05	<0.0005	<0.0005	<0.0005	<0.0005					Other <0.0005 to <0.1	<0.1	~~
TR-3	7/26/2007 10/30/2007	(9)	0.37	<0.05	<0.0005	<0.0005	<0.0005	<0.0005			***		Other <0.0005 to <0.01	<0.003	~-
l '''	1/30/2007	(9)	0.17 0.27	<0.05 <0.05	<0.0005 <0.0005	<0.0005 <0.0005	<0.0005	<0.0005	**		4-		Other < 0.0005 to < 0.05	<0.003	~~
	10/3/2008	(9)	0.27	<0.05	<0.0005	<0.0005	<0.0005 <0.0005	<0.0005 <0.0005			n-		Other <0.0005 to <0.05	<0.003	
	10/3/2000		0.21		V0.0003	<0.0003	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<0.0005					Other < 0.0005 to < 0.01	<0.003	
							1						MtBE = 0.0022		
	1/10/2007	(9)	0.43	<0.05	<0.0005	< 0.0005	<0.0005	<0.0005					Di-isopropyl ether = 0.001	<0.1	
	, , , ,		5,,,,	10.00	10,000	1010005	10.0003	10.0003					Other <0.0005 to <0.1 MtBE = 0.003	<0.1	
		ŀ			•]	.					Di-isopropyl ether = 0.0014		<u> </u>
	7/26/2007	i	0.76	< 0.05	<0.0005	< 0.0005	<0.0005	<0.0005					Other < 0.0005 to < 0.01	< 0.003	
TR-4	10/30/2007	(9)	1.00	<0.05	<0.0005	<0.0005	<0.0005	< 0.0005					Other <0.0005 to <0.01	<0.0034	
													MtBE = 0.0022		
									-	İ	į		Di-isopropyl ether = 0.0012		
	1/30/2008	(9)	1.00	<0.05	<0.0005	<0.0005	<0.0005	<0.0005					Other <0.0005 to <0.01	<0.003	
		l			ļ								MtBE = 0.0021		-
	40/0/0000	<u></u>			<u> </u>								Di-isopropyl ether = 0.0012		1
TR-5	10/3/2008 1/10/2007	(9)	0.67	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	1	τ	1	t	Other < 0.0005 to < 0.01	< 0.003	
ESL	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 Hvo

= Total Petroleum Hydrocarbons as Diesel

= Total Petroleum Hydrocarbons as Gasoline

= Polychlorinated biphenyls

TPHg PCBs 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:

- 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" (1) (2) (3) (4) (5) (6) (7) (8) (9)

 - Trace flourene detected

 0.00016 ppm heptachlor and 0.00015 ppm 4,4'-DDD detected.

 0.006 ppm flourene, 0.005 ppm bis (2-ethyl-hexyl) phthalate, and 0.0061 ppm 2-methyl-napthalene detected.

 0.012 ppm 2-methyl-napthalene detected.
- 0.00035 ppm Gamma-BHC detected.
- 0.0061 ppm flourene, 0.018 ppm 2-methyl-napthalene, and 0,0055 ppm phenanthrene detected.
- 0.044 ppm acetone detected.
- Laboratory reported that the TPH compounds detected in samples did not match their respective laboratory standard.



APPENDIX A
Free Phase Product Monitoring Evaluation



Free Phase Product Monitoring Evaluation

Since the beginning of free phase product removal, a total of approximately 0.72 liters (L) of free phase product has been removed from MW-2, a total of approximately 2.95 L has been removed from TR-2, and a total of approximately 2.84 L has been removed from TR-5. Tables and field sheets summarizing the free-phase product monitoring follow this text.

The rate of free-phase product extraction using the hydrophobic sock in well TR-2 has ranged from 0.002 liters per day (L/d) to 0.023 L/d. This range excludes a measurement performed on 19 September 2008 when the hydrophobic sock was incorrectly installed. The rate of free-phase product extraction using the hydrophobic sock in well TR-5 has ranged from 0.002 L/d to 0.022 L/d.

A passive high-viscosity free-phase product skimmer and canister system was installed in well MW-2. The skimmer and canister system proved ineffective in removing free-phase product. In January 2008, a hydrophobic sock was installed to augment the skimmer and canister system. The hydrophobic sock has shown free-phase product extraction rates ranging from 0.002 L/d to 0.005 L/d.



FREE PHASE PRODUCT MEASUREMENTS

FROM WELLS MW-2, TR-2, and TR-5 (Since January 2007)

1600 63rd Street, Emeryville, California

	Top-of-	Depth of Well		Free				
	Casing	Screen		Phase	Depth to	Thickness of Free	Unadjusted	
Well	Elevation	Interval	Date	Product	Water	Phase Product	Water Level	Adjusted Water
Number	(feet)	(feet)	Measured	(feet)	(feet)	(feet)	(feet)	Level (feet)
MW-2	16.53	12.5-20.5	1/15/2007	6.72	6.80	0.08	9.73	9.79
l I			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
		İ	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
TR-2	16.50	5-20	1/15/2007	7.42	8.11	0.69	8.39	8.94
1			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
i			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
		ĺ	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
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
l i			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
ļ		<u> </u>	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

General Notes:

Measurements collected from top of casing, north side.

Adjusted water level = unadjusted water level + (Thickness of Free Phase Product x 0.8).



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

	M	W-2	MV	V-2	TR-	2	Ti	₹-5	
FPP Extraction									
System	Passive	Skimmer	Hydroph	obic Sock	Hydropho	bic Sock	Hydrophobic Sock		
			-			Extraction			
		Extraction		Extraction		Rate		Extraction	
Date	Volume (L)	Rate (L/day)	Volume (L)	Rate (L/day)	Volume (L)	(L/day)	Volume (L)	Rate (L/day)	Notes
8/15/2007	0				0.00	·	0.00		
9/19/2007	0	0			0.00	0.000	0.21	0.006	Sock changed out in TR-2 & TR-5
10/4/2007	0	0			0.34	0.023	0.13	0.009	
10/30/2007	0	0			0.34	0.013	0.05	0.002	
11/16/2007	0	0			0.03	0.002	0.37	0.022	Sock changed out in TR-2 & TR-5
									Sock changed out in TR-2 & TR-5;
1/30/2008	0	0			0.95	0.013	0.55	0.007	installed Hydrophobic Sock in MW-2
5/2/2008	0	0	0. 4 8	0.005	0.95	0.010	0.95	0.010	
									× ***
8/8/2008	· 0	0	0.24	0.002	0.34	0.002	0.58	0.003	
extracted	0		0.72		2.95		2.84		

Notes:

L - liters

FPP - free phase product

Passive Skimmer - Durham Geo Slope Indicator, model no. TR-254, Passive Skimmer

Hydrophobic Sock - Durham Geo Slope Indicator, model no. TB2-100, SoakEase[™] absorbent sock

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

	3	ha	e
2.0	-		-

8/8/08

Field Engineer:

Louis Arighi

TR-2

DTW	DTP	Thickness of Product	Interval of Sock	Measured fpp on Sock	Volume fpp ₁₎	Comments
·			6.5-9.51	1311	0,34L	Sock flipped so unstained endisin water

TR-5

DTW	DTP	Thickness of Product	Interval of Sock	Measured fpp on Sock	Volume fpp ₁₎	Comments
			6.2'-9.2'	27,11	0.584	Sock removed, new sock installed

MW-2

DTW	DTP	Thickness of Product	Collected fpp (in)	Volume fpp	Comments
			911 on . Sorbent sock	49 0.24L	Sock not removed

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

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

Field Engineer:

TR-2

DTW	DTP	Thickness of Product	Interval of Sock	Measured fpp on Sock	Volume fpp ₁₎	Comments
		CO.01"	6.0-9.0	36"	1 1 1 1 1	Sock changed vew sock installed

TR-5

DTW	DTP	Thickness of Product	Interval of Sock	Measured fpp on Sock	Volume fpp ₁₎	Comments
		60.01"	6.0'-9.0'	3611		new sock installed

MW-2

DTW	DTP	Thickness of Product	Collected fpp (in)	Volume fpp	Comments
		∠0.01"	Sock: 18"	0.48L	new sock installed

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



APPENDIX B
Groundwater Sampling Forms

GROUNDWATER SAMPLING FORM

Project Name 1600 63	ort ST	<u> </u>	Well No.	12-1	<u></u> ; *		
Project Number 3494	(0)	<u> </u>	Well Type	Monitor	Extraction [Other	
Recorded By MA		Sampled by	LMA		Date]	0/3/08	
La ************************************			ુ : મેર્લિફ ફર્મિયા છે.		; 		
	<u> </u>	1,000	St. Calbiblinian	2011230 17		<u> </u>	
MAIN AS A STATE OF THE STATE OF				Baller \ Type			
Well casing diameter Note:	Other			Pump \ Type	1.1.	17-	
LEA S-MOI □ 249-MOI €				L.1	Subre	ri, p. re	
Well Total Depth (TD, ft. beloy	v TOC) :	19.65	<u>.</u>	Other			
Depth to Water (WL, ft. below	TOC):	_6.43		inglight jwi	(Prof.)		
Depth to free phase (FP, ft. be	elow TOC) :			Near top	Depth (ft)		:
Number of casing volumes to be pur	rged	•	•	Wear Bottom	Depth (ff)		
	Other	·		Other			
PURCE BUYERS TO SERVED BUYERS		17	3				
Water Column Len		Diler X	No. Vols	CALCULAT	gals ED PURGE VO	DLUME	
Total Purge Time		ler : 2" = 0.17, 4" = 0.66	, 6" ≠ 1.5)		gala		
Recharge Rate	Purge i		_	ACTUAL	PURGE VOLU	ME	
Spical harmon subsequent	– Heriografia	NUNC	Mo	ter if Meter Type	Horiba 1199 🗆	low Through Coli	
					1-		
Time / totters	^{рн} Ж	mp Cond *F // (pa6/om)	Turblaity NTU	DO (%)	DO. (mg/L)	ORP (mV)	Comments
1440 0		1.4 1478	Chear	1	4.53	-15	
1441 3	6.71 23		1	1 1	A. 64	-41	
144315	6.83 24				2.07	-18	
1445 1 7	6.96 24	1 908.4	8		0.63	-13	
<u>t</u>			<u> </u>	<u> </u>			
				<u> </u>			
				<u> </u>	<u> </u>		
1			 	 	· · · · · · · · · · · · · · · · · · ·		
	<u> </u>			 	 ;		
{	-			╂	 -		
1 		_	 	 			` ` ·
	:			 			
				 		, N.S.	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
Comments		Purge water sto	rage/disposal	Drummed onsi	te 🗍	Other	
		W. (J.	क्रिक्रीयायविक्र				
sylvates prior was indus-	Date/Firme Samp	led 10/3/08	11500				
Baller - Type 🚺 🛮 👂 🗸 🗸			Sample port	Ī	Other [<u> </u>	<u> </u>
प्रमाणकाति। विक्रमान हिन्दुमाल स्व		<u> </u>	<u>;</u> .		<u> </u>	<u> </u>	
Sample No.	Container #/Volume	Analyele_	Preservatives	Labora	tory	Comi	nents
TR-1-7008	Y VOAS	STEX TOWY	14<1	Curtis & To	ompkina		
		Fuel 1879		 	· · ·		
	11-Lambe		none	+			
	1 SOOAL PE	by total fread	HNOZ	OF_			
<u> </u>	[
		*** *	 -	 -			
\$\$\text{\$\				<u> </u>		<u> </u>	
	olicate Samples		•		•	Blank Samples	
Original Sample No.		Sample No.]	Туре	S	ample No.	
	Ī]	Trip			
			}	Rinsale			
Treadwell&F	ollo		_	Transter			
Environmental and Geolechnical C	onsultant		_	Other:		, .	

GROUNDWATER SAMPLING FORM

Project Name (bad 6 3 vol)		Well No.	T12-5		
Project Number 3494.01		Well Type	⊠Monitor	ction Other	
Recorded By LMA	Sampled by	LMA		ate 10/3/08	
		THE COURT		-f-x f-x + z-rz	
SERVICE CONTRACTOR OF THE PROPERTY OF THE PROP	and the tri	instrations."			
STEED TO BE				<u> </u>	
We¥l casing diameter M2 2-Inch			Baller \ Type Pump \ Type 2	- Jal -	
				nomens, where	,
Well Total Depth (TD, ft. below TOC):	5.22		Other	<u> </u>	
Dopth to Water (WL, ft. below TOC) :	2.79.		मिन्द्रिकिको। वीर्		
Depth to free phase (FP, ft. below TOC):			Near top Dep	th (ft)	
Number of casing volumes to be purged	3	 -	Near Bottom Dep	th (ft)	<u>_</u>
4 10 MOther _			Other		-
Total Section Continues Continues	6.17 x	3			-
Water Column Length	Multiplier	No. Vols	CALCULATED PL	gals JRGE VOLUME	1
	viuitiplier : 2" = 0.17, 4" = 0.66,	6" = 1.5)		gals	1
Recharge Rate P	urge Rate	•	ACTUAL PURG	E VOLUME]
র করে। তার করা ক্রিকের করে। তার সাক্রিকের বিজ্ঞান	TESTEST STREET	Meh	er'y Meter Type Hoyli	a U22 Flow Through Cell	_
	<u> </u>	<u> </u>			
Time / Liters - pH	Temp Cond	Turbidity NTU		OO ORP g/L) (mV)	Comments
1530 / 10 6.81	19,8 1495	Chear		14 87	
153413 6.75		Clear		88 76	
1533 5 6.90	22.2 1537	Chear		78 69	
1535 / 7 7.LI	21,9 1700	Clear	1.00		
1	**************************************				
1		1. 1.			
1					
		· · ·			
/					
					<u> </u>
1		· · · · · ·			
			<u> </u>		
			<u> </u>	<u> </u>	<u> </u>
Comments	Purge water store		Drummed onsite	Other	
1	\$9\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Sequil this	· · · · · · · · · · · · · · · · · · ·		
\$Age21, ktc; git 15 [Q] Date/Time	Sampled [0]3[0]	1555			· · · · · · · · · · · · · · · · · · ·
Baller - Type 🔲		Sample port		her	<u> </u>
्यक्तिहोसीयहर्षा स्थाप्य विशेष्ट्रा		<u> </u>			
Sample No. Container #/Vo		Preservatives	Laboratory		ments
72-3-3008 7 VOX		HCI	Curtis & Tompkir	16	
	fuel oxys				
	yber The	none			
1500mL	poly total best	HNOF			
			<u> </u>		
			<u> </u>		
			<u> </u>		
					100
Dupilicate Samples		-	· · ·	Blank Samples	
Original Sample No. Dup	licate Sample No.		Туре	Sample No.	
-			Trip		
	<u></u>		Rinsale		
Treadwell&Rollo		-	Transfer		
Environmental and Geolechnical Consultant	·	<u></u>	Other:		

GROUNDWATER SAMPLING FORM

Project Name 1600 67 nd 5+ S	nergaille	Well No.	TR-4		<u> </u>
Project Number 3 494.01		·Well Type	Monitor Extraction	Other	
Recorded By LMIA	Sampled by	LMA_	Date	10/3/08	
BUNGS ARIDE	n ning in harmonia ning ningga ang a	20 16 16 16 16 16 16 16 16 16 16 16 16 16		<u> </u>	
Well casing diameter			Baller \ Type		
24nch 3/9-inch Other			Pump\Type 5 ub 16	re: LL	·/ ·
	10 (5		<u> </u>	<u></u>	 -
Well Total Depth (TD, ft. below TOC):	19.62		Other		 .
Depth to Water (WL, IL below TDC):	8.96	• ":	pure proper		
Depth to free phase (FP, ft. below TOC):	· <u> </u>	•	Near top Depth (it)		• ,
Number of casing volumes to be purged 10 AOther	3	-	Near Bottom Depth (ft) Other		
	<u> </u>				 .
10.66 X	9.17 x	<u> 3 </u>	= 5,5 gals		
	Muttipfler	No. Vels	CALCULATED PURGE	/OLUME	
	luitipiier : 2" = 0.17, 4" = 0.66, irge Rate	6° = 1.5)	gais ACTUAL PURGE VOL		
-	· -				
等。 1. 1. 1. 18 10 (全) 表 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	LIME VERS	Mete	r ir Meter Type Horlba U22	Flow Through Cell	
Time / Litera DH	Temp Cond.	Turbidity	DO DÔ		ments
gas l		NTÜ	(%) (mg/L)	(mV)	
 	21.8 3414	Cloudy Cheev	2.02	 	
	21.4 1973	Chear	(3	 	
		CVCOR		 	
				 	
1		E 7	366		
1			***		
				 	
				 	
				-	
1				 	
		2-1			- :
Comments	Purge water store	age/disposal	etisno bemmund	Other	
	\m\z[];	क्षेत्रहानी तमि ल			
- 映画を内閣(如) Date/Time S	Sampled 0/3/08	11410	* -	<u> </u>	
Balter - Type 🔀 Poly		Sample port	Olher	<u></u>	<u> </u>
इम्ब्लियिक्विति व्यक्ति सालका		4 <u>7</u> 5	<u> </u>		<u> </u>
Sample No. Container #/Vol		. Preservatives	Laboratory	Comments	
TR-4-3008 4 voa		HCI	Curtis & Tompkins	ļ	
	fuel ony 5	<u>-</u>	e.		
1 than		4102	<u> </u>	 	
1-5001 Do.	ly that lood	41.140.3		 	
				 	`
					
OF MELLA COUNTING SAMPLES				<u> </u>	
Duplicate Samples			·	Blank Samples	
	icate Sample No.		Туре	Sample No	
	·		Trip		
			Rinsale	<u> </u>	
Treadwell&Rollo			Transfer	<u></u>	
Environmental and Geolechnical Consultant	<u> </u>	<u> </u>	Other:	·	



Appendix C Laboratory Analytical Reports



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 206608 ANALYTICAL REPORT

Treadwell & Rollo 501 14th Street

Location: 1600 63rd St

Project : 3494.01

Oakland, CA 94612

Level : II

Sample ID Lab ID TR-1-3Q08 206608-001 TR-3-3Q08 206608-002 TR-4-3008 206608-003

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:

Project Manager

Date: 10/15/2008

Signature:

Senior Program Manager

Date: <u>10/15/2008</u>

NELAP # 01107CA

Page 1 of



CASE NARRATIVE

Laboratory number: 206608

Client: Treadwell & Rollo

Project: 3494.01

Location: 1600 63rd St

Request Date: 10/03/08 Samples Received: 10/03/08

This hardcopy data package contains sample and QC results for three water samples, requested for the above referenced project on 10/03/08. 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-1-3Q08 (lab # 206608-001), TR-3-3Q08 (lab # 206608-002), and TR-4-3Q08 (lab # 206608-003). No other analytical problems were encountered.

Metals (EPA 6010B):

No analytical problems were encountered.

206608

Treadwell&Rollo

CHAIN OF CUSTODY RECORD

Page of

and out	ACOINION OUI	suitant		X																					/40/Fa /4.450		5.95	5.9041			
																											916.5	565.7413			
	11.	, , ,			50	Airp	ort l	Park	way	/, St	ıite 1	75,	Sar	ı Jo	ose,	CA	95	110	Ph:	408.	437.	7708	/Fax	x: 40	8.437	.7709) 				
Site Name:	3494	63NL S) (_																***********					1						
Job Number:	2 4 4 4 4	0 (1)	11 11 ()	11			٨	11	0.4	,		L			- 1	An	aly	SIS	Re	que	este	d					-		aroun	d	
Project Manager∖Cc Samplers:	1	Matt	Hall mbho										-	ğ		F	Ö											1 1	ime	,	
Recorder (Signatur	e Required):	Phrish	: marighi	(00	M	ead					ners			S.		- 1	ð						11.0	5				Som	Auri	(
			a va ffa		Mai	rix	_				ative			OXXG Englis									del clean-un				Ц			· · · · · · · · · · · · · · · · · · ·	_
					ПП		7	Т.	T	T		7>	식_	یال	٥	Ø	5						del	5			4			4	
Field Sample Identification No.	Date	Time	Lab Sample No.	Soil	Water	Ä		2005	SON H	ce		Ł		3 6	- 9		0		***************************************	DALD WATER			iica	Hold				Remarks			
TR-1-3008	10/3/08	1500	Lab Gample Ite.	\vdash	X		4	十	$\frac{1}{1}$	١	\vdash	15	N ₄	1	7 1	C 1	·	+	\dagger	+	\vdash	+	100	干				Remark	>		
TR-7-3008	1	1555		 	\$	+	1		1	1	\vdash	1	X		× 1	× ,		+	+	+	\vdash	+	+	╁	 						
TL-4-3208	4	1410		╁	X	\dashv	į	†	i,	1		H	K 7	6	X,		5	╁	十	+		\dashv	╁	+	\vdash			***************************************			_
	Ч	((0 0			-	+	十	+	╁	-	\top	十	+	┰	+	+	\top	+	T	T	\Box	+	\dagger	1							
							T	1	T		\top	十	1	1	\top	\top	\top	1	†	T		\top	\dagger								
															I				I												
							\perp		L				\perp		\perp		\perp	\perp	\perp							·····					
						\perp	_	_	<u> </u>			\bot	\perp	_	\bot	_			$oldsymbol{\perp}$	Ļ		\bot	\perp	$oldsymbol{\perp}$							
						_	\downarrow		_		\perp		_	\bot	_	_	\perp	_	$oldsymbol{\perp}$				_	ļ							
				_	\vdash	_	+	╀	-			-	+	_	+	_	_	\bot	_	-	\vdash	+	_	╂	<u> </u>						
					\vdash	-	+	+	_	\vdash	_	+	+	+	+	-	-	+	-	-	\vdash	- -	-	+	<u> </u>						
				-	\vdash	\dashv	+	+	-	H		+	+	╀	+	+	+	+	╀	-	┝╼┼		+	╀	 						
					\vdash	+	+	+	┢	Н	\dashv	+	+	+	+	\dashv	+	╁	╁	-	\dashv	\dashv	+	+							_
telinquished by: (Signa	ture) 🔽	0	Date			\dashv	L	<u>l</u> me	<u> </u>			+R	e ce	ive	d by	<u> </u>	ion	ature	5) 	<u> </u>	L		ln:	ate.	<u> </u>			Time, _			_
Eiga	[M-0/		Date 10/3/	08					17	5	0		/	U	4	ì	H	f	_					id:	र्थ	8			7-50)	
telinquished by: (Signa	ture)		Date				Ti	me				R	ece	ive	d by	r: (S	igna	ature))				Da	ate				Time			
telinquished by: (Signa	ture)		Date				Ti	me				R	ece	ive	d by	La	b: (8	Sign	ature	∍)			Da	ate				Time			
ent to Laboratory (aboratory Comme		Curtis	& Tomple,	'n	5							N						nen				couri rier (Fed E	Ξx		Airborne		UPS	
	dalla	N## 0	· · ·										į			_		_													

COOLER RECEIPT CHECKLIST



Login # 206008 Date Received 10-3-08 Number of coolers 1 Client Treadwell Project 1600 63rd St.
Date Opened 10-3 By (print) F Nichols (sign) Could be Logged in V By (print) (sign)
I. Did cooler come with a shipping slip (airbill, etc)? Shipping infoYES NO
2A. Were custody seals present? YES (circle) on cooler on samples How many Name Date 2B. Were custody seals intact upon arrival? YES NO NA Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? 5. Is the project identifiable from custody papers? (If so fill out top of form). 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)
☐ 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? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are samples in the appropriate containers for indicated tests? 11. Are sample labels present, in good condition and complete? 12. Do the sample labels agree with custody papers? 13. Was sufficient amount of sample sent for tests requested? 14. Are the samples appropriately preserved? 15. Are bubbles > 6mm absent in VOA samples? 16. Was the client contacted concerning this sample delivery? 17. Are bubbles > 18. No N/A Samples? 18. Was the client contacted concerning this sample delivery? 19. No N/A Samples Samples Samples Samples Sample delivery? 19. No N/A Samples Sample Samples Sample delivery? 19. No N/A Samples Sampl
COMMENTS

SOP Volume:

Client Services

Section: Page:

1.1.2

lofl

Rev. 6 Number 1 of 3 Effective: 23 July 2008

F:\qc\forms\checklists\Cooler Receipt Checklist_rv6.doc



	Total Exti	ractable Hydrocar	rbons
Lab #: Client: Project#:	206608 Treadwell & Rollo 3494.01	Location: Prep: Analysis:	1600 63rd St EPA 3520C EPA 8015B
Matrix: Units: Diln Fac: Batch#:	Water ug/L 1.000 143348	Sampled: Received: Prepared:	10/03/08 10/03/08 10/07/08

Field ID: Type:

TR-1-3Q08

SAMPLE

Lab ID: Analyzed: 206608-001

Result

10/09/08

RL

Analyte Diesel C10-C24 200 Y 50

Limits 58-127 Surrogate Hexacosane

Field ID:

TR-3-3Q08

Lab ID:

206608-002

SAMPLE Type:

Analyzed:

10/09/08

Analyte Result Diesel C10-C24 210 Y

%REC 95 Surrogate Limits Hexacosane 58-127

Field ID:

Type:

TR-4-3Q08 SAMPLE

Lab ID:

206608-003

Analyzed:

10/09/08

Result 670 Y Analyte Diesel C10-C24

Limits 58-127 Surrogate Hexacosane

Type: Lab ID:

BLANK OC463937

Analyzed:

10/08/08

RL

Result Analyte Diesel C10 C24 ND

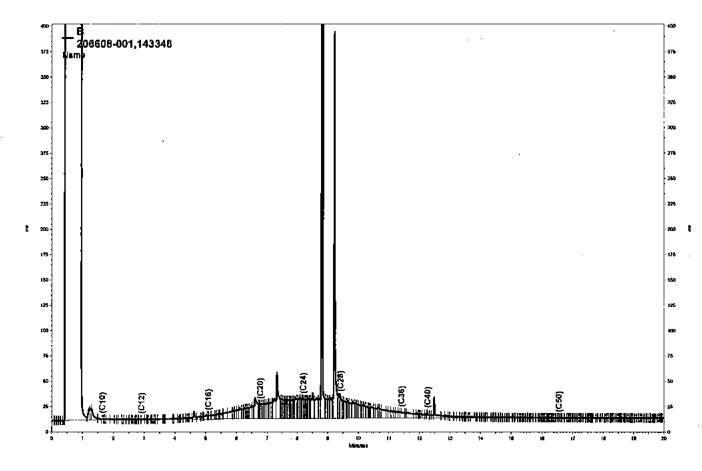
%REC Limits 3 58-127 Surrogate

Hexacosane

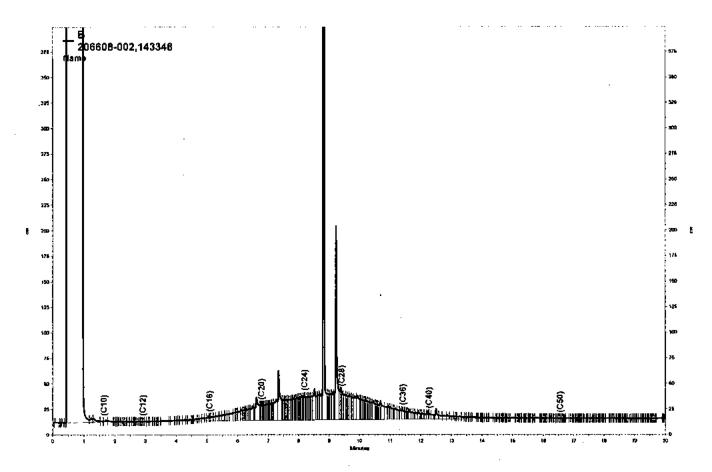
Y= Sample exhibits chromatographic pattern which does not resemble standard ND= Not Detected

RL= Reporting Limit

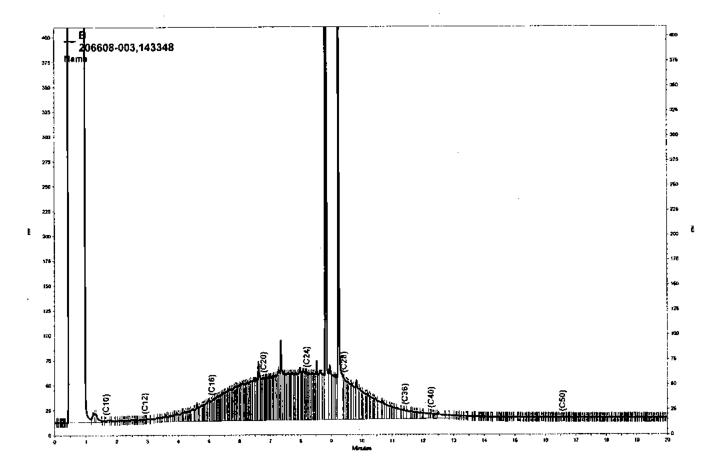
Page 1 of 1



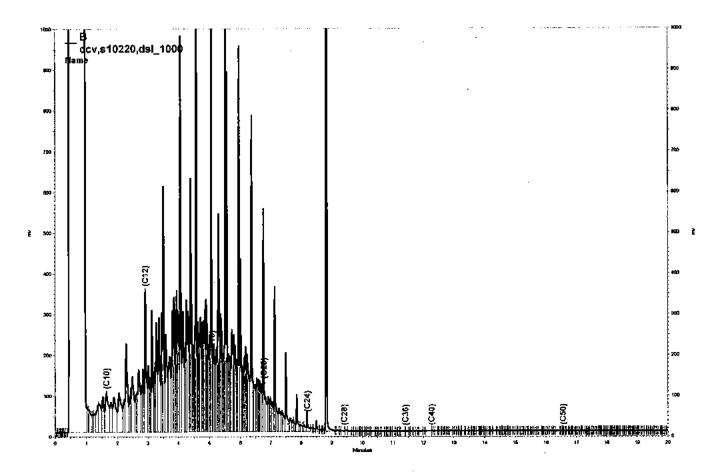
-----\Lims\gdrive\ezchrom\Projects\GC15B\Data\282b023, B



\Lims\gdrive\ezchrom\Projects\GC15B\Data\282b024, B



\Lims\gdrive\ezchrom\Projects\GC15B\Data\282b025, B



-----\Lims\gdrive\ezchrom\Projects\GC15B\Data\282b017, B



	Total Ext	ractable Hydrocar	rbons
Lab #: Client:	206608	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3520C
Project#:	3494.01	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	143348
Units:	ug/L	Prepared:	10/07/08
Diln Fac:	1.000	Analyzed:	10/09/08

Type:

BS

Cleanup Method: EPA 3630C

Lab ID:

QC463938

Analyte	Spiked	Result	%REC	' Limits
Diesel C10-C24	2.500	1.772	71	52-120

Surrogate	%REC	' Limits	
Hexacosane	86	58-127	

Type:

BSD

Cleanup Method: EPA 3630C

Lab ID:

QC463939

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10 C24	2,500	1,588	64	52-120	11	30

Surrogate	₃ %REC	Limits	
Hexacosane	76	58-127	



	Gasc	oline by GC/MS	
Lab #:	206608	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Field ID:	TR-1-3Q08	Batch#:	143565
Lab ID:	206608-001	Sampled:	10/03/08
Matrix:	Water	Received:	10/03/08
Units:	ug/L	Analyzed:	10/13/08
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	8.0	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	97	80-125
1,2-Dichloroethane-d4	96	80-137
Toluene d8	100	80-120
Bromofluorobenzene	123 *	80-122

 $[\]star=$ Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit



	Gasc	oline by GC/MS	
Lab #:	206608	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494,01	Analysis:	EPA 8260B
Field ID:	TR-3-3Q08	Batch#:	143565
Lab ID:	206608-002	Sampled:	10/03/08
Matrix:	Water	Received:	10/03/08
Units:	ug/L	Analyzed:	10/13/08
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	100	80-125
1,2-Dichloroethane-d4	102	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	127 *	80-122

^{*=} Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit



	Gasc	oline by GC/MS	
Lab #:	206608	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Field ID:	TR-4-3Q08	Batch#:	143565
Lab ID:	206608-003	Sampled:	10/03/08
Matrix:	Water	Received:	10/03/08
Units:	ug/L	Analyzed:	10/13/08
Diln Fac:	1.000	-	

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	1,2	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ИD	0.50
MTBE	2.1	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	100	80-125
1,2-Dichloroethane-d4	103	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	127 *	80-122

RL= Reporting Limit

^{*=} Value outside of QC limits; see narrative

ND= Not Detected



	Gasc	oline by GC/MS	
Lab #:	206608	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC464863	Batch#:	143565
Matrix:	Water	Analyzed:	10/13/08
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	96	80-125
1,2 Dichloroethane-d4	96	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	119	80-122



	Gasc	oline by GC/MS	
Lab #: Client: Project#:	206608 Treadwell & Rollo 3494.01	Location: Prep: Analysis:	1600 63rd St EPA 5030B EPA 8260B
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	143565 10/13/08

Type:

BS

Lab ID:

QC464859

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	150.0	110.2	73	59-152
Isopropyl Ether (DIPE)	30.00	31.92	106	67-126
Ethyl tert Butyl Ether (ETBE)	30.00	28.05	94	69-127
Methyl tert-Amyl Ether (TAME)	30.00	28.93	96	80~122
MTBE	30.00	26.51	88	70-125
1,2-Dichloroethane	30.00	24.53	82	78-132
Benzene	30.00	33.25	111	80-120
Toluene	30.00	30.05	100	80-120
1,2 Dibromoethane	30.00	28.42	95	80-120
Ethylbenzene	30.00	28.70	96	80-122
m,p-Xylenes	60.00	64.10	107	80-126
o-Xylene	30.00	30.82	103	80-120

Surrogate	%REC	Limits	
Dibromofluoromethane	103	80~125	
1,2 Dichloroethane-d4	102	80-137	
Toluene-d8	101	80-120	
Bromofluorobenzene	102	80-122	

Type:

BSD

Lab ID:

QC464860

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert Butyl Alcohol (TBA)	150.0	115.2	77	59-152	5	20
Isopropyl Ether (DIPE)	30.00	30.34	101	67-126	5	20
Ethyl tert Butyl Ether (ETBE)	30.00	27.41	91	69-127	2	20
Methyl tert-Amyl Ether (TAME)	30.00	28.72	96	80-122	1	20
MTBE	30.00	26.88	90	70-125	1	20
1,2-Dichloroethane	30.00	23.84	79	78-132	3	20
Benzene	30.00	32.02	107	80-120	4	20
Toluene	30.00	28.69	96	80-120	5	20
1,2-Dibromoethane	30.00	27.78	93	80-120	2 .	20
Ethylbenzene	30.00	27.26	91	80-122	5	20
m,p-Xylenes	60.00	60.81	101	80-126	5	20
o-Xylene	30.00	29.72	99	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-125
1,2-Dichloroethane-d4	101	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-122



	Gasc	oline by GC/MS	
Lab #:	206608	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	143565
Units:	ug/L	Analyzed:	10/13/08
Diln Fac:	1.000		

Type:

BS

Lab ID:

QC464861

Analyte	Spiked	Result	%RE	C Limits	
Gasoline C7-C12	1,000	955.1	96	80-120	

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-125
1,2 Dichloroethane-d4	101	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	105	80-122

Type:

BSD

Lab ID:

QC464862

Analyte	Spiked	Result	%REC	Limits	RPI) Lim
Gasoline C7~C12	1,000	1,005	101	80-120	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-125
1,2-Dichloroethane-d4	96	80-137
Toluene d8	99	80-120
Bromofluorobenzene	102	80-122



		Lead	
Lab #:	206608	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3010A
Project#:	3494.01	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	10/03/08
Matrix:	Water	Received:	10/03/08
Units:	ug/L	Prepared:	10/07/08
Diln Fac:	1.000	Analyzed:	10/10/08
Batch#:	143353	-	•

Field ID	Type Lab ID	Result	RL
TR-1-3Q08	SAMPLE 206608-001	ND	3 . 0
TR-3-3Q08	SAMPLE 206608-002	ND	3.0
TR-4-3Q08	SAMPLE 206608-003	ND	3.0
	BLANK QC463958	ND	3.0

Page 1 of 1



Lead								
Lab #:	206608	Location:	1600 63rd St					
Client:	Treadwell & Rollo	Prep:	EPA 3010A					
Project#:	3494.01	Analysis:	EPA 6010B					
Analyte:	Lead	Batch#:	143353					
Field ID:	ZZZZZZZZZZ	Sampled:	09/29/08					
MSS Lab ID:	206475-001	Received:	09/30/08					
Matrix:	Water	Prepared:	10/07/08					
Units:	${\sf ug/L}$	Analyzed:	10/10/08					
Diln Fac:	1.000							

Type	: Lab ID	MSS Result	Spiked	Result	%RE(: Limits	RPI) Lim
BS	QC463959		100.0	96.17	96	80-120		
BSD	QC463960		100.0	95,31	95	80-120	1	20
MS	QC463961	<0.8532	100.0	96.41	96	71-120		
MSD	QC463962		100.0	94.98	95	71-120	1	20