Treadwell&Rollo

3 October 2007
Project 3494.01

Mr. Steven Plunkett
Hazardous Substances Scientist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Subject: Letter Report
Groundwater Monitoring conducted 26 July 2007
Fuel Leak Case No. RO0000052
Former Peterson Manufacturing Company Facility
1600 63rd Street
Emeryville, California

Dear Mr. Plunkett:

This letter report is submitted by Treadwell & Rollo, Inc. on behalf of Wareham Property Group to document groundwater monitoring conducted in July 2007 at 1600 63rd Street, Emeryville, California (the "Site"). This report presents a brief summary of the second quarter groundwater monitoring results. A detailed background, a description of the monitoring well installation, and results of groundwater sampling were described elsewhere (Treadwell & Rollo, Inc., 2007a).

The following is a summary of the second quarter monitoring results. Upon completion of four quarters of monitoring, a detailed report will be prepared summarizing the results of one year of groundwater monitoring and recommendations for further activities.

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.

Groundwater at the Site has been monitored since 1989. Based on historical and current data, groundwater flows towards the west with some north – south variation.

GROUNDWATER MONITORING RESULTS

On 26 July 2007, 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 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. Free phase product was measured in wells MW-2, TR-2, and TR-5. Free phase product was measured at 0.02 feet in MW-2. Free phase product was not measurable in TR-2 and TR-5, but an oily sheen was observed on the probe from wells 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 southwest based on groundwater elevations measured on 26 July 2007. 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, including the water-quality parameters measured in the field, are included in Appendix A. Stabilized groundwater quality measurements are presented in Table 3.

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

Groundwater samples were analyzed for:

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

Groundwater Analytical Results

Groundwater quality parameters were measured during purging and prior to sampling. The water quality data is summarized in Table 3.

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 0.76 mg/L. MTBE was detected in all three samples, and concentrations ranged from 0.0022 mg/L to 0.0085 mg/L. Di-isopropyl ether was detected above laboratory reporting limits in well TR-4 at a concentration of 0.0014 mg/L. Total lead was detected at a concentration of 0.0038 mg/L in TR-1, but was not detected above laboratory reporting limits in the other samples.

Groundwater analytical results are presented in Table 4. 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 late October 2007.

Free Phase Product Results

On 10 August 2007, a hydrophobic sorbent sock was placed in monitoring well TR-5. On 15 August 2007, the sorbent sock was removed and the product absorbed was measured. Approximately, 0.2L of product was absorbed in the sock. On 19 September 2007, hydrophobic sorbent socks were placed in wells TR-2 and TR-5. The removal rate of free phase product will be monitored periodically, and free phase product socks will be replaced as necessary.

On 19 September 2007, a passive free phase product recovery system was installed in well MW-2. A catalog cut of the passive free phase product recovery system is included in Appendix C. The free phase product recovery system will be monitored periodically, and accumulated product will be stored onsite in a labeled 55-gallon drum.

Feel free to contact me at 510/289-9310 ext. 556 with any questions or comments.

Sincerely yours,
TREADWELL & ROLLO, INC.

Matthew B. Hall
Project Scientist

David R. Kleesattel, P.G.
Senior Geologist

PROFESSIONAL GEOLOGIST
DAVID R. KLEESATTEL
No. 5136
STATE OF CALIFORNIA

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Attachments: Tables
Figures
Appendices
Appendix A – Monitoring Well Sampling Forms
Appendix B – Laboratory Analytical Results
Appendix C – Catalog Cut of Free Phase Product Recovery System

TABLES

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

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*	--	--
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
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
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
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
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

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.

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

Well Number	Top-of-Casing Elevation (feet)	Depth of Well Screen Interval (feet)	Date Measured	Depth to 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
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
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

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

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

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
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
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

General Notes
ORP = Oxidation Reduction Potential
mV = millivolts
mg/L = milligrams per Liter
µS/cm = microseimens per centimeter
SP = submersible pump
Values above reflect the stabilized data readings collected prior to sampling

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

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	--
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	--
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	--
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		

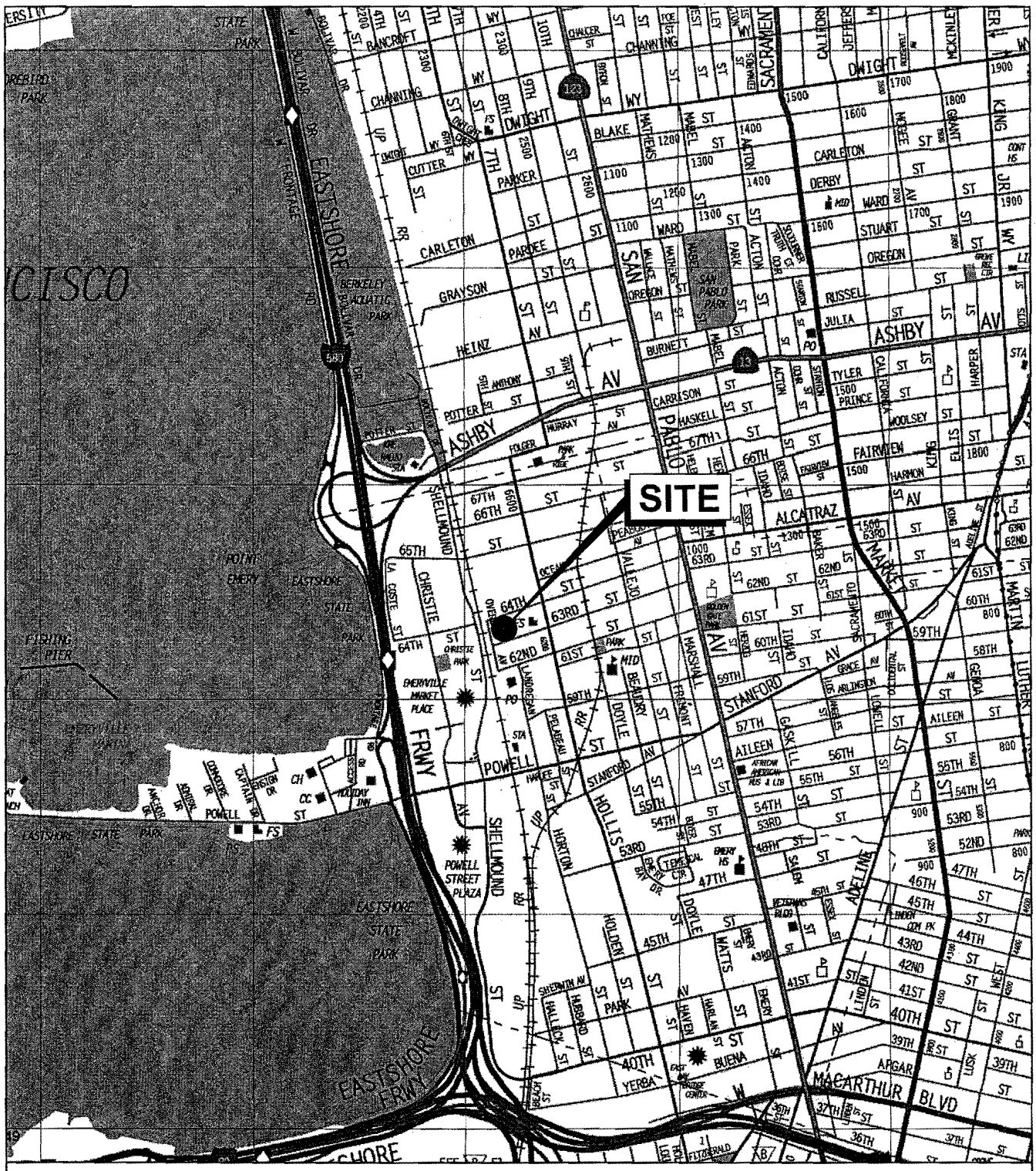
General Notes:

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 flourene detected
(3)	0.00016 ppm heptachlor and 0.00015 ppm 4,4'-DDD detected.
(4)	0.006 ppm flourene, 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 flourene, 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.

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

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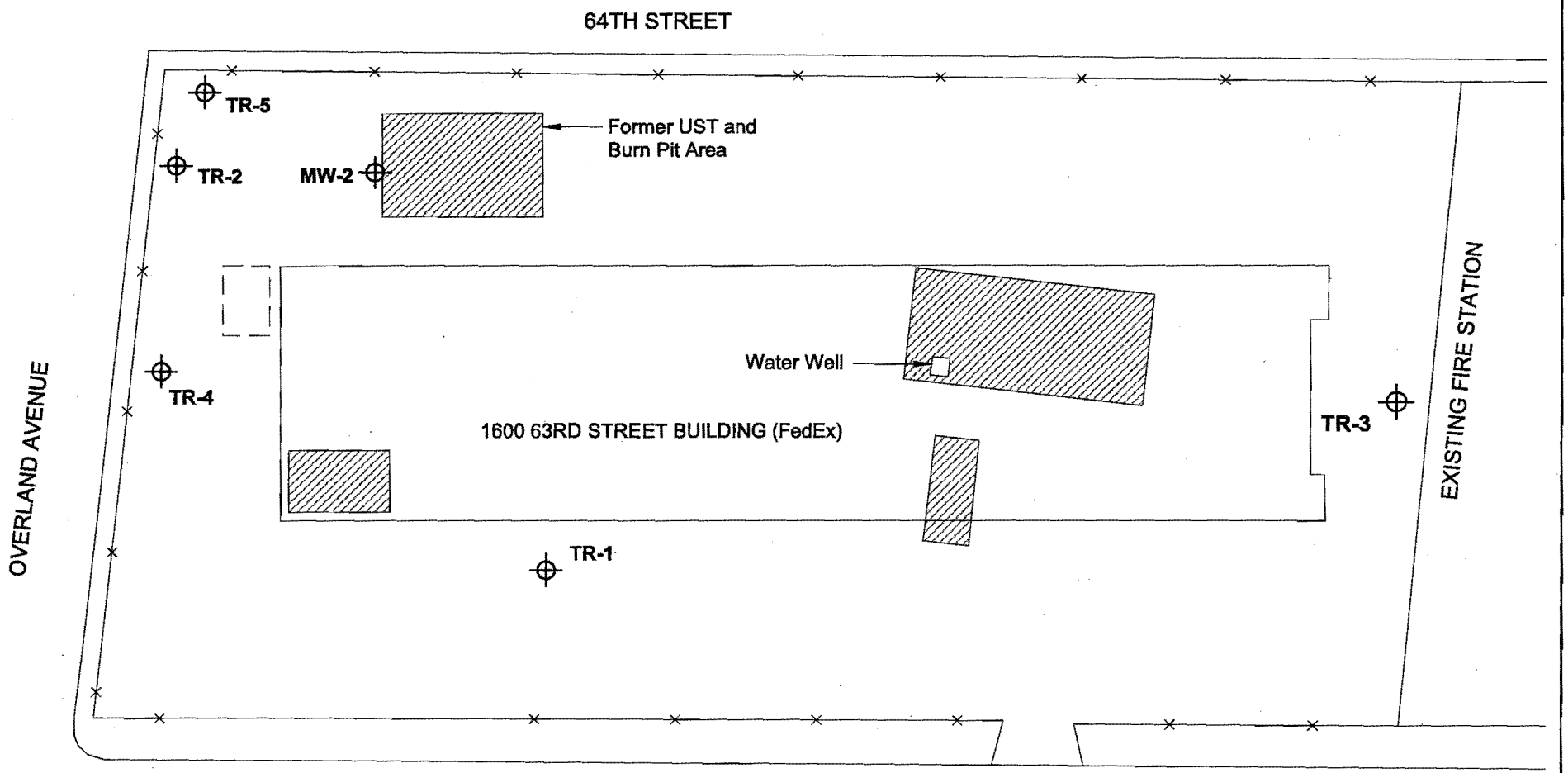
Date 08/08/07	Project No. 3494.01	Figure 1



EXPLANATION

Location of monitoring well

Soil and Tank excavation areas

N

0 60 Feet

Approximate scale

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

1600 63RD STREET
Emeryville, California

SITE PLAN

Date 08/08/07	Project No. 3494.01	Figure 2

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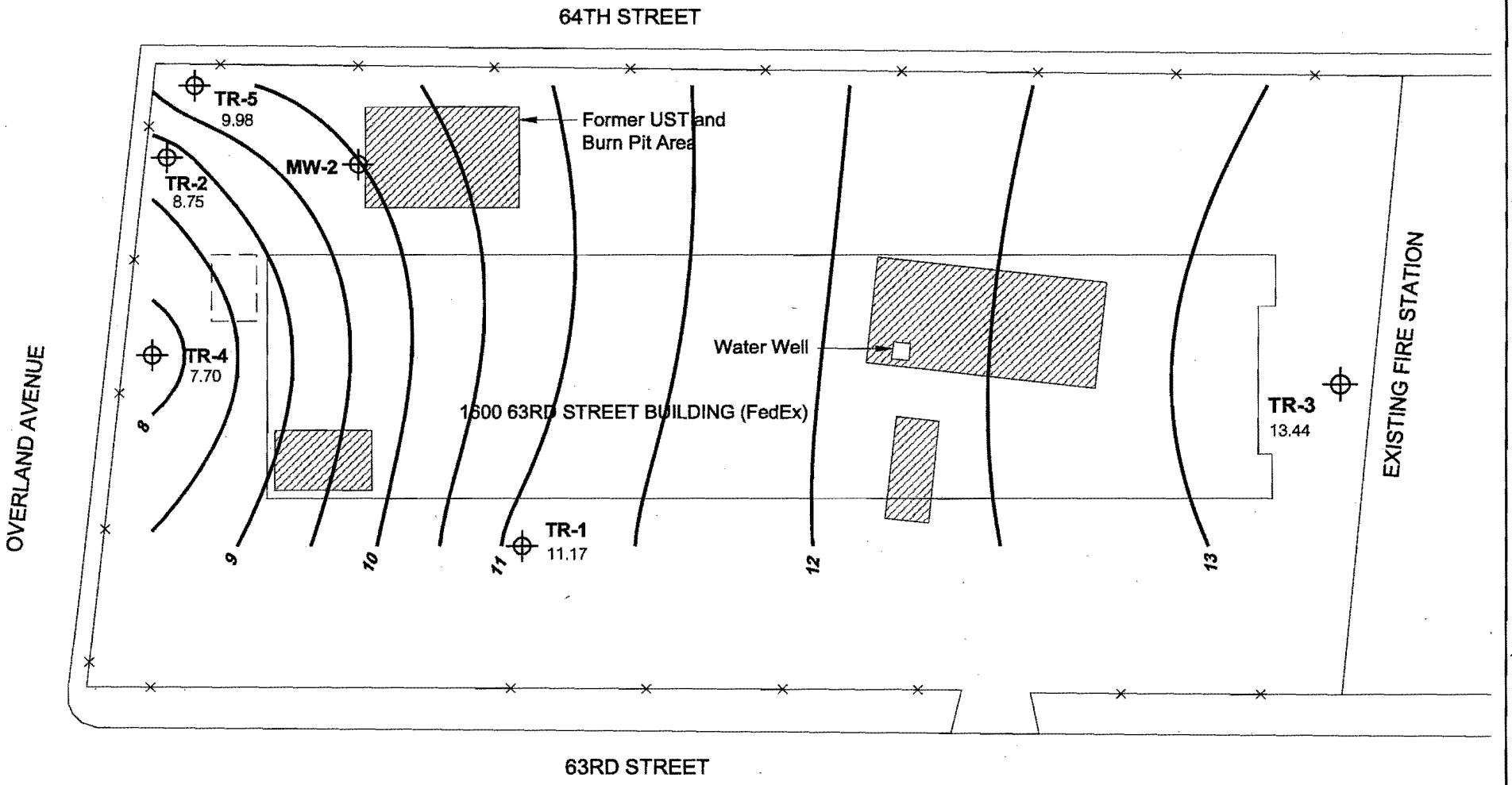

EXPLANATION

Location of monitoring well

Soil and Tank excavation areas

10.59 -

0 60 Feet

Approximate scale

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

1600 63RD STREET
Emeryville, California

GROUNDWATER GRADIENT

Date 10/02/07	Project No. 3494.01	Figure 3

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APPENDIX A

Monitoring Well Sampling Forms

GROUNDWATER SAMPLING FORM

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

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

Recorded By LMA Sampled by LMA Date 7/26/07

WELL PURGING

PURGE VOLUME

Well casing diameter

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

Well Total Depth (TD, ft. below TOC) : 19.65

Depth to Water (WL, ft. below TOC) : 6.73

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

Water Column Length X Multiplier X No. Vols = gals CALCULATED PURGE VOLUME

Total Purge Time

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

Recharge Rate Purge Rate

gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENTS

Meter # / Meter Type Horiba U22 Flow Through Cell

Time / Liters	pH	Temp °C °F	µS Cond. (mS/cm)	Turbidity NTU	DO (%)	DO (mg/L)	ORP (mV)	Comments
1302 / 0	6.93	25.6	1119	Opaque		2.50	-82	
1306 / 4gal	7.08	24.3	1023	Cloudy		0.70	-63	
1310 / 5gal	7.01	24.1	930	Cloudy		0.95	69	
1312 / 7.5gal	7.02	22.7	914	Cloudy		1.07	66	
/								
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Comments Purge water storage/disposal [ ] Drummed onsite [ ] Other

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 7/26/07 / 1340

Bailer - Type [X] disposable teflon Sample port [ ] Other [ ]

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
TR1-02	3 VOAs	BTEX, TPH-g	HCl	Curtis & Tompkins	
		OXYS			
	1-poly	total Pb	HNO3		
	1-1L Amber	TEPH-d	none		

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinsate	
Transfer	
Other:	

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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 7/26/07

WELL PURGING

PURGE VOLUME

Well casing diameter

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

Well Total Depth (TD, ft. below TOC): 19.50'

Depth to Water (WL, ft. below TOC): 5.16

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

Water Column Length X Multiplier X No. Vols = 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	pH	Temp °C °F	µS Cond. (mS/cm)	Turbidity NTU	DO (%)	DO (mg/L)	ORP (mV)	Comments
1110	/ 0	6.60	20.3	1613	Opaque		2.50	173	
1115	/ 13 gal	6.78	19.2	1478	Clear		0.87	131	
1120	/ 15 gal	6.95	19.3	1489	Clear		0.71	124	
1130	/ 17.5 gal	6.90	18.8	1530	Clear		1.19	124	
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Comments Purge water storage/disposal [ ] Drummed onsite [ ] Other

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 7/26/07, 1150

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

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
TR-3-02	3 VOAs	BTEX, TPH-g, Oxys	HCl	Curtis & Tompkins	
	1-poly	total lead	HNO_3		
	1-1L amber	TEPH-d	none		

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 7/26/07

WELL PURGING

PURGE VOLUME

Well casing diameter
[X] 2-inch [ ] 3/8-inch [ ] Other

Well Total Depth (TD, ft. below TOC): 19.62
Depth to Water (WL, ft. below TOC): 8.68
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

Water Column Length X Multiplier X No. Vols = 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 / Liters	pH	Temp @ °F	Cond. µS (mS/cm)	Turbidity NTU	DO (%)	DO (mg/L)	ORP (mV)	Comments
1404 / 0	6.99	20.9	1871	Clear		2.40	33	
1406 / 4 gal	6.94	20.4	1771	Clear		0.33	43	
1409 / 5 gal	7.05	20.6	1769	Clear		2.01	51	
1411 / 7 gal	7.00	20.4	1799	Clear		1.59	45	
/								
/								
/								
/								
/								
/								
/								
/								
/								
/								
/								

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

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 7/26/07 1435
Bailer - Type [X] disposable teflon Sample port [ ] Other [ ]

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
TR-4-02	3 VOAs	BTEX, TPH-g	HCl	Curtis & Tompkins	
		OXYS			
	1 - Poly		HNO3		
	1 - 1L amber		none		

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

APPENDIX B

Laboratory Analytical Reports

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

Laboratory Job Number 196259

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

Sample ID	Lab ID
TR-3-02	196259-001
TR-1-02	196259-002
TR-4-02	196259-003

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.

Signature: _____ Date: 08/07/2007
Project Manager

Signature: _____ Date: 08/08/2007
Operations Manager

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**196259**
Client:	**Treadwell & Rollo**
Project:	**3494.01**
Location:	**1600 63rd St**
Request Date:	**07/26/07**
Samples Received:	**07/26/07**

This hardcopy data package contains sample and QC results for three water samples, requested for the above referenced project on 07/26/07. The samples were received on ice and intact, directly from the field.

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

Volatile Organics by GC/MS (EPA 8260B):
High recovery was observed for methyl tert-amyl ether (TAME) in the BS for batch 127706; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. No other analytical problems were encountered.

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

1962S9

Treadwell&Rollo
Environmental and Geotechnical Consultant

CHAIN OF CUSTODY RECORD

☐ 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 Rd., Suite 200, Sacramento, CA 95825 Ph: 916.565.7412/Fax: 916.565.7412

Site Name: 6006 3rd St
Job Number: 3494.01
Project Manager\Contact: Matt Hall
Samplers: Louis Arighi
Recorder (Signature Required): Louis M. Arighi

Turnaround Time: 5-day

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix: Soil	Matrix: Water	Matrix: Other	No. Containers & Preservative: HCL	H_2SO_4	HNO_3	Ice	Other	None	Analysis Requested: BTEX	TPH-g	Fuel oxygenates	total lead	TEPH-d	Silica gel clean-up	Hold	Remarks
TR-3-02	7/26/07	1150			X		3		1	X		1	X	X	X	X	X			
TR-1-02	7/26/07	1340			X		3		1	X		1	X	X	X	X	X			
TR-4-02	7/26/07	1435			X		3		1	X		1	X	X	X	X	X			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Louis M. Arighi	7/26/07	1514	Anne Kolb	07/26/07	1514
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: 006010

on ice

Curtis & Tompkins, Ltd.

COOLER RECEIPT CHECKLIST

Login#: 196259 Date Received: 7/26/07 Number of Coolers: 1
Client: TROAK Project: 1600 63rd St.

A. Preliminary Examination Phase
Date Opened: 7/26/07 By (print): S.Mantecaro (sign)
1. Did cooler come with a shipping slip (airbill, etc.)? ..... YES (NO)
If YES, enter carrier name and airbill number: _____
2. Were custody seals on outside of cooler? ..... YES (NO)
How many and where? _____ Seal date: _____ Seal name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO n/a
4. Were custody papers dry and intact when received? ..... (YES) NO
5. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
6. Did you sign the custody papers in the appropriate place? ..... (YES) NO
7. Was project identifiable from custody papers? ..... (YES) NO
If YES, enter project name at the top of this form.
8. If required, was sufficient ice used? Samples should be <=6 degrees C. ..... YES NO
Type of ice: Wet Temperature: 9.0

B. Login Phase
Date Logged In: 7/26/07 By (print): S.Mantecaro (sign)
1. Describe type of packing in cooler: Ziplock bags
2. Did all bottles arrive unbroken? ..... (YES) NO
3. Were labels in good condition and complete (ID, date, time, signature, etc.)? ..... (YES) NO
4. Did bottle labels agree with custody papers? ..... (YES) NO
5. Were appropriate containers used for the tests indicated? ..... (YES) NO
6. Were correct preservatives added to samples? ..... (YES) NO
7. Was sufficient amount of sample sent for tests indicated? ..... (YES) NO
8. Were bubbles absent in VOA samples? If NO, list sample Ids below ..... (YES) NO
9. Was the client contacted concerning this sample delivery? ..... YES NO
If YES, give details below.
Who was called? _____ By whom? _____ Date: _____

Additional Comments:

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3520C
Project#:	3494.01	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	07/26/07
Units:	ug/L	Received:	07/26/07
Diln Fac:	1.000	Prepared:	07/28/07
Batch#:	127748		

Field ID: TR-3-02 Lab ID: 196259-001
Type: SAMPLE Analyzed: 07/31/07

Analyte	Result	RL
Diesel C10-C24	370 H Y	50

Surrogate	%REC	Limits
Hexacosane	110	61-134

Field ID: TR-1-02 Lab ID: 196259-002
Type: SAMPLE Analyzed: 07/31/07

Analyte	Result	RL
Diesel C10-C24	200 H Y	50

Surrogate	%REC	Limits
Hexacosane	111	61-134

Field ID: TR-4-02 Lab ID: 196259-003
Type: SAMPLE Analyzed: 07/31/07

Analyte	Result	RL
Diesel C10-C24	760 H Y	50

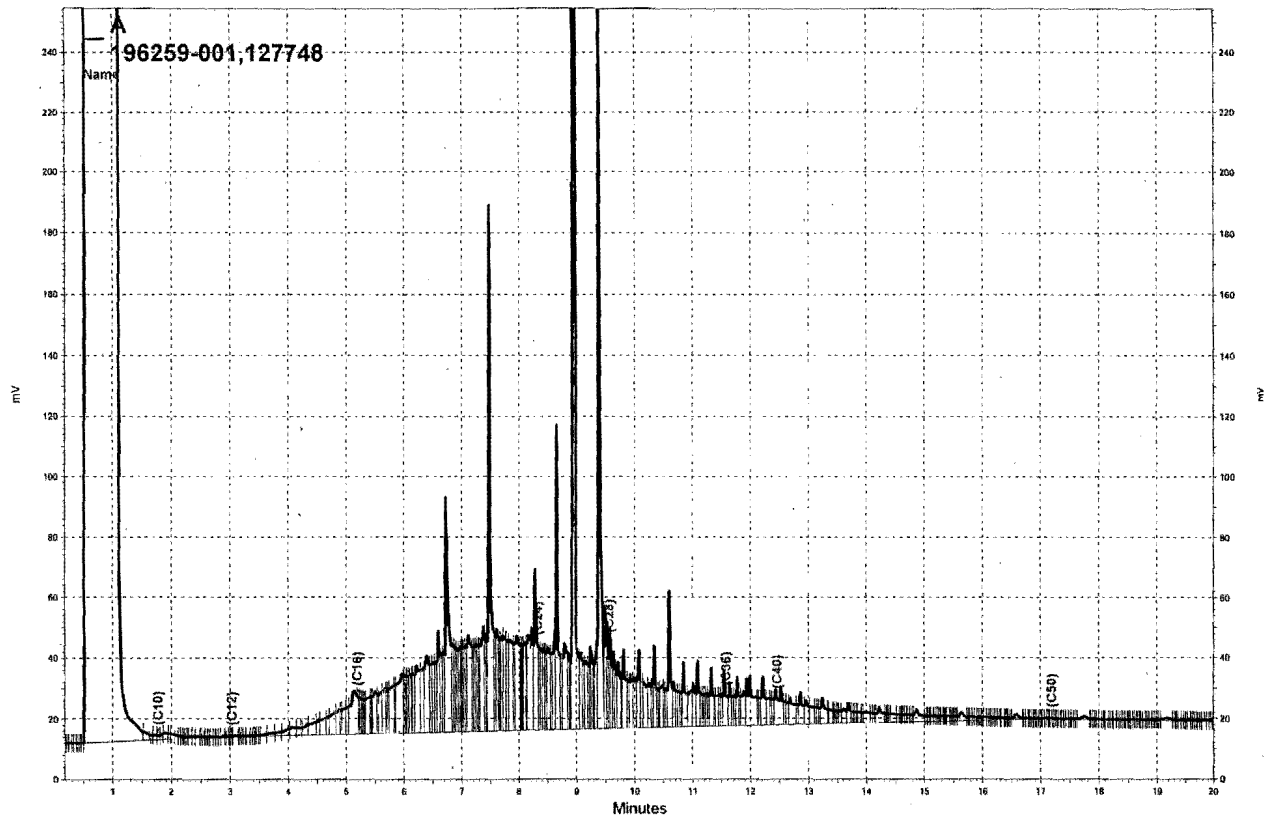
Surrogate	%REC	Limits
Hexacosane	107	61-134

Type: BLANK Analyzed: 07/30/07
Lab ID: QC398521

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	94	61-134

H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit



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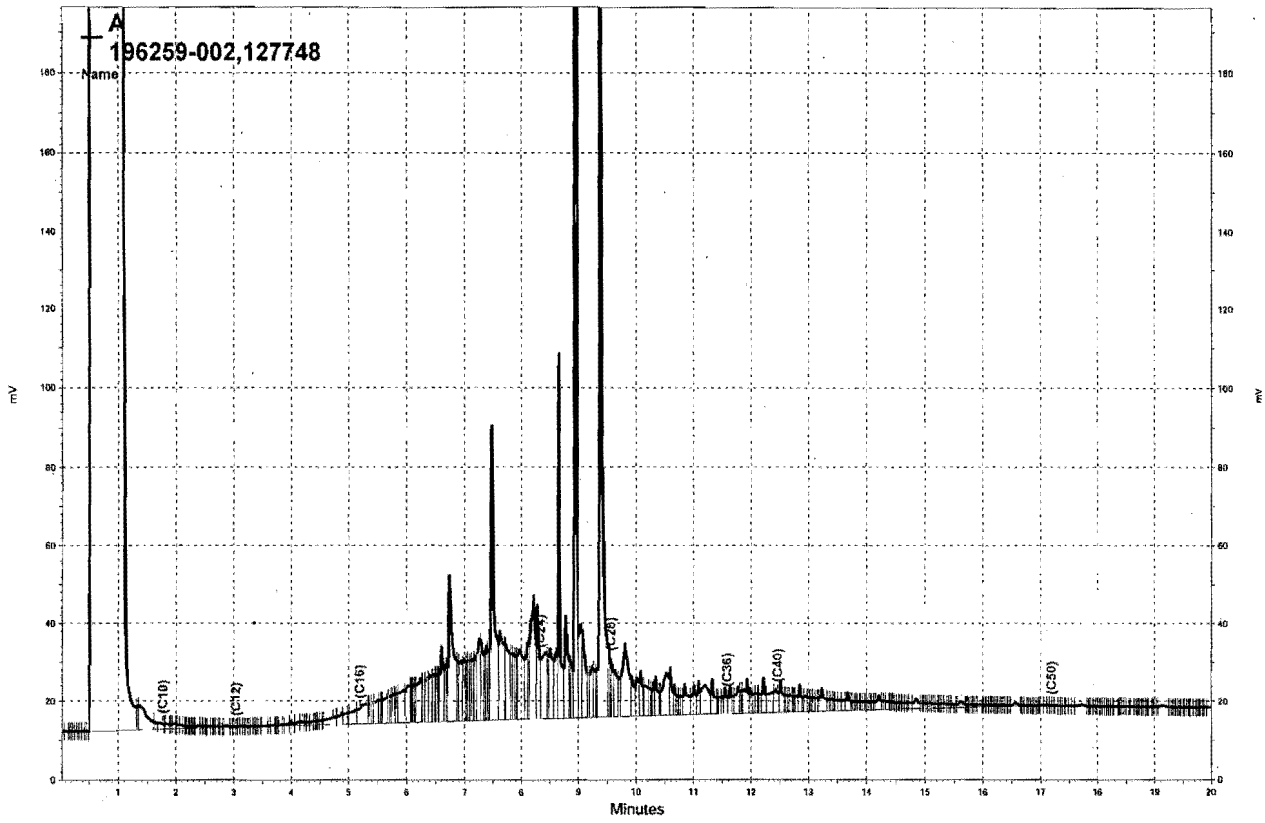
TR-3-02



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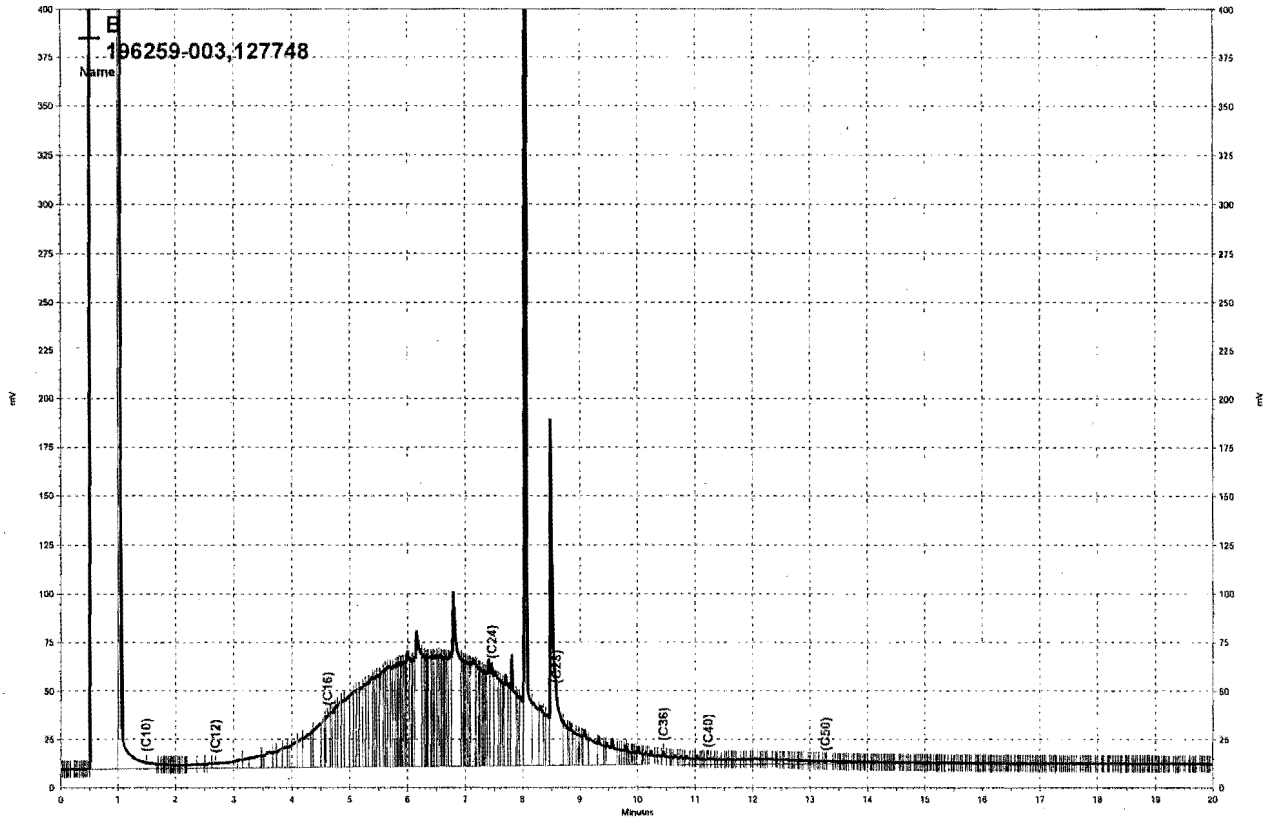
TR-1-02



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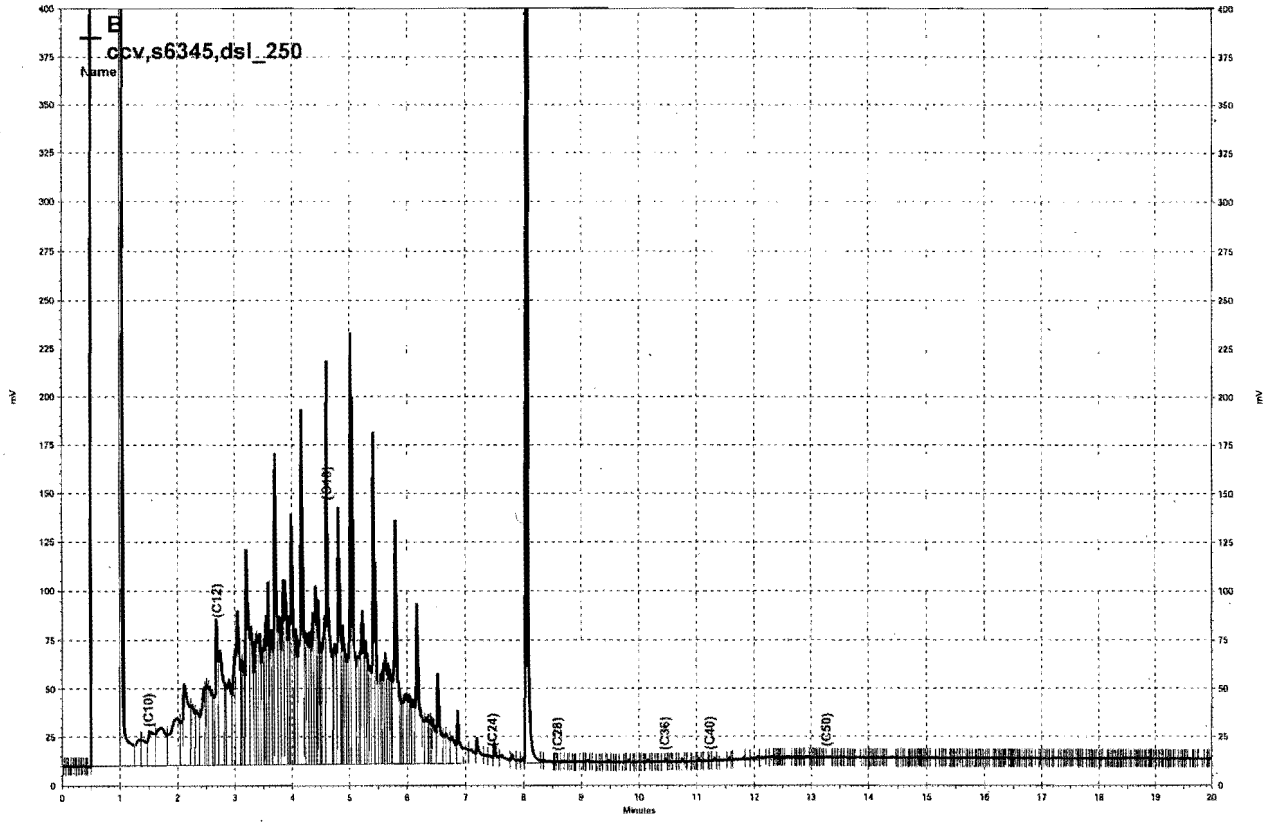
TR-4-02



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DIESEL

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3520C
Project#:	3494.01	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC398522	Batch#:	127748
Matrix:	Water	Prepared:	07/28/07
Units:	ug/L	Analyzed:	07/30/07

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,602	64	58-130

Surrogate	%REC	Limits
Hexacosane	70	61-134

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3520C
Project#:	3494.01	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	127748
MSS Lab ID:	196239-005	Sampled:	07/25/07
Matrix:	Water	Received:	07/25/07
Units:	ug/L	Prepared:	07/28/07
Diln Fac:	1.000	Analyzed:	07/30/07

Type: MS Lab ID: QC398523

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	264.9	2,500	2,506	90	57-134

Surrogate	%REC	Limits
Hexacosane	96	61-134

Type: MSD Lab ID: QC398524

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,644	95	57-134	5	32

Surrogate	%REC	Limits
Hexacosane	98	61-134

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	TR-3-02	Batch#:	127706
Lab ID:	196259-001	Sampled:	07/26/07
Matrix:	Water	Received:	07/26/07
Units:	ug/L	Analyzed:	07/27/07
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	99	80-123
1,2-Dichloroethane-d4	96	79-134
Toluene-d8	100	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	TR-1-02	Batch#:	127706
Lab ID:	196259-002	Sampled:	07/26/07
Matrix:	Water	Received:	07/26/07
Units:	ug/L	Analyzed:	07/27/07
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	8.5	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	97	80-123
1,2-Dichloroethane-d4	96	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Field ID:	TR-4-02	Batch#:	127706
Lab ID:	196259-003	Sampled:	07/26/07
Matrix:	Water	Received:	07/26/07
Units:	ug/L	Analyzed:	07/27/07
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	1.4	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	3.0	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	80-123
1,2-Dichloroethane-d4	96	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC398361	Batch#:	127706
Matrix:	Water	Analyzed:	07/27/07
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	97	80-123
1,2-Dichloroethane-d4	96	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	3494.01	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	127706
Units:	ug/L	Analyzed:	07/27/07
Diln Fac:	1.000		

Type: BS Lab ID: QC398362

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	130.2	104	68-132
Isopropyl Ether (DIPE)	25.00	25.54	102	65-120
Ethyl tert-Butyl Ether (ETBE)	25.00	29.12	116	75-124
Methyl tert-Amyl Ether (TAME)	25.00	30.87	123 *	77-120
MTBE	25.00	26.47	106	71-120
1,2-Dichloroethane	25.00	24.08	96	79-121
Benzene	25.00	25.64	103	80-120
Toluene	25.00	26.39	106	80-120
1,2-Dibromoethane	25.00	24.08	96	80-120
Ethylbenzene	25.00	27.50	110	80-124
m,p-Xylenes	50.00	58.23	116	80-127
o-Xylene	25.00	27.70	111	80-124

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-123
1,2-Dichloroethane-d4	99	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

Type: BSD Lab ID: QC398363

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	117.5	94	68-132	10	20
Isopropyl Ether (DIPE)	25.00	24.02	96	65-120	6	20
Ethyl tert-Butyl Ether (ETBE)	25.00	27.01	108	75-124	8	20
Methyl tert-Amyl Ether (TAME)	25.00	28.22	113	77-120	9	20
MTBE	25.00	24.28	97	71-120	9	20
1,2-Dichloroethane	25.00	22.63	91	79-121	6	20
Benzene	25.00	24.95	100	80-120	3	20
Toluene	25.00	26.13	105	80-120	1	20
1,2-Dibromoethane	25.00	22.91	92	80-120	5	20
Ethylbenzene	25.00	26.32	105	80-124	4	20
m,p-Xylenes	50.00	55.47	111	80-127	5	20
o-Xylene	25.00	26.46	106	80-124	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-123
1,2-Dichloroethane-d4	96	79-134
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-122

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	127706
Units:	ug/L	Analyzed:	07/27/07
Diln Fac:	1.000		

Type: BS Lab ID: QC398364

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,500	1,466	98	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-123
1,2-Dichloroethane-d4	100	79-134
Toluene-d8	100	80-120
Bromofluorobenzene	96	80-122

Type: BSD Lab ID: QC398365

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,500	1,444	96	80-121	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-123
1,2-Dichloroethane-d4	98	79-134
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-122

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Lead

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3010A
Project#:	3494.01	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	07/26/07
Matrix:	Water	Received:	07/26/07
Units:	ug/L	Prepared:	07/27/07
Diln Fac:	1.000	Analyzed:	07/27/07
Batch#:	127717		

Field ID	Type	Lab ID	Result	RL
TR-3-02	SAMPLE	196259-001	ND	3.0
TR-1-02	SAMPLE	196259-002	3.8	3.0
TR-4-02	SAMPLE	196259-003	ND	3.0
	BLANK	QC398401	ND	3.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	196259	Location:	1600 63rd St
Client:	Treadwell & Rollo	Prep:	EPA 3010A
Project#:	3494.01	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	127717
Field ID:	ZZZZZZZZZZ	Sampled:	07/24/07
MSS Lab ID:	196246-001	Received:	07/26/07
Matrix:	Water	Prepared:	07/27/07
Units:	ug/L	Analyzed:	07/27/07
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC398402		100.0	104.3	104	80-120		
BSD	QC398403		100.0	100.7	101	80-120	3	20
MS	QC398404	<0.6892	100.0	100.5	101	70-120		
MSD	QC398405		100.0	101.2	101	70-120	1	20

RPD= Relative Percent Difference

APPENDIX C

CATALOG CUT OF
FREE PRODUCT RECOVERY SYSTEM

PASSIVE REMEDIATION

Passive Skimmer

Floating inlet automatically adjusts to water table changes.

Application

- **Passive LNAPL recovery**
- **Use when minimal product is present or slow recovery rates are expected**
- **2 in and larger wells**
- **May be upgraded to an active system by adding the F.A.P. Plus™ Pump.**

Description

- Skimmer
- Canister
- Well Clincher with 30 ft cord

Skimmer. The Passive Skimmer utilizes the F.A.P. Plus™ skimmer to provide a 36 in floating intake for the recovery of free phase products such as gasoline, diesel and jet fuel. It is used when minimal product is present or slow recovery rates are expected. For passive recovery of products with higher than 80 SSU, the 4 in high viscosity skimmer (TR-25410) is used. This system provides a floating intake of 30 inches.

Product Recovery Canister. The clear PVC collection canister uses a quick connect fitting to attach it to the skimmer and provides venting through the skimmer support hollow rod. The bottom of the canister incorporates a petcock for easy draining. The petcock assembly can be removed allowing an extension canister to be threaded into the existing canister to increase the volume of free product that can be recovered. Additional weights are included with each canister and must be used for proper installation.

TR-252

Well Clincher and Cord. The Well Clincher and 30 ft Nylon® suspension cord are used to support the passive skimmer in the recovery well. The clincher incorporates an eye hook to attach the suspension cord. Correct measurement of the product water interface is necessary to properly position the passive skimmer.

Tech Tip. *The critical measurement for proper recovery is from the bottom of the well to the product water interface. Custom canisters are available for shallow well applications.*

SPECIFICATIONS		
	2" Model	4" Model
Length	93.5 in	93.5 in
Outside Dia.	1.75 in	3.5 in
Effective Travel	36 in (30 in for High-Viscosity Skimmer)	
Canister Volume	0.13 gal	0.45 gal
Canister Length	24 in	15 in
Min. Water Depth	50.5 in	
Weight	4 lb	6 lb
Extension Canister Length	18 in	16.5 in
Extension Canister Volume	0.10 gal (Additional)	0.52 gal (Additional)
Materials	UHMW polyethylene, stainless steel hollow rod and clamps, urethane tubing, polyethylene hydrophobic filter, Nitrophyl float material, brass fittings, PVC tubing mouldings.	

ORDERING INFORMATION		
TR-252	2 in Passive Skimmer	4 lb
TR-253	2 in Extension Canister	1 lb
TR-254	4 in Passive Skimmer	6 lb
TR-25410	4 in Passive Skimmer (High-Viscosity)	6 lb
TR-255	4 in Extension Canister	2 lb
Parts required to convert a Passive Skimmer into an Active Skimming System:		
TR-516	F.A.P. Plus™ Pump	6 lb
TR-762	2 in Well Clincher	1 lb
TR-764	4 in Well Clincher	2 lb
301822	1/4 in Brass Plug	.25 lb
301139	Push-Lok Fitting	.25 lb