

LETTER OF TRANSMITTAL

PARSONS ENGINEERING SCIENCE, INC.  
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Oakland, CA 94612  
Phone: (510) 891-9085  
Fax: (510) 835-4355

DATE: 27 June 1997

PARSONS ES PROJECT: 729457

**TO:** Alameda County Health Care Services Agency  
Division of Hazardous Materials  
Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

**ATTN:** Ms. Juliet Shin

**RE:** Redwood Regional Park Site Investigation, Oakland, California

**WE ARE SENDING YOU:**

ATTACHED XXX UNDER SEPARATE COVER \_\_\_\_  
DOCUMENTS XXX OTHER: \_\_\_\_\_  
VIA MAIL XXX EXPRESS MAIL \_\_\_\_ FED EX \_\_\_\_ OTHER: \_\_\_\_\_

QUANTITY	DATE	ITEM
1	4/4/97	Quarterly Progress Report 8 and Annual Summary Assessment, Groundwater Characterization Program at Redwood Regional Park Service Yard Site, Oakland, California
1	6/30/97	Quarterly Progress Report 9, Groundwater Characterization Program at Redwood Regional Park Service Yard Site, Oakland, California

cc: W. Gee, East Bay Regional Parks District

**REMARKS:**

Please discard any previous draft versions Quarterly Progress Report 8 that you may have, as the enclosed version is the final. Thank you.

SIGNED: Bruce M. Rucker  
Bruce M. Rucker, Project Manager

97 JUN 30 PM 4:10  
RECEIVED  
ENVIRONMENTAL

30 June 1997  
Ref: 729457.07000

57 JUN 20 11:10

Alameda County Health Care Services Agency  
Department of Environmental Health  
Hazardous Materials Division  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

Attention: Ms. Juliet Shin, Hazardous Materials Specialist

Subject: Quarterly Progress Report 9, Groundwater Characterization Program at  
Redwood Regional Park Service Yard, Oakland, California

Dear Ms. Shin:

## **INTRODUCTION**

This report presents the results of the May 1997 groundwater monitoring event conducted by Parsons Engineering Science, Inc. (Parsons ES) (formerly Engineering-Science, Inc. [ES]) at the East Bay Regional Park District (EBRPD) Redwood Regional Park Service Yard in Oakland, California. This report presents the results of the ninth quarterly groundwater monitoring event for the site Groundwater Characterization Program, which is designed to evaluate the extent and magnitude of groundwater contamination associated with two former leaking underground fuel storage tanks (UFSTs). A summary of previous site characterization and remedial activities associated with the former UFSTs is presented in the first quarterly progress report (Parsons ES 1994c). Annual summary assessment reports were presented for the first four quarterly monitoring events, November 1994 through August 1995 (Parsons ES 1995) and for the fifth through eighth quarterly monitoring events, September 1995 through February 1997 (Parsons ES 1997).

### **Site Description**

The project site is located at 7867 Redwood Road in Oakland, Alameda County, California. Figure 1 shows the location of the project site. The project site is a service yard for Redwood Regional Park that used two UFSTs (one 2,000-gallon diesel fuel and one 5,000-gallon unleaded gasoline) from the mid-1960's until their removal in 1993. Figure 2 is a site plan which shows the limits of the former UFST remedial excavation and the groundwater monitoring wells which were installed in October 1994 to monitor groundwater impacts associated with the former UFSTs.

### **Site Stratigraphy and Hydrogeology**

Shallow soil stratigraphy beneath the project site consists of a surficial 3 to 10 foot thick clayey silt unit underlain by a 5 to 15 foot thick silty clay unit. In all monitoring well borings, a 5- to 10-foot thick clayey coarse-grained sand and clayey gravel unit was encountered that laterally grades to a clay or silty clay. This unit overlies a weathered siltstone at the base of the observed soil profile. Soils in the vicinity of MW-1 are inferred to be landslide debris.

Alameda County Health Care Services Agency  
30 June 1997  
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Groundwater at the site occurs under predominantly unconfined conditions, as evidenced by the equilibrated static water levels relative to the water level in Redwood Creek and the level of water seepage out of the north face of the former excavation. Groundwater seepage into Redwood Creek is indicated by historical observations of fuel-contaminated capillary fringe soils in the eastern bank of Redwood Creek (Parsons ES 1994c). Figure 2 shows groundwater elevations and inferred direction of groundwater flow during the May 1997 monitoring event, which indicate that the direction of local groundwater flow beneath the project site is approximately from northeast to southwest. This groundwater flow direction is consistent with previously recorded measurements made in site wells since November 1994 (Parsons ES 1995).

### **PROCEDURES AND CURRENT ACTIVITIES**

The current groundwater monitoring program is in accordance with the Workplan for Groundwater Characterization Program (ES 1994b). The Alameda County Health Care Services Agency (ACHCSA) approved discontinuation of hydrochemical monitoring of site wells MW-1, MW-3 and MW-6 following the August 1995 event due to the absence of significant groundwater contamination in these wells over the first four quarters of monitoring (ACHCSA 1996). Creek surface water sampling procedures are in accordance with the 29 March 1994 Parsons ES letter to ACHCSA (ES 1994a).

#### **Laboratory Analyses**

All laboratory analyses were conducted by a laboratory certified by the California Environmental Protection Agency (Cal/EPA) Environmental Laboratory Accreditation Program (ELAP) for each required analytical method. All groundwater samples were analyzed for the following constituents:

- Total volatile and extractable hydrocarbons - gasoline and diesel ranges (TPH-G and TPH-D) by the State of California Department of Toxic Substances Control (DTSC) Leaking Underground Fuel Tank (LUFT) Manual Method (equivalent to modified EPA Method 8015)
- Aromatic hydrocarbons (including benzene, toluene, ethylbenzene, and total xylenes [BTEX]) by EPA Method 8020

#### **Groundwater Monitoring and Sampling**

Parsons ES personnel measured static water levels (Attachment A) in all six site wells on 15 May 1997. Water level measurements were made using an electric water level indicator. Initial water level measurements were collected immediately upon removal of the well casing caps. If either a positive or negative air pressure was observed in the well at the time the casing caps were removed, then water levels were remeasured after a period no less than one-half hour to allow dissipation of air pressure and equilibration of static water levels. No wells displayed an observable pressure release during this event.

Alameda County Health Care Services Agency

30 June 1997

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Groundwater sampling of monitoring wells MW-2, MW-4 and MW-5 was conducted on 15 May 1997 in accordance with Cal/EPA guidelines (Cal/EPA 1994). Prior to collection of groundwater samples, a pre-cleaned Teflon™ bailer or submersible pump was used to purge a minimum of three casing volumes from each well. Electrical conductivity, pH, and temperature of purge water were measured during well purging to document the presence of stabilized formation-water in the wells. Attachment A includes groundwater monitoring field notes from the current groundwater monitoring event.

Sample containers were filled with sample water from the pre-cleaned bailer. To prevent cross-contamination, groundwater sampling equipment was decontaminated prior to use and between each monitoring well with an Alconox™ wash followed by three deionized water rinses. Following sample collection, sample containers were labeled, placed in a cooler packed with "blue ice," and transported under chain-of-custody the same day to a Cal/EPA ELAP-certified laboratory. Chain-of-custody records for the groundwater samples are included in Attachment B.

#### Creek Surface Water Sampling

Creek surface water samples were not collected during the current event. Creek surface water samples will be collected in the next scheduled event (August 1997) contingent upon availability of surface water. During the current event, petroleum sheen was observed in soil in the vicinity of sampling location SW-2 at multiple locations along an approximately 25-foot wide section of the east creek bank, just above the surface water level. This indicates seepage of capillary fringe groundwater contamination at the creek bank at this location. At each location where petroleum sheen was observed in soil, orange algae was present, suggesting that the petroleum was serving as a carbon source for the algae. At the time of observation of location SW-2, the creek was flowing briskly and had a water depth of 6 to 12 inches at that location.

#### Analytical Results

Analytical results of the May 1997 monitoring event are presented in Table 1. Gasoline-range TPH was detected in MW-4, as were benzene, ethylbenzene, and total xylenes. Gasoline-range TPH, benzene and ethylbenzene were detected in well MW-2. No contaminants of concern were detected in well MW-5. Detectable groundwater contaminant concentrations reported for the current quarter are within the same order of magnitude as concentrations reported since November 1994 (Parsons ES 1995).

#### Quality Control Samples

Two types of field quality control (QC) samples were used to assess whether field or laboratory procedures affected analytical results of the current groundwater sampling event. One equipment rinsate blank (MW-0B) was collected from the decontaminated bailer following sampling and decontamination activities at well MW-4 to monitor potential cross-contamination in the field due to inadequate decontamination of sampling equipment and/or

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30 June 1997  
Page 4

sample contamination during transport. That sample was analyzed for TPH-G and BTEX, neither of which were detected.

One field duplicate sample (MW-0A) was collected from well MW-4 and analyzed for TPH-G and BTEX to assess whether field procedures produced reproducible results (Table 1). The relative percent differences (RPDs) between the field and field duplicate samples are as follows: gasoline (13.0%); benzene (21.3%); ethylbenzene (16.9%); and total xylenes (12.7%). Toluene was detected in only one of the two samples.

Laboratory QC samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) were analyzed by the laboratory in accordance with the requirements of each analytical method. All laboratory QC sample results and sample holding times were within the acceptance limits of the methods (Attachment B).

#### Management of Investigation-Derived Waste

A total of approximately 76 gallons of wastewater (including monitoring well purge water and equipment decontamination rinsate) from the current quarter's groundwater sampling event was containerized on site in a plastic storage tank. It is anticipated that this waste water will be transported for off-site treatment or disposal following conclusion of site monitoring activities or when the tank is full, whichever is sooner.

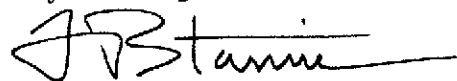
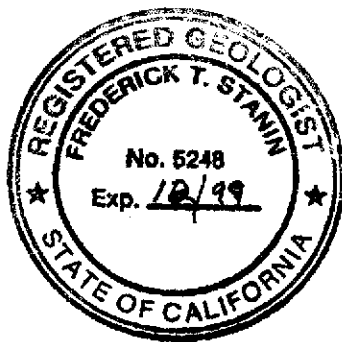
We trust that this submittal meets the needs of your agency. Please call us at our Oakland office (510-891-9085) if you have any questions or require clarification.

Very truly yours,

PARSONS ENGINEERING SCIENCE, INC.



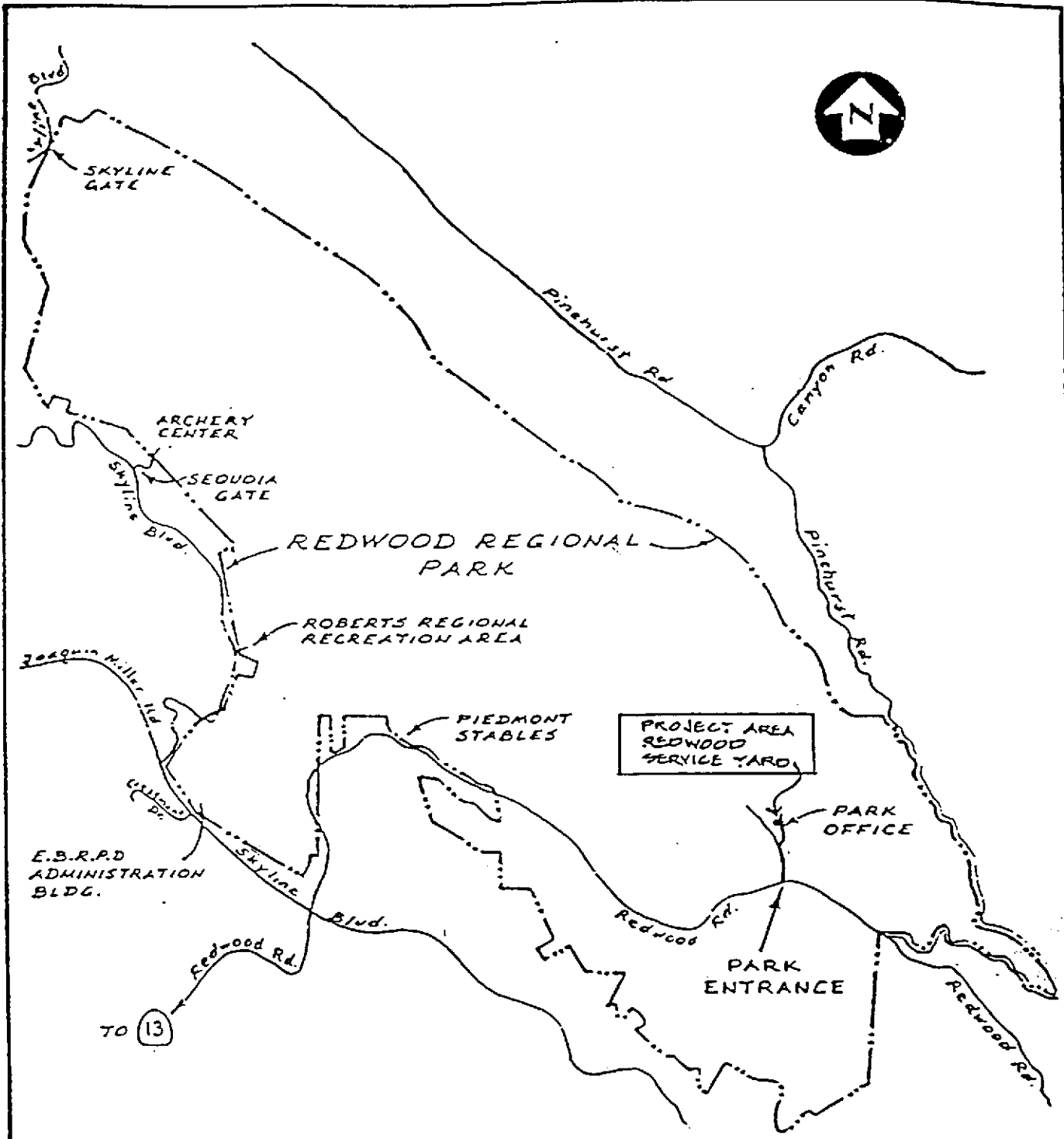
Bruce M. Rucker  
Project Manager



Frederick T. Stanin, C.E.G.  
Principal Geologist

**REFERENCES**

- ACHCSA (Alameda County Health Care Services Agency) 1996, letter from Madhulla Logan, Hazardous Materials Specialist to Ken Berger of EBRPD. 9 January
- Cal/EPA (State of California Environmental Protection Agency) 1994, Guidance Manual for Ground Water Investigations. August
- ES 1994a, letter to ACHCSA summarizing proposed sampling activities at Redwood Creek, Redwood Regional Park Service Yard, Oakland, California. 27 January
- ES 1994b, Workplan for Groundwater Characterization Program at Redwood Regional Park Service Yard, Oakland, California. 17 August
- Parsons ES 1994c, Quarterly Progress Report 1 (October - December 1994), Redwood Regional Park Service Yard, Oakland, California. 28 December
- Parsons ES 1995, Quarterly Progress Report 4 and Annual Summary Assessment (November 1994 - August 1995), Redwood Regional Park Service Yard, Oakland, California. 13 November
- Parsons ES 1997, Quarterly Progress Report 8 and Annual Summary Assessment (September 1995 - February 1997), Redwood Regional Park Service Yard, Oakland, California. 19 March



SITE LOCATION MAP  
REDWOOD REGIONAL PARK  
SERVICE YARD  
OAKLAND, CALIFORNIA

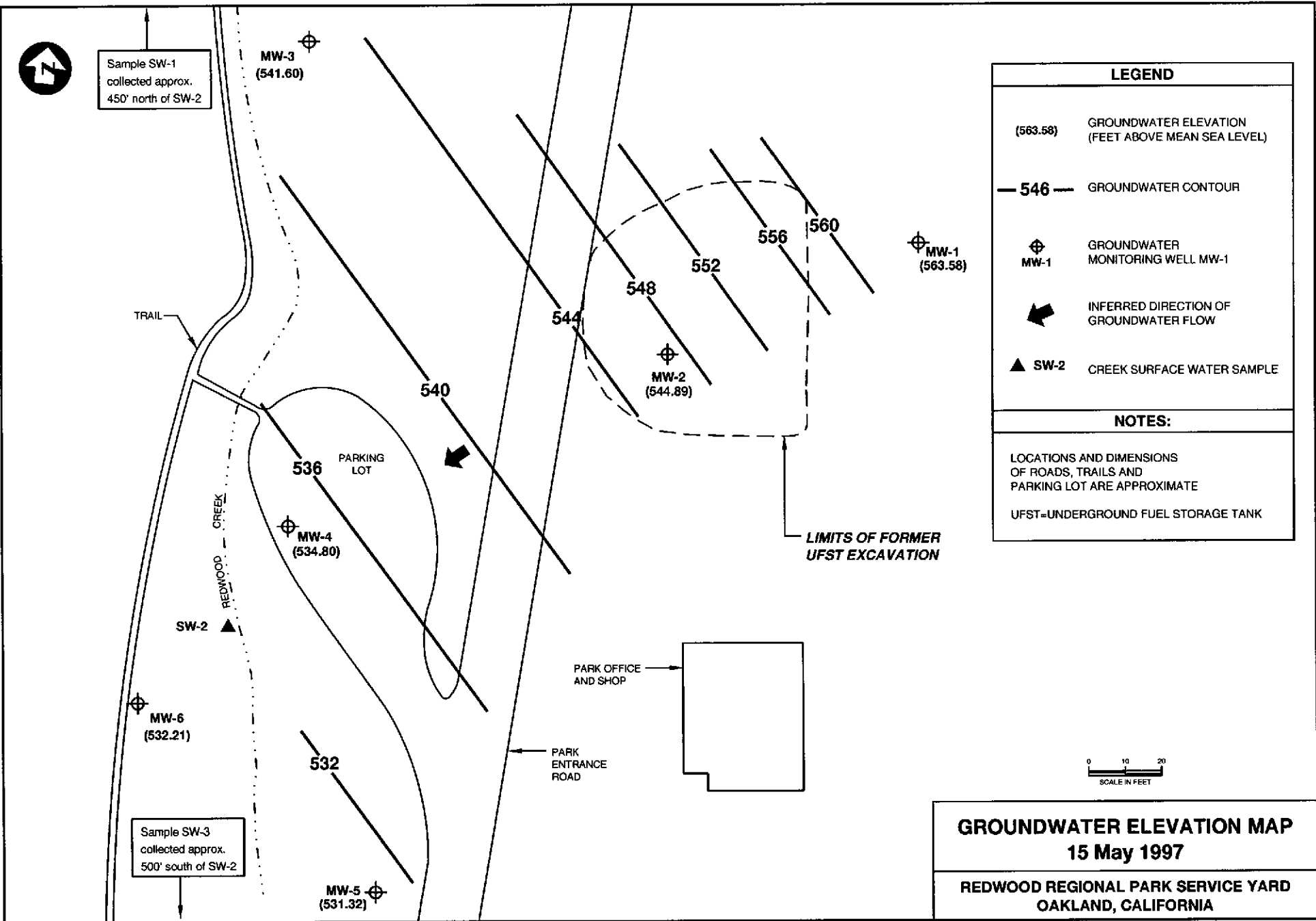


FIGURE 2



**TABLE 1**  
**GROUNDWATER ANALYTICAL RESULTS**  
**15 MAY 1997**  
**Redwood Regional Park Service Yard, Oakland, California**

Compound:	Concentration ( $\mu\text{g/L}$ )					
	TPH-G	TPH-D	Benzene	Toluene	Ethylbenzene	Total Xylenes
Reporting Limit:	50	50	0.5	0.5	0.5	1.0 <sup>c</sup>
<b>Monitoring Well Samples</b>						
MW-2	67	ND	8.9	ND	5.1	ND
MW-4 <sup>a</sup>	490	NA	2.6	6.7 <sup>b</sup>	6.4	6.7 <sup>b</sup>
MW-4	430	ND	2.1	ND	5.4	5.9 <sup>b</sup>
MW-5	ND	ND	ND	ND	ND	ND

## Notes:

TPH-G = Total volatile hydrocarbons - gasoline range

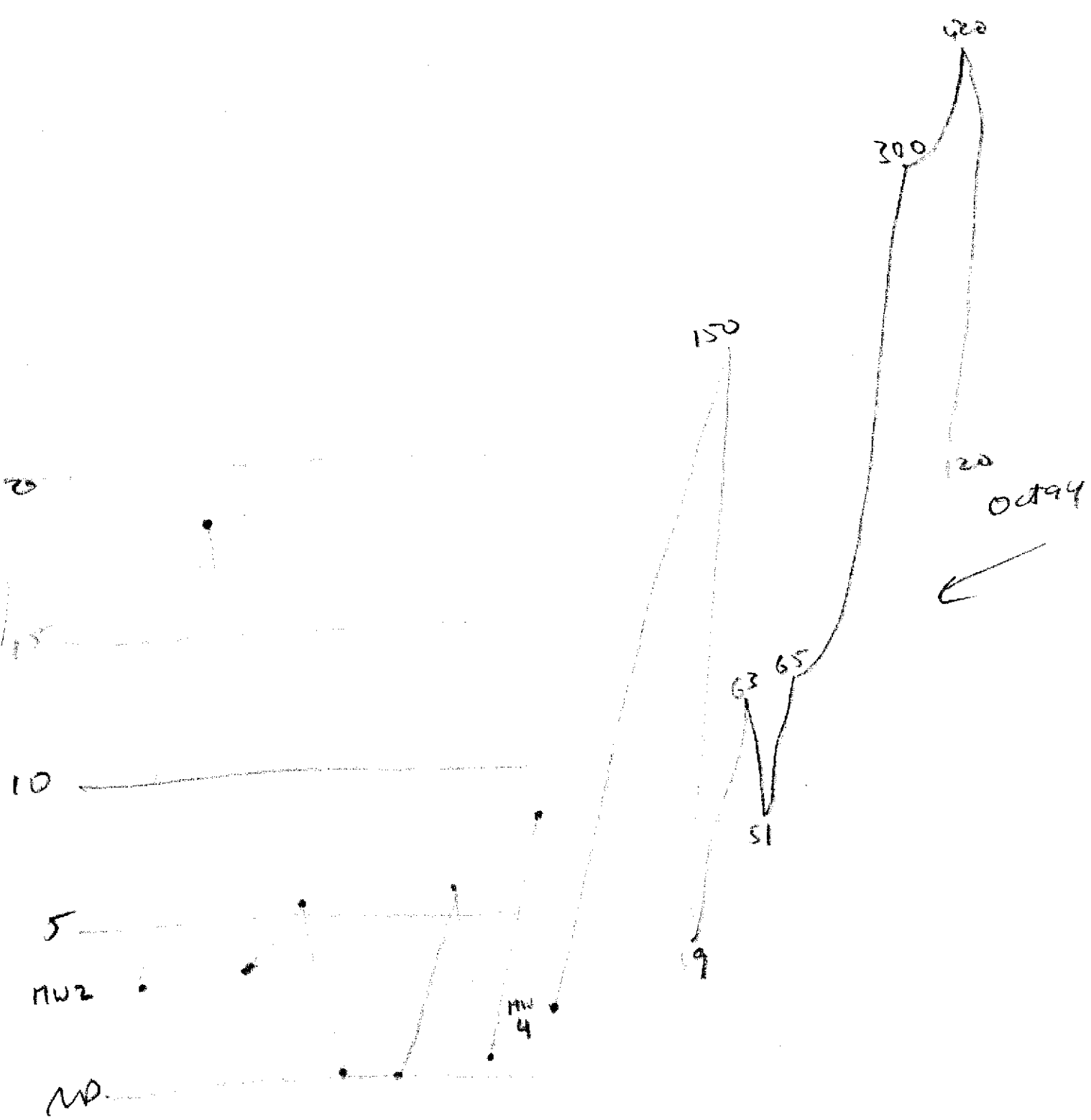
TPH-D = Total extractable hydrocarbons - diesel range

NA = Not analyzed

ND = Not detected above method reporting limit

 $\mu\text{g/L}$  = Micrograms per liter, equivalent to parts per billion (ppb)<sup>a</sup> = Quality control field duplicate sample designated MW-0A on the chain-of-custody and analytical laboratory report<sup>b</sup> = Presence of this compound confirmed by second column, however the confirmation concentration differed from the reported result by more than a factor of two.<sup>c</sup> = Method Reporting Limit is 0.5  $\mu\text{g/L}$  for individual xylene isomers

Sample locations are shown on Figure 2.



ATTACHMENT A

GROUNDWATER MONITORING NOTES

	<u>Summary</u>		B/PTH ppb	<u>Surface</u>
15 May 97	17W2 8.9/67		17W4 2.1/430	
19 Feb 97	6.9/ND	high	150/14,000	
9 Dec 96	6.3/ND		1.9/2,700	
15 Aug 96	ND/ND		63/3,900	7.5/200
17 May 96	ND/ND		51/1,100	
17 Aug 95	5.7/ND		65/1,800	
16 May 95	3.9/ND	high	300/7,200	
9 Feb 95	< 1.2/89		420/11,000	
Oct 94	<del>3.2/300</del> 3.4/66		120/2,600	

# WATER LEVEL DATA

PARSONS ENGINEERING SCIENCE

**DATE:** 15 May 1997

**PROJECT/LOCATION:** Redwood Regional Park Service Yard,  
Oakland, California

**PROJECT No.:** 729457

**PERSONNEL:** Bruce Rucker

Well No	Water Level from T.O.C.	Well Depth From T.O.C	Depth to T.O.C	Water Level from G.S.	Well Casing Dia.	Gallons/ Casing Vol.	T.O.C. Elev. USGS	Water Level USGS
MW-1	2.32	18.0	-2.3	0.0	4	NS	565.9	563.58
MW-2	21.61	36.5	-2.4	19.2	4	9.7	566.5	544.89
MW-3	19.30	45.0	-2.8	16.5	4	NS	560.9	541.60
MW-4	13.30	26.0	-2.1	11.2	4	8.3	548.1	534.80
MW-5	16.18	26.0	-2.3	13.9	4	6.4	547.5	531.32
MW-6	13.39	27.0	-2.3	11.1	4	NS	545.6	532.21

**NOTES:**

T.O.C.: Top of Casing

Gallons/casing volume for 4" inner diameter casing = 0.65 gallons per linear foot

Negative value for "Depth to T.O.C." indicates that T.O.C. is above ground surface

G.S.: Ground Surface

USGS: U.S. Geological Survey mean sea level (MSL)

NS: Not Sampled

All elevations surveyed by East Bay Regional Parks District relative to USGS Survey Benchmark No. JHF-49

# GROUNDWATER SAMPLING FIELD NOTES

## PARSONS ENGINEERING SCIENCE

PROJECT/LOCATION    REDWOOD REGIONAL PARK SERVICE YARD, OAKLAND, CA

PERSONNEL:    Bruce Rucker

PROJECT NUMBER:    729457

DATE:    15 May 1997

Well ID	Sampler Date Time	Water Level Before, Well Diameter and Depth*	Water Level After*	Gallons per Casing Volume	Well Purging Method **	Pump On	Pump Off	Temp. (o C)	Specific Cond (umhos/cm)	pH	Total Water Purged (gals)	Sample Coll. Method	Analysis & Number/type of Containers	Comments
MW-1	NS	2.32 4"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	
MW-2	BMR 5/15/97 1310	18.0 21.61 4" 36.5 19.30	22.42	9.7	B	NA	NA	17.0 15.5 15.3 15.5	600 600 625 625	7.10 7.18 7.19 7.21	1 10 20 30	B	(a) (b) & (c)	Sample semi-turbid; no sheen
MW-3	NS	45.0 4"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	
MW-4	BMR 5/15/97 1530	13.30 4" 26.0	13.89	8.3	B	NA	NA	15.7 14.0 13.9 14.1	425 430 440 430	6.63 6.66 6.65 6.62	1 8.5 17 26	B	(a) (b) & (c)	Sample slightly turbid; sl. petroleum odor

**NOTES**

- \* Measured from top of casing in feet
- \*\* G -- Grundfos Pump; B - Bailer
- NA Not Applicable
- NR Not Recorded

- (a) Total Extractable Hydrocarbons - diesel range (TPH-D), unpreserved {1: 1L amber bottles}.
- (b) BTEX, EPA Method 8020, HCl preserved {2: 40ml VOAs}.
- (c) Total Volatile Hydrocarbons-gasoline range (TPH-G), HCl preserved {2: 40ml VOAs}.
- NS Not sampled

# GROUNDWATER SAMPLING FIELD NOTES

## PARSONS ENGINEERING SCIENCE

PROJECT/LOCATION    REDWOOD REGIONAL PARK SERVICE YARD, OAKLAND, CA

PERSONNEL:    Bruce Rucker

PROJECT NUMBER:    729457

DATE:    15 May 1997

Well ID	Sampler Date Time	Water Level Before, Well Diameter and Depth*	Water Level After *	Gallons per Casing Volume	Well Purging Method **	Pump On	Pump Off	Temp. (o C)	Specific Cond (umhos/cm)	pH	Total Water Purged (gals)	Sample Coll. Method	Analysis & Number/type of Containers	Comments
MW-5	BMR	16.18						16.8	440	7.73	1			Sample slightly turbid, no petroleum sheen
	5/15/97	4"	16.81	6.4	B	—	—	14.5	420	7.67	6.5	B	(a) (b) & (c)	
	1420	26.0						14.3	420	7.62	13			
								14.2	420	7.61	20			
MW-6	NS	13.8												
		4"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	
		27.0												
MW-0A	BMR													Field duplicate collected at well MW-4
	5/15/97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	B	(b) & (c)	
	1535													
MW-0B	BMR													Equipment rinsate blank, collected after decon. at well MW-4
	5/15/97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	(b) & (c)	
	1545													

**NOTES**

- \* Measured from top of casing in feet
- \*\* G -- Grundfos Pump; B - Bailer
- NA Not Applicable
- NR Not Recorded

- (a) Total Extractable Hydrocarbons - diesel range (TPH-D), unpreserved (1: 1L amber bottles).
- (b) BTEX, EPA Method 8020, HCl preserved (2: 40ml VOAs).
- (c) Total Volatile Hydrocarbons-gasoline range (TPH-G), HCl preserved (2: 40ml VOAs).
- NS Not sampled

**ATTACHMENT B**

**CHAIN-OF-CUSTODY RECORD  
AND ANALYTICAL LABORATORY REPORT**



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

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

A N A L Y T I C A L   R E P O R T

Prepared for:

Parsons Engineering Science, Inc.  
2101 Webster Street  
Suite 700  
Oakland, CA 94612

Date: 22-MAY-97  
Lab Job Number: 129290  
Project ID: 729457  
Location: Redwood G. Water & Surface

Reviewed by: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

Tracy Bobic

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## TEH-Tot Ext Hydrocarbons

Client: Parsons Engineering Science, Inc. Analysis Method: CA LUFT (EPA 8015M)  
Project#: 729457 Prep Method: EPA 3520  
Location: Redwood G. Water & Surface

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
129290-001	MW-2	34034	05/15/97	05/19/97	05/21/97	
129290-002	MW-5	34034	05/15/97	05/19/97	05/21/97	
129290-003	MW-4	34034	05/15/97	05/19/97	05/21/97	

Matrix: Water

Analyte	Units	129290-001	129290-002	129290-003
Diln Fac:		1	1	1
Diesel C12-C22	ug/L	<50	<50	<50
Surrogate				
Hexacosane	%REC	84	88	86



Lab #: 129290

## BATCH QC REPORT

Page 1 of 1

## TEH-Tot Ext Hydrocarbons

Client: Parsons Engineering Science, Inc. Analysis Method: CA LUFT (EPA 8015M)  
Project#: 729457 Prep Method: EPA 3520  
Location: Redwood G. Water & Surface

## LABORATORY CONTROL SAMPLE

Matrix: Water Prep Date: 05/19/97  
Batch#: 34034 Analysis Date: 05/20/97  
Units: ug/L  
Diln Fac: 1

LCS Lab ID: QC46343

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	1647	2475	67	60-140
Surrogate	%Rec	Limits		
Hexacosane	79	60-140		

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits



Lab #: 129290

## BATCH QC REPORT

## TEH-Tot Ext Hydrocarbons

Client: Parsons Engineering Science, Inc.

Analysis Method: CA LUFT (EPA 8015M)

Project#: 729457

Prep Method: EPA 3520

Location: Redwood G.Water &amp; Surface

## METHOD BLANK

Matrix: Water

Prep Date: 05/19/97

Batch#: 34034

Analysis Date: 05/20/97

Units: ug/L

Diln Fac: 1

MB Lab ID: QC46342

Analyte	Result		
Diesel C12-C22	<50		
Surrogate	%Rec		Recovery Limits
Hexacosane	84		60-140



## TVH-Total Volatile Hydrocarbons

Client: Parsons Engineering Science, Inc.  
Project#: 729457  
Location: Redwood G. Water & Surface

Analysis Method: CA LUFT (EPA 8015M)  
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
129290-001	MW-2	34016	05/15/97	05/18/97	05/18/97	
129290-002	MW-5	34016	05/15/97	05/18/97	05/18/97	
129290-003	MW-4	34016	05/15/97	05/18/97	05/18/97	
129290-004	MW-0A	34016	05/15/97	05/18/97	05/18/97	

Matrix: Water

Analyte	Units	129290-001	129290-002	129290-003	129290-004
Diln Fac:		1	1	1	1
Gasoline	ug/L	67	<50	430	490
Surrogate					
Trifluorotoluene	%REC	88	89	88	89
Bromobenzene	%REC	90	94	99	100



## BTXE

Client: Parsons Engineering Science, Inc. Analysis Method: EPA 8020  
 Project#: 729457 Prep Method: EPA 5030  
 Location: Redwood G. Water & Surface

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
129290-001	MW-2	34016	05/15/97	05/18/97	05/18/97	
129290-002	MW-5	34016	05/15/97	05/18/97	05/18/97	
129290-003	MW-4	34016	05/15/97	05/18/97	05/18/97	
129290-004	MW-0A	34016	05/15/97	05/18/97	05/18/97	

Matrix: Water

Analyte	Units	129290-001	129290-002	129290-003	129290-004
Diln Fac:		1	1	1	1
Benzene	ug/L	8.9	<0.5	2.1	2.6
Toluene	ug/L	<0.5	<0.5	<0.5	6.7C
Ethylbenzene	ug/L	5.1	<0.5	5.4	6.4
m,p-Xylenes	ug/L	<0.5	<0.5	5.9C	6.7C
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5
Surrogate					
Trifluorotoluene	%REC	80	81	82	82
Bromobenzene	%REC	89	88	88	88

C: Presence of this compound confirmed by second column,  
 however, the confirmation concentration differed from the reported  
 result by more than a factor of two



## BTXE


Client: Parsons Engineering Science, Inc. Analysis Method: EPA 8020  
Project#: 729457 Prep Method: EPA 5030  
Location: Redwood G. Water & Surface

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
129290-005	MW-0B	34016	05/15/97	05/18/97	05/18/97	

Matrix: Water

Analyte	Units	129290-005
Diln Fac:		1
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	81
Bromobenzene	%REC	86

# CHAIN OF CUSTODY FORM

**Curtis & Tompkins, Ltd.**  
 Analytical Laboratories, Since 1878  
  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

C&T  
 LOGIN # 129290

Analyses

Project No: 724457  
 Project Name: Redwood Regional Park  
 Project P.O.:  
 Turnaround Time: 5 day

Sampler: Blaine Rucker B.M. Rucker  
 Report To: same  
 Company: Parsons Engineering Science  
 Telephone: (510) 891-9085  
 Fax:

Lab Number	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative				Field Notes	TPH - gasoline range Mod 8015	TPH - diesel range - Mod 8015	GTEX - EPA 8030
			Soil	Water	Waste		HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE				
		5/15/97												
1	MW-3	1310	X			2	✓					X		X
						1							X	
2	MW-5	1420	X			BR 2	✓					X		X
						1							X	
3	MW-4	1530	X			2	✓					X		X
						1							X	
4	MW-8A		X			2	✓					X		X
5	MW-8B		X			2	✓					X		X

Notes:

RELINQUISHED BY:	RECEIVED BY:
<u>B.M. Rucker</u> 5/15/97 1610 DATE/TIME	 DATE/TIME
 DATE/TIME	 DATE/TIME
 DATE/TIME	<u>[Signature]</u> 5/15/97 1410 DATE/TIME

Signature on this form constitutes a firm Purchase Order for the services requested above.