

15 May 2002  
Project 3212.02

Opus West Corporation  
c/o Jon K. Wactor, Esq.  
Wactor & Wick LLP  
180 Grand Avenue, Suite 950  
Oakland, California 94612

MAY 21 2002

Subject: Groundwater Monitoring Data  
Ryerson-Tull Steel Property  
1465 65<sup>th</sup> Street  
Emeryville, California

Dear Mr. Wactor:

Treadwell & Rollo, Inc. presents groundwater monitoring data collected around the former underground storage tank (UST) location at the Ryerson-Tull Steel facility at 1465 65<sup>th</sup> Street in Emeryville, California ("sitez"). Figures 1 and 2, attached, present the site location and plan. This letter includes results of groundwater monitoring recently completed at wells RMW-1 through RMW-3 around the former UST location, as requested by the Alameda County Environmental Health Services (County). This work was completed as outlined in our proposals dated 17 April 2002.

In 1993, one 10,000-gallon diesel UST, associated product line and pump island were removed from the site by SEMCO. Confirmation soil samples were collected by SEMCO from the UST excavation and spoils pile, and one groundwater sample was collected from the excavation. Total petroleum hydrocarbons (TPH) as diesel and benzene, toluene, ethyl benzene and xylenes (BTEX) were not detected in the excavation sidewall samples. TPH as diesel was detected in the groundwater sample at 850 micrograms per liter (ug/L). Results of these analyses are presented in Table 1 attached. Since the UST removal, Treadwell & Rollo and others completed several phases of environmental investigations at the site including groundwater monitoring at wells RMW-1 through RMW-3. Results of these investigations indicate that the site groundwater is affected by TPH as diesel and oil from former off-site activities up and cross-gradient from the site (Table 2 attached). Historic groundwater monitoring data from the RMW wells (Table 3 attached) have TPH concentrations similar to the grab groundwater samples collected at up and cross-gradient sides of the site.

We understand that the County is preparing to close the open leaking UST case for the site but requires methyl tertiary butyl ether (MTBE) data prior to finalizing closure. A summary of the recent groundwater monitoring activities follows.

Opus West Corporation  
c/o Jon K. Wactor, Esq.  
Luce, Forward, Hamilton & Scripps, LLP  
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**Treadwell&Rollo**

### **Groundwater Sampling and Analysis**

On 25 April 2002, groundwater samples were collected from monitoring wells RMW-1 through RMW-3 for chemical analysis. A trip blank was prepared for laboratory analysis as a quality assurance and quality control sample. Prior to sampling the wells, the water level was measured in each well, and three equivalent casing volumes of groundwater were pumped from the well. A groundwater sample was then collected by lowering a disposable bailer into the well. The groundwater samples were decanted into the appropriate sample containers prepared and provided by the contracted analytical laboratory. The sample containers were then labeled and immediately placed in an ice-cooled chest for delivery under chain-of-custody procedures to McCambell Analytical, Inc. (McCambell), a California Department of Health Services-certified laboratory in Pacheco, California.

Prior to each purging and sampling interval, the equipment were cleaned with a detergent solution and rinsed with distilled water. The decontamination rinsate and purged groundwater were contained in a labeled 55-gallon drum and stored on site.

All the groundwater samples and trip blank were analyzed for BTEX and MTBE by EPA Method 8020, and total extractable petroleum hydrocarbons (TEPH) by EPA Method 8015M.

### **Results**

The depth to groundwater in wells RMW-1 through RMW-3 was measured at 3.34 to 4.00 feet below the top of the well casing on 25 April 2002. Based on these and other well measurements, groundwater was calculated to flow west-southwest. A summary of the monitoring well historic water level measurements is presented on Table 4, attached.

The recent laboratory analytical results from wells RMW-1 through RMW-3 are presented in Table 3 and in the laboratory analytical report attached to this letter. BTEX and MTBE were not detected in any of the well and trip blank samples. TEPH as diesel/oil were not detected in the sample from well RMW-2 drilled at the former UST location. TEPH as diesel/oil were detected in the groundwater samples from wells RMW-1 and RMW-3 at concentrations up to 9,700 ug/L.

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## Discussion

The historic and recent groundwater data indicate that site groundwater is impacted by heavy petroleum hydrocarbons that in large part likely resulted from historic off-site activities. Groundwater samples from well RMW-2 (at the former UST location) historically have not contained detectable TEPH concentrations. Additionally, low BTEX concentrations have historically been detected only twice (in 1993 and 2001) from all the RMW wells. Furthermore, the UST closure data indicates that significant diesel concentrations did not likely leak from the former UST. Therefore, we recommend that the County close the open leaking UST case for the site with no further investigation, remediation or monitoring.

If you have any questions or comments, please call.

Sincerely yours,  
TREADWELL & ROLLO, INC.



Jeffrey F. Ludlow, R.G.  
Senior Project Manager



Philip G. Smith, R.E.A. II  
Principal Geologist

32120212.JFL

Attachment

cc: Donna Drogas – Alameda County Environmental Health Services  
Chuck Headlee – California Regional Water Quality Control Board

**Table 1**  
**Diesel Underground Storage Tank Removal**  
**Sample Results by Others**  
 1465 65th Street  
 Emeryville, California

Sample ID	Sample Date	Matrix	Results of Analysis					
			Benzene	Toulene	Ethylbenzene	Xylenes	TPH as Diesel	STLC Ba
West End 8' 6"	3/11/93	Soil	<0.003	<0.003	<0.003	<0.009	<10	NA
East End 9' 6"	3/11/93	Soil	<0.003	<0.003	<0.003	<0.009	<10	NA
Comp Soils	3/11/93	Soil	<0.003	<b>0.007</b>	<0.003	<0.009	<b>26</b>	<b>0.5</b>
Excavation Pit Water	3/11/93	Water	<0.3	<0.3	<0.3	<0.9	<b>850</b>	NA

Notes

All soil results are reported in milligrams per kilogram (mg/kg)

All water results are reported in micrograms per Liter (ug/L)

<0.003 and ND = Not detected at or above the indicated laboratory reporting limit

**Bold** indicates detection above laboratory reporting limit

TPH = Total Petroleum Hydrocarbons

Comp Soils = Excavated Stockpiled Soil Sample

STLC Ba = Soluble Barium Based on the Waste Extraction Test

Source Tank Removal Report, SEMCO, March 1993.

**Table 2**  
**Grab Groundwater Samples**  
**Metals and Hydrocarbons Analytical Results**  
**By Others and Treadwell Rollo**  
1465 65th Street  
Emeryville, California

Sample ID	Sample Date	Arsenic or 13 Priority Metals EPA 6000/7000 Series			TEPH as Diesel	TEPH as Motor Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes
		Arsenic	Nickel	Zinc						
P-1	7/5/95	<5	--	--	--	--	<2	<2	<2	<2
P-5	7/5/95	<5	<5	26	4,100	--	<4	<4	<4	<4
DP-1-GW	12/17/01	--	--	--	120b	<250	<0.5	1.6	<0.5	0.61
DP-8-GW	12/14/01	--	--	--	580	3,700	<5.0	<5.0	<5.0	<5.0
DP-9-GW	12/17/01	--	--	--	310b	370	6.5	5.4	<5.0	<5.0
DP-12-GW	12/14/01	--	--	--	210	1,400	<0.5	3.3	1.0	5.2
DP-11-GW	12/17/01	--	--	--	1,500b,g	710	<0.5	3.1	1.5	6.6
DP-13-GW	12/17/01	--	--	--	460b,g	520	<0.5	3.4	2.7	17

Notes

All results are reported in micrograms per liter (ug/L)

**Bold** indicates detection above laboratory reporting limit

-- = Not Analyzed

TEPH = Total Extractable Petroleum Hydrocarbons

b = diesel range compounds are significant; no recognizable pattern

g = oil range compounds are significant

Priority metals include arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, tin, thalium, and zinc. Only arsenic and those metals detected in groundwater samples are included in the table.

Source: Data for samples P-1 and P-5 obtained from Erler & Kalinowski report dated 5 September 1995

**Table 3**  
**Groundwater Monitoring Well Analytical Results**  
**By Others and Treadwell Rollo**  
**TPH and BTEX**  
**1465 65th Street**  
**Emeryville, California**

Sample ID	Sample Date	TPHg	TPPH	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPHd	TEPH as Diesel	TEPH as Motor Oil	TEPH	Metals EPA 6000 Series		
													Arsenic	Lead	Chromium
RMW-1	8/11/93	--	--	--	<0.5	<0.5	<0.5	<0.5	<50	--	--	--	--	--	--
	9/14/93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/2/93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/24/93	<b>57</b>	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--
	3/24/95	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	<b>210</b>	<5	<5	<10
	12/19/01	--	--	--	<0.5	<0.5	<0.5	<0.5	--	<b>61b</b>	<250	--	--	--	--
RMW-1GWDUP	12/19/01	--	--	--	<0.5	<b>8.0</b>	<0.5	<0.5	--	<b>80g</b>	<b>280</b>	--	--	--	--
	4/25/02	--	--	<5	<0.5	<0.5	<0.5	<0.5	--	<b>190g</b>	<b>1,200</b>	--	--	--	--
RMW-2	8/11/93	--	--	--	<b>1.3</b>	<0.5	<0.5	<b>0.59</b>	<50	--	--	--	--	--	--
	9/14/93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/2/93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/24/93	<b>50</b>	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--
	3/24/95	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	<b>150</b>	7.6	<5	<10
	12/18/01	--	--	--	<0.5	<0.5	<0.5	<0.5	--	<50	<250	--	--	--	--
4/25/02	--	--	<5	<0.5	<0.5	<0.5	<0.5	--	<50	<250	--	--	--	--	
RMW-3	8/11/93	NS: Floating free-phase hydrocarbons 0.01 feet													
	9/14/93	NS: Floating free-phase hydrocarbons 0.02 feet													
	11/2/93	NS: Floating free-phase hydrocarbons 0.04 feet													
	11/24/93	NS: Floating free-phase hydrocarbons 0.02 feet													
	3/27/95	--	<b>11,000</b>	--	<10	<10	<10	<10	--	--	--	<b>97,000</b>	<5	<5	<10
	12/18/01	--	--	--	<0.5	<0.5	<0.5	<b>1.4</b>	--	--	--	--	--	--	--
4/25/02	--	--	<5	<0.5	<0.5	<0.5	<0.5	--	<b>9700b,g,h</b>	<b>5,000</b>	--	--	--	--	
FB-GW	12/19/01	--	--	--	<0.5	<0.5	<0.5	<0.5	--	<50	<250	--	--	--	--
TRIP BLANK	4/25/02	--	--	<5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--

**Notes**

All results are reported in micrograms per liter (ug/L)  
 <0.5 or ND = not detected at or above the indicated laboratory reporting limit  
**Bold** indicates detection above laboratory reporting limit  
 -- = Not Analyzed  
 NS = Not Sampled  
 FB-GW = Field Blank of Distilled Water  
 RMW-1GWDUP = Duplicate Groundwater sample from well RMW-1  
 TPHg = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8015  
 TPPH = Total Purgeable Petroleum Hydrocarbons  
 TEPHd = Total Petroleum Hydrocarbons as Diesel by EPA Method 8015  
 TEPH = Total Extractable Petroleum Hydrocarbons  
 NA = not applicable  
 T&R data collected on 18 and 19 December 2001  
 Source: Final Site Investigation Report for the 64th and 65th Street Properties, Emeryville, California, EKI, 5 September 1995.  
 b = diesel range compounds are significant; no recognizable pattern  
 g = oil range compounds are significant  
 h = lighter than water immiscible sheen/product is present

Table 4  
Groundwater Elevation  
Groundwater Monitoring Wells  
1465 65th Street  
Emeryville, California

Well ID	Date Measured	Top of Casing Elevation (Ft MSL)	Depth to Water (Ft BTOC)	Groundwater Elevation (Ft MSL)
MW-2	3/24/95	19.45	3.03	16.42
	7/7/95	19.45	4.20	15.25
	12/17/01	19.45	3.49	15.96
	4/25/02	19.45	3.98	15.47
MW-3	3/24/95	15.24	2.72	12.52
	7/7/95	15.24	6.22	9.02
	12/17/01	15.24	3.26	11.98
	4/25/02	15.24	6.32	8.92
MW-4	3/6/95	14.02		
	3/24/95	14.02	4.57	9.45
	7/7/95	14.02	5.77	8.25
	12/17/01	14.02	5.02	9.00
	4/25/02	14.02	5.84	8.18
RMW-1	8/11/93	14.38	4.87	9.51
	9/14/93	14.38	4.94	9.44
	11/2/93	14.38	5.13	9.25
	11/24/93	14.38	5.07	9.31
	3/24/95	14.38	3.61	10.77
	7/7/95	14.38	4.18	10.20
	12/17/01	14.38	4.0	10.38
	4/25/02	14.38	4.51	9.87
RMW-2	8/11/93	14.55	4.64	9.91
	9/14/93	14.55	4.64	9.91
	11/2/93	14.55	4.85	9.70
	11/24/93	14.55	4.84	9.71
	3/24/95	14.55	3.35	11.20
	7/7/95	14.55	3.70	10.85
	12/17/01	14.55	3.78	10.77
	4/25/02	14.55	4.26	10.29
RMW-3	8/11/93	14.15		
	9/14/93	14.15	4.25*	9.90
	11/2/93	14.15	4.53*	9.62
	11/24/93	14.15	4.35*	9.80
	3/24/95	14.15	2.95	11.20
	7/7/95	14.15	3.70	10.45
	12/17/01	14.15	3.34**	10.81
	4/25/02	14.15	3.72**	10.43

**Notes**

Ft BTOC = feet below top of casing

Ft MSL = feet above mean sea level as referenced in the 1995 EKI report

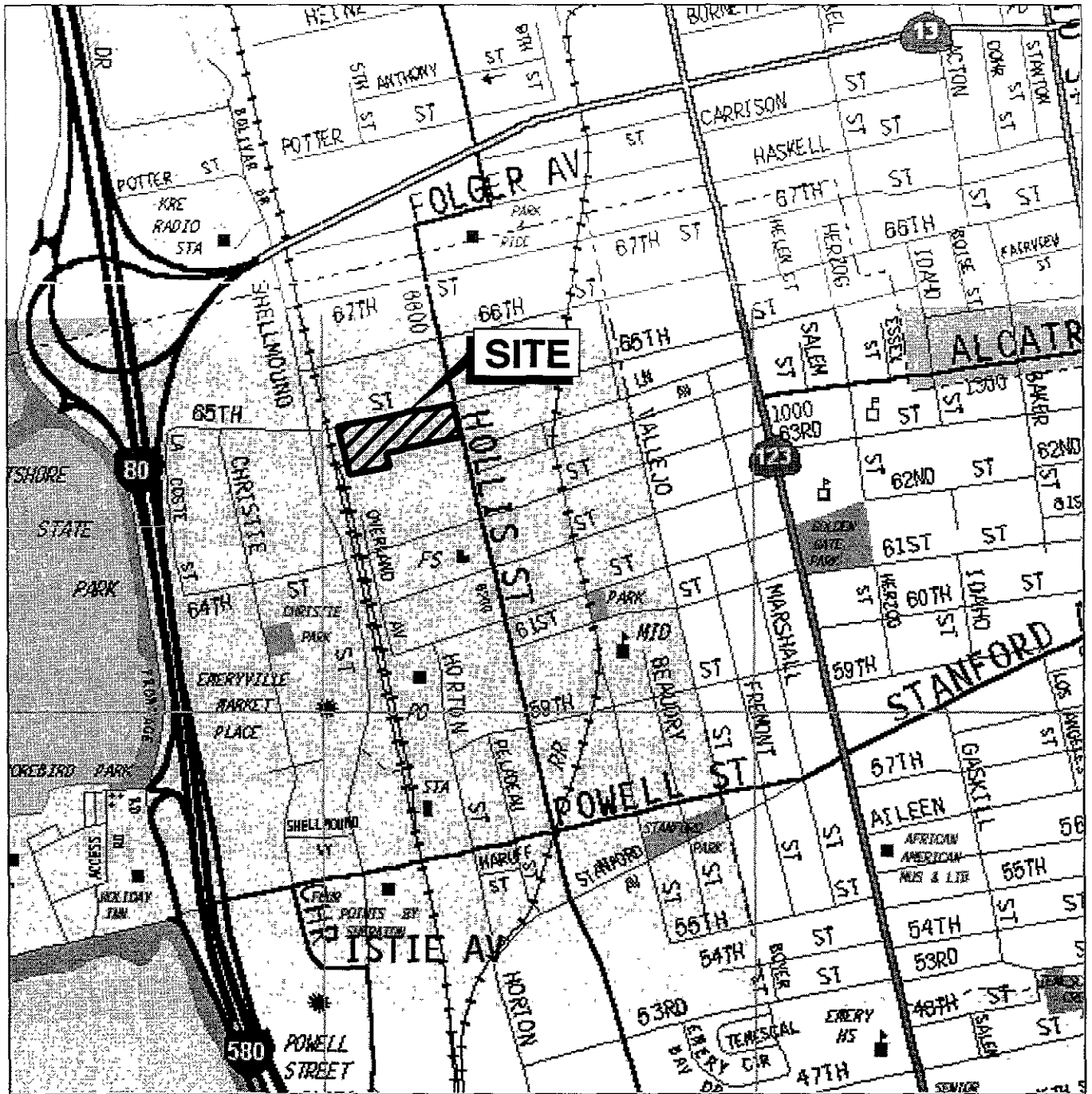
NM = Not measured

Depth to water data for all dates except 12/17/01 and 4/25/02 by EKI and summarized in their 1995 report

\* = Corrected depth to water measurement made by HETI due to separate product phase on the water table

\*\* = Heavy Petroleum Hydrocarbon sheen observed on the groundwater purged from the well

and/or on the laboratory sample



Base map: The Thomas Guide  
Alameda County  
2002



No scale

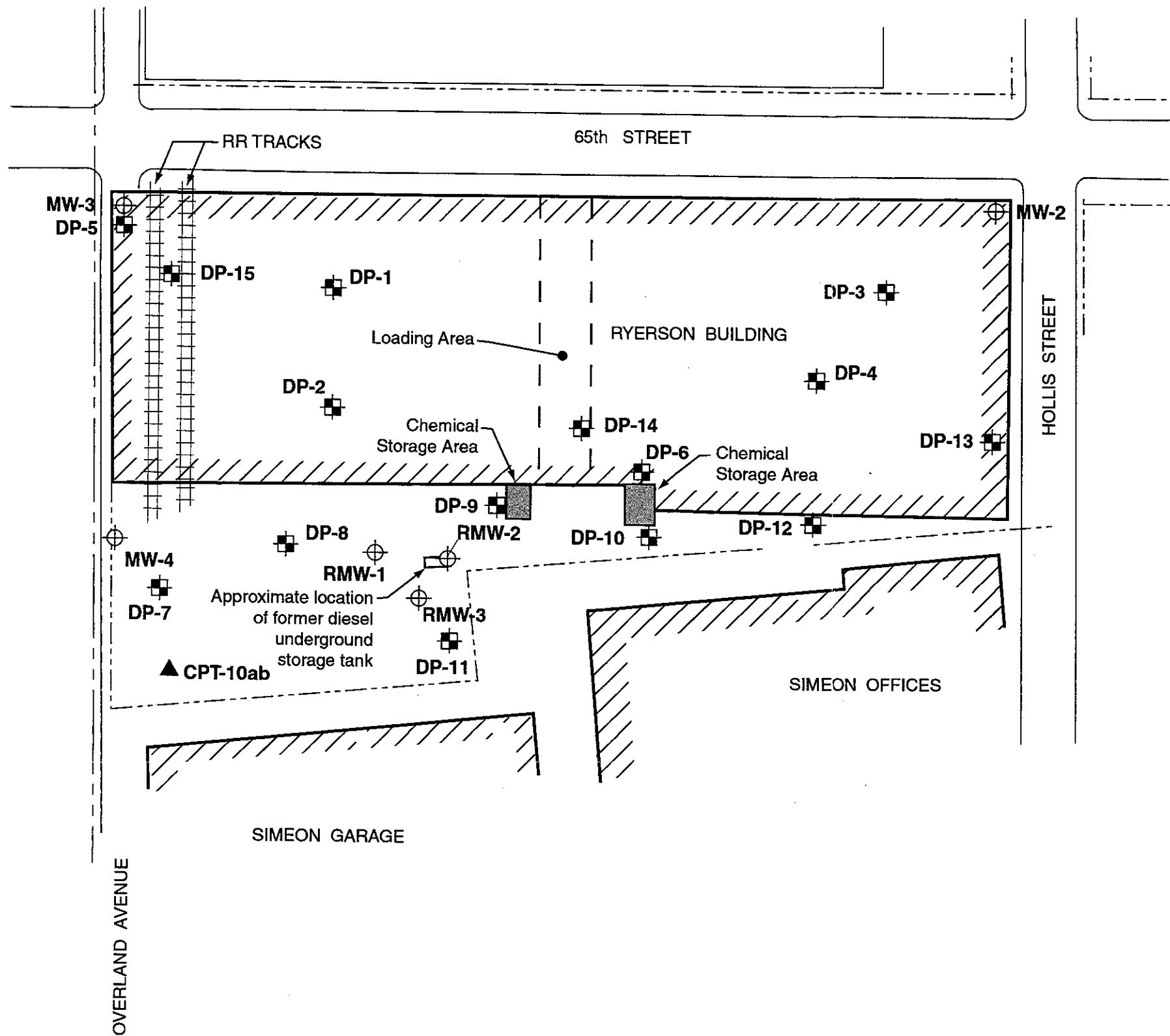
1465 65TH STREET  
Emeryville, California

**SITE LOCATION MAP**





**Treadwell&Rollo**

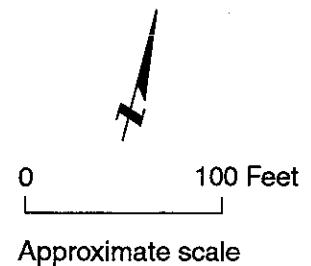
Date 12/18/01 Project No. 3212.02 Figure 1





**EXPLANATION**

-  Existing Structures
- CPT-10ab**  Environmental CPT location, December 13, 2001
- DP-1**  Environmental Direct Push Boring location, December 13 & 14, 2001
- MW-2**  Groundwater monitoring well installed by others



1465 65th STREET Emeryville, California		
<b>TREADWELL &amp; ROLLO</b> SAMPLING LOCATION PLAN		
Date 01/04/02	Project No. 3212.02	Figure 2
<b>Treadwell &amp; Rollo</b>		

Reference: First level Plan, 65th & Hollis, Emeryville, Ca, Thompson/Opus West, B.A.R. Architects, dated 5 September 2001.



McC Campbell Analytical Inc.

110 2nd Avenue South #D7 Pacheco, CA 94553-5560  
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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID. #3212.02	Date Sampled. 04/25/02
		Date Received. 04/26/02
	Client Contact: Jeff Ludlow	Date Reported 05/01/02
	Client P.O.:	Date Completed: 05/01/02

May 01, 2002

Dear Jeff:

Enclosed are:

- 1). the results of 8 samples from your #3212.02 project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager



McC Campbell Analytical Inc.

110 2nd Avenue South #D7, Pacheco CA 94553-5560  
 Telephone 925-798-1620 Fax 925-798-1622  
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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3212.02	Date Sampled: 04/25/02
	Client Contact: Jeff Ludlow	Date Received: 04/26/02
	Client P.O.:	Date Extracted: 04/29/02-05/01/02
		Date Analyzed: 04/29/02-05/01/02

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\***

Extraction method SW5030B

Analytical methods SW8021B-8015Cm

Work Order 0204445

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
002B	MW-2	W	---	ND	---	---	---	---	1	102
005B	RMW-2	W	---	ND	ND	ND	ND	ND	1	---#
006B	RMW-1	W	---	ND	ND	ND	ND	ND	1	---#
007B	RMW-3	W	---	ND	ND	ND	ND	ND	1	---#
008A	Trip Blank	W	---	ND	ND	ND	ND	ND	1	110

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	0.5	0.5	0.5	0.5	0.5	ug/L
	S	1	0.05	0.005	0.005	0.005	0.005	0.005	mg/Kg


\*water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, and TCLP extracts in ug/L.

DF = dilution factor.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



Treadwell & Rollo 555 Montgomery St, Suite 1300 San Francisco, CA 94111	Client Project ID. #3212.02	Date Sampled: 04/25/02
		Date Received: 04/26/02
	Client Contact: Jeff Ludlow	Date Extracted: 04/26/02
	Client P.O.:	Date Analyzed: 04/27/02-05/01/02

**Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil\***

Extraction method SW3510C Analytical methods SW8015C Work Order 0204445

Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
005C	RMW-2	W	ND	ND	1	91.9
006C	RMW-1	W	190,g	1200	1	101
007C	RMW-3	W	9700,b,g,h	5000	1	101

Reporting Limit for DF=1; ND means not detected at or above the reporting limit	W	50	250	ug/L
	S	NA	NA	mg/Kg

\* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent.



Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #3212.02	Date Sampled 04/25/02
		Date Received: 04/26/02
	Client Contact: Jeff Ludlow	Date Extracted: 04/29/02-05/01/02
	Client P O..	Date Analyzed: 04/29/02-05/01/02

**Halogenated Volatile Organics by GC-ELCD (8010 Basic Target List)**

Extraction Method SW5030B

Analytical Method SW8021B

Work Order 0204445

Lab ID	0204445-001A	0204445-002A	0204445-003A	0204445-004A	Reporting Limit for DF =1	
Client ID	MW-3	MW-2	MW-4	MW-4D	S	W
Matrix	W	W	W	W		
DF	1	1	2	2		
Compound	Concentration				ug/kg	ug/L
Bromodichloromethane	ND	ND	ND<1	ND<1	NA	0.5
Bromoform	ND	ND	ND<1	ND<1	NA	0.5
Bromomethane	ND	ND	ND<1	ND<1	NA	0.5
Carbon Tetrachloride	ND	ND	ND<1	ND<1	NA	0.5
Chlorobenzene	ND	ND	ND<1	ND<1	NA	0.5
Chloroethane	ND	ND	ND<1	ND<1	NA	0.5
2-Chloroethyl vinyl ether	ND	ND	ND<1	ND<1	NA	0.5
Chloroform	ND	ND	ND<1	ND<1	NA	0.5
Chloromethane	ND	ND	ND<1	ND<1	NA	0.5
Dibromochloromethane	ND	ND	ND<1	ND<1	NA	0.5
1,2-Dichlorobenzene	ND	ND	ND<1	ND<1	NA	0.5
1,3-Dichlorobenzene	ND	ND	ND<1	ND<1	NA	0.5
1,4-Dichlorobenzene	ND	ND	ND<1	ND<1	NA	0.5
Dichlorodifluoromethane	ND	ND	ND<1	ND<1	NA	0.5
1,1-Dichloroethane	ND	ND	ND<1	ND<1	NA	0.5
1,2-Dichloroethane	ND	ND	ND<1	ND<1	NA	0.5
1,1-Dichloroethene	ND	ND	ND<1	ND<1	NA	0.5
cis-1,2-Dichloroethene	ND	5.6	23	24	NA	0.5
trans-1,2-Dichloroethene	ND	ND	14	14	NA	0.5
1,2-Dichloropropane	ND	ND	ND<1	ND<1	NA	0.5
cis-1,3-Dichloropropene	ND	ND	ND<1	ND<1	NA	0.5
trans-1,3-Dichloropropene	ND	ND	ND<1	ND<1	NA	0.5
Methylene chloride	ND<1.0	ND<1.0	ND<2.0	ND<2.0	NA	0.5
1,1,2,2-Tetrachloroethane	ND	ND	ND<1	ND<1	NA	0.5
Tetrachloroethene	ND<1.0	ND<1.0	ND<2.0	ND<2.0	NA	0.5
1,1,1-Trichloroethane	ND	ND	ND<1	ND<1	NA	0.5
1,1,2-Trichloroethane	ND	ND	ND<1	ND<1	NA	0.5
Trichloroethene	ND	ND	42	44	NA	0.5
Trichlorofluoromethane	ND	ND	ND<1	ND<1	NA	0.5
Vinyl Chloride	ND	ND	ND<1	ND<1	NA	0.5
Surrogate Recoveries (%)						
%SS	98.2	107	101	106		
Comments						

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit for DF = 1; water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

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

(h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains greater than ~2 vol. % sediment; (j) sample diluted due to high organic content.



Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID #3212 02	Date Sampled: 04.25/02
		Date Received: 04/26/02
	Client Contact: Jeff Ludlow	Date Extracted: 04/29/02-05/01/02
	Client P O :	Date Analyzed: 04/29/02-05/01/02

**Halogenated Volatile Organics by GC-ELCD (8010 Basic Target List)**

Extraction Method SW5030B

Analytical Method SW8021B

Work Order 0204445

Lab ID	0204445-005A	0204445-006A	0204445-007A	0204445-008A	Reporting Limit for DF = 1	
Client ID	RMW-2	RMW-1	RMW-3	Trip Blank	S	W
Matrix	W	W	W	W		
DF	2	2	2	1		
Compound	Concentration				ug/kg	µg/L
Bromodichloromethane	ND<1	ND<1	ND<1	ND	NA	0.5
Bromoform	ND<1	ND<1	ND<1	ND	NA	0.5
Bromomethane	ND<1	ND<1	ND<1	ND	NA	0.5
Carbon Tetrachloride	ND<1	ND<1	ND<1	ND	NA	0.5
Chlorobenzene	ND<1	ND<1	ND<1	ND	NA	0.5
Chloroethane	ND<1	ND<1	ND<1	ND	NA	0.5
2-Chloroethyl vinyl ether	ND<1	ND<1	ND<1	ND	NA	0.5
Chloroform	ND<1	ND<1	ND<1	ND	NA	0.5
Chloromethane	ND<1	ND<1	ND<1	ND	NA	0.5
Dibromochloromethane	ND<1	ND<1	ND<1	ND	NA	0.5
1,2-Dichlorobenzene	ND<1	ND<1	ND<1	ND	NA	0.5
1,3-Dichlorobenzene	ND<1	ND<1	ND<1	ND	NA	0.5
1,4-Dichlorobenzene	ND<1	ND<1	ND<1	ND	NA	0.5
Dichlorodifluoromethane	ND<1	ND<1	ND<1	ND	NA	0.5
1,1-Dichloroethane	ND<1	ND<1	ND<1	ND	NA	0.5
1,2-Dichloroethane	1.2	1.2	ND<1	ND	NA	0.5
1,1-Dichloroethene	ND<1	ND<1	ND<1.0	ND	NA	0.5
cis-1,2-Dichloroethene	5.9	8.8	16	ND	NA	0.5
trans-1,2-Dichloroethene	2.8	6.3	18	ND	NA	0.5
1,2-Dichloropropane	ND<1	ND<1	ND<1	ND	NA	0.5
cis-1,3-Dichloropropene	ND<1	ND<1	ND<1	ND	NA	0.5
trans-1,3-Dichloropropene	ND<1	ND<1	ND<1	ND	NA	0.5
Methylene chloride	ND<2.0	ND<2.0	ND<2.0	ND<1.0	NA	0.5
1,1,2,2-Tetrachloroethane	ND<1	ND<1	ND<1	ND	NA	0.5
Tetrachloroethene	ND<2.0	ND<2.0	ND<2.0	ND<1.0	NA	0.5
1,1,1-Trichloroethane	ND<1	ND<1	ND<1	ND	NA	0.5
1,1,2-Trichloroethane	ND<1	ND<1	ND<1	ND	NA	0.5
Trichloroethene	21	23	42	ND	NA	0.5
Trichlorofluoromethane	ND<1	ND<1	ND<1	ND	NA	0.5
Vinyl Chloride	ND<1	ND<1	2.2	ND	NA	0.5

**Surrogate Recoveries (%)**

%SS	103	97.8	101	96.3	
Comments					

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit for DF = 1; water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

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

(h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains greater than ~2 vol. % sediment; (j) sample diluted due to high organic content.

**QC SUMMARY REPORT FOR SW8021B/8015Cm**

BatchID 1537

Matrix W

WorkOrder 0204445

EPA Method	SW8021B/8015Cm	Extraction	SW5030B	Ext Date	4/26/02	Spiked Sample ID	N/A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	N/A	60	N/A	N/A	N/A	102	99.5	2.1	80	120
MTBE	N/A	10	N/A	N/A	N/A	91.4	89.8	1.7	80	120
Benzene	N/A	10	N/A	N/A	N/A	102	99.7	2.0	80	120
Toluene	N/A	10	N/A	N/A	N/A	108	105	3.5	80	120
Ethylbenzene	N/A	10	N/A	N/A	N/A	104	104	0.67	80	120
Xylenes	N/A	30	N/A	N/A	N/A	103	103	0	80	120
%SS	N/A	10	N/A	N/A	N/A	107	106	0.63	80	120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
 NONE

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

N/A = not enough sample to perform matrix spike, or analyte concentration in sample exceeds spike amount.

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

\* MS and / or MSD spike recoveries may not be near 100% or their RPDs near 0% if: a) the sample is inhomogeneous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone 925-798-1620 Fax 925-798-1622  
<http://www.mccampbell.com> E-mail [main@mccampbell.com](mailto:main@mccampbell.com)

### QC REPORT

EPA 8015m + 8020

Date: 04/27/02

Extraction: EPA 5030

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD	
	Sample	MS	MSD	Amount Spiked	MS		MSD
<u>SampleID:</u> 42702		<u>Instrument</u> GC-11 A					
Surrogate1	ND	104.0	103.0	100.00	104	103	1.0
TPH (diesel)	ND	7225.0	7125.0	7500.00	96	95	1.4

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation



## QC SUMMARY REPORT FOR SW8021B

BatchID 1539

Matrix W

WorkOrder 0204445

EPA Method	SW8021B	Extraction	SW5030B	Ext Date	4/26/02	Spiked Sample ID	0204441-001A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Chlorobenzene	ND	10	100	102	1.51	102	99.2	2.2	70	130
1,1-Dichloroethene	ND	10	102	107	4.84	106	109	2.6	70	130
Trichloroethene	ND	10	97.7	101	3.71	100	99.1	0.42	70	130
%SS	97.7	10	99.3	98.8	0.516	97.7	96.4	1.4	70	130
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE										

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

N/A = not enough sample to perform matrix spike, or analyte concentration in sample exceeds spike amount.

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

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

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

# McC Campbell Analytical Inc.

110 Second Avenue South, #D7  
 Pacheco, CA 94553-5560  
 (925) 798-1620

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0204445

**Client:**

Treadwell & Rollo  
 555 Montgomery St., Suite 1300  
 San Francisco, CA 94111

TEL: (415) 955-9040  
 FAX: (415) 955-9041  
 ProjectNo: #3212.02  
 PO:

26-Apr-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests			
					SW8015C	SW8021B	8021B/8015	
0204445-001	MW-3	Water	4/25/02 12:40:00 PM			A		
0204445-002	MW-2	Water	4/25/02 1:55:00 PM			A	B	
0204445-003	MW-4	Water	4/25/02 3:19:00 PM			A		
0204445-004	MW-4D	Water	3/25/02 3:19:00 PM			A		
0204445-005	RMW-2	Water	4/25/02 4:16:00 PM		C	A	B	
0204445-006	RMW-1	Water	4/25/02 5:10:00 PM		C	A	B	
0204445-007	RMW-3	Water	4/25/02 5:55:00 PM		C	A	B	
0204445-008	Trip Blank	Water	4/25/02			A	A	

**Comments:**

	Date/Time		Date/Time
Relinquished by: _____		Received by: _____	
Relinquished by: _____		Received by: _____	
Relinquished by: _____		Received by: _____	

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

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

**CHAIN OF CUSTODY RECORD**

YES -  555 Montgomery Street, Suite 1300, San Francisco, CA 94111 Ph: 415-955-9040 / Fax: 415-955-9041  
 2 Theatre Square, Suite 216, Orinda CA 94563 Ph: 925-253-4980 / Fax: 925-253-4985  
 NO -  501 14th Street, 3rd Floor, Oakland, CA 94612 Ph: 510-874-4500 / Fax: 510-874-4507

02 0445

Site Name: Ryerson Toll - Emeryville  
 Job Number: 2212.02  
 Project Manager/Contact: Jeff Ludlow  
 Samplers: Eric Denton  
 Recorder (Signature Required): [Signature]

Turnaround Time  
7 days

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix & Preservative										Analysis Requested		Silica gel clean-up	Hold	Remarks		
				Soil	Water	Other	HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	Ice	Other	None	SO <sub>4</sub> (NOCS)	SO <sub>4</sub> (MIBE OR)	SO <sub>4</sub> (MIBE/STP)				SO <sub>4</sub> M (TEPH)	
+ MW-3	4/25/02	1240			X			W			X									
+ MW-2	4/25/02	1355			X			F			X									
✓ MW-4	4/25/02	1519			X			W			X									
✓ MW-4D	4/25/02	1519			X			W			X									
(F) RMW-2	4/25/02	16110			X			F			X									
ED) <del>RMW-2</del>																				
+ RMW-1	4/25/02	1710			X			F			X									
+ RMW-3	4/25/02	1755			X			F			X									
Trip Blank	4/25/02				X						X									

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>4/25/02</u>	Time <u>1015</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>04/26/02</u>	Time
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>04/26/02</u>	Time <u>1415</u>	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by Lab: (Signature) <u>[Signature]</u>	Date <u>4/26/02</u>	Time <u>5:30</u>

Sent to Laboratory (Name): \_\_\_\_\_  
 Laboratory Comments/Notes: \_\_\_\_\_

Method of Shipment  Lab courier  Fed Ek  Airborne  UPS  
 Hand Carried  Private Courier (Co. Name) \_\_\_\_\_