Western Operations

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Clayton
ENVIRONMENTAL
CONSULTANTS

August 20, 1992

Clayton Project No. 42864.00

Mr. Mike Dosen
Vice President
HARSCH INVESTMENT CORPORATION
235 W. MacArthur Boulevard
oakland, california 94611

Subject: Quarterly Groundwater Sampling at South Shore Shopping Center

Dear Mr Dosen:

Clayton Environmental Consultants, Inc. is pleased to present our laboratory report for groundwater sampling conducted on July 24, 1992 at the South Shore Shopping Center facility located at the Corner of Park Street and Shoreline Drive in Alameda California.

On July 16, 1992, Mr. Alan Gibbs, Clayton's Geology Group Supervisor contacted Ms. Juliet Shin of the Alameda County Health Agency (ACHA), who replaced Mr. Dennis Byrne as the site case officer. Ms. Shin agreed to quarterly monitoring and sampling of monitoring wells MW-7B, MW-8B, MW-16, and MW-17 (see figure). Additional monitoring of the other periphery monitoring wells may be warranted or required on a biannual or annual basis to ensure that adjacent contamination plumes do not commingle.

Where Well MW-5B needs to be sampled Dec 12 '91 gave Gas Hopps

The groundwater beneath the adjacent Chevron car wash and the Lyons restaurant (former Texaco Service Station) sites is known to be contaminated with petroleum products. Clayton did not collect groundwater samples from these sites.

Groundwater samples were collected from wells MW-7B, MW-8B, MW-16, and MW-17 (see figure) and analyzed by the Environmental Protection Agency (EPA) Method 601 for chlorinated hydrocarbons.

Details of this groundwater sampling event are provided in the water sampling field survey forms (Attachment 1).

Table 1 summarizes laboratory results for groundwater samples collected on July 24, 1992. Previous groundwater sampling results and regulatory guidelines are also listed

in this table for comparison (drinking water standard used for comparison purposes only). Table 1 lists only those compounds detected at or above analytical detection limits. The laboratory analytical reports are presented in Attachment 2.

Table 2 summarizes the analytical results from previous sampling events from monitoring wells MW-2 through MW-5B, MW-7B through MW-9B and MW-14. Previous sampling and analysis events from monitoring wells MW-15 and MW-18 through MW-21 did not reveal any constituents at or above analytical detection limits. Therefore these wells are not include in table 2. Monitoring wells MW-10 through MW-13 are monitored by the Chevron car wash.

Based on the laboratory reports, our findings follow:

- The concentration of cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene in the groundwater sample collected from monitoring well MW-7B exceeds the drinking water standards.

- The cis-1,2-dichloroethene and tetrachloroethene concentrations in the groundwater sample collected from monitoring well MW-7B have increased since January 1992.

- The highest concentration of chlorinated hydrocarbons was detected in groundwater sample from monitoring well MW-7B.

- The concentration of cis-1,2-dichloroethene and trichloroethene in the groundwater sample collected from monitoring well MW-8B exceeds the drinking water standards.

- In the period of December 1990 to July 1992, concentrations of other chlorinated hydrocarbons in groundwater samples collected from monitoring wells MW-7B, MW-8B, MW-16 and MW-17 have remained stable within the laboratory's upper and lower confidence limits.

- The direction of groundwater flow was not recalculated during this sampling event because monitoring wells MW-16 and MW-17 are screened only at the fill/clay interval. This deeper screened interval allows for a more representative sample collection for solvents which are heavier than water.

Based on our findings we conclude that the groundwater contamination plume has not significantly migrated offsite. Therefore we recommend continuing groundwater sampling and monitoring on a quarterly basis.

Upon receipt of your written or verbal authorization, we will forward a copy of the this report to the San Francisco Bay Regional Water Quality Control Board and the ACHA.

If you have any questions, please call me at (510) 426-2676.

Sincerely,

Alan D. Gibbs, R.G.
Supervisor, Geology
Western Operations

ADG/
cc: Richard Warren

TABLE

TABLE 2
Groundwater Analysis Results for
Harsch Investment Property in Alameda
for Samples Collected from
November 1990 to November 1991

Chemical	MW-2 (ppb)				MW-3 (ppb)				MW-4 (ppb)				MW-5B (ppb)				MW-7B (ppb)				MW-8B (ppb)				MW-9B (ppb)				MW-14 (ppb)				Regulatory Guidelines (ppb)
Sample Date	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	
EPA Method 8015/8020 for:																																	
Benzene	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	800	1,300	3.1	21	<0.4	<0.4	NA	<0.4	<0.4	<0.4	NA	<0.4	<0.4	<0.4	<0.4	<0.4	NA	2.9	0.8	2.2	1[1]
Toluene	<0.3	<0.3	<0.3	<0.3	0.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	12	45	3.7	4.6	<0.3	<0.3	NA	<0.3	<0.3	<0.3	NA	<0.3	<0.3	<0.3	<0.3	<0.3	NA	<0.3	0.8	<0.3	100[2]
Ethylbenzene	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	320	370	13	10	<0.3	<0.3	NA	<0.3	<0.3	<0.3	NA	<0.3	<0.3	<0.3	<0.3	<0.3	NA	<0.3	<0.3	<0.3	680[1]
Xylenes	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	66	100	2.2	2.2	<0.4	<0.4	NA	<0.4	<0.4	<0.4	NA	<0.4	<0.4	<0.4	<0.4	<0.4	NA	0.5	0.8	1.8	1,750[1]
Gasoline	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	2,900	4,000	400	710	<50	<50	NA	<50	<50	<50	NA	<50	<50	<50	<50	<50	NA	<50	<50	50	Not Applicable
EPA Method 3510 for:																																	
Diesel	<50	<50	NA	<50	<50	<50	NA	<50	<50	<50	NA	<50	(a) <800	(a) <500	(a) <400	220	<50	<50	NA	<50	<50	<50	NA	<50	<50	<50	NA	<50	NA	230	180	140	100[3]
EPA Method 418.1 for:																																	
TRPH	1,000	NA	NA	NA	<1,000	NA	NA	NA	<1,000	NA	NA	NA	2,000	NA	NA	NA	<1,000	NA	NA	NA	<1,000	NA	NA	NA	1,000	NA	NA	NA	NA	NA	NA	NA	Not Applicable
EPA Method 5520 for:																																	
Total Oil and Grease Hydrocarbons	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	<5,000	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	<5,000	<5,000	Not Applicable
EPA Method 601 Purgeable Halocarbons for:																																	
Cis-1,2-dichloroethene	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<4	<0.4	<0.4	440	90	170	140	1.2	6.8	11	6.3	<0.4	<0.4	<0.4	<0.4	NA	<0.4	<0.4	<0.4	6[2]
1,2-dichloroethane	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<3	<0.3	<0.3	<30	<8	<0.3	<30	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NA	4.6	6.6	1.5	0.5[1]
Trichloroethene	<0.3	<0.3	<0.3	<0.3	0.5	<0.3	<0.3	<0.3	0.5	<0.3	<0.3	<0.3	<0.3	<3	<0.3	<0.3	520	200	660	700	3.0	7.7	19	12	<0.3	<0.3	<0.3	<0.3	NA	0.4	<0.3	<0.3	5[1]
Tetrachlorethene	<0.5	<0.5	<0.5	<0.5	<0.5	3	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	1,900	1,600	7,800	6,600	0.9	1.1	0.9	5	1.5	3.3	<0.5	<0.5	NA	16	<0.5	<0.5	5[1]
1,1-dichloroethene	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<20	<5	4.6	<20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	0.5	<0.2	<0.2	6[1]
Trans-1,2-dichloroethene	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<4	<0.4	<0.4	<40	<10	2.6	<40	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	NA	<0.4	<0.4	<0.4	10[1]
1,1,2-trichloroethane	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<6	<0.6	<0.6	<60	<20	0.8	<60	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	NA	<0.6	<0.6	<0.6	32[1]
Bromoform	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<7	<0.7	<0.7	<70	<20	1.7	<70	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	NA	<0.7	<0.7	<0.7	100[1]
Chlorobenzene	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<7	<0.7	<0.7	<70	<20	4.8	<70	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	NA	<0.7	<0.7	<0.7	30[1]

ppb = parts per billion, which is approximately equal to micrograms per liter (ug/L)
NA = not analyzed
(a) = Detection limit increased due to the presence of gasoline in the sample
TRPH = Total recoverable petroleum hydrocarbons
< = Less than the limit of detection
= Above regulatory guidelines
= Detected, but less than regulatory guidelines

(1) Maximum contaminant level (MCL) for drinking water standards (DHS)
(2) California State Action Levels (DHS)
(3) Health Advisor or Suggested No-Adverse-Response Levels (EPA) (DHS)

Regulatory guidelines are taken from Jon B. Marshack's "A Compilation of Water Quality Goals, October 1990", published by Regional Water Quality Control Board Central Valley Region

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; for
Alameda
n
1991

Chemical	MW-2 (ppb)				MW-3 (ppb)				MWW-7B (pi(ppb)				MW-8B (ppb)				MW-9B (ppb)				MW-14 (ppb)				Regulatory Guidelines (ppb)
Sample Date	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	11/90	04/91	07/91	11/91	
EPA Method 8015/8020 for:																									
Benzene	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	4	NA	<0.4	<0.4	<0.4	NA	<0.4	<0.4	<0.4	<0.4	<0.4	NA	2.9	0.8	2.2	1[1]
Toluene	<0.3	<0.3	<0.3	<0.3	0.5	<0.3	<0.3	<0.3	<0.3	<0.3	3	NA	<0.3	<0.3	<0.3	NA	<0.3	<0.3	<0.3	<0.3	<0.3	NA	<0.3	0.8	<0.3	100[2]
Ethylbenzene	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	3	NA	<0.3	<0.3	<0.3	NA	<0.3	<0.3	<0.3	<0.3	<0.3	NA	<0.3	<0.3	<0.3	680[1]
Xylenes	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	4	NA	<0.4	<0.4	<0.4	NA	<0.4	<0.4	<0.4	<0.4	<0.4	NA	0.5	0.8	1.8	1,750[1]
Gasoline	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	NA	<50	<50	<50	NA	<50	<50	<50	<50	<50	NA	<50	<50	50	Not Applicable
EPA Method 3510 for:																										
Diesel	<50	<50	NA	<50	<50	<50	NA	<50	<50	<500	NA	<50	<50	<50	NA	<50	<50	<50	NA	<50	NA	230	180	140	100[3]
EPA Method 418.1 for:																										
TRPH	1,000	NA	NA	NA	<1,000	NA	NA	NA	<1,000	NA	NA	NA	<1,000	NA	NA	NA	1,000	NA	NA	NA	NA	NA	NA	NA	Not Applicable
EPA Method 5520 for:																										
Total Oil and Grease Hydrocarbons	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	NA	<5,000	<5,000	<5,000	Not Applicable
EPA Method 601 Purgeable Halocarbons for:																										
Cis-1,2-dichloroethene	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	170	140	1.2	6.8	11	6.3	<0.4	<0.4	<0.4	<0.4	NA	<0.4	<0.4	<0.4	6[2]
1,2-dichloroethane	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<30	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NA	4.6	6.6	1.5	0.5[1]
Trichloroethene	<0.3	<0.3	<0.3	<0.3	0.5	<0.3	<0.3	<0.3	0.5	<0.3	660	700	3.0	7.7	19	12	<0.3	<0.3	<0.3	<0.3	NA	0.4	<0.3	<0.3	5[1]
Tetrachlorethene	<0.5	<0.5	<0.5	<0.5	<0.5	3	<0.5	1.3	<0.5	<0.5	7,800	6,600	0.9	1.1	0.9	5	1.5	3.3	<0.5	<0.5	NA	16	<0.5	<0.5	5[1]
1,1-dichloroethene	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	4.6	<20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	0.5	<0.2	<0.2	6[1]
Trans-1,2-dichloroethene	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	2.6	<40	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	NA	<0.4	<0.4	<0.4	10[1]
1,1,2-trichloroethane	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	0.8	<60	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	NA	<0.6	<0.6	<0.6	32[1]
Bromoform	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0	1.7	<70	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	NA	<0.7	<0.7	<0.7	100[1]
Chlorobenzene	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0	4.8	<70	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	NA	<0.7	<0.7	<0.7	30[1]

ppb = parts per billion, which is approximately equal to micrograms per liter (ug/L)
NA = not analyzed
(a) = Detection limit increased due to the presence of gasoline in the sample
TRPH = Total recoverable petroleum hydrocarbons
< = Less than the limit of detection
= Above regulatory guidelines
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ium contaminant level (MCL) for drinking water standards (DHS)
nia State Action Levels (DHS)
Advisor or Suggested No-Adverse-Response Levels (EPA) (DHS)
s are taken from Jon B. Marshack's "A Compilation of Water Quality Goals, October 1990",
al Water Quality Control Board Central Valley Region

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FIGURE

LEGEND

- G — Gas
- T — Telephone
- E — Electric
- W — Water
- Reinforced concrete pipe
- SS — Sanitary sewer
- T — Transformer
- M — Manhole
- S — Storm drain
- C — Catch basin
- Monitoring well
- F.L. — Flow line (bottom of pipe)
- bgs — Below ground surface

F.L. = 8.16' bgs

F.L. = 3.6' bgs

F.L. = 3.6' bgs

Recovery Well

MW-10

MW-12

Big 5 Sporting Goods

4" SS

8" SS

Car Wash

Park Street

MW-11

MW-19

4" SS

MW-20

8" SS

MW-13

MW-9B

MW-2

F.L. = 6.78' bgs

Future Lyon's Restaurant

MW-21

prop'r boundary

MW-18

MW-7B

MW-3

MW-4

MW-8B

MW-5B

F.L. = 4.6 bgs

Curb

MW-17

Sidewalk

F.L. = 3.3' bgs

F.L. = 3.3' bgs

12"

12"

15"

15"

MW-16

MW-15

Shore Line Drive

MW-14

Curb

F.L. = 4.3' bgs

(not to scale)

Utility Trenches
HARSH INVESTMENT CORPORATION
Shore Line Drive and Park Street
Alameda, California

Clayton Project No. 36080.00

36080-01-16

Clayton
ENVIRONMENTAL CONSULTANTS

ATTACHMENT 1

WATER SAMPLING FIELD SURVEY FORMS

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **42864.00** *Site*: **Harsch** *Date*: **7/24/92**

Well No: **MW-7B** *Sampling Team*: **G. Williams/M. Springman**

Sampling Method: **Disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Detergent wash and water rinse

Total Depth of Well: **13.5 ft.** *Time*: **1550** *Depth to Water Before Purging*: **4.88 ft.**

Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*Volume To Purge*
8.63 ft.	*	.16	.65	=	**5.61 gals**	*	**5**	=	**28.03 gals.**

Depth Purging From: **14 ft.** *Time Purging Begins*:

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T°C	Comments
1600	10	7.8	Off scale	23.2	Clear
1605	20	7.6	Off scale	22.0	Clear
1610	30	7.5	Off scale	22.2	Clear

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: **1610**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**7.6**	**7.3**	**7.6**	**7.6**
Conductivity	**Off scale**	**Off scale**	**Off scale**	**Off scale**
T°C	**22.5**	**22.4**	**22.3**	**22.4**

Pre-Sample Collection Gallons Purged: **30**

Time Sample Collection Begins: **1615**

Time Sample Collection Ends: **1616**

Total Gallons Purged: **31**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **42864.00** *Site*: **Harsch** *Date*: **7/24/92**

Well No: **MW-8B** *Sampling Team*: **G. Williams/M. Springman**

Sampling Method: **Disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Detergent wash and water rinse

Total Depth of Well: **21.93 ft.** *Time*: **1340** *Depth to Water Before Purging*: **6.45 ft.**

Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*Volume To Purge*
15.48 ft.	*	.16	.65	=	**10.06 gals**	*	**5**	=	**50.31 gals.**

Depth Purging From: **ft.** *Time Purging Begins*:

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T°C	Comments
1350	**10**	**8.0**	**Off scale**	**19.3**	**Clear, no odor**
1355	**20**	**7.8**	**Off scale**	**18.7**	**Clear, no odor**
1400	**30**	**7.8**	**Off scale**	**18.6**	**Clear, no odor**
1405	40	7.7	Off scale	18.6	Clear, no odor
1410	50	7.7	Off scale	18.7	Clear, no odor

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: **1418**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**8.0**	**8.0**	**7.9**	**7.9**
Conductivity	**Off scale**	**Off scale**	**Off scale**	**Off scale**
T°C	**18.6**	**18.5**	**18.4**	**18.4**

Pre-Sample Collection Gallons Purged: **53**

Time Sample Collection Begins: **1415**

Time Sample Collection Ends: **1416**

Total Gallons Purged: **55**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **42864.00** *Site*: **Harsch** *Date*: **7/24/92**

Well No: **MW-16** *Sampling Team*: **G. Williams/M. Springman**

Sampling Method: **Disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Detergent wash and water rinse

Total Depth of Well: **29.73** *Time*: **1440** *Depth to Water Before Purging*: **5.35.**

Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*Volume To Purge*
24.38	*	.16	.65	=	**3.9 gals**	*	**5**	=	**19.5 gals.**

Depth Purging From: **22 ft.** *Time Purging Begins*:

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T°C	Comments
1445	**5**	**7.3**	**Off scale**	**20.6**	**Turbid**
1456	**10**	**7.5**	**Off scale**	**19.2**	**Clearing**
1510	**15**	**7.2**	**Off scale**	**19.3**	**Clearing**
1513	20	7.2	Off scale	19.4	Clearing

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: **1520**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**7.5**	**7.3**	**7.3**	**7.4**
Conductivity	**Off scale**	**Off scale**	**Off scale**	**Off scale**
T°C	**19.0**	**19.1**	**19.0**	**19.0**

Pre-Sample Collection Gallons Purged: **19**

Time Sample Collection Begins: **1515**

Time Sample Collection Ends: **1518**

Total Gallons Purged: **20**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **42864.00** *Site*: **Harsch** *Date*: **7/24/92**

Well No: **MW-17** *Sampling Team*: **G. Williams/M. Springman**

Sampling Method: **Disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Detergent wash and water rinse

Total Depth of Well:	**24.7 ft.**	*Time*:	**1230**	*Depth to Water Before Purging*:	**3.73 ft.**

Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*Volume To Purge*
20.98 ft.	*	.16	.65	=	**3.36 gals**	*	**5**	=	**16.78 gals.**

Depth Purging From: **ft.** *Time Purging Begins*:

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T°C	Comments
1245	5	7.4	Off scale	19.7	Slightly turbid
1255	10	7.6	Off scale	19.6	Clearing
1310	26	7.6	Off scale	19.9	Clearing

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: **1320**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**7.6**	**7.6**	**7.6**	**7.6**
Conductivity	**Off scale**	**Off scale**	**Off scale**	**Off scale**
T°C	**20.3**	**20.0**	**19.9**	**19.9**

Pre-Sample Collection Gallons Purged: **16.8**

Time Sample Collection Begins: **1310**

Time Sample Collection Ends: **1315**

Total Gallons Purged: **17**

Comments:

ATTACHMENT 2

ANALYTICAL RESULTS FOR GROUNDWATER SAMPLING

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

August 7, 1992

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref. 42864.00
Clayton Project No. 92072.20

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on July 27, 1992. 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 (510) 426-2657.

Sincerely,

Maryann Gambino for

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/caa
Attachments

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: MW-7B
Lab Number: 9207220-01A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/24/92
Date Received: 07/27/92
Date Analyzed: 07/29/92

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	3.7	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	1.3	0.4
Cis-1,2-Dichloroethene	156-59-2	190	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	450	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

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: MW-7B
Lab Number: 9207220-01A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/24/92
Date Received: 07/27/92
Date Analyzed: 07/29/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	8,500	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	4.6	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

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Bromochloromethane	74-97-5	100	50 -	150

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: MW-8B
Lab Number: 9207220-02A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/24/92
Date Received: 07/27/92
Date Analyzed: 07/29/92

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	7.0	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	10	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

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: MW-8B
Lab Number: 9207220-02A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/24/92
Date Received: 07/27/92
Date Analyzed: 07/29/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	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

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	79	50 - 150

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: MW-16
Lab Number: 9207220-03A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/24/92
Date Received: 07/27/92
Date Analyzed: 07/29/92

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
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: MW-16
Lab Number: 9207220-03A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/24/92
Date Received: 07/27/92
Date Analyzed: 07/29/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	2.7	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

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Bromochloromethane	74-97-5	80	50 -	150

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: MW-17
Lab Number: 9207220-04A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/24/92
Date Received: 07/27/92
Date Analyzed: 07/29/92

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
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: MW-17
Lab Number: 9207220-04A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/24/92
Date Received: 07/27/92
Date Analyzed: 07/29/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	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

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	76	50 - 150

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: METHOD BLANK
Lab Number: 9207220-06A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 07/29/92

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
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 42864.00
Clayton Project No. 92072.20

Sample Identification: METHOD BLANK
Lab Number: 9207220-06A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 07/29/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	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

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Bromochloromethane	74-97-5	77	50	150

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

Clayton
ENVIRONMENTAL
CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Proj # 92-B-200

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	9207220
Ind. Code	W.P.
Date Logged In	7/27/92 By TS

REPORT RESULTS TO

Name DARIUSCH DASTMALCHI
Title
Company CEC
Dept.
Mailing Address
City, State, Zip
Telephone No.
Telefax No.

Purchase Order No.
Client Job No. 42864.00

SEND INVOICE TO

Name HARSCH INVEST. CORP.
Company
Dept.
Address
City, State, Zip

Date Results Req.:
Rush Charges Authorized? ☐ Yes ☑ No
Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative: HCL

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	624 601	Holds									FOR LAB USE ONLY
MW-7B	7-24-92	H2O	40ML	2	X										01A,B
MW-8B	"	"	"	2	X										02
MW-16	"	"	"	2	X										03
MW-17	"	"	"	2	X										04
Trip Blank 007092			40ml	2			P								05

CHAIN OF CUSTODY

Collected by: (print)
Relinquished by: Date/Time 7-24-92 1810
Relinquished by: Date/Time
Method of Shipment:

Collector's Signature:
Received by: Date/Time
Received at Lab by: Date/Time 7/27/92 7:00AM
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive
Novi, MI 48375
(313) 344-1770

Raritan Center
160 Fieldcrest Ave.
Edison, NJ 08837
(908) 225-6040

400 Chastain Center Blvd., N.W.
Suite 490
Kennesaw, GA 30144
(404) 499-7500

1252 Quarry Lane
Pleasanton, CA 94566
(510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains