



**SRI ENVIRONMENTAL ENGINEERS & CONSULTANTS**

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ENVIRONMENTAL  
PROTECTION  
SD OCT 24 PM 1:30

**Transmittal/Memorandum**

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**To:** Ms. Susan Hugo  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502

---

**From:** Rick Riedl, P.E. *RR*

**Date:** October 23, 1995

**Subject:** Second Semi-Annual 1995 Groundwater Monitoring Report  
Harcros Pigments Plant  
4650 Shellmound Street  
Emeryville, California

**Job No.:** 19801W

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**Remarks:**

Final report for you files.

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**cc:** Mr. Wayne Groth, Harcros Pigments, Inc.

**TITLE:** Second Semi-Annual 1995 Groundwater Monitoring  
Harcros Pigments Plant  
4650 Shellmound Street  
Emeryville, California

**DATE:** October 19, 1995

**PROJECT NO:** HP19801W

**SUBMITTED BY:** SRI Environmental Engineers & Consultants  
1855 Gateway Boulevard, Suite 770  
Concord, California 94520

This work was done under the direction of the undersigned California Registered Engineer.

**PREPARED BY:**



\_\_\_\_\_  
Rick Riedl, P.E.  
Project Engineer

**SECOND SEMI-ANNUAL 1995  
GROUNDWATER MONITORING**

**Harcros Pigments Plant**  
4650 Shellmound Street  
Emeryville, California

October 19, 1995

*Prepared for:*

**Harcros Pigments**  
Emeryville, California

*Prepared by:*

**SRI Environmental Engineers & Consultants**  
1855 Gateway Boulevard, Suite 770  
Concord, California 94520  
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## **1.0 INTRODUCTION**

This report presents the findings of the September 1995 semi-annual groundwater monitoring activities conducted by SRI Environmental Engineers & Consultants, (SRI) at the Harcros Pigments Plant located at 4650 Shellmound Street in Emeryville, California (Site, Figures 1 and 2). Quarterly groundwater monitoring of wells RW-2, RW-3, RW-22, RW-29, RW-30 and RW-31 was initiated January 1991. Based on the laboratory data collected during 1991, quarterly sampling was discontinued at this Site with the exception of monitoring well RW-22. In June, 1994, the Alameda County Department of Environmental Health approved a semi-annual monitoring schedule for well RW-22.

The scope of work for this semi-annual groundwater monitoring event included:

- Collection of depth to water measurements in monitoring wells RW-2, RW-3, RW-22, RW-29, RW-30 and RW-31;
- Collection of a groundwater sample from monitoring well RW-22;
- Submission of the groundwater sample collected from monitoring well RW-22 for analysis of volatile organic compounds (VOCs) by USEPA Method 8240; and
- Preparation of this report summarizing the results of the semi-annual groundwater monitoring.

## **2.0 SITE SETTING**

The Harcros Pigments Plant, formerly Pfizer Pigments Plant, is located in a predominantly industrial area of Emeryville, California (Figure 1). The plant has been in operation since 1925. The Site is on the east side of the San Francisco Bay at an elevation of about seven feet above mean sea level. The current bay shoreline is about 1,000 ft. west of the Harcros Pigments property (USGS, 1980). A 1936 aerial photograph of the plant shows the former shoreline located along the eastern edge of present day Shellmound Street.

The Site is underlain by sandy clay and clay of low estimated permeability (Roux, 1990a). The regional direction of groundwater flow is to the west, towards the San Francisco Bay (Roux, 1990a).

### **3.0 GROUNDWATER SAMPLING**

Field activities for the second semi-annual 1995 groundwater sampling took place on September 13, 1995. Depth to groundwater measurements were collected from monitoring wells RW-2, RW-3, RW-22, RW-29, RW-30 and RW-31 (Table 1). Data from well RW-22 were used to calculate the volume of water needed to purge prior to sampling. Three well casing volumes of water were removed from well RW-22 using a polyethylene bailer.

A groundwater sample was collected in a disposable bailer and poured into three 40-milliliter glass vials for analysis of volatile organic compounds (VOCs). Visual observations of the groundwater sample, the measurement of pH, conductivity and temperature at the time of sample collection was recorded on a well sampling data form (Appendix A). The sample vials were labeled and stored on ice in a cooler chest while in transit to the laboratory. Chain-of-Custody documentation was maintained for the sample (Appendix B).

The groundwater sample was submitted to Curtis & Tompkins, Ltd. of Berkely, California. The groundwater sample was analyzed for Volatile Organic Compounds (VOCs) by USEPA Method 8240.

### **4.0 SUMMARY OF FINDINGS**

#### **4.1 Groundwater Flow**

Water levels were measured on September 13, 1995, in six on-site monitoring wells (Table 1). The depth to groundwater at the Site has historically been about two to six feet below ground surface (bgs). The depth to groundwater measured on September 13, 1995, ranged from 3.20 ft. to 6.53 ft. bgs. Groundwater elevations calculated from these water levels indicated the direction of groundwater movement at the Site was to the southwest at a gradient of about 0.033 (Figure 3). This flow direction and gradient is generally consistent with historical

measurements. The local flow direction towards the southwest differs from the regional flow direction to the west, possibly due to the influence of Temescal Creek, located about 170 ft. south of Service Building No. 10.

#### **4.2 Analytical Results**

Table 2 summarizes the laboratory analytical data for the groundwater samples collected from well RW-22. Laboratory analyses of the groundwater sample collected from well RW-22 on September 13, 1995, indicate that all VOC analytes classified by EPA method 8240 were below the laboratory detection limit.

#### **4.3 Next Sampling**

The next groundwater sampling event is tentatively scheduled for March 1996. Groundwater samples collected from RW-22 will be analyzed for VOCs by USEPA Method 8240.

## 5.0 REFERENCES

- Roux Associates. 1988. Underground Storage Tank Site Investigation, Pfizer Pigments, Inc., Emeryville, California. August 12, 1988.
- Roux Associates. 1990a. Diesel Fuel Site Investigation, Pfizer Pigments Plant, Emeryville, California. May 2, 1990.
- Roux Associates. 1990b. Work Plan, Site Investigation and Fuel Recovery, Pfizer Pigments Plant, Emeryville, California. March 8, 1990.
- Roux Associates. 1991a. Soil Remediation Report, Harcros Pigments Plant, Emeryville, California. May 6, 1991.
- Roux Associates. 1991b. Second Quarter Groundwater Monitoring, Harcros Pigments Plant, Emeryville, California. July 17, 1991.
- United States Geologic Survey. 1980. Oakland West Quadrangle, California Photo Revised 1980.



## TABLES

**Table1 Summary of Ground Water Elevation Data  
Harcros Pigments Plant, Emeryville, California**

Monitoring Well Number	Date	Measuring Point Elevation (1)	Depth to Water (2)	Ground Water Elevation (1)
RW-2	1/8/91	6.84	4.93	1.91
	4/9/91	6.84	3.50	3.34
	7/11/91	6.84	4.05	2.79
	10/3/91	6.84	4.14	2.70
	2/14/92	6.84	3.00	3.84
	5/13/92	6.84	4.42	2.42
	8/28/92	6.84	4.43	2.41
	11/30/92	6.84	4.55	2.29
	3/2/93	6.84	3.93	2.91
	5/19/93	6.84	4.63	2.21
	9/2/93	6.84	-	-
	12/3/93	6.84	4.60	2.24
	3/4/94	6.84	4.18	2.66
	9/27/94	6.84	4.99	1.85
	3/15/95	6.84	3.27	3.57
9/13/95	6.84	5.51	1.33	
RW-3	1/8/91	7.38	4.00	3.38
	4/9/91	7.38	3.13	4.25
	7/11/91	7.38	3.58	3.80
	10/3/91	7.38	3.60	3.78
	2/14/92	7.38	2.93	4.45
	5/13/92	7.38	3.68	3.70
	8/28/92	7.38	3.69	3.69
	11/30/92	7.38	3.43	3.95
	3/2/93	7.38	2.86	4.52
	5/19/93	7.38	3.10	4.28
	9/2/93	7.38	3.59	3.79
	12/3/93	7.38	3.29	4.09
	3/4/94	7.38	3.19	4.19
	9/27/94	7.38	3.74	3.64
	3/15/95	7.38	3.05	4.33
9/13/95	7.38	3.91	3.47	

**Footnotes:**

- (1) Elevation in feet relative to Emeryville datum.
- (2) Depth in feet below measuring point.

**Table1 Summary of Ground Water Elevation Data  
Harcros Pigments Plant, Emeryville, California**

Monitoring Well Number	Date	Measuring Point Elevation (1)	Depth to Water (2)	Ground Water Elevation (1)
RW-22	1/8/91	7.42	4.04	3.38
	4/9/91	7.42	3.53	3.89
	7/11/91	7.42	4.02	3.40
	10/3/91	7.42	3.92	3.50
	2/14/92	7.42	3.06	4.36
	5/13/92	7.42	3.96	3.46
	8/28/92	7.42	3.95	3.47
	11/30/92	7.42	3.79	3.63
	3/2/93	7.42	3.06	4.36
	5/19/93	7.42	4.49	2.93
	9/2/93	7.42	3.95	3.47
	12/3/93	7.42	3.72	3.70
	3/4/94	7.42	3.46	3.96
	9/27/94	7.42	4.09	3.33
	3/15/95	7.42	2.66	4.76
9/13/95	7.42	4.30	3.12	
RW-29	1/8/91	7.01	5.68	1.33
	4/9/91	7.01	3.95	3.06
	7/11/91	7.01	4.63	2.38
	10/3/91	7.01	4.71	2.30
	2/14/92	7.01	3.68	3.33
	5/13/92	7.01	5.55	1.46
	8/28/92	7.01	5.62	1.39
	11/30/92	7.01	5.78	1.23
	3/2/93	7.01	4.83	2.18
	5/19/93	7.01	5.90	1.11
	9/2/93	7.01	6.13	0.88
	12/3/93	7.01	5.90	1.11
	3/4/94	7.01	5.36	1.65
	9/27/94	7.01	6.32	0.69
	3/15/95	7.01	3.76	3.25
9/13/95	7.01	6.53	0.48	

**Footnotes:**

- (1) Elevation in feet relative to Emeryville datum.
- (2) Depth in feet below measuring point.

**Table1 Summary of Ground Water Elevation Data  
Harcros Pigments Plant, Emeryville, California**

Monitoring Well Number	Date	Measuring Point Elevation (1)	Depth to Water (2)	Ground Water Elevation (1)
RW-30	1/8/91	7.51	4.23	3.28
	4/9/91	7.51	3.24	4.27
	7/11/91	7.51	3.80	3.71
	10/3/91	7.51	3.93	3.58
	2/14/92	7.51	2.99	4.52
	5/13/92	7.51	3.36	4.15
	8/28/92	7.51	3.83	3.68
	11/30/92	7.51	3.09	4.42
	3/2/93	7.51	3.02	4.49
	5/19/93	7.51	3.05	4.46
	9/2/93	7.51	3.81	3.70
	12/3/93	7.51	3.20	4.31
	3/4/94	7.51	2.71	4.80
	9/27/94	7.51	3.90	3.61
	3/15/95	7.51	2.45	5.06
	9/13/95	7.51	3.66	3.85
RW-31	1/8/91	7.08	3.43	3.65
	4/9/91	7.08	2.57	4.51
	7/11/91	7.08	3.07	4.01
	10/3/91	7.08	3.13	3.95
	2/14/92	7.08	2.14	4.94
	5/13/92	7.08	3.11	3.97
	8/28/92	7.08	3.16	3.92
	11/30/92	7.08	2.83	4.25
	3/2/93	7.08	1.83	5.25
	5/19/93	7.08	2.40	4.68
	9/2/93	7.08	2.90	4.18
	12/3/93	7.08	2.60	4.48
	3/4/94	7.08	1.98	5.10
	9/27/94	7.08	2.53	4.55
	3/15/95	7.08	1.80	5.28
	9/13/95	7.08	3.20	3.88

**Footnotes:**

- (1) Elevation in feet relative to Emeryville datum.
- (2) Depth in feet below measuring point.

**Table 2. Summary of Monitoring Well RW-22 Ground Water Analytical Data  
Harcros Pigments Plant, Emeryville, California**

Monitoring Well Number	Date	cis-1,2-Dichloroethene (1)	trans-1,2-Dichloroethene (1)	Volatile Organic Compounds (1)
RW-22	1/8/91	ND	ND	ND
	4/9/91	NA	NA	NA
	7/11/91	5.2	ND	ND
	10/3/91	5.3	ND	ND
	2/14/92	5.6	5.3	ND
	5/13/92	ND	ND	ND
	8/28/92	7.0	6.0	ND
	11/30/92	6.0	5.0	ND
	3/2/93	ND	ND	ND
	5/19/93	ND	ND	ND
	9/2/93	ND	ND	ND
	3/4/94	ND	ND	ND
	9/27/94	ND	ND	ND
	3/15/95	3.7	3.1	ND
	9/13/95	ND	ND	ND

Footnotes:

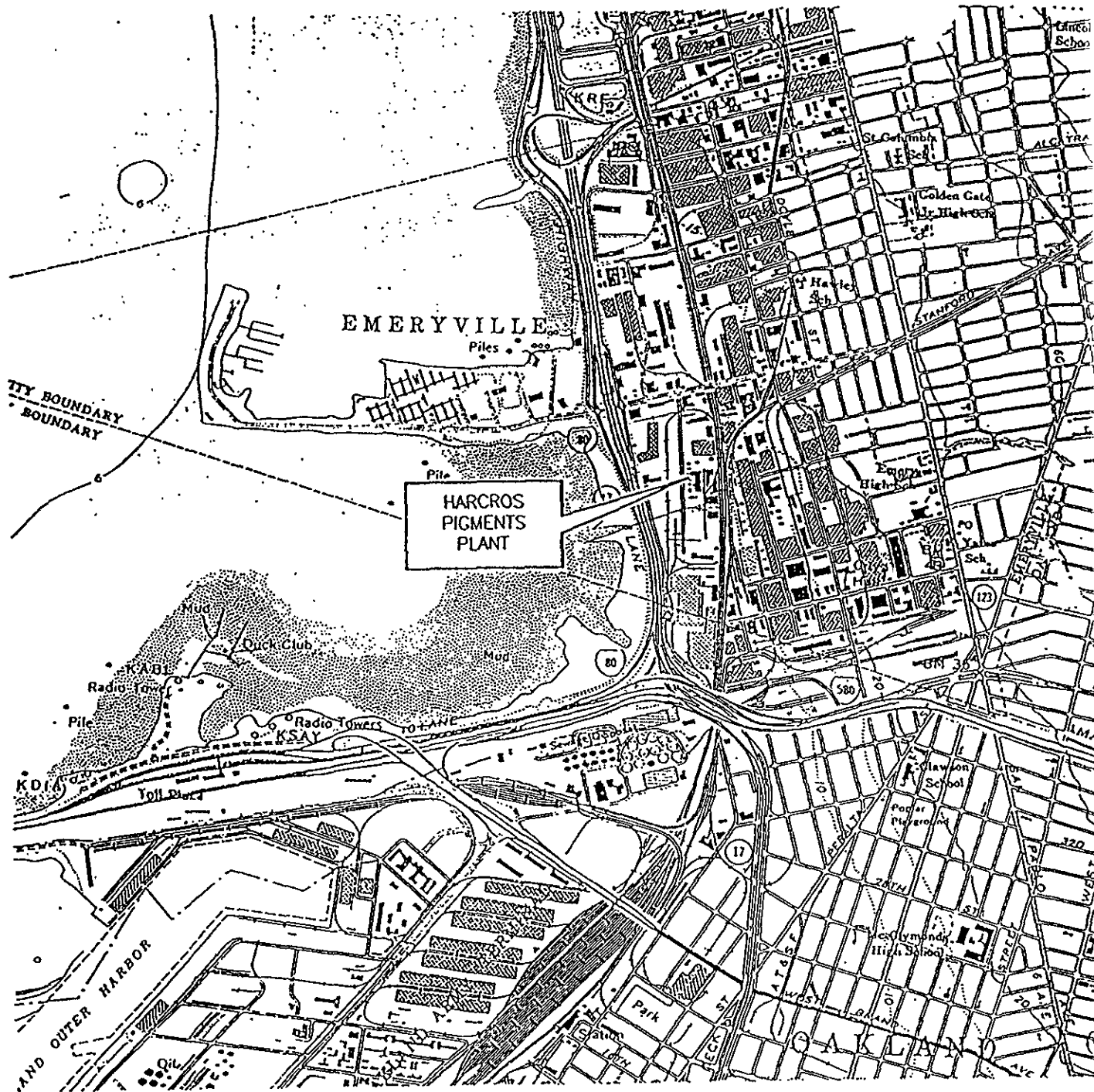
(1) Analyzed by USEPA Method 8240.

All detected concentrations reported in micrograms per liter (ug/L).

ND = Not detected. Detection limit varies from 2.0 to 50 ug/L.

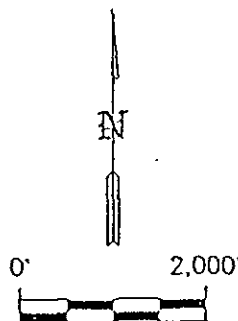
NA = Not analyzed.

## FIGURES



SOURCE:

USGS 7.5 MINUTE QUADRANGLE  
OAKLAND WEST, CALIFORNIA, 1980.

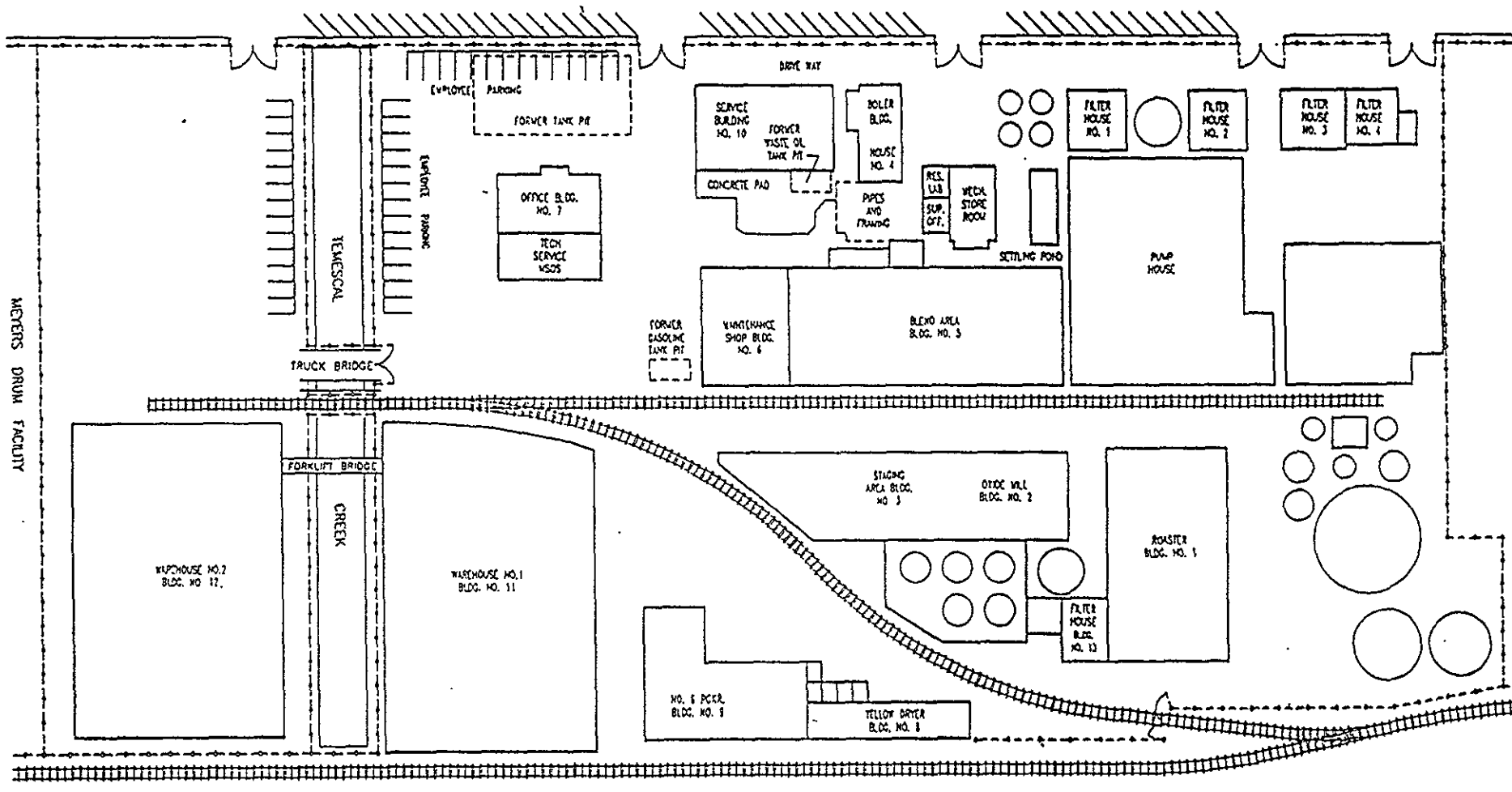


TITLE: LOCATION OF SITE

PREPARED FOR: HARCROS PIGMENTS, INC.

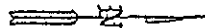
<b>ROUX</b> ROUX ASSOCIATES ENVIRONMENTAL CONSULTING & MANAGEMENT	COMPILED BY: J.F.	DATE: 01/92
	PREPARED BY: R.P.	SCALE: AS SHOWN
	PROJECT MANAGER: P.S.	REVISION: 0
	PROJECT NO. 19801W	FILE #: 19801W01

SHELLWOUND STREET



SOUTHERN PACIFIC RAILROAD PROPERTY

SOURCE NOTE:  
 MAP MODIFIED FROM EMERYVILLE PAINT MAP  
 PROVIDED BY HARCROS PIGMENTS, INC.



COMPILED BY: P.S.  
 PREPARED BY: D.D.  
 PROJECT MNGR. P.S.  
 DATE: 07/92  
 SCALE: AS SHOWN  
 PROJECT NO. 19801W01

PREPARED FOR:  
 TITLE:

HARCROS PIGMENTS INC.  
 EMERYVILLE, CA

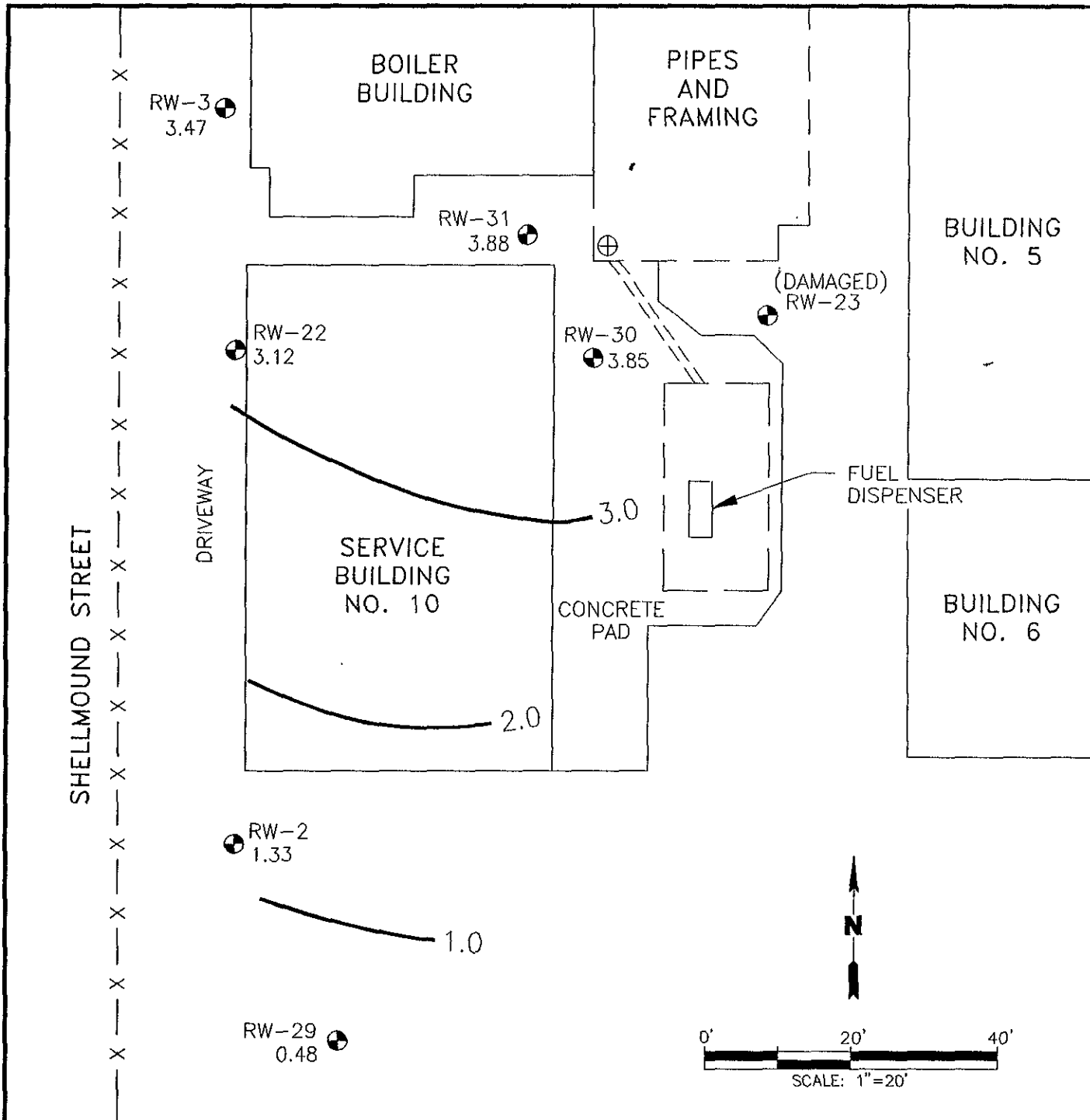
SITE PLAN  
 EMERYVILLE, CA

FIGURE


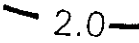
2.

**ROUX**  
 ROUX ASSOCIATES  
 ENVIRONMENTAL CONSULTING  
 & MANAGEMENT





EXPLANATION

-  MONITORING WELL LOCATION AND DESIGNATION
-  2.0 — LINE OF EQUAL GROUNDWATER ELEVATION (ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL)

Title:			
GROUNDWATER ELEVATIONS SEPTEMBER 13, 1995			
Prepared For:			
HARCROS PIGMENTS, INC.			
<b>SRI</b> SRI ENVIRONMENTAL ENGINEERS AND CONSULTANTS <i>Environmental Consulting &amp; Management</i>	Compiled by: J.M.	Date: 10/2/95	FIGURE  <b>3</b>
	Prepared by: S.G.P.	Scale: AS SHOWN	
	Project Mgr: R.R.	Revision: 2	
Project No. 19801W		File No: 19801-2	

## **APPENDICES**

**APPENDIX A**

**Well Sampling Data Forms**

# GROUND WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 19B01W WELL ID: RW-3  
 CLIENT/STATION #: HARROSS EMERYVILLE ADDRESS: EMERYVILLE

CASING DIAMETER (inches): 2 3 4 6 8 12 Other \_\_\_\_\_  
 GALLON/LINEAR FOOT: 0.17 0.38 0.66 1.5 2.6 5.8 Other \_\_\_\_\_  
 TD 17 - DTW 4 X  $\frac{\text{GALLON}}{\text{LINEAR FT.}}$  0.17 X  $\frac{\text{CASING VOLUME}}$  3.5 =  $\frac{\text{CALCULATED PURGE}}$  7.7 ACTUAL PURGE

DATE PURGED: 9-13 START (2400 Hr) 1000 END (2400 Hr) 1030  
 DATE SAMPLED: 9-13 START (2400 Hr) 1030 END (2400 Hr) 1035

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	NS' E.C. (µmhos/cm @ 25° C)	TEMPERATURE °F °C	COLOR (visual)	TURBIDITY (visual)
<u>1000</u>	<u>4</u>	<u>6.65</u>	<u>1000</u>	<u>20.3</u>	<u>green-tan</u>	<u>mild</u>
<u>1019</u>	<u>6.7</u>	<u>6.73</u>	<u>1100</u>	<u>19.6</u>	<u>"</u>	<u>"</u>
<u>1027</u>	<u>8</u>	<u>6.74</u>	<u>900</u>	<u>19.1</u>	<u>"</u>	<u>"</u>

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): \_\_\_\_\_

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon®)	<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon®)
<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Dedicated		<input checked="" type="checkbox"/> Bailer Disposable	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PAGE 1 OF 1  
 PRINT NAME: RICK RIEDEL  
 SIGNATURE: [Signature]

# GROUND WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 19801W  
 CLIENT/STATION #: HARCROSS

WELL ID: RW-22  
 ADDRESS: EMERYVILLE

CASING DIAMETER (inches): 2 3 4 6 8 12 Other \_\_\_\_\_  
 GALLON/LINEAR FOOT: 0.17 0.38 0.66 1.5 2.6 5.8 Other \_\_\_\_\_  
 TD 14 - DTW 4.3 X  $\frac{\text{GALLON}}{\text{LINEAR FT.}}$  0.66 X  $\frac{\text{CASING}}{\text{VOLUME}}$  3.5 =  $\frac{\text{CALCULATED}}{\text{PURGE}}$  22.4 ACTUAL PURGE 22

DATE PURGED: 9-13 START (2400 Hr) 11:00 END (2400 Hr) 11:30  
 DATE SAMPLED: 9-13 START (2400 Hr) 11:40 END (2400 Hr) \_\_\_\_\_

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	NS E.C. (umhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>11:00 am</u>	<u>10</u>	<u>6.63</u>	<u>900</u>	<u>20.4°</u>	<u>tan-green</u>	<u>mild</u>
<u>11:11</u>	<u>15</u>	<u>6.65</u>	<u>800</u>	<u>20.1</u>	<u>"</u>	<u>2)</u>
<u>11:30</u>	<u>22</u>	<u>6.90</u>	<u>700</u>	<u>19.5</u>	<u>"</u>	<u>1)</u>

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): \_\_\_\_\_

### PURGING EQUIPMENT

2" Bladder Pump       Bailer (Teflon®)  
 Centrifugal Pump       Bailer (PVC)  
 Submersible Pump       Bailer (Stainless Steel)  
 Dedicated  
 Other: \_\_\_\_\_

### SAMPLING EQUIPMENT

2" Bladder Pump       Bailer (Teflon®)  
 OOL Sampler       Bailer (Stainless Steel)  
 Dipper       Submersible Pump  
 Bailer Disposable       Dedicated  
 Other: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PRINT NAME: Brian Grace

SIGNATURE: \_\_\_\_\_

PAGE 1 OF 1

# GROUND WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 19801W WELL ID: RW-31  
 CLIENT/STATION #: HARLROSS ADDRESS: EMERYVILLE

CASING DIAMETER (inches): 2 3 4 6 8 12 Other \_\_\_\_\_  
 GALLON/LINEAR FOOT: 0.17 0.38 0.66 1.5 2.6 5.8 Other \_\_\_\_\_  
 TD 12 - DTW 3 X  $\frac{\text{GALLON}}{\text{LINEAR FT.}}$  0.66 X  $\frac{\text{CASING VOLUME}}{\text{VOLUME}}$  3.5 =  $\frac{\text{CALCULATED PURGE}}{\text{PURGE}}$  21 ACTUAL PURGE

DATE PURGED: 9-13 START (2400 Hr) 1105 END (2400 Hr) 1130  
 DATE SAMPLED: 9-13 START (2400 Hr) \_\_\_\_\_ END (2400 Hr) \_\_\_\_\_

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	NS E.C. (µmhos/cm @ 25° C)	TEMPERATURE T <sub>F</sub> °C	COLOR (visual)	TURBIDITY (visual)
<u>105</u>	<u>10</u>	<u>6.81</u>	<u>700</u>	<u>19.1</u>	<u>tan</u>	<u>slight</u>
<u>1115</u>	<u>15</u>	<u>6.87</u>	<u>700</u>	<u>18.8</u>	<u>"</u>	<u>"</u>
<u>1130</u>	<u>22</u>	<u>6.90</u>	<u>700</u>	<u>18.6</u>	<u>"</u>	<u>"</u>

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): \_\_\_\_\_

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon®)	<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon®)
<input type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Dedicated		<input type="checkbox"/> Bailer Disposable	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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**APPENDIX B**

**Chain-of-Custody Documentation**

122601

# 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 # \_\_\_\_\_

Analyses

Sampler: RICK R & BRIAN G

Project No: 19801W

Report To: RICK RIEDL

Project Name: HARCROSS EMERYVILLE

Company: ERICKSON/SRI

Project P.O.: 19801W

Telephone: 510-970-7468

Turnaround Time: STANDARD

Fax: 510-970-7478

Lab Number	Sample ID.	9/13/95 Sampling Date Time	Matrix			# of Containers	Preservative				Field Notes
			Soil	Water	Waste		HCL	H2SO4	HNO3	ICE	
	<del>RW-2</del>			X		3	X				
	RW-3	1030		X		3	X				HOLD
	RW-22	1140		X		3	X				HOLD
	<del>RW-29</del>			X			X				
	<del>RW-30</del>			X			X				
	RW-31	1150		X		3	X				HOLD

EPA METHOD 8210 for VOCs

X

HOLD

Notes:

RELINQUISHED BY:

Richard Riedl 9-13-95  
12:25 DATE/TIME

RECEIVED BY:

DATE/TIME  
DATE/TIME  
DATE/TIME



**APPENDIX C**

**Laboratory Analytical Reports**



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:

Erickson Analytical, Inc.  
255 Parr Boulevard  
Richmond, CA 94801

Date: 20-SEP-95  
Lab Job Number: 122601  
Project ID: 19801 W  
Location: Harcross Emeryville

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

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

This package may be reproduced only in its entirety.



Volatile Organics by GC/MS		
Client: Erickson Analytical, Inc.	Analysis Method: EPA 8240	
Project#: 19801 W	Prep Method: EPA 5030	
Location: Harcross Emeryville		
Field ID: RW-22	Sampled: 09/13/95	
Lab ID: 122601-002	Received: 09/13/95	
Matrix: Water	Extracted: 09/14/95	
Batch#: 23268	Analyzed: 09/14/95	
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
Toluene-d8	109	77-134
Bromofluorobenzene	105	65-129
1,2-Dichloroethane-d4	121	75-143



Lab #: 122601

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics		
Client: Erickson Analytical, Inc.	Analysis Method: EPA 8240	
Project#: 19801 W	Prep Method: EPA 5030	
Location: Harcross Emeryville		
METHOD BLANK		
Matrix: Water	Prep Date:	09/14/95
Batch#: 23268	Analysis Date:	09/14/95
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC04114

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
Toluene-d8	118	77-134
Bromofluorobenzene	111	65-129
1,2-Dichloroethane-d4	128	75-143



Lab #: 122601

## BATCH QC REPORT

EPA 8240 Volatile Organics			
Client: Erickson Analytical, Inc.	Analysis Method: EPA 8240		
Project#: 19801 W	Prep Method: EPA 5030		
Location: Harcross Emeryville			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 09/14/95		
Batch#: 23268	Analysis Date: 09/14/95		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC04113

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	54.99	50	110	59-172
Trichloroethene	47.18	50	94	62-137
Benzene	55.08	50	110	76-127
Toluene	54.72	50	109	76-125
Chlorobenzene	51.53	50	103	60-133
Surrogate	%Rec	Limits		
Toluene-d8	107	77-134		
Bromofluorobenzene	101	65-129		
1,2-Dichloroethane-d4	119	75-143		

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

\* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 122601

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Erickson Analytical, Inc.	Analysis Method: EPA 8240
Project#: 19801 W	Prep Method: EPA 5030
Location: Harcross Emeryville	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 09/13/95
Lab ID: 122625-006	Received Date: 09/14/95
Matrix: Water	Prep Date: 09/14/95
Batch#: 23268	Analysis Date: 09/14/95
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC04163

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<5.000	47.86	96	59-172
Trichloroethene	50	<5.000	47.33	95	62-137
Benzene	50	<5.000	54.01	108	76-127
Toluene	50	<5.000	53.27	107	76-125
Chlorobenzene	50	<5.000	51.44	103	60-133
Surrogate	%Rec	Limits			
Toluene-d8	101	77-134			
Bromofluorobenzene	103	65-129			
1,2-Dichloroethane-d4	107	75-143			

MSD Lab ID: QC04164

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	50.69	101	59-172	6	<14
Trichloroethene	50	47.72	95	62-137	1	<14
Benzene	50	54.63	109	76-127	1	<11
Toluene	50	53.47	107	76-125	0	<13
Chlorobenzene	50	51.66	103	60-133	0	<13
Surrogate	%Rec	Limits				
Toluene-d8	104	77-134				
Bromofluorobenzene	107	65-129				
1,2-Dichloroethane-d4	115	75-143				

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

\* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits