



1855 GATEWAY BOULEVARD
SUITE 770
CONCORD, CALIFORNIA 510 602-2333 FAX# 510 687-1258

Transmittal/Memorandum

To: Ms. Susan Hugo
Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

From: Paul Supple *PS*

Date: July 17, 1992

Subject: Second Quarter Ground Water Monitoring
Harcros Pigments Plant
4650 Shellmound Street
Emeryville, California

Job No.: 19801W

Remarks:

Attached please find a copy of the subject report for your files.

cc: Mr. Mike Herzog, Harcros Pigments

92 JUL 21 11 03 AM

**SECOND QUARTER
GROUND WATER MONITORING**

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

July 17, 1992

Prepared for:

**Harcros Pigments
Emeryville, California**

Prepared by:

**ROUX ASSOCIATES
1855 Gateway Boulevard, Suite 770
Concord, California 94520
(510) 602-2333**

TITLE: Second Quarter Ground Water Monitoring
Harcros Pigments Plant
4650 Shellmound Street
Emeryville, California

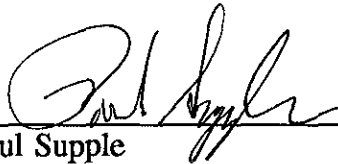
DATE: July 17, 1992

PROJECT NO: HP19801W

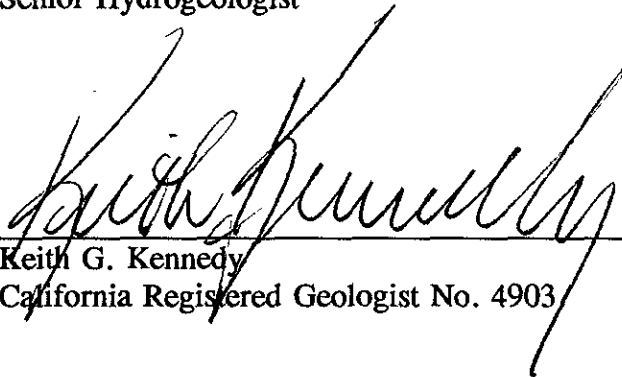
SUBMITTED BY: Roux Associates
1855 Gateway Boulevard, Suite 770
Concord, California 94520

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

PREPARED BY:



Paul Supple
Senior Hydrogeologist



Keith G. Kennedy
California Registered Geologist No. 4903

CONTENTS

	<i>Page</i>
1.0 INTRODUCTION	1
2.0 SITE SETTING	2
3.0 BACKGROUND	3
4.0 GROUND WATER SAMPLING	5
5.0 SUMMARY OF FINDINGS	6
5.1 Ground Water Flow	6
5.2 Analytical Results	6
5.3 Next Sampling	7
6.0 REFERENCES	8

TABLES

Table 1	Summary of Ground Water Analytical Data, 1991 Quarterly Sampling
Table 2	Summary of Ground Water Elevation Data
Table 3	Summary of Ground Water Analytical Data, 1992 Quarterly Sampling

FIGURES

Figure 1	Location of Site
Figure 2	Site Plan
Figure 3	Location of Monitoring Wells and Former Tank Pits
Figure 4	Elevation of Ground Water, May 13, 1992

APPENDICES

A	Well Sampling Data Forms
B	Chain-of-Custody Documentation
C	Laboratory Analytical Reports

1.0 INTRODUCTION

This report presents the findings of the May, 1992 quarterly ground water monitoring activities conducted by Roux Associates (Roux) at the Harcros Pigments Plant located at 4650 Shellmound Street in Emeryville, California (Site, Figures 1 and 2).

The scope of work for this quarterly ground water monitoring 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 ground water sample from monitoring well RW-22;
- Submission of the ground water sample collected from monitoring well RW-22 for analysis of volatile organic compounds (VOCs) by USEPA Method 8240.

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 produces iron oxide pigments and 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 estimated low permeability sandy clay to clay (Roux, 1990a). The regional direction of ground water flow is westerly, towards the San Francisco Bay (Roux, 1990a).

3.0 BACKGROUND

A total of 12 underground storage tanks (USTs) have been removed from the Site since 1987. One 350-gallon capacity steel UST formerly contained waste oil and waste solvents, and was removed from the Site in December, 1987 (Roux, 1988). The waste oil tank was located within the waste oil tank pit immediately east of Service Building No. 10 (Figure 2). A total of nine 10,000-gallon diesel tanks and one 10,000-gallon Bunker C fuel oil tank were removed from the tank pit south of Service Building No. 10 in December, 1989 (Roux, 1990a). A 1,000-gallon gasoline tank was removed from a tank pit south of Maintenance Shop Building No. 6 in December 1989 (Roux, 1990a).

Two double-wall fiberglass USTs are currently in place and used at the Site. A 10,000-gallon diesel tank and one 1,000-gallon gasoline tank were installed east of Service Building No. 10 by Diablo Tank & Equipment of Martinez, California in September, 1989.

In January, 1990, Roux staff discovered diesel fuel floating on top of the water column in monitoring wells RW-4 and RW-11 (Roux, 1990b). Wells RW-4 and RW-11 were located near the northeastern corner of Service Building No. 10 (Figure 3). The monitoring wells were within a former waste oil tank pit and were adjacent to the two recently installed USTs and their associated pipelines.

In March and April, 1990, Roux conducted an additional subsurface investigation to determine the extent of diesel fuel contamination surrounding the former waste oil tank pit. The additional investigation included drilling seven soil borings, installing two monitoring wells (RW-22 and RW-23) in the area surrounding the former waste oil tank pit where free phase product was detected, and collecting ground water samples from the wells at the Site. The analytical results of the soil and ground water sampling analyzed indicated that the presence of diesel fuel was restricted to the soil and ground water around the former waste oil tank pit (Roux, 1990b). In August, 1990, the soil with concentrations of diesel fuel in the former tank pit area were excavated and transported

to a Class II disposal facility (Roux, 1991a). Monitoring wells RW-4 and RW-11, located in the former tank pit, were abandoned prior to soil excavation. At the request of the Alameda County Department of Environmental Health, two additional monitoring wells, RW-30 and RW-31, were installed in December, 1990. These wells were installed for the purpose of monitoring ground water quality in the vicinity of the former waste oil tank pit. Quarterly ground water monitoring of wells RW-2, RW-3, RW-22, RW-29, RW-30 and RW-31 was initiated in January, 1991.

Laboratory analyses of ground water samples collected from all six monitoring wells through the four 1991 quarterly sampling events indicated total extractable hydrocarbons, benzene, toluene, ethylbenzene, xylenes, and oil and grease below detection limits for all samples (Table 1). However, unknown hydrocarbons were reported in monitoring wells RW-2, RW-3 and RW-29 during the second quarter sampling event (Roux, 1991b).

All ground water samples collected during the first and third quarterly 1991 sampling events and the ground water sample collected from monitoring well RW-22 during the fourth quarterly sampling event were analyzed for VOCs. Concentration of VOCs were reported as below the laboratory detection limit from all the ground water samples except RW-22. Cis-1,2-Dichloroethene was detected at a concentration of 5.2 parts per billion ($\mu\text{g/L}$) and 5.3 $\mu\text{g/L}$ in the third and fourth quarter, respectively.

Based on the laboratory data collected during the 1991 year of quarterly sampling, quarterly sampling was discontinued at this Site with the exception of monitoring well RW-22. Quarterly sampling of well RW-22 will continue through 1992 to monitor for VOCs.

4.0 GROUND WATER SAMPLING

On May 13, 1992, depth to ground water measurements were collected from monitoring wells RW-2, RW-3, RW-22, RW-29, RW-30 and RW-31. Data from RW-22 were used to calculate the volume of water needed to purge prior to sampling. A minimum of three well casing volumes of water was removed from well RW-22 using a teflon bailer.

A ground water sample was collected using the same teflon bailer and poured into two 40-milliliter glass vials for analysis of VOCs. Visual observations of the ground water sample, the measurement of pH, conductivity and temperature at the time of sample collection was recorded on a well sampling form (Appendix A). The sample vials were labeled and stored on ice in a cooler chest until delivery to the laboratory. Chain-of-Custody documentation was maintained for the sample (Appendix B).

The ground water sample was submitted to Curtis & Tompkins Ltd. Analytical Laboratory in Berkeley, California. The ground water sample was analyzed for Volatile Organic Compounds (VOCs) by USEPA Method 8240.

5.0 SUMMARY OF FINDINGS

5.1 Ground Water Flow

Water levels were measured on May 13, 1992, in six on-site monitoring wells. The depth to ground water at the Site has historically been about 2 to 5 ft. below ground surface (bgs). The depth to ground water measured on May 13, 1992 ranged from 3.11 to 5.55 ft. bgs. Ground water elevations calculated from these water levels indicated the direction of ground water movement at the Site was to the south at an average gradient of about 0.02 (Figure 4). This flow direction and gradient is generally consistent with historical measurements. The flow direction towards the south is different than the regional flow direction to the west. The flow direction may be locally influenced by Temescal Creek, located about 170 ft. south of Service Building No. 10.

5.2 Analytical Results

Laboratory analyses of the ground water sample collected from well RW-22 on February 18, 1992, indicated concentrations of VOCs as below the laboratory detection limits except cis-1,2-Dichloroethene which was detected at a concentration of 5.6 $\mu\text{g/L}$ and trans-1,2-Dichloroethene which was detected at a concentration of 5.3 $\mu\text{g/L}$ (Roux, 1992). California Drinking Water Quality Standards lists a Maximum Contaminant Level (MCL) for cis-1,2-Dichloroethene as 6 $\mu\text{g/L}$, and trans-1,2-Dichloroethene as 10 $\mu\text{g/L}$.

Laboratory analyses of the ground water sample collected from well RW-22 on May 13, 1992, indicated concentrations of all VOCs as below the laboratory detection limits (Table 3).

5.3 Next Sampling

The third quarter ground water sampling event is tentatively scheduled for the week of August 10, 1992. Ground water samples collected from RW-22 will be analyzed for VOCs by USEPA Method 8240.

6.0 REFERENCES

- California Code of Regulations, Title 22 - Social Security, Division 4 - Environmental Health, Chapter 15, 16 and 17; as amended through July, 1990. California Drinking Water Quality Standards.
- Roux Associates. 1988. Underground Storage Tank Site Investigation, Pfizer Pigments Plant, 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. 1992. First Quarter Ground Water Monitoring, Harcros Pigments Plant, Emeryville, California. March 25, 1992.
- United States Geologic Survey. 1980. Oakland West Quadrangle, California Photo Revised 1980.

TABLES

**Table 1. Summary of Ground Water Analytical Data, 1991 Quarterly Sampling
Harcros Pigments Plant
4650 Shellmound Street
Emeryville, California**

Monitoring Well Number	Date	Total	Extractable	Hydrocarbons	BTEX	VOCs	O & G
		TEH-K	TEH-D	TEH-M			
RW-2	1/08/91	ND	ND	NA	NA	ND	NA
	4/09/91	ND	ND	ND	ND	NA	NA
	7/11/91	ND	ND	NA	NA	ND	NA
	10/3/91	ND	ND	NA	ND	NA	NA
RW-3	1/08/91	ND	ND	NA	NA	ND	NA
	4/09/91	ND	ND	ND	ND	NA	NA
	7/11/91	ND	ND	NA	NA	ND	NA
	10/3/91	ND	ND	NA	ND	NA	NA
RW-22	1/08/91	ND	ND	NA	NA	ND	NA
	4/09/91	ND	ND	ND	ND	NA	NA
	7/11/91	ND	ND	NA	NA	5.2*	NA
	10/3/91	ND	ND	NA	NA	5.3*	NA
RW-29	1/08/91	NA	NA	NA	NA	ND	NA
	4/09/91	ND	ND	ND	ND	NA	ND
	7/11/91	ND	ND	NA	NA	ND	NA
	10/3/91	ND	ND	NA	ND	NA	NA
RW-30	1/08/91	NA	NA	NA	NA	ND	NA
	4/09/91	ND	ND	ND	ND	NA	NA
	7/11/91	ND	ND	NA	NA	ND	NA
	10/3/91	ND	ND	NA	ND	NA	NA
RW-31	1/08/91	NA	NA	NA	NA	ND	NA
	4/09/91	ND	ND	ND	ND	ND	NA
	7/11/91	ND	ND	NA	NA	ND	NA
	10/3/91	ND	ND	NA	ND	NA	NA

Footnotes:

All detected concentrations are reported in $\mu\text{g/L}$ (ppb)

TEH-K = Total Extractable Hydrocarbons as Kerosene

TEH-D = Total Extractable Hydrocarbons as Diesel

TEH-M = Total Extractable Hydrocarbons as Motor Oil

BTEX = Benzene, Toluene, Ethylbenzene and Xylenes

VOCs = Volatile Organic Compounds

O & G = Oil and Grease

ND = Not Detected at or above reporting limit


NA = Not Analyzed

* = VOC identified as cis-1,2-Dichloroethene (No other VOCs were detected.)

**Table 2. Summary of Ground Water Elevation Data
Harcros Pigments Plant
4650 Shellmound Street
Emeryville, California**

Monitoring Well Number	Date	Measuring Point ⁽¹⁾ Elevation	Depth to Water ⁽²⁾	Ground Water ⁽¹⁾ Elevation
RW-2	1/08/91	6.84	4.93	1.91
	4/09/91	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
RW-3	1/08/91	7.38	4.00	3.38
	4/09/91	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
RW-22	1/08/91	7.42	4.04	3.38
	4/09/91	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
RW-29	1/08/91	7.01	5.68	1.33
	4/09/91	7.01	3.95	3.06
	7/11/91	7.01	4.63	2.38
	10/3/91	7.01	4.71	2.30
	2/14/91	7.01	3.68	3.33
	5/13/92	7.01	5.55	1.46
RW-30	1/08/91	7.51	4.23	3.28
	4/09/91	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
RW-31	1/08/91	7.08	3.43	3.65
	4/09/91	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

Footnotes:

- ⁽¹⁾ **ROUX ASSOCIATES** 
Depth in feet relative to Emeryville datum
- ⁽²⁾ Depth in feet below measuring point

**Table 3. Summary of Ground Water Analytical Data, 1992 Quarterly Sampling
 Harcros Pigments Plant
 4650 Shellmound Street
 Emeryville, California**

Monitoring Well Number	Date	Volatile Organic Compounds	
		cis-1,2-Dichloroethene (detection limits)	trans-1,2-Dichloroethene (detection limits)
RW-22	2/14/92	5.6 (5)	5.3 (5)
RW-22	5/13/92	ND* (5)	ND* (5)

Footnotes:

All detected concentrations are reported in $\mu\text{g/L}$ (ppb)
 ND = Not detected at or above reporting limits
 * = No VOCs were detected

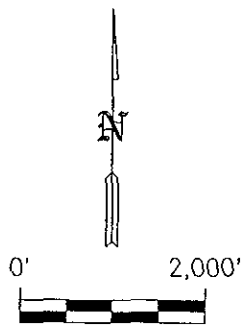
Doc #HP19801W.3.1

FIGURES

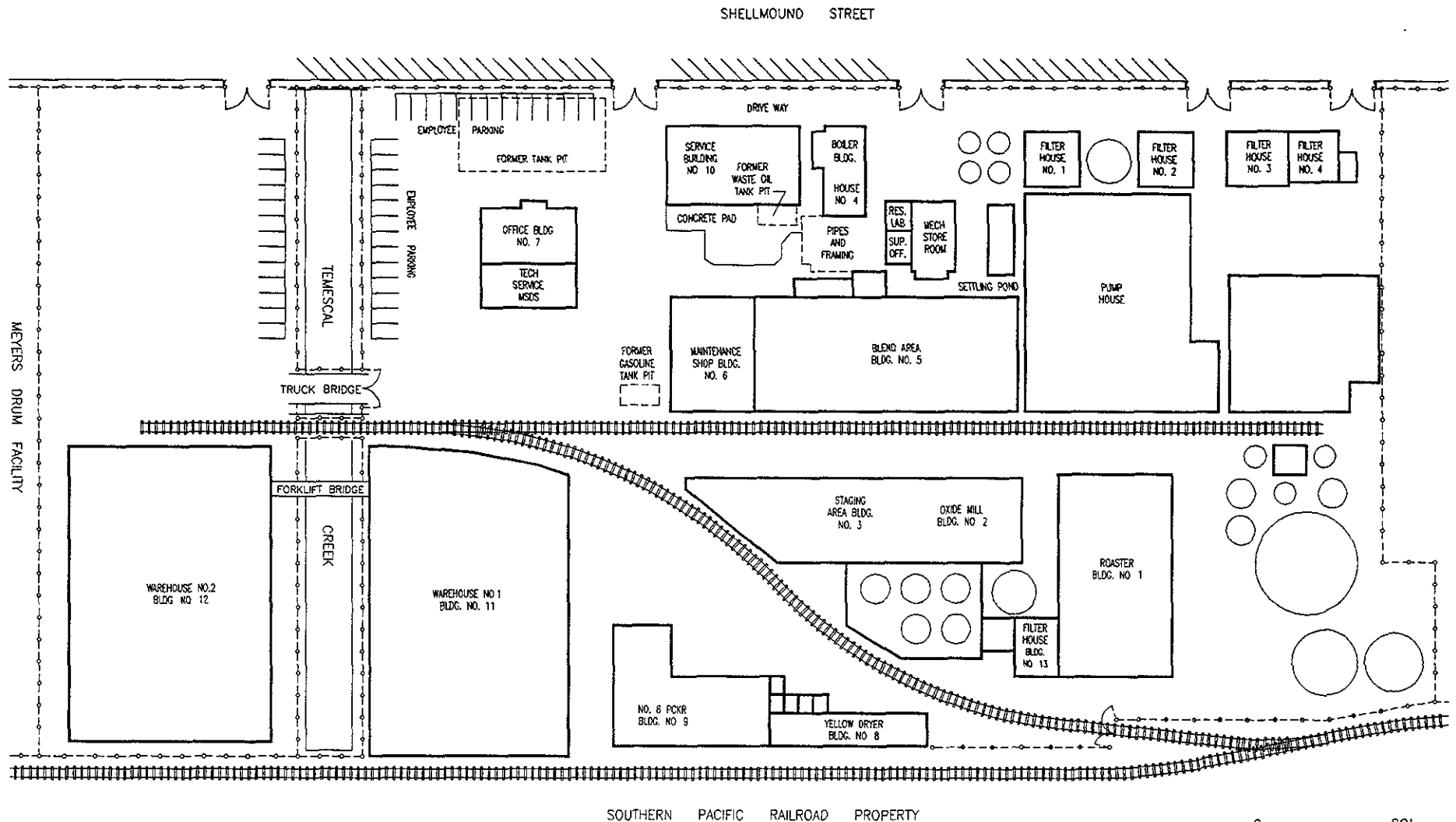


SOURCE:

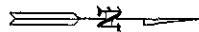
USGS 7.5 MINUTE QUADRANGLE
OAKLAND WEST, CALIFORNIA, 1980.



TITLE					
LOCATION OF SITE					
PREPARED FOR					
HARCROS PIGMENTS, INC.					
ROUX ROUX ASSOCIATES ENVIRONMENTAL CONSULTING & MANAGEMENT	COMPILED BY:	J.F.	DATE:	01/92	FIGURE 1
	PREPARED BY:	R.P.	SCALE:	AS SHOWN	
	PROJECT MANAGER:	P.S.	REVISION:	0	
	PROJECT NO.	19801W	FILE #	19801W01	



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



ROUX
 ROUX ASSOCIATES
 ENVIRONMENTAL CONSULTING
 & MANAGEMENT

COMPILED BY: P.S.
 PREPARED BY: D.D.
 PROJECT MNGR. P.S.
 DATE: 07/92
 SCALE: AS SHOWN
 PROJECT NO. 19801W01
 FILE NAME: 19801W2B

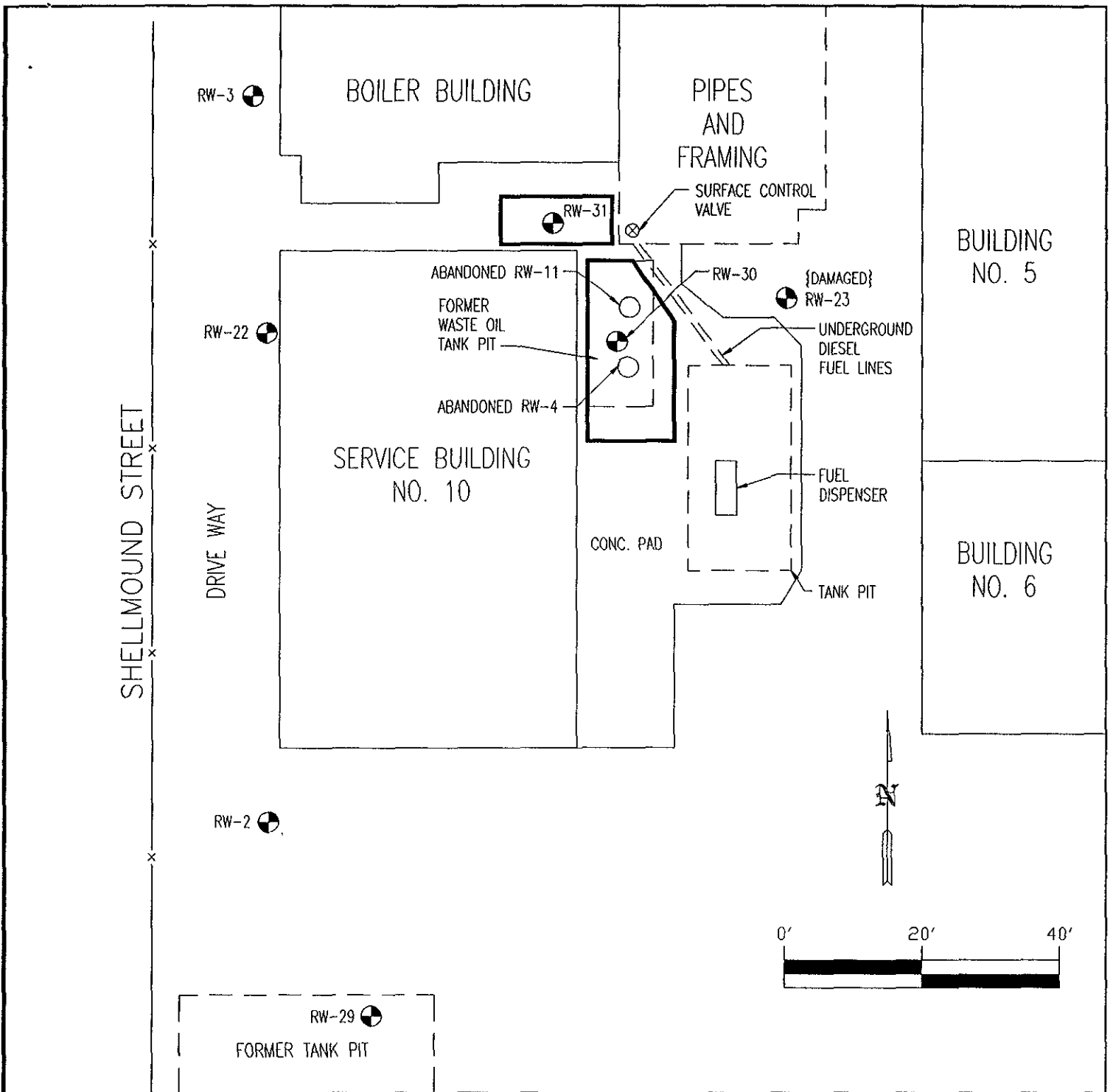
PREPARED FOR:
 TITLE:

HARCROS PIGMENTS INC.
 EMERYVILLE, CA

SITE PLAN
 EMERYVILLE, CA

FIGURE

2



EXPLANATION

- RW-2 MONITORING WELL LOCATION AND DESIGNATION
- RW-11 FORMER MONITORING WELL LOCATION AND DESIGNATION
- APPROXIMATE AREA OF EXCAVATION

TITLE:

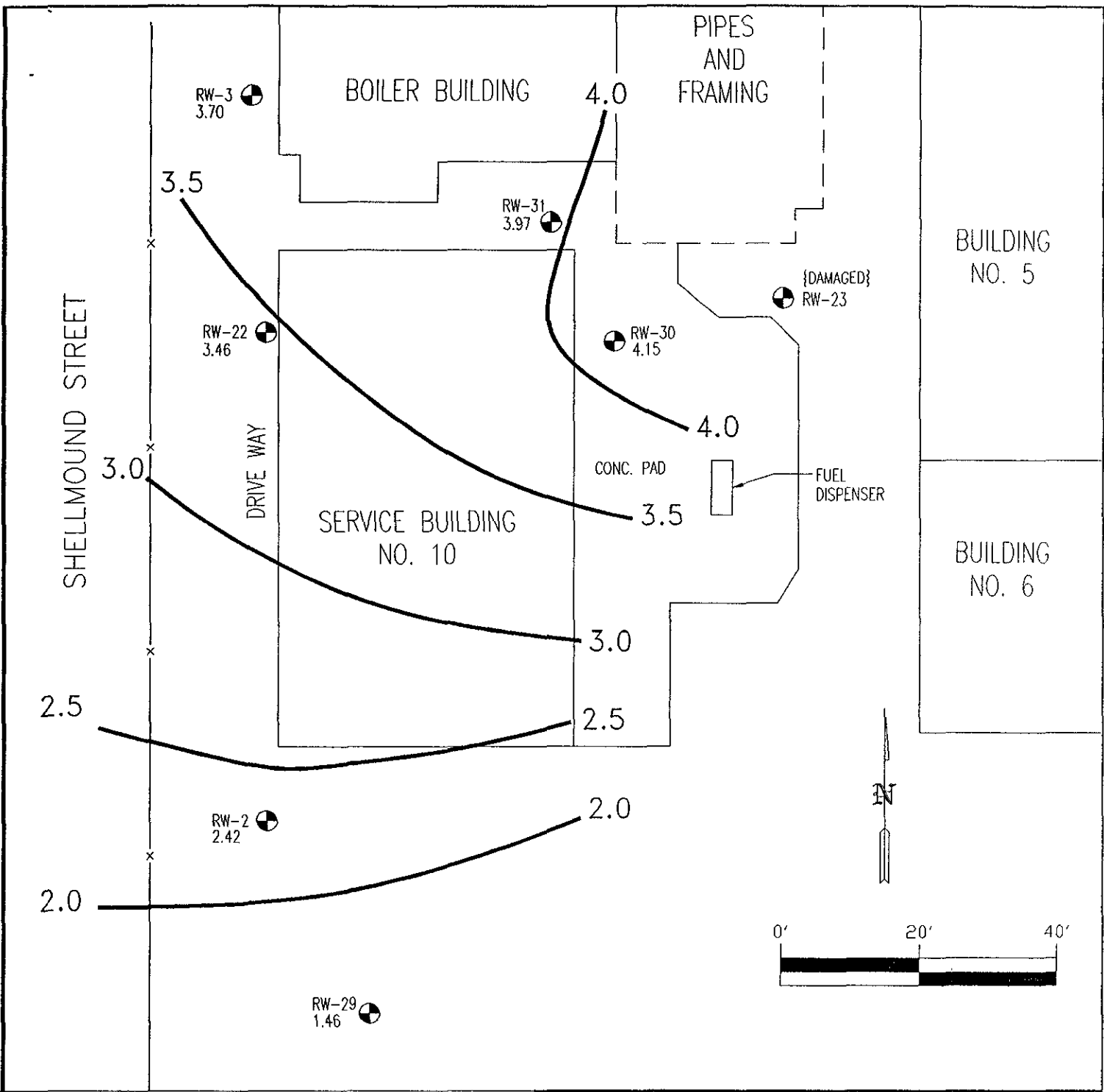
LOCATION OF MONITORING WELLS AND FORMER TANK PITS

PREPARED FOR:

HARCROS PIGMENT, INC.

ROUX
 ROUX ASSOCIATES
 ENVIRONMENTAL CONSULTING
 & MANAGEMENT

COMPILED BY:	J.F.	DATE:	01/92	FIGURE 3
PREPARED BY:	R.P.	SCALE:	AS SHOWN	
PROJECT MANAGER:	P.S.	REVISION:	0	
PROJECT NO.	19801W01	FILE #:	19801W01	



EXPLANATION

RW-2
2.42

MONITORING WELL LOCATION AND DESIGNATION WITH GROUND WATER ELEVATIONS IN FEET.

3.5

LINE OF EQUAL GROUND WATER ELEVATION.

TITLE

ELEVATION OF GROUND WATER
MAY 13, 1992

PREPARED FOR:

HARCROS PIGMENT, INC.

ROUX
ROUX ASSOCIATES
ENVIRONMENTAL CONSULTING
& MANAGEMENT

COMPILED BY:	L.H	DATE:	06/92
PREPARED BY:	R.P.	SCALE:	AS SHOWN
PROJECT MANAGER:	P.S.	REVISION:	0
PROJECT NO	19801W	FILE #:	19801W01

FIGURE

4

APPENDICES

APPENDIX A
Well Sampling Data Forms

WELL SAMPLING DATA FORM

CLIENT: HARCROS PIGMENTS

PROJECT NO.: HP19801W

LOCATION: 4650 Shellmound Street, Emeryville, California

WELL NUMBER: RW-22

TYPE OF WELL: 4-Inch Diameter Monitoring Well

DATE: May 13, 1992

STORAGE TANK: None

WEATHER: Dry, warm, windy

TIME OF START: 1340

SAMPLED BY: K.B.

TIME OF FINISH: 1415

DEPTH TO BOTTOM OF WELL: 13.90 FT.

DEPTH TO WATER: 3.96 FT.

WATER COLUMN: 9.84 FT.

VOLUME OF WATER IN WELL: 6.56 GAL.

VOLUME OF WATER TO REMOVE: 19.68 GAL.

VOLUME REMOVED: 20 GAL.

RATE OF PURGE: Approximately 1 gallon per minute

METHOD OF PURGE: Teflon bailer

PHYSICAL APPEARANCE/COMMENTS:

Grey, cloudy

FIELD MEASUREMENTS:

TIME: 1415

pH: 6.56

COND: 1443 micromhos/cm.

TEMP: 22°C

TURB: Not measured

Eh: Not measured

O₂: Not measured

TYPES OF SAMPLES COLLECTED:

Two 40 ml. vials for volatile organic compounds USEPA Method 8240

LABORATORY NAME & LOCATION:

Curtis and Thompkins, 2323 Fifth Street, Berkeley, California

APPENDIX B

Chain-of-Custody Documentation

1071321



CHAIN OF CUSTODY

No 00307W

ROUX ASSOCIATES INC 1340 ARNOLD DRIVE, SUITE 231
 Consulting Ground-Water MARTINEZ, CALIFORNIA 94553
 Geologists & Engineers (415) 370-2275 FAX. (415) 370-2235

ANALYSES

PAGE OF

PROJECT NAME: **HARCROS PIGMENTS**
 PROJECT NUMBER: **17801W**
 PROJECT LOCATION: **4650 Shellmond St. Emeryville CA**
 SAMPLER(S): **KB**

SAMPLE MATRIX
 Volatile Organic
 Compounds
 EPA 624

TOTAL BOTTLES

SAMPLE DESIGNATION/LOCATION	DATE COLLECTED	TIME COLLECTED								NOTES
RW 22	5/14/92	1717	Water	X						2

RELINQUISHED BY: (SIGNATURE) <i>Kathleen B. [Signature]</i>	FOR ROUX	DATE 5/16/92	TIME 1746	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	FOR [Signature]	DATE 5/15/92	TIME 1546	SEAL INTACT Y OR N
RELINQUISHED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N
RELINQUISHED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N

DELIVERY METHOD: **HAND**

ANALYTICAL LABORATORY: **CURTIS + TOMKINS**

COMMENTS: **STANDARD TURNAROUND TIME. Date collection CAC is 2/14/92 should be 4/12/92**

should be 4/12/92
nope 4/12/92

APPENDIX C

Laboratory Analytical Reports

RECEIVED MAY 28 1992



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

2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 05/13/92

DATE REPORTED: 05/26/92

LABORATORY NUMBER: 107381

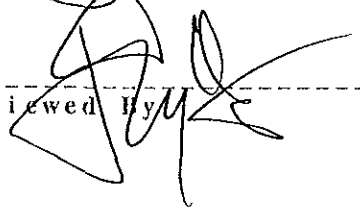
CLIENT: ROUX ASSOCIATES

PROJECT ID: 19801W

LOCATION: HARCROS PIGMENTS

RESULTS: SEE ATTACHED


Reviewed By


Reviewed By

LABORATORY NUMBER: 107381-1
 CLIENT: ROUX ASSOCIATES
 PROJECT ID: 19801W
 LOCATION: HARCROS PIGMENTS
 SAMPLE ID: RW-22

DATE SAMPLED: 05/13/92
 DATE RECEIVED: 05/13/92
 DATE ANALYZED: 05/20/92
 DATE REPORTED: 05/26/92

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethylene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethylene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	92 %
Toluene-d8	101 %
Bromofluorobenzene	106 %

LABORATORY NUMBER: 107381-METHOD BLANK
 CLIENT: ROUX ASSOCIATES
 PROJECT ID: 1980IW
 LOCATION: HARCROS PIGMENTS

DATE ANALYZED: 05/20/92
 DATE REPORTED: 05/26/92

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethylene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethylene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	100 %
Toluene-d8	102 %
Bromofluorobenzene	114 %

Curtis & Tompkins, Ltd

MS/MSD Report

Matrix Sample Number: 107381-001
 Lab No: QC28790 QC28791
 Matrix: WATER
 Batch No: 5340 924192 924193 924194

Date Analyzed: 21-MAY-92
 Spike File: >BEK23
 Spike Dup File:>BEK24
 Analyst: AL

	Instrdrg	SpikeAmt	% Rec	Limits
<u>MS RESULTS</u>				
1,1-Dichloroethene	50.68	50	101 %	34-128%
Trichloroethene	48.75	50	98 %	37-160%
Benzene	50.48	50	101 %	79-109%
Toluene	49.08	50	98 %	74-115%
Chlorobenzene	46.57	50	93 %	79-118%
Surrogate Recoveries				
1,2-Dichloroethane-d4	47.05	50	94 %	53-170%
Toluene-d8	47.6	50	95 %	85-114%
Bromofluorobenzene	58.34	50	117 %	91-133%
<u>MSD RESULTS</u>				
1,1-Dichloroethene	46.58	50	93 %	34-128%
Trichloroethene	46.82	50	94 %	37-160%
Benzene	49.69	50	99 %	79-109%
Toluene	48.06	50	96 %	74-115%
Chlorobenzene	46.54	50	93 %	79-118%
Surrogate Recoveries				
1,2-Dichloroethane-d4	49.1	50	98 %	53-170%
Toluene-d8	50.23	50	100 %	85-114%
Bromofluorobenzene	58.91	50	118 %	91-133%
<u>MATRIX RESULTS</u>				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	0			
Toluene	0			
Chlorobenzene	0			
<u>RPD DATA</u>				
1,1-Dichloroethene	8 %			< 24%
Trichloroethene	4 %			< 25%
Benzene	2 %			< 23%
Toluene	2 %			< 37%
Chlorobenzene	0 %			< 27%

Results within Specifications - PASS