1252 Quarry Lane Pleasanton, CA 94566 (415) 426-2600 Fax (415) 426-0106



Soil investigation indicates no further Pleremediation necessary for soils. Water will needs to be addressed.

Preliminary Investigation Prior to
Installation/Implementation of the Soil Vapor Extraction
System at Dry Cleaner/Laundromat
Performed for
Harsch Investment Corporation

Clayton Project No. 30493.00

November 28, 1990



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1.0 INTRODUCTION

Clayton Environmental Consultants, Inc. has been retained by Harsch Investment Corporation to conduct soil and groundwater remediation at the former dry cleaning site at the north corner of Park Street and Shore Line Drive in Alameda, California (Figure 1). This report provides details of preliminary trenching and sampling investigation activities conducted at the subject site before installation/implementation of the soil vapor extraction program.

Installation of the soil vapor extraction program was descried in Clayton's workplan (Project No. 30493.00). During trenching, we did not detect petroleum or chlorinated hydrocarbons with an organic vapor meter (OVM). Therefore, in consultation with Harsch, we decided to wait for the results of laboratory analysis of the soil samples before completing installation of the soil vapor extraction system. Based on the results of these analyses, which are described in Section 4.0 of this report, we do not recommend any further investigation/remediation of soil at this site.

2.0 BACKGROUND

In 1989, Harsch contracted Woodward-Clyde Consultants to conduct a Phase I environmental assessment and a Phase II site investigation on the subject site. During the Phase II subsurface investigation, Woodward-Clyde identified petroleum hydrocarbon and chlorinated hydrocarbon contamination in groundwater in the two monitoring wells installed. Appendix A includes Woodward-Clyde's Tables 1 and 2, from their Phase II investigation, which summarize soil and groundwater data from monitoring wells MW-2 and MW-3. Woodward-Clyde's monitoring wells MW-2 and MW-3 have been remumbered by Clayton as MW-7 and MW-8, respectively, to facilitate sampling and documentation. Their locations are indicated as MW-7 and MW-8 on Figure 1.

Subsequently, Woodward-Clyde performed the following investigations:

- Emergency remediation of a release of 10 to 50 gallons of dry cleaning fluid from the former aboveground dry cleaning fluid storage tanks in November 1989. Soils were excavated from the area and stockpiled on the former Texaco Station site.
 - Soil samples were collected at the perimeter side walls of the excavation and tested for halogenated volatile organic compounds (VOCs) by EPA Method 8010. The laboratory analysis indicated that soil samples contained 280,000 parts per billion (ppb) tetrachloroethene (PCE) in the south corner of the excavation.
- Secondary excavation continued in December 1989 in the south corner of the excavation until no organic vapors were detected using a portable organic vapor analyzer (OVA). The soil removed in the secondary excavation was stockpiled with the original soil at the former Texaco Station.
- Installation of six soil borings on April 19, 1990, surrounding the former soil excavation at the former dry cleaning building. Tetrachloroethene (PCE) was found in the soil samples from these six borings. A summary of Woodward-



Clyde's April 1990 analytical results for these boreholes and the borehole locations are shown in Table 1 and Figure 1 in Appendix B.

3.0 WORK PERFORMED

On November 5, 1990, Clayton supervised the trenching excavation on the former dry cleaning site. HMS Company from Coalinga, California, provided the trenching services under subcontract to Harsch Investment Company. Figure 2 shows the locations of the trenching excavation and soil sampling. The locations of trenches and sampling points were selected to better define the horizontal extent of contamination. In addition, we planned to use the trenches as part of the venting system if contamination was identified.

Seven soil samples were collected at approximately 5 feet below the ground surface for laboratory analysis. The samples were collected in 1.5-inch brass tubes, each measuring 6 inches long. The tube ends were covered with aluminum foil, capped with plastic caps, sealed with ducted tape, labeled, and placed into a pre-cooled ice chest chilled to 4°C prior to shipment to Clayton's laboratory in Pleasanton, California. Upon delivery to the laboratory, a chain-of-custody form was completed listing analyses required. This form follows each set of analyses and is included in Appendix C.

On November 6, 1990, a groundwater sample (sample number GW-1) was collected from the main trench. The sample location is shown in Figure 2. Sample GW-1 was collected with a clean disposable bailer from approximately 6 inches of water that had collected in the bottom of the trench. The water was transferred to clean glass containers, capped, labeled and placed into a pre-cooled ice chest chilled to 4°C for shipment to Clayton's laboratory under proper chain-of-custody procedure. The chain-of-custody form is included in Appendix C.

4.0 LABORATORY RESULTS AND DATA ANALYSES

Soil and groundwater samples collected on November 5 and 6, 1990 were analyzed by EPA Method 8010 (soil) and EPA Method 601 (water) for purgeable halocarbons.

Soil sample V-3 contained 0.07 milligrams per kilograms (mg/kg) tetrachloroethene (PCE). All other constituents for which the laboratory conducted analysis were below the detection limit in this sample. None of the constituents for which the laboratory conducted analysis were detected in the other six soil samples or the one groundwater sample. The laboratory analytical results are attached in Appendix C with their corresponding chain-of-custodies.

5.0 CONCLUSIONS

The 0.07 mg/kg concentration of PCE detected in soil sample V-3 is well below the 20 mg/kg action level established by the Alameda County Health Agency (ACHA) and the Regional Water Quality Control Board (RWQCB) for this site.

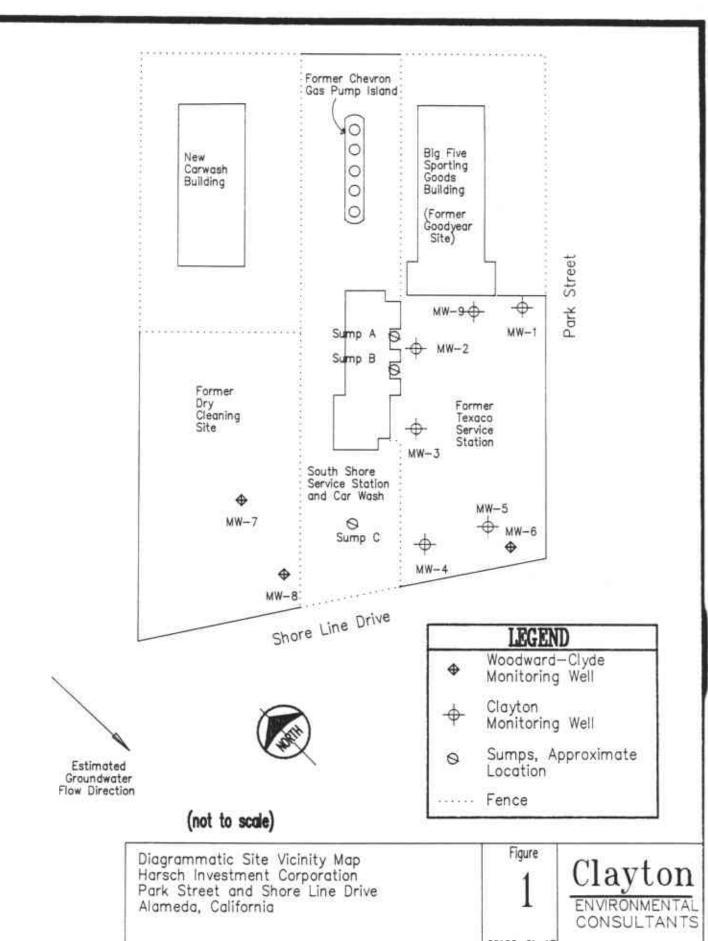


Based on the results of this soil sampling, we do not recommend any further soil investigation or remediation at this site. We recommend additional groundwater investigation to determine the extent of any contamination previously recognized in monitoring wells MW-7 and MW-8 (formerly, Woodward-Clyde monitoring wells MW-2 and MW-3).

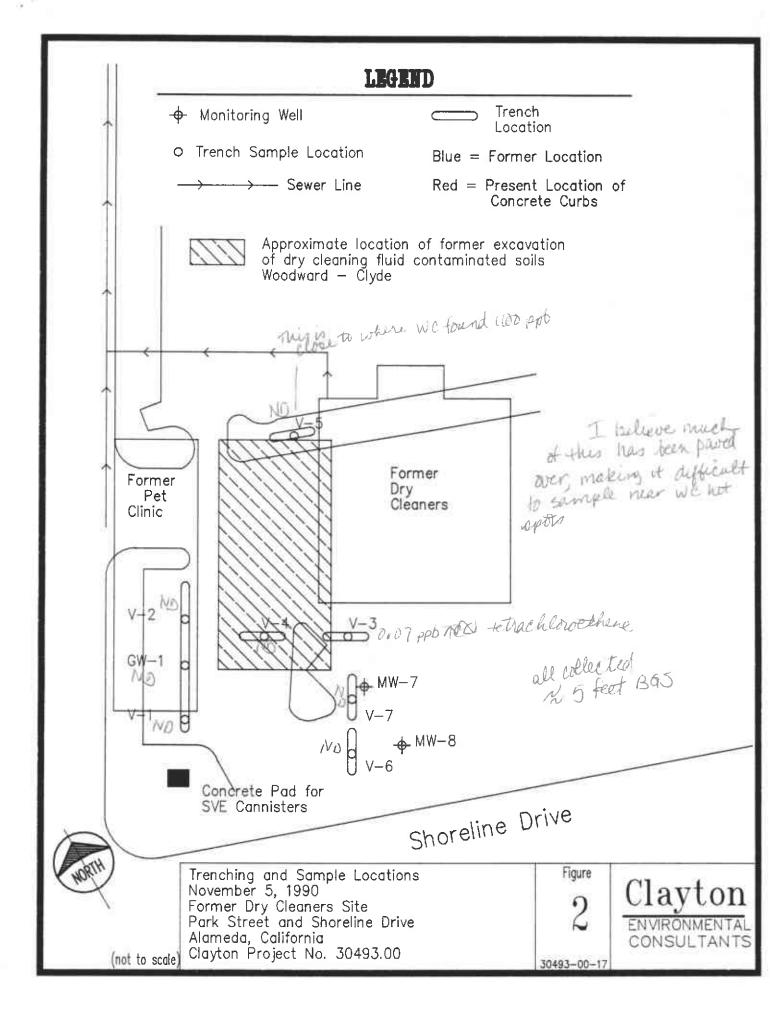
Limitations

The information and opinions rendered in this report are exclusively for use by Client. Clayton Environmental Consultants, Inc. will not distribute this report without your consent except as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of that assignment. We accept responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance with the normal standards of our profession but disclaim any responsibility for consequential damages.

This report reviewed by:		
•	Alan D. Gibbs, R.G.	_
	Supervisor, Geology Group	



29196-01-17



APPENDIX A WOODWARD-CLYDE TABLES 1 AND 2 PHASE II SITE INVESTIGATION



TABLE 1

ANALYTICAL RESULTS OF WATER SAMPLES COLLECTED NOVEMBER 29 AND 30, 1990 AT FORMER TEXACO STATION AND DRY CLEANING FACILITY CORNER OF PARK STREET AND SHORE LINE DRIVE, ALAMEDA, CA FOR

HARSCH INVESTMENTS CORPORATION

Constituent	MW-1	MW-2	MW-3	MW-4	MW-5	MW-7	MW-8	MW-9	State Action Levels	Maximum Contaminant Level (MCL)
EPA Method 8015/8020 for:										
Benzene	< 0.4	<0.4	<0.4	<0.4	800	< 0.4	< 0.4	< 0.4	-	1.0
Toluene	<0.3	< 0.3	0.5	<0.3	12	<.03	<.03	<0.3	100	2,000
Ethylbenzene	<0.3	< 0.3	<0.3	<0.3	320	<.03	<.03	<0.3	-	680
Xylenes	<0.4	< 0.4	<0.4	< 0.4	66	<.04	<.04	<0.4	•	1,750
Gasoline	<50	<50	<50	<50	2,900	<50	<50	<50	N/A	N/A
EPA Method 8015/3510 for Diosel Past	<50	<50	<50	<50	<800	<50	<50	<50	N/A	N/A
EPA Method 418.1 for Total Recoverable Petroleum Hydrocarbons	<1 ppm	1 ppm	<1 ppm	<1 ppm	2 ppm	<1	<1	1 ppm	N/A	N/A
EPA Method 601 for purgeable ballocarbons										
Tetrachloroethone	0.6	< 0.5	<0.5	<0.5	<0.5	0.9	1,900	1.5		5 5
Cis-1,2-dichloroethene	<0.4	< 0.4	< 0.4	< 0.4	<0.4	1.2	446	< 0.4	6	¥ 6
1,2-dichloroethene (total)	<0.4	< 0.4	< 0.4	< 0.4	<0.4	1.2	446	< 0.4	-	-
Trickloroetheae	<0.3	<0.3	0.5	0.5	<0.3	3.0	520	<0.3	-	,e, · · · 5

not detected at or above the indicated value (detection limit)

N/A not applicable

All concentrations reported in parts per billion (ppb) which is approximately equal to micrograms per liter (ug/L) except where noted as parts per million (ppm)

Table 1 reports only detected compounds. All other constituents analyzed for were below detectable limits. See attached analytical report for a complete list of analyses run on the samples.

PLTF DEFT Exhibit
WIT: DENNIS BYRNE
DATE 11/22/91 9 PD
ELYSE A. GARDNER, CSR

29196-17.tbl

Analytical Results of Groundwater Samples Baseline Monitoring of Groundwater Wells

South Shore Center Corner of Park Street and Shoreline Drive Alameda, California

Collected

Chemical	MW-1 (ppb)	MW-2 (ppb)	MW-3 (ppb)	MW-4 (ppb)	MW-5 (ppb)	MW-7 (ppb)	MW-8B (ppb)	MW-9 (ppb)	MW-14 (ppb)	Regulatory Guidelines
EPA Method 8015/8020 for						(119070	eu Eloj			
Benzene	ND	ND	ND	ND	1,300	ND	ND	ND	2.9	1(1)
Toluene	ND	ND	ND	ND	45	ND	מא	ND	ND	100 ⁽²⁾
Ethylbenzene	ND	ND	ND	ND	370	ND	ND	ND	ND	680 ⁽¹⁾
Xylenes	ND	ND	ND	ND	100	ND	ND	ND	0.5	1,750 ⁽¹⁾
Gasoline	ND	ND	ND	ND	4,000	ND	ND	ND	ND	not applicable
EPA Method 3510 for:					*					
Diesel	ND	ND	ND	ND	ND	ND	ND	ND	230	100 ⁽³⁾
EPA Method 5520 for.										
Hydrocarbons	ND	ND	ND	ND	ND	ND	ND	ND	ND	not applicable
EPA Method 601 for Purge	able Haloc	arbons:								
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	0.5	6 ⁽¹⁾
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	440 90	ND	ND	ND	6 ⁽²⁾
1,2-Dichlorethene (total)	ND	ND	ND	ND	ND	440 90	6.8	ND	ND	10 ⁽²⁾
1,2-Dichloroethane	DN	ND	ND	ND	ND	ND	ND	ND	4.6	0.5(1)
Trichloroethene	ND	ND	ND	ND	ND	520 200	7.7	ND	0.4	5 ⁽¹⁾
Tetrachloroethene PL	2.8	ND	3.0	ND	ND	99 ,600	1.1	3.3	16	5(1)

(1)	Maximum	Contaminant	Level 1	for Drinking	Water	Standards	(EPA	& DHS
-----	---------	-------------	---------	--------------	-------	-----------	------	-------

parts per billion which is approximately equal to micrograms per liter (µg/L)

PCE- not incredibly

RED 1×102 molty lday

report on that have es havecount gtrly & MW-8B

MW7- pump + treat
proposal to cope
with MW7.

unacceptable levels proposal to with in X

⁽²⁾ California State Action Levels (DHS)

Health Advisories or Suggested No-Adverse-Response Levels (SNARLS). (3)

1252 Quarry Lane Pleasanton, CA 94566 (415) 426-2600 Fax (415) 426-0106



December 12, 1990

Ms. Laurene Compton CLAYTON ENVIRONMENTAL CONSULTANTS, INC. 1252 Quarry Lane Pleasanton, Ca. 94566

> Client Ref. 29196.00 Clayton Project No. 90112.61

Dear Ms. Compton:

Attached is our analytical laboratory report for the samples received on November 29, 1990. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Maryann Gambino, Client Services Supervisor, at (415) 426-2657.

Sincerely,

Ronald H. Peters, CIH

Director, Laboratory Services

Western Operations

RHP/dt

Attachments

PLTF/EET Exhibit
WIT: DENNIS BYRNE
DATE 11/22/91 9 85
ELYSEM. GARDNER, CSR



Page 2 of 11

Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Sample Identification: MW-2

Date Sampled:

11/29/90

Lab Number:

9011261-01A

Date Received: 11/29/90

Sample Matrix/Media:

WATER

Date Prepared: 12/04/90

Preparation Method:

EPA 5030

Date Analyzed: 12/04/90

Analytical Method:

EPA 8015/8020

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Toluene	108-88-3	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes	1330-20-7	ND	0.4
Gasoline		ND	50

Not detected at or above limit of detection ND Information not available or not applicable



Page 3 of 11

Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Sample Identification: MW-3

Lab Number: 90

9011261-02A

Date Sampled: 11/29/90
Date Received: 11/29/90
Date Received: 11/29/90

Sample Matrix/Media: Preparation Method:

WATER EPA 5030 Date Prepared: 12/04/90 Date Analyzed: 12/04/90

Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Toluene	108-88-3	0.5	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes	1330-20-7	ND	0.4
Gasoline		ND	50

ND Not detected at or above limit of detection -- Information not available or not applicable



Page 4 of 11

Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Sample Identification: MW-4

9011261-03A

Date Sampled: 11/29/90

Lab Number:

11/29/90 Date Received:

Sample Matrix/Media: Preparation Method: WATER EPA 5030 Date Prepared: 12/04/90 Date Analyzed: 12/04/90

Analytical Method:

EPA 8015/8020

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Toluene	108-88-3	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes	1330-20-7	ND	0.4
Gasoline		ND	50

Not detected at or above limit of detection ND Information not available or not applicable



of 11 Page 5

Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9011261-05A

Date Received:

Sample Matrix/Media:

WATER

Date Prepared:

12/04/90

Preparation Method: Analytical Method:

EPA 5030 EPA 8015/8020

Date Analyzed: 12/04/90

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Toluene	108-88-3	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes	1330-20-7	ND	0.4
Gasoline		ND	50

ND Not detected at or above limit of detection Information not available or not applicable



Page 6 of 11

Results of Analysis for Harsch Investments

Client Reference: 29196.00

Clayton Project No. 90112.61

Sample Identification: MW-2
Lab Number: 9011261-01G

Sample Matrix/Media: WATER
Analytical Method: EPA 601

 V-2
 Date Sampled: 11/29/90

 D11261-01G
 Date Received: 11/29/90

 ATER
 Date Analyzed: 12/04/90

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.7
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	2
1,1-Dichloroethene	75-35-4	ND	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	ND	0.4
Cis-1,2-Dichloroethene	156-59-2	ND	0.4
1,2-Dichloroethene (total)	540-59-0	ND	0.4
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.7
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6
2-Chloroethylvinylether	100-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.7
1,3-Dichlorobenzene	541-73-7	ND	2
1,2-Dichlorobenzene	95-50-1	ND	4
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
Trichlorofluoromethane	75-69-4	ND	0.4
Freon 113	76-13-1	ND	0.6

ND Not detected at or above limit of detection -- Information not available or not applicable



Page 7 of 11

Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Sample Identification: MW-3

Date Sampled: 11/29/90

Lab Number:

9011261-02G

Date Received: 11/29/90

Sample Matrix/Media:

WATER

Date Analyzed: 12/05/90

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons		And the second s	
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.7
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09 - 2	ND	2
1,1-Dichloroethene	75-35-4	ND	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	ND	0.4
Cis-1,2-Dichloroethene	156-59-2	ND	0.4
1,2-Dichloroethene (total)	540-59-0	ND	0.4
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.7
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	0.5	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6
2-Chloroethylvinylether	100-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.7
1,3-Dichlorobenzene	541-73-7	ND	2
1,2-Dichlorobenzene	95-50-1	ND	4
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
Trichlorofluoromethane	75-69-4	ND	0.4
Freon 113	76-13-1	ND	0.6

Not detected at or above limit of detection ND Information not available or not applicable



of 11 Page 8

Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Sample Identification: MW-4

Date Sampled: 11/29/90 Date Received:

Lab Number:

9011261-03G

11/29/90

Sample Matrix/Media:

WATER

Date Analyzed: 12/05/90

Analytical Method: EPA 601

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.7
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	2
1,1-Dichloroethene	75-35-4	ND	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	ND	0.4
Cis-1,2-Dichloroethene	156-59-2	ND	0.4
1,2-Dichloroethene (total)	540-59-0	ND	0.4
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.7
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	0.5	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6
2-Chloroethylvinylether	100-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.7
1,3-Dichlorobenzene	541-73-7	ND	2
1,2-Dichlorobenzene	95-50-1	ND	4
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	i
Trichlorofluoromethane	75-69-4	ND	0.4
Freon 113	76-13-1	ND	0.6

Not detected at or above limit of detection ND Information not available or not applicable



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Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9011261-05A

Date Received:

Date Analyzed:

Sample Matrix/Media: Analytical Method:

WATER EPA 601

12/05/90

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			***
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.7
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	2
1,1-Dichloroethene	75-35-4	ND	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	ND	0.4
Cis-1,2-Dichloroethene	156-59-2	ND	0.4
1,2-Dichloroethene (total)	540-59-0	ND	0.4
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.7
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6
2-Chloroethylvinylether	100-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.7
1,3-Dichlorobenzene	541-73-7	ND	2
1,2-Dichlorobenzene	95-50-1	ND	4
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	i
Trichlorofluoromethane	75-69-4	ND	0.4^{-}
Freon 113	76-13-1	ND	0.6

Not detected at or above limit of detection ND Information not available or not applicable



Page 10 of 11

Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Date Sampled: 11/29/90 Sample Identification: See below Date Received: 11/29/90 Lab Number: 9011261 Date Extracted: 12/06/90 Sample Matrix/Media: Water Analytical Method: 12/07/90 EPA 8015 Date Analyzed: Extraction Method: EPA 3510

Laboratory No.	Sample Identification	Diesel (mg/L)
-01	MW-2	ND
-02	MW-3	ND
-03	MW-4	ND
-MB	Method Blank	ND
Limit of Detect	ion:	50

ND = Not detected at or above the limit of detection.



Page 11 of 11

Results of Analysis for Harsch Investments

Client Reference: 29196.00 Clayton Project No. 90112.61

Sample Identification: Lab Number: Sample Matrix/Media:

See below 9011261 Water

Date Sampled: 11/29/90 Date Received: 11/29/90 Date Analyzed: 12/06/90

Analytical Method:

EPA 418.1

Laboratory No.	Sample Identification	Total Recoverable Petroleum Hydrocarbons (mg/L)
-01	MW-2	1
-02	MW-3	<1
-03	MW-4	<1
-MB	Method Blank	<1
Limit of detecti	on:	1

< Less than the indicated below limit of detection (LOD)



A Marsh & McLennan Company

REQUEST FOR LABORATORY

ANALYTICAL SERVICES

or Clayton	Use Onl	y Pag	e	of		
roject No.	29	196.				
atch No.	-	7011	26	1	-	
lient No.		<u> </u>	<u> </u>			
ate Logge	d In	30/	7 0 By	T5		
	Client	ob No	A		7	

P Name Laurene Compton	Title				15	hase C				Da	ite Log	ged Ir	111	<u>30/9</u>	90 By	TS	
								o.					ient (Jo	b Nd.	A	varterly So	20/2
Mailing Address			Debi	<u> </u>	ᆛᅩᆱ	Na	ne –	tar	sch]	NJes	true	\mathcal{T}				~~13.90	- Labrine
ட் ம் City, State, Zip				·	⊣äŏ	2 (0)	npany	·								Dept.	
Telephone No. Telef	ax No.		···		¥¤≨	Na Co Add City	ress										
Qate Results Required: Rush Charges Authorized? F	hone Res	ults	Sample	C Dro:	┤	City	, State	e, Zip									
Yes No				if applicable)	รั	(Ente	r an 'X	in the	e bax h	1A elow to	VALYS Lindics	IS RE	QUEST	ΓED	en er en	eservative add	
Special Instructions: (method, limit of detection, etc.)				ing Water	ai	<u> </u>		Z	. /	~//	/ IIIIIII	7	Juesi, L	Inter a	7	eservative add	ed)
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Explanation of Preservative:				cted in the of New York	0			.00)	\~\ <u>`</u> /								
Explanation of Preservative: Pres. H.			_ State	OI NEW TOIK	ž		\ 4	γυ / .									- 1
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<u> </u>				40ML	2				X						٦,	7	\neg
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CUSTODY			ate/Time			ved at				eur	/ _k	al	115	- 0	ate/Tip	929 70 4	1:15
Method of Shipment:						le Con	dition (Jpon I	Receipt	: 1	Acc	eptab	ie		Other	(explain)	-1-70
Authorized by:	uthorized by: Date									•				_		•	
(Client Signature Must Accompany Re	equest)																
Please return completed form and samples to one of the	Clayton E	nviror	nmental C	Consultants, Inc.	labs l	sted b	olow.										

22345 Roethel Drive Novi, MI 48050 (313) 344-1770

Raritan Center 160 Fieldcrest Ave. Edison, NJ 08837 (201) 225-6040

400 Chastain Center Blvd., N.W. Suite 490

Kennesaw, GA 30144 (404) 499-7500

1252 Quarry Lane Pleasanton, CA 94566 (415) 426-2600

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REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Us	e Only Page	of	
Project No. 2	29196.00		
Batch No.	9011	261	-
Client No		~~~	

A Marsh & McLennan Company

										<u> </u>					
O Narr	10 Laurene Compton	Title			In					Dat	e Logge	ed in [130	90	By TS
R & Cou	npany (Leu ton		Der	ot.	Purc	hase O	rder N	0.				Client	JOB NO.		Quarterly Sampline
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Tele] [] []	Add	ress						·		Dept.
Date Resu	phone No. Telefa	NO. Posuite	T			City	, State	e, Zip					· <u> </u>		<u> </u>
Morman	/HI LI Yes LAINO		Carrier	es are:		1			o hay ha	AN	ALYSIS	REQU	ESTED		
Special Ins	structions: (method, limit of detection, etc.)			if applicable) king Water	aine	(2,110	- U// /				Indicate	reques	t; Enter	a 'P' if	Preservative added. *)
• Explanat	ion of Preservative: Pres. Hcl		Colle	ected in the of New York	er of Containers						/\\	//		//	
	CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED		(specify units)		Ø		36	/o./		Hold	//	//	//	FOR LAB USE ONLY
MW-	- 4	11/29/90	W ATER	40 ML	2	X						-	-{-	/	
				LITER	2		×					_ _	 -	+	03A,B
				LITER	2			X	 	- 		-	-	 	CD
		1		40ML	2			7	X					╁┷	E,F
Tr	ip Blank (0112690)		HaO	40rel	1	 	 		 ^ ,	X				┼	VGH
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CHAIN	Relinquished by: M. Springman		Date/Time												
OF	Relinquished by:	<u> </u>	Date/Time //-29-90 Date/Time	4:10 PM		ived by								Date/1	Time
CUSTODY	Method of Shipment:		Sare/ (III)8			ived at			Lu	y	La	110		Date/	11 29/90 4:150
Authorized		······································			Samp	ole Cond	dition L	Jpon F	teceipt:	<i>()</i> □	Accep	otable] Oth	ner (explain)
Authorized	(Client Signature Must Accompany Re	Da	ate							V					
Plazes ratu															1
	rn completed form and samples to one of the	Clayton Envir	onmental (Consultants, Inc.	labs l	isted be	low:						DISTRI	DUTIC	
つつりょう ロー	ARBALINA D. A. A. C. C.													ALLIN'	nni'

22345 Roethel Drive Novi, MI 48050 (313) 344-1770

Raritan Center 160 Fieldcrest Ave. Edison, NJ 08837 (201) 225-6040

400 Chastain Center Blvd., N.W. Suite 490

Kennesaw, GA 30144 (404) 499-7500

1252 Quarry Lane Pleasanton, CA 94566 (415) 426-2600

6/90

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/21/96

Matrix: Water

Analyte	Concent	ration	(ug/L)		* Reco	very	
	Sample (#65273)	MS	MSD	Amount Spiked	MS	MSD	RPD
TPH (gas) Benzene Toluene	0.0	112.7 11.5 11.5	103.8 11.1 11.1	100.0	112.7 115.0	103.8 111.0 111.0	8.2 3.5 3.5
Ethyl Benzene Xylenes	0.0	11.5 34.7	11.1	10.0 30.0	115.0 115.7	111.0 112.7	3.5 2.6
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (cil & grease)	! 0	21200	21700	23711	8.5	92	2.5

* Per := 'MS - Sample, / anderd above a lin

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

PROJ N	·	TFECTO E FOR THE FOR	ikan si minangang Na				Α	/**\					6442AK	EV19
10-3607. LP NO R 36	OI/WH	Harsch IS: (Signature/Number)	'90 		/i.						7			
DATE	SAMPLE ID TIME HII MM SS	SAMPLE ID	7 A117E D	3/3		//,			/	//				REMARKS
5-21-96	10:00	Hydropunch]3									1	H20	65329
			-		-								Note: Vo	As are <u>not</u>
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								ICE,	л ^	J	-		- VIII	12 Oct Marie
								6: (i	10 C(ID (P	ONDI ACE	TON ABSE	V V	APPROPRIATE CONTAINERS	
relinguished lelinguished lelin	by: (Signature)	Date/filme Received by (Simple Date/filme Received by (Simple Signature)	West 20	1 - marke	S	- I an	dor	d	T./-	\.T.			Send Results to AHHN; AHHN; KLEINFELDER 7133 KOLL CENT SUITE 100 PLEASANTON, C (510) 484-1700	
10m	tamile	White Sampler Aluch	Buch		 leturn	Copy To :	Shipper				·		Pink . Lab Conv	

Kleinfelder		Client Pr	roject ID:#	10-3003-01/0	004; Harsch	Date San	pled: 05/2	1/96			
7133 Koll Cei	nter Parkway, # 100				Date Rec	Date Received: 05/21/96					
Pleasanton, C	CA 94566	Client C	ontact: Alan	Gibbs		Date Extracted: 05/21/96					
		Client P.	O: # R3633			Date Ana	alyzed: 05/2	1/96			
EPA methods 50	Gasoline Range 330, modified 8015, and 80	(C6-C12) 020 or 602: 0	EX*								
Lab ID	Client ID	Matrix	TPH(g) ⁺	Benzene	Toluene	Ethylben- zene	Xylenes	% Rec. Surrogate			
65329	Hydropunch	w	ND	ND	ND	ND	ND	98			
		1									
			<u> </u>								
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. <u> </u>				. "		!	•	i			

!		: Everent es	was and the second of the seco				
Reporting Limit unless otherwise stated; ND means not de-	W	50 ug/L	0.5	0.5	0.5	0.5	
tected above the reporting limit	S	1.0 mg/kg	0.005	0.005	0.005	0.005	

^{*} water and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

[#] cluttered chromatogram; sample peak coelutes with surrogate peak

⁺ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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 (?); f) one to a few isolated peaks present; g) stronglyaged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

					A = - 0 (0-4-04	Feb-95	May-95	Nov-95			
Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Арг-94	Oct-94	FED-83	May-83	1404-92			
Benzene	ND	ND										
Toluene	N	ND										
Ethylbenzene	2	Ŋ										
Xylenes	2	ND ND										
1,2-DCA	ND	Ď										
1,1-DCE	ND	ND										
cis-1,2-DCE	ND_											
trans-1,2-DCE												
"DCE"	ND	ND ND										
PCE	0.6	0.6 2.8										
TCE	ND	ND					<u> </u>		<u> </u>			
Chloroform												
1,1,2-TCA												
Bromoform								<u> </u>				
Chlorobenzene						 	ļ — —		 			
	Blank ce	lls indicate	<u>l</u> e that not	hing was I	eported f	or the giv	en chemic	cal.				
	NA mear	is the che	mical wa	s reported	as "not a	nalyzed."						
	ND mear	ns the che	mical wa	s analyze	1, but "no	t detected	."	<u> </u>	<u> </u>			
	< means	means the chemicals was analyzed and reported below the given detection limit.										
	"DCE" m	"DCE" means eithter total DCE, or DCE not differentiated into cis or trans isomers.										
		s in micro					l					

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95			
Benzene	ND	ND	<0.4		<0.5				<0.5			
Toluene	ND	ND	<0.3		<0.5				<0.5			
Ethylbenzene	ND	ND	<0.3		<0.5				<0.5			
Xylenes		ND	<0.4		<0.5				<0.5 <0.5			
1,2-DCA												
1,1-DCE		ND	<0.2		<2							
cis-1,2-DCE	ND	ND	<0.4						<0.5			
trans-1,2-DCE			<0.4		<1				<0.5			
"DCE"	ND	ND	<0.4						<0.5			
PCE	ND											
TCE	ND	ND	<0.3		<2				<0.5			
Chloroform									<0.5			
1,1,2-TCA			<0.6									
Bromoform			<0.7									
Chlorobenzene			<0.7		<1	<u> </u>						
									<u> </u>			
	Blank ce	lls indicate	e that not	hing was I	eported f	or the give	en chemic	;al	<u> </u>			
	NA mear	is the che	mical wa	s reported	as "not a	nalyzed."	<u> </u>	1				
	ND means the chemical was analyzed, but "not detected." < means the chemicals was analyzed and reported below the given detection line "DCE" means eithter total DCE, or DCE not differentiated into cis or trans isome											
· · · · · · · · · · · · · · · · · · ·		All values in micrograms per liter.										

01-1-1	N	1 04	1.1.64	F-1 00	A 04	0-1-04	Eab OF	May 05	Nov-95		
Chemical	Nov-90	Арг-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95			
Benzene		ND	<0.4		<0.5				<0.5		
Toluene	0.5	_ ND	<0.3		<0.5				<0.5		
Ethylbenzene	ND	ND	<0.3		<0.5				<0.5		
Xylenes	ND	ND	<0.4		<0.5				<0.5		
1,2-DCA	ND	ND	<0.3		<2				<0.5		
1,1-DCE	ND	ND	<0.2		<2						
cis-1,2-DCE	ND	ND	<0.4						0.77		
trans-1,2-DCE		ND	<0.4		<1				<0.5		
"DCE"	ND		<0.4								
PCE	ND										
TCE	0.5										
Chloroform	-								<0.5		
1,1,2-TCA	"		<0.6								
Bromoform			<0.7								
Chlorobenzene			<0.7		<1						
	Blank cel	ls indicate	i e that not	hing was r	eported for	or the give	l en chemic	l :al			
				s reported							
	ND mear	is the che	mical wa	s analyzed	J, but "not	detected	."				
	< means	the chem	icals was	analyzed	and repo	rted belov	v the give	n detectio	n limit.		
	DCE m	eans eithl	er total D	CE, or DO	E not diff	erentiated	into cis	or trans is	omers.		
		s in micro				1					

MW-5B

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene	800	1300	3.1	210	<0.5						
Toluene	12	45	3.7	4.2	<0.5						
Ethylbenzene	320	370	13	1.9	<0.5						
Xylenes	66	100	2.2	2	<0.5						
1,2-DCA	ND	ND	<0.3	0.4	<2						
1,1-DCE	ND	ND	<0.2		<2						
cis-1,2-DCE	ND	ND	<0.4								
trans-1,2-DCE			<0.4		14						
"DCE"	"DCE" ND ND <0.4 5										
PCE											
TCE	ND	ND	<0.3	3.4	10						
Chloroform											
1,1,2-TCA			<0.6		-						
Bromoform			<0.7								
Chlorobenzene			<0.7	<1	<1						
				l hing was r			en chemic	al.			
				s reported							
ND means the chemical was analyzed, but "not detected."											
	< means the chemicals was analyzed and reported below the given detection limit.										
	"DCE" m	eans eitht	er total D	CE, or DC	E not diff	erentiated	into cis d	or trans is	omers.		
	"DCE" means eithter total DCE, or DCE not differentiated into cis or trans isomers All values in micrograms per liter.										

MW-7 & 7B

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Арг-94	Oct-94	Feb-95	May-95	Nov-95			
Benzene	ND	ND	NA	NA	190				1.1			
Toluene	ND	ND	NA	NA	<0.5				<0.5			
Ethylbenzene	ND	ND	NA	NA	<0.5				<0.5			
Xylenes	ND	ND	NA	NA	27				1.9			
1,2-DCA	ND	ND ND <0.3 ND <2										
1,1-DCE	ND	ND ND 4.6 5.8										
cis-1,2-DCE	440	90	170						1200			
trans-1,2-DCE			2.6		13				<50			
"DCE"	440	440 90 170 150										
PCE	1900	1900 1600 7800 5800 190										
TCE	520	520 200 660 540 12										
Chloroform									<50			
1,1,2-TCA			0.8									
Bromoform			1.7									
Chlorobenzene			4.8		31							
	Monitorin	g well MV	V-7B repla	aced mon	itoring we	il MW-7 a	ifter the 4	 /91sampli	ng date.			
				reened lo				,				
	Blank cel	ls indicate	that not	ning was r	eported fo	or the give	n chemic	al.				
	NA means the chemical was reported as "not analyzed."											
ND means the chemical was analyzed, but "not detected."												
	< means the chemicals was analyzed and reported below the given detection limit.											
	"DCE" means eithter total DCE, or DCE not differentiated into cis or trans isomers.											
	All values	in micro	grams pe	r liter.								

20

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95
Веплепе	ND	ND	NA	NA	92				<0.5
Toluene	ND	ND	NA	NA	<0.5				<0.5
Ethylbenzene	ND	ND	NA	NA	<0.5				<0.5
Xylenes	ND	ND	NA	NA	<0.5			<u> </u>	<0.5
1,2-DCA	ND	ND	<0.3	ND	<2				<0.5
1,1-DCE	ND	ND	<0.2		<2			<u> </u>	
cis-1,2-DCE	1.2	6.8	11						44
trans-1,2-DCE			<0.4	1	23				1.9
"DCE"	1.2	6.8	11	9					
PCE	0.9	1.1	0.9	5	70				8
TCE	3	7.7	19	14	57				22
Chloroform									<0.5
1,1,2-TCA			<0.6						
Bromoform			<0.7						
Chlorobenzene			<0.7		<1				
	Blank cel	l Ils indicate	e that not	hing was r	eported for	or the give	en chemic	al.	
				s reported					
	ND mear	is the che	mical wa	s analyzed	d, but "not	detected			
	< means	the chem	icals was	analyzed	and repo	rted belov	v the give	n detectio	n limit.
	"DCE" m	eans eith	er total D	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.
		s in micro							

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene	ND	ND	<0.4		520				1.8		
Toluene	ND	ND	<0.3		2.8				5.6		
Ethylbenzene	ND	ND	<0.3		3 5				1.1		
Xylenes	ND	ND	<0.4		<0.5				5.8		
1,2-DCA	ND	ND	<0.3		<2				<0.5		
1,1-DCE		ND	<0.2		<2						
cis-1.2-DCE		ND	<0.4						<0.5		
trans-1,2-DCE			<0.4		<1				<0.5		
"DCE"		ND	<0.4								
PCE	1.5										
TCE		ND	<0.3		<2				<0.5		
Chioroform									<0.5		
1,1,2-TCA			<0.6								
Bromoform			<0.7								
Chlorobenzene			<0.7		<1						
	Blank ce	ls indicat	e that not	hing was r	eported f	or the give	en chemic	al.			
	NA mear	s the che	mical wa	s reported	as "not a	nalyzed."		<u> </u>			
	ND means the chemical was analyzed, but "not detected."										
	< means the chemicals was analyzed and reported below the given detection lim										
	"DCE" m	eans eith	er total C	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.		
		s in micro						1	l .		

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene				210	3600				82		
Toluene				480	3200				22		
Ethylbenzene				510	1200				37		
Xylenes	1200 5300										
1,2-DCA		ND 13									
1,1-DCE					<2						
cis-1,2-DCE									<0.5		
trans-1,2-DCE				 	2				<0.5		
"DCE"				ND							
PCE		ND 3.9									
TCE											
Chloroform									<0.5		
1,1,2-TCA						-	 				
Bromoform			<u> </u>		 	 					
				 	<1	<u> </u>					
Chlorobenzene				 			-	 			
	Blank cel	ls indicate	that not	hing was r	eported for	or the give	en chemic	al.			
	NA mean	s the che	mical wa	s reported	as "not a	nalyzed."					
	H										
	ND means the chemical was analyzed, but "not detected." < means the chemicals was analyzed and reported below the given detection lire.										
	"DCE" means eithter total DCE, or DCE not differentiated into cis or trans is										
	All values in micrograms per liter.										

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95			
Benzene				NA	<0.5				<0.5			
Toluene		·		NA	<0.5				<0.5			
Ethylbenzene		<u>-</u>		NA	<0.5				<0.5			
Xylenes				NA	<0.5				<0.5			
1,2-DCA				ND	<2				1.4			
1,1-DCE					<2							
cis-1,2-DCE									<0.5			
trans-1,2-DCE			 		1.5				<0.5			
"DCE"				ND								
PCE	-	5.8 2.5										
TCE				2	4.2				3			
Chloroform									<0.5			
1,1,2-TCA												
Bromoform												
Chlorobenzene			-	 	<1							
0,,,0,,0,0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		<u> </u>	-		<u> </u>							
···	Blank ce	ls indicate	e that not	hing was i	reported f	or the give	en chemic	cal.				
	NA mear	s the che	mical wa	s reported	as "not a	nalyzed."						
·	ND mear	s the che	mical wa	s analyze	d. but "no	t detected						
	ND means the chemical was analyzed, but "not detected." < means the chemicals was analyzed and reported below the given detection limit.											
	"DCF" m	eans eith	ter total C	CE. or DO	CE not dif	ferentiate	d into cis	or trans is	omers.			
		CE" means eithter total DCE, or DCE not differentiated into cis or trans isomers. I values in micrograms per liter.										

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Арг-94	Oct-94	Feb-95	Feb-95	May-95	Nov-95		
Benzene				620	1300	5200	1100	120	71	NA		
Toluene				1900	6300	6200	6200	200	130	NA		
Ethylbenzene				2200	1400	13000	2000	180	110	NA		
Xylenes				6000	12000	22000	15000	710	200	NA		
1,2-DCA				ND	<2	NA	<2		3	NA		
1,1-DCE												
cis-1,2-DCE					NR	<0.5	<2		<0.5	NA		
trans-1,2-DCE					<1	NA	<2		<0.5	NA		
"DCE"				ND						ļ <u> </u>		
PCE				ND	1.9	NA	<2		<0.5	NA		
TCE				2.4	<2	NA	<2		<0.5	NA		
Chloroform	-				<1	NA	<2		<0.5	NA		
1,1,2-TCA												
Bromoform												
Chlorobenzene					<1	NA	<2		<0.5			
	Blank ce	lls indicat	l e that not	i hing was i	reported f	or the give	en chemic	al				
	NA mear	ns the che	mical wa	s reported	as "not a	nalyzed."			<u></u>			
	ND mean	ns the che	mical wa	s analyze	d, but "no	t detected	.*		<u> </u>			
	The first	"Feb-95"	column is	for samp	ling by the	e Mark Gr	oup; the s	second co	lumn			
	The first "Feb-95" column is for sampling by the Mark Group; the second column is for sampling performed by Soil Tech Engineers (BTEX only).											
	< means the chemicals was analyzed and reported below the given detection limit.											
	NR means not reported by the laboratory.											
	"DCE" m	"DCE" means eithter total DCE, or DCE not differentiated into cis or trans isomers.										
		s in micro					Ī ——					

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Apr-94	Oct-94	Feb-95	May-95	Nov-95	
Benzene		2.9	0.8	ND	0.95	0.96					
Toluene		ND	0.8	ND	<0.5	<0.5					
Ethylbenzene		ND	<0.3	ND	3.3	3.4					
Xylenes		0.5	0.8	ND	15	15					
1,2-DCA		4.6	6.6	3.4	8.4	9.7					
1,1-DCE		0.5	<0.2		<2	<2					
cis-1,2-DCE		ND	<0.4								
trans-1,2-DCE			<0.4	İ	<1	<1			<u> </u>		
"DCE"		ND	<0.4	ND							
PCE		16	<0.5	ND	<1	<1					
TCE		0.4	<0.3	ND	<2	<2					
Chloroform										<u> </u>	
1,1,2-TCA	-		<0.6								
Bromoform			<0.7								
Chlorobenzene			<0.7		<1	<1					
	Blank ce	lls indicati	e that not	l hing was r	eported f	or the give	en chemic	, ;al.			
	NA mear	s the che	mical wa	s reported	as "not a	nalyzed."					
	NA means the chemical was reported as "not analyzed." ND means the chemical was analyzed, but "not detected."										
-	< means	the chem	icals was	analyzed	and repo	rted belov	v the give	n detectio	n limit.		
	"DCF" m	eans eith	ter total D	CE. or DO	E not dif	ferentiated	into cis	or trans is	omers.		
		s in micro				T	<u> </u>	T			

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene		•		ND	<0.5						
Toluene				ND	<0.5						
Ethylbenzene				ND	<0.5						
Xylenes		-		ND	<0.5						
1,2-DCA			1	ND	<2						
1,1-DCE			-		<2				_		
cis-1,2-DCE											
trans-1,2-DCE		-	· ·		<1						
"DCE"				ND							
PCE				ND	<1						
TCE				ND	<2						
Chloroform											
1,1,2-TCA											
Bromoform											
Chlorobenzene					<1						
				hing was i				ai.			
	NA mear	s the che	mical wa	s reported	as not a	nalyzed."					
	ND mean	D means the chemical was analyzed, but "not detected."									
	means the chemicals was analyzed and reported below the given detection limit. "DCE" means eithter total DCE, or DCE not differentiated into cis or trans isomers.										
	"DCE" m	eans eith	ter total D	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.		
			grams pe					i			

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95
Benzene				ND	<0.5	<0.5	<0.5	<0.5	NA
Toluene		· · · · · · · · · · · · · · · · · · ·		ND	<0.5	<0.5	<0.5	<0.5	NA
Ethylbenzene		- 		ND	<0.5	<0.5	<0.5	<0.5	NA
Xylenes				ND	<0.5	<0.5	<0.5	<0.5	NA
1,2-DCA				ND	<2	<0.5	<0.5	<0.5	NA
1,1-DCE									
cis-1,2-DCE					NR	<0.5	<0.5	<0.5	NA
trans-1,2-DCE					<1	<0.5	<0.5	<0.5	NA
"DCE"				ND					
PCE			 	ND	<1	<0.5	<0.5	<0.5	NA
TCE				ND	<2	<0.5	<0.5	<0.5	NA
Chloroform					<1	6.1	<0.5	<0.5	NA
1,1,2-TCA		-							
Bromoform						İ			
Chlorobenzene		-			<1	<0.5	<0.5	<0.5	
	Blank ce	ls indicate	e that not	hing was r	eported f	or the give	en chemic	al.	
	NA mear	s the che	mical wa	s reported	as "not a	nalyzed."			
	ND mear	s the che	mical wa	s analyzed	d, but "not	detected	."		
	< means	the chem	icals was	analyzed	and repo	rted belov	v the give	n detectio	n limit.
	"DCE" m	eans eithi	ter total D	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.
	All value								

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene		• • • • • • • • • • • • • • • • • • • •		NA	<0.5	<0.5	<0.5	<0.5	NA		
Toluene				NA	<0.5	<0.5	<0.5	<0.5	NA		
Ethylbenzene				NA	<0.5	<0.5	<0.5	<0.5	NA		
Xylenes				NA	<0.5	<0.5	<0.5	<0.5	NA		
1,2-DCA				ND	<2	<0.5	<0.5	<0.5	NA		
1,1-DCE											
cis-1,2-DCE			<u> </u>		NR	<0.5	<0.5	<0.5	NA		
trans-1,2-DCE					<1	<0.5	<0.5	<0.5	NA		
DCE				NA							
PCE		,		ND	2.4	<0.5	<0.5	<0.5	NA		
TCE	-			ND	<2	<0.5	<0.5	<0.5	NA		
Chloroform					<1	4	<0.5	<0.5	NA		
1,1,2-TCA											
Bromoform											
Chlorobenzene					<1	<0.5	<0.5	<0.5	<u> </u>		
	Blank cel	ls indicat	l e that not	hing was r	eported f	or the give	en chemic	al.			
				s reported					<u> </u>		
	ND mear	s the che	mical wa	s analyzed	d, but "not	detected					
	ND means the chemical was analyzed, but "not detected." < means the chemicals was analyzed and reported below the given detection										
	"DCE" m	eans eith	ter total D	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.		
<u></u>	All value				1						

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Арг-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene				NA	<0.5				<u> </u>		
Toluene				NA	<0.5						
Ethylbenzene				NA	<0.5						
Xyienes				NA	<0.5						
1,2-DCA				ND	<2						
1,1-DCE					<2						
cis-1,2-DCE											
trans-1,2-DCE	-				<1						
"DCE"				NA							
PCE				ND	1.4						
TCE				ND	<2						
Chloroform											
1,1,2-TCA											
Bromoform											
Chlorobenzene					<1						
· · · · · · · · · · · · · · · · · · ·	Biank cel	ls indicate	e that not	hing was r	eported for	or the give	en chemic	al.			
	NA means the chemical was reported as "not analyzed."										
•	ND means the chemical was analyzed, but "not detected."										
< means the chemicals was analyzed and reported below the given detect											
	*DCE" m	eans eithi	er total D	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.		
		s in micro			Ī						

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene				NA	<0.5	<0.5	<0.5	<0.5	NA		
Toluene				NA	<0.5	<0.5	<0.5	<0.5	NA		
Ethylbenzene				NA	<0.5	<0.5	<0.5	<0.5	NA		
Xylenes				NA	<0.5	<0.5	<0.5	<0.5	NA		
1,2-DCA				ND	<2	<0.5	<0.5	<0.5	NA		
1,1-DCE											
cis-1.2-DCE					NR	<0.5	<0.5	<0.5	NA		
trans-1,2-DCE					<1	<0.5	<0.5	<0.5	NA		
"DCE"				NA.							
PCE				ND	1.1	<0.5	<0.5	<0.5	NA		
TCE				ND	<2	<0.5	<0.5	<0.5	NA		
Chloroform					<1	4.6	<0.5	<0.5	NA.		
1,1,2-TCA				<u> </u>							
Bromoform											
Chlorobenzene					<1	<0.5	<0.5	<0.5			
				hing was r				al.			
				s reported							
	ND mear	eans the chemical was analyzed, but "not detected."									
	< means	the chem	icals was	analyzed	and repo	rted belov	v the give	n detectio	n limit.		
	"DCE" m	eans eithi	er total D	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.		
	All value:	s in micro	grams pe	r liter.							

	Nov. 00	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Chemical	Nov-90	Whi-a i	201-01	NA	<0.5				<0.5		
Benzene					<0.5				<0.5		
Toluene			ļ	NA_	<0.5		 	 	<0.5		
Ethylbenzene				NA NA		 			<0.5		
Xylenes		<u> </u>	<u> </u>	NA_	<0.5	 			<0.5		
1,2-DCA				ND	<2			 			
1,1-DCE					<2		<u> </u>	 	<0.5		
cis-1,2-DCE					<u> </u>	<u> </u>	├ ┈──	 	<0.5		
trans-1,2-DCE					<1	<u> </u>	<u> </u>		10.0		
"DCE"				NA	ļ	<u> </u>	ļ		<0.5		
PCE				ND	<1			<u> </u>	<0.5		
TCE				ND	<1	<u> </u>	<u> </u>	 			
Chloroform		<u> </u>				L		<u> </u>	<0.5		
1,1,2-TCA		-	†	1				<u> </u>	 		
Bromoform		┼┈──	 				<u> </u>		<u> </u>		
Chiorobenzene			 	1	<1			<u> </u>			
Chioropetizene			 					<u> </u>			
	Blank C	lle indicat	te that no	thing was	reported i	for the giv	en chemi	ical.	ļ		
	INIA mag	ne tha ch	emical w	as reporte	o as "not a	grialyzeu.	<u> </u>				
	1			~~ ~~~\!	A DIR DI	n aerecie	O		<u> </u>		
			_ f ! _		a ona cerv	nnen keik	W LIE GIT	<u>en detecti</u>	on limit.		
	 ND means the chemical was analyzed, but not detection limit means the chemicals was analyzed and reported below the given detection limit "DCE" means eithter total DCE, or DCE not differentiated into cis or trans isomers 										
	DUE II	es in micr	ACCOUNT O	er liter	T						
<u></u>	All Value	es in mici	ogranis þ	ei mer.							

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene	1101 00	740, 0	00.00	NA	21				<0.5		
				NA	<0.5				<0.5		
Toluene				NA	<0.5				<0.5		
Ethylbenzene				NA NA	<0.5	<u> </u>			<0.5		
Xylenes					<2				<0.5		
1,2-DCA				ND			 	 			
1,1-DCE				ļ	<2			 	16		
cis-1,2-DCE					<u> </u>			 	0.61		
trans-1,2-DCE				ļ	58			 	0.01		
"DCE"				NA_					-0.5		
PCE				ND	57	ļ		ļ	<0.5		
TCE				ND	32			<u> </u>	3.7		
Chloroform							<u> </u>	ļ	<0.5		
1,1,2-TCA								 	 		
Bromoform						ļ		 -	<u> </u>		
Chlorobenzene					<1	ļ			 		
					<u> </u>	<u></u>		<u> </u>	 		
	Blank ce	lls indicat	e that not	hing was	reported f	or the giv	en chemi	cal.	 		
	NA mear	ns the che	emical wa	s reported	as "not a	malyzed.			 		
	NID moon	ac tha che	mical wa	e analyze	d իսք "no	t detected	S."		1		
	moons the chamicals was analyzed and reported below the given detection little.										
	"DCE" means either total DCE, or DCE not differentiated into cis or trans isomers.										
	All value	s in micro	orams of	er liter.					<u> </u>		

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95		
Benzene				ND	<0.5	<0.5	<0.5	<0.5	NA		
Toluene				ND	<0.5	<0.5	<0.5	<0.5	NA		
Ethylbenzene				ND	<0.5	<0.5	<0.5	<0.5	NA		
Xylenes				ND	<0.5	<0.5	<0.5	<0.5	NA		
1,2-DCA				22	15	14	8.2	11	NA		
1,1-DCE					<2						
cis-1,2-DCE					NR	<0.5	<0.5	<0.5	NA		
trans-1,2-DCE					<1	<0.5	<0.5	<0.5	NA		
"DCE"			_	ND							
PCE				ND	<1	<0.5	<0.5	<0.5	NA		
TCE				ND	<2	<0.5	<0.5	<0.5	NA		
Chloroform					<1	0.65	<0.5	<0.5	NA		
1,1,2-TCA				i							
Bromoform											
Chlorobenzene					<1	<0.5	<0.5	<0.5			
	Blank cel	ls indicat	l e that not	hing was r	eported for	or the give	en chemic	al			
				s reported							
	ND mear	s the che	mical wa	s analyzed	d, but "not	detected			<u> </u>		
-	< means the chemicals was analyzed and reported below the given detection limit										
	"DCE" m	eans eith	ler total D	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.		
		s in micro									

Chemical	Nov-90	Арг-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95	
Benzene				ND	<0.5					
Toluene				ND	<0.5					
Ethylbenzene				ND	<0.5					
Xylenes				ND	<0.5					
1,2-DCA				ND	<2	0.53	<0.5	0.99	NA	
1,1-DCE		-								
cis-1,2-DCE					NR	<0.5	<0.5	<0.5	NA_	
trans-1,2-DCE					<1	<0.5	<0.5	<0.5	NA	
"DCE"				ND						
PCE		-		ND	<1	<0.5	<0.5	<0.5	NA_	
TCE				ND	<2	<0.5	<0.5	<0.5	NA	
Chloroform					<1	<0.5	<0.5	<0.5	NA	
1,1,2-TCA										
Bromoform				1						
Chiorobenzene					<1	<0.5	<0.5	<0.5		
	Blank cel	l Ils indicat	i e that not	hing was r	eported for	or the give	en chemic	cal.		
	NA mean	s the che	mical wa	s reported	as "not a	nalyzed."				
	ND mear	s the che	mical wa	s analyzed	i, but "not	detected	*		<u> </u>	
	means the chemicals was analyzed and reported below the given detection I									
	"DCE" m	eans eith	ter total D	CE, or DO	E not diff	ferentiate	d into cis	or trans is	omers.	
	All value:				i					

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	Feb-95	May-95	Nov-95	
Benzene				ND	<0.5		7700	53	71	NA	
Toluene				ND	<0.5		1600	21	130	NA	
Ethylbenzene				ND	<0.5		1200	20	110	NA	
Xylenes				ND	<0.5		2100	46	200	NA	
1,2-DCA				ND	<2		6.6		3	NA NA	
1,1-DCE						_					
cis-1,2-DCE					NR		<0.5		1.1	1.1	
trans-1,2-DCE		·			<1		<0.5		<0.5	<0.5	
"DCE"				ND							
PCE				ND	1.9		<0.5		<0.5	<0.5	
TCE				ND	<2		<0.5		<0.5	<0.5	
Chloroform					<1		<0.5		<0.5	<0.5	
1,1,2-TCA											
Bromoform			,								
Chlorobenzene					<1		<0.5		<0.5	ļ	
	Blank ce	lls indicat	e that not	hing was I	eported for	or the give	en chemic	al.			
	NA mear	is the che	mical wa	s reported	as "not a	nalyzed."	<u> </u>				
	ND mear	ns the che	mical wa	s analyze	d, but "not	detected		<u> </u>		ļ	
	The first	"Feb-95"	column is	for samp	ling by the	e Mark Gr	oup; the s	second co	lumn	ļ	
	The first "Feb-95" column is for sampling by the Mark Group; the second column is for sampling performed by Soil Tech Engineers (BTEX only).										
	< means the chemicals was analyzed and reported below the given detection limit.										
	NR mean	ns not rep	orted by t	he labora	lory.			İ	İ	<u> </u>	
	"DCE" m	eans eith	ter total C	CE, or DO	E not dif	ferentiate	d into cis	or trans is	somers.		
		s in micro					·		<u> </u>	<u> </u>	

Chemical	Nov-90	Apr-91	Jul-91	Feb-93	Apr-94	Oct-94	Feb-95	May-95	Nov-95
Benzene				100	<0.5	<0.5			NA
Toluene				230	<0.5	<0.5			NA
Ethylbenzene				270	<0.5	<0.5			NA
Xylenes				500	<0.5	<1			NA
1,2-DCA				ND	9.3	5.2	NA	NA	NA
1,1-DCE			<u> </u>		-				
cis-1,2-DCE					NR	<0.5	NA	NA	NA
trans-1,2-DCE		· 			<1	<0.5	NA	NA	NA
DCE			<u> </u>	ND					_
PCE				ND	3.9	<0.5	NA	NA	NA
TCE				11	<2	<0.5	NA	NA	NA
Chloroform			<u> </u>		<1	1.3	NA	NA	NA
1,1,2-TCA									
Bromoform			-			<u> </u>			
Chlorobenzene			<u> </u>	-	<1	<0.5	NA	NA	
Chiloroponizone				 		† 	<u> </u>		
	Blank ce	ls indicat	e that not	hing was r	eported f	or the give	en chemic	cal.	
-	NA mear	s the che	mical wa	s reported	as "not a	nalyzed."			
	ND mear	s the che	mical wa	s analyze	d, but "no	t detected	H		
	< means	the chem	nicals was	analyzed	and repo	rted belov	v the give	n detectio	n limit.
	"DCF" m	eans eith	ter total D	CE, or DO	E not dif	ferentiate	d into cis	or trans is	omers.
		s in micro			T	1	T		