Western Operations

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Clayton
ENVIRONMENTAL
CONSULTANTS

September 24, 1991

Clayton Project No. 36080.00

Ms. Cynthia Chapman
ALAMEDA COUNTY HEALTH AGENCY
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94621

Dear Ms. Chapman:

Enclosed is Clayton's *Update on Remedial Investigative Tasks Completed at the South Shore Shopping Center*, for the property owned by Harsch Investment Corporation and located at the corner of Shore Line Drive and Park Street in Alameda, California.

If you have any questions regarding this report, please call me at (415) 426-2671, or Mr. Alan Gibbs at (415) 426-2676.

Sincerely,

Laurene Compton
Geologist

cc: Mr. Michael Dosen
Ms. Rose Coughlin

91 SEP 25 PM 3:41

PLTF/DEFT Exhibit 6 (and 6A attached)
WIT DENNIS BYRNE
DATE 11/22/91 ERG
ELYSE R GARDNER, CSR

Western Operations

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Update on Remedial Investigative Tasks Completed at South Shore Shopping Center Park Street and Shore Line Drive Alameda, California December 1990 - July 1991

Clayton Project No: 36080.00

September 24, 1991

CONTENTS

Figures

Tables

Appendices

Executive Summary

Clayton Environmental Consultants, Inc, was retained by Harsch Investment Corporation to conduct a remedial investigation at the South Shore Shopping Center located at the north corner of Park Street and Shore Line Drive in Alameda, California (Figure 1). Work completed to date has been performed as described in Clayton's *Work Plan for Groundwater Remedial Investigation,* dated February 28, 1991, and includes the following tasks:

- Task 1: Installation of groundwater monitoring wells MW-14 and MW-8B. MW-14 was installed downgradient of the former Texaco station in Shore Line Drive. MW-8B replaced MW-8 and was installed downgradient of the former dry cleaning site.
- Task 2: Proper abandonment of Woodward-Clyde monitoring well MW-6.
- Task 3: Tidal influence study
- Task 4: Identification of underground utility trenches
- Task 5: Survey of wells within 1/2-mile radius of subject site
- Task 7: Quarterly groundwater sampling, April 1991 and July 1991
- Task 8: Aquifer testing

In addition to completing the tasks listed above, we also:

- Conducted quarterly groundwater sampling in November 1990
- Abandoned MW-7 and replaced it with MW-7B
- Abandoned MW-5 and replaced it with MW-5B
- Abandoned MW-1
- Abandoned MW-9 and replaced it with MW-9B

This report provides an update of activities conducted at the subject site from November 1990 through July 1991.

1.0 INTRODUCTION

Clayton Environmental Consultants, Inc, was retained by Harsch Investment Corporation to conduct a remedial investigation at the South Shore Shopping Center located at the north corner of Park Street and Shore Line Drive in Alameda, California (Figures 1 and 2). This report provides an update of activities conducted at the subject site from November 1990 through July 1991.

1.1 SCOPE OF WORK

Work completed to date has been performed as described in Clayton's *Work Plan for Groundwater Remedial Investigation,* dated February 28, 1991.

Work plan tasks completed to date include:

- Task 1: Installation of groundwater monitoring wells MW-14 and MW-8B. MW-14 was installed downgradient of the former Texaco station, in Shore Line Drive. MW-8B replaced MW-8 and was installed downgradient of the former dry cleaning site.
- Task 2: Proper abandonment of Woodward-Clyde monitoring well MW-6.
- Task 3: Tidal influence study
- Task 4: Location of underground utility trenches
- Task 5: Survey of wells within 1/2-mile radius of subject site
- Task 7: Quarterly groundwater sampling, April 1991 and July 1991
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In addition to completing the tasks listed above, we also:

- Conducted quarterly groundwater sampling in November 1990
- Abandoned MW-7 and replaced it with MW-7B
- Abandoned MW-5 and replaced it with MW-5B
- Abandoned MW-1
- Abandoned MW-9 and replaced it with MW-9B

2.0 BACKGROUND

The following subsections provide information on the results of previous investigations at the site and the site hydrogeology.

2.1 PREVIOUS SITE INVESTIGATIONS

In 1989, Harsch contracted Woodward-Clyde Consultants to conduct Phase I and Phase II environmental assessments at the subject site (Woodward-Clyde Project No.

8910116A). These studies determined that the following businesses formerly located on the property had affected the soil and/or groundwater underlying the subject site:

- Dry Cleaner/laundromat
- South Shore Car Wash
- Texaco service station
- Auto repair shop (on the former Texaco site)
- Goodyear

Clayton conducted further soil and groundwater investigations at the site in 1990 (Clayton Project Nos. 29196.00 and 30493.00). These studies revealed that:

- Benzene in monitoring well MW-5 exceeds California Department of Health Services (DHS) maximum contaminant levels (MCL) for drinking water standards.

- Dichloroethene (DCE), trichloroethene (TCE), and tetrachloroethene (PCE) concentrations in monitoring well MW-7 exceed DHS MCLs. These constituents are also present in well MW-8B in concentrations below or slightly above DHS MCLs.

- Diesel concentrations in MW-14 are above the Environmental Protection Agency (EPA) Suggested No Adverse Response Levels (SNARL).

2.2 HYDROGEOLOGY

The site is underlain by dredged fill put in place in the 1950s by Utah International. The medium-grained sand fill material overlies "bay mud", the native sandy clays. As the borehole logs presented in Appendix A indicate, the bay mud underlying the subject site occurs at depths ranging from 12 to 20 feet below ground surface (bgs).

Depth to groundwater ranges from 5 to 7 feet bgs. Well elevations were surveyed to the City of Alameda datum by Nolte and Associates, licensed land surveyors, on June 5, 1991. The United States Geological Survey (USGS) mean sea level equals -3.41 feet on the City of Alameda datum (USGS 0 feet elevation = -3.41 feet elevation on City of Alameda datum). Table 1 presents the monitoring well elevations, depth to groundwater, and groundwater elevations to the City of Alameda datum.

We measured the depth to groundwater in well MW-9B on July 17, 1991. We measured depth to groundwater in the other onsite wells on July 10, 1991. The groundwater elevation data was used to develop the groundwater contour map presented as Figure 3. As shown on the map, the groundwater flow direction changes across the site. On July 10, 1991, there was an elevational high in the groundwater table at the south corner of the South Shore Car Wash. From there, the groundwater flows (1) south and southwest, toward the bay, and across the Texaco and dry cleaning sites, and (2) north and northeast across the former location of the USTs at the South Shore Car Wash.

The groundwater gradient on the site ranges from 0.16 to 1.6 feet of elevation drop per 100 feet horizontal distance. The gradient is much steeper at the southwest corner of the property.

3.0 GROUNDWATER MONITORING WELLS

3.1 PURPOSE AND SCOPE

Since the last update in January 1991, Clayton has installed, replaced, and abandoned monitoring wells as follows:

- April 10, 1991

  Monitoring well MW-14 was installed in Shore Line Drive to further define the downgradient extent of the hydrocarbon plume originating at the former Texaco site.

  Monitoring well MW-8B was installed downgradient of the former dry cleaners. It was bottomed in the bay mud to further define the vertical extent of the plume of chlorinated solvents. It replaced monitoring well MW-8, which was abandoned in accordance with the County of Alameda guidelines.

  Woodward-Clyde monitoring well MW-6 was abandoned. This well had been damaged during activities onsite.

- May 6, 1991

  Monitoring well MW-5 was abandoned because of the planned construction of a Lyon's restaurant in that area. It was replaced with monitoring well MW-5B. MW-5B was located downgradient of MW-5, adjacent to the sidewalk.

  Monitoring well MW-7 (2-inch diameter) was converted to a 4-inch diameter well.

- May 15, 1991

  Monitoring well MW-1 was abandoned because of the planned construction of a Lyon's restaurant in that area.

  Monitoring well MW-9 was damaged during soil remediation activities on the Texaco site. It was abandoned and replaced with MW-9B.

The following subsections describe the work performed and results of investigation. Figure 2 shows the locations of all monitoring wells currently located on the site.

3.2 BOREHOLE INSTALLATION AND MONITORING WELL CONSTRUCTION

Before any drilling was performed, well construction and destruction applications were filed with the Alameda County Flood Control and Water Conservation District (ACFC&WCD). The applications are included in Appendix B.

Aqua Science Engineers was contracted to perform the drilling activities under the direct supervision of Clayton personnel. All work was performed in accordance with Clayton's "Drilling, Well Construction, and Sampling Protocols" (Appendix C), which

follow the Alameda County Water District guidelines. The boreholes were installed on the dates listed in Section 3.1 using a 10-inch hollow-stem auger. Appendix A contains the borehole logs for new well installations.

Soil was screened for hydrocarbon contamination with an organic vapor meter (OVM). We collected discrete soil samples from approximately 5 feet below the ground surface (bgs) in the boreholes for MW-8B and MW-14.

The wells were constructed of 4-inch diameter, schedule 40 PVC, flush-threaded casing. The open portions of the wells were constructed with 0.010-inch slotted screen. We've summarized the well construction details in Table 2. Well schematics are presented in Appendix D.

3.3 WELL DEVELOPMENT AND SAMPLING

Clayton developed the newly installed monitoring wells, MW-5B, MW-7B, MW-8B, MW-9B and MW-14, by pumping with a 4-inch submersible pump. This was done to stabilize the filter material and remove turbid water caused by drilling operations. Clayton does not develop wells until the seal has set for at least 48 to 72 hours.

The wells were sampled at least 48 to 72 hours after development. The field sampling data sheets are included as Appendix E.

3.4 MONITORING WELL DESTRUCTION

Monitoring wells MW-1, MW-5, MW-6, MW-8, and MW-9 were abandoned on the dates listed in Section 3.1. Permits for destruction were obtained from the ACFC&WCD. The wells were abandoned by redrilling the boreholes to the full depth of the original boring and backfilling the borehole to the surface with neat cement.

Well MW-7 was redrilled and replaced with a 4-inch diameter well constructed of schedule 40 PVC.

4.0 LABORATORY ANALYSES

In the following subsections we've presented results of analysis of (1) soil samples collected during monitoring well installation, and (2) groundwater samples collected from onsite monitoring wells in November 1990 and April and July 1991.

4.1 SOIL SAMPLE ANALYTICAL RESULTS

Two soil samples (one sample per borehole) were collected from the borings for wells MW-8B and MW-14, brought to Clayton's laboratory, and analyzed by the following methods:

- EPA Method 5030/8010 for purgeable halocarbons
- EPA Method 5030/8015/8020 for gasoline and volatile hydrocarbons
- EPA Method 3550/8015 for diesel fuel
- Standard Method 5520F for hydrocarbons

- EPA Method 6010 for the metals cadmium, chromium, lead, nickel, and zinc

Table 3 is a summary of the analytical results of soil samples and a comparison with regulatory guidelines. The complete laboratory report is presented as Appendix F.

A toluene concentration of 0.056 ppm was detected in soil from borehole B-8B, 5', and a diesel concentration of 1 ppm was detected in soil from borehole MW-14, 5'. These are well below action levels for these constituents. Neither gasoline or purgeable halocarbons were detected in the borehole samples.

Metals for which analyses were conducted were either below detection limits or were well below the total threshold limit concentrations (TTLC).

4.2 GROUNDWATER SAMPLE ANALYTICAL RESULTS, NOVEMBER 1990

Groundwater samples were collected from wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, and MW-9 on November 29 and 30, 1990, and analyzed by the following methods:

- EPA Method 5030/8015/8020 for volatile hydrocarbons and gasoline
- EPA Method 3510/8015 for diesel fuel
- EPA Method 418.1 for hydrocarbons
- EPA Method 601 for purgeable halocarbons

In Table 4, we've summarized groundwater analytical results from the November 1990 quarterly sampling event and compared our findings to regulatory guidelines as contained in *A Compilation of Water Quality Goals*, by Jon Marshack, October 1990. Table 4 reports only detected compounds. All other compounds for which analyses were conducted were below detection limits (Appendix G). Notable compounds detected are discussed below.

During the November 1990 sampling, the numbers of monitoring wells MW-7 and MW-8 were mistakenly switched. On the laboratory report and chain-of-custody they are reversed.

4.2.1 Petroleum Hydrocarbons

The following aromatic hydrocarbon concentrations were detected in groundwater samples from MW-5: 800 parts per billion (ppb) benzene, 12 ppb toluene, 320 ppb ethylbenzene, and 66 ppb xylenes. Of these, the benzene concentration exceeds the DHS MCL for drinking water standards of 1 ppb.

The groundwater sample from MW-5 also had a gasoline concentration of 2,900 ppb. Diesel, which was detected in MW-5 at a concentration of 910 ppb in June 1990, was below detectable levels during this round of sampling.

4.2.2 Purgeable Halocarbons

The concentrations of purgeable halocarbons in groundwater samples from MW-7 remain similar to concentrations previously detected and consisted of the following:

440 ppb 1,2-DCE, 520 ppb TCE, and 1,900 ppb PCE. These are all above the DHS standards. DHS standards are included in Table 4.

In contrast, groundwater samples from the downgradient well, MW-8, revealed the following concentrations: 1.2 ppb DCE, 3.0 ppb TCE, and 0.9 ppb PCE.

Low levels of PCE were again detected in groundwater from MW-1 and MW-9; these levels were below the DHS MCL of 5 ppb. In addition, TCE concentrations of 0.5 ppb were detected in wells MW-3 and MW-4. This was the first time that purgeable halocarbons were detected in these two wells. The DHS MCL for TCE is 5 ppb.

4.3 GROUNDWATER SAMPLE ANALYTICAL RESULTS, APRIL 1991

Groundwater samples were collected from wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8B, MW-9, and MW-14 on April 16 and 17, 1991, and analyzed by the following methods:

- EPA Method 5030/8015/8020 for volatile hydrocarbons and gasoline
- EPA Method 3510/8015 for diesel fuel
- EPA Method 5520 for hydrocarbons
- EPA Method 601 for purgeable halocarbons

In Table 5 we've summarized groundwater analytical results from the April 1991 quarterly sampling event. We've also included the regulatory guidelines for comparison. Only compounds that were detected are included in the table. All other compounds for which analyses were conducted were below detection limits (Appendix H). Notable compounds detected are discussed below.

4.3.1 Petroleum Hydrocarbons

The following aromatic hydrocarbon concentrations were detected in groundwater samples from MW-5: 1,300 ppb benzene, 45 ppb toluene, 370 ppb ethylbenzene, and 100 ppb xylenes. Analyses of groundwater samples from MW-14 revealed benzene at 2.9 ppb and xylenes at 0.5 ppb. Benzene exceeds the DHS MCL for drinking water standards of 1 ppb in both wells.

The concentration of gasoline detected in the sample from MW-5 was 4,000 ppb. Gasoline was below detectable levels in MW-14. Diesel, which was again below detectable levels during the April 1991 sampling in MW-5, was detected in MW-14 at a concentration of 230 ppb.

4.3.2 Purgeable Halocarbons

The purgeable halocarbon concentrations in groundwater samples from MW-7 remained similar to concentrations previously detected and consisted of the following: 90 ppb 1,2-dichloroethene (DCE), 200 ppb trichloroethene (TCE), and 1,600 ppb (PCE). These are all above the DHS standards, as shown in Table 5.

Analysis of groundwater samples from the newly installed and deepened downgradient well, MW-8B, revealed the following concentrations of purgeable halocarbons: 6.8 ppb

DCE, 7.7 TCE, and 1.1 PCE. The DCE and TCE levels exceed the DHS regulatory guidelines listed in Table 5.

Low concentrations of PCE were again detected in groundwater samples from MW-1 and MW-9. PCE was also detected in MW-3 and the newly installed MW-14. A concentration of 16 ppb was detected in the sample from MW-14. The samples from MW-14 and MW-7 exceeded the DHS MCL for PCE of 5 ppb.

Concentrations of 0.5 ppb DCE, 4.6 ppb 1,2-dichlorethane (DCA), and 0.4 ppb TCE were also detected in MW-14. TCE was not detected in MW-3 or MW-4 during the April 1991 round of sampling.

4.4 GROUNDWATER SAMPLE ANALYTICAL RESULTS, JULY 1991

Groundwater samples were collected from wells MW-2, MW-3, MW-4, MW-5B, MW-7B, MW-8B, MW-9B, and MW-14 on July 10, 11, and 17, 1991, and analyzed by the following methods:

- EPA Method 5030/8015/8020 for volatile hydrocarbons and gasoline
- EPA Method 3510/8015 for diesel fuel
- EPA Method 5520 for hydrocarbons
- EPA Method 601 for purgeable halocarbons

In Table 6 we've summarized groundwater analytical results from the July 1991 quarterly sampling event. Regulatory guidelines are also listed for comparison. Only compounds that were detected are included in the table. All other compounds for which analyses were conducted were below detection limits (Appendix I). Notable compounds detected are discussed below.

4.4.1 Petroleum Hydrocarbons

The following aromatic hydrocarbon concentrations were detected in groundwater samples from MW-5B: 3.1 ppb benzene, 3.7 ppb toluene, 13 ppb ethylbenzene, and 2.2 ppb xylenes. Analysis of groundwater samples from MW-14 revealed benzene at 0.8 ppb, toluene at 0.8 ppb, and xylenes at 0.8 ppb. Benzene exceeds the DHS MCL for drinking water standards of 1 ppb in well MW-5B.

The concentration of gasoline detected in the sample from MW-5 was 400 ppb. Gasoline was below detectable levels in MW-14. Diesel, which was below detectable levels during the July 1991 sampling in MW-5B, was detected in MW-14 at a concentration of 180 ppb, similar to the concentration detected in April 1991.

MW-5B was installed approximately 20 feet downgradient of MW-5. This would account for the dramatic drop in BTEX and gasoline concentrations from the April 1991 quarterly sampling.

4.4.2 Purgeable Halocarbons

The purgeable halocarbon concentrations in groundwater samples from MW-7B remained similar to concentrations previously detected and consisted of the following:

170 ppb 1,2-dichloroethene (DCE), 660 ppb trichloroethene (TCE), and 7,800 ppb (PCE). These are all above the DHS standards, as shown in Table 6.

Analysis of groundwater samples from the downgradient well, MW-8B, revealed the following concentrations of purgeable halocarbons: 11 ppb DCE, 19 TCE, and 0.9 PCE. The DCE and TCE levels exceed the DHS regulatory guidelines listed in Table 6. The only other purgeable halocarbon detected was 6.6 ppb of 1,2-DCA in the sample from monitoring well MW-14. This exceeds the DHS MCL for DCA of 0.5 ppb.

Purgeable halocarbons, which had previously been detected in groundwater samples from wells MW-3, MW-4, and MW-9B, were below detectable levels during the July 1991 sampling event.

5.0 TIDAL INFLUENCE STUDY

On March 5, 1991, the depths to groundwater in all onsite wells were measured throughout a 12-hour period. The intent was to determine whether the tide affects water elevations onsite. Water levels were measured approximately every hour with an electronic depth sounder. The results are summarized in Table 7.

Groundwater fluctuations ranged from 0.02 feet in well MW-1 to 0.07 feet in MW-10, yielding an average change of 0.04 feet (approximately 0.5 inch) over the site.

6.0 WELLS WITHIN 1/2-MILE OF SUBJECT SITE

Clayton was able to identify the wells within a 1/2-mile radius of the subject site by reviewing a list provided by the Alameda County Flood Control and Water Conservation District, a division of the Alameda County Public Works Agency, and by visiting their offices to review records. The list includes groundwater monitoring, public, private, and other types of wells as of May 14, 1991. Seven monitoring wells, three cathodic wells, two destroyed wells, and one irrigation well are located within a 1/2-mile radius of the subject site. The locations and other information on the wells are summarized in Table 8.

7.0 UNDERGROUND UTILITY TRENCHES

The presence of underground utilities and their associated trenches can disrupt the natural flow of groundwater and act as conduits for contaminant migration.

Clayton has contacted the following agencies and companies to compile a list and map the underground utilities in the vicinity of the subject site:

- City of Alameda Engineering Department - water lines and storm drains
- City of Alameda Bureau of Electricity - electrical lines
- East Bay Municipal Utilities District (EBMUD) - sanitary sewer lines
- Pacific Gas and Electric (PG&E) - gas lines

Figure 4 is an illustration of the locations of utility lines around the site. These locations are based on maps from the City of Alameda, EBMUD, the site demolition plan prepared by Nolte and Associates, and telephone conversations with the agencies listed above. There may be other abandoned trenches under the site that our research did not reveal.

Most of the utility trenches are above the level of the groundwater table and should not affect the flow of groundwater. However, the sanitary sewer is near the surface of the groundwater table and may affect the flow of groundwater. Flow lines, where we could find information on them, are indicated on Figure 4.

8.0 INSTALLATION OF REMEDIATION PIPING

A groundwater remediation system and a soil vapor remediation system will be installed at the site. In May 1991, Clayton, in conjunction with Texaco, installed piping in underground trenches to manifold the monitoring wells with the soil vapor extraction system. This was done to facilitate installation of a remediation system at a later date with minimal disruption of onsite activities. EVAX Technologies, Inc., Texaco's subcontractor, will install and operate the soil vapor extraction system. Their work will be reported to ACHA under separate cover.

The work was conducted by Douglass Construction, Inc. Douglass installed 2-inch diameter Schedule 40 PVC for the groundwater extraction system, and 1-inch diameter schedule 40 PVC for electrical conduit for the soil vapor system. The wells were then lowered below grade and secured with concrete and steel traffic boxes approximately 2 feet wide by 3 feet long.

Figure 5 shows a detail of the well heads and associated piping. All wells currently onsite, including the former Texaco station wells (MW-2, MW-3, MW-4, MW-5B, and MW-9B), the former dry cleaning site wells (MW-7B and MW-8B), and the wells on the South Shore Car Wash site (MW-10, MW-11, MW-12, MW-13), are manifolded into the groundwater remediation system. The South Shore Car Wash has chosen not to manifold into Texaco's soil vapor extraction remediation system.

9.0 AQUIFER TESTING

Before designing and installing an extraction system at the site, the hydraulic properties of the water-bearing formation beneath the site must be defined. When certain hydraulic properties of an aquifer, such as hydraulic conductivity, transmissivity, storativity, groundwater velocity, and porosity, can be defined, we can usually predict: (1) drawdown (capture zone) in the aquifer at various distances from the extraction well, (2) how multiple wells in a small area will affect one another, and (3) drawdown in the aquifer at various pumping rates.

9.1 VARIABLE RATE WELL PERFORMANCE TEST

Before beginning an actual pumping test, Clayton conducted a variable rate well performance test (step test) on June 24, 1991. When pumping from an aquifer, there is an optimum pumping rate that will achieve a maximum drawdown in the aquifer.

When the optimum pumping rate is reached, groundwater is being pumped from the largest area possible without drying out the extraction well.

Because the actual pumping test must run continuously, with a constant pumping rate from the extraction well, the most efficient pumping rate must be determined before beginning the pumping test. The purpose of the step test is to pump at different rates to determine the optimum pumping rate to be used during the actual pump test.

The test was set up using a Grundfos submersible electric pump. The pump discharge was controlled with a globe valve and monitored with a flow meter. Monitoring well MW-5B was used as the pumping well, and monitoring wells MW-4, MW-3, and MW-9B were designated as the observation wells. Water was pumped from the well into a 600-gallon tank and stored onsite. Prior to pumping, the water levels in all of the wells were checked by hand with an electric water level meter.

When we implemented the step test, we found that well MW-5B, dried up at a 3 gallons per minute (gpm) flow rate. The well was allowed to fully recharge before we began pumping at 0.5 gpm. From there, the pumping rate was increased in steps to 1.0 gpm.

Clayton estimated that the optimum pumping rate for MW-5B is 0.7 to 0.8 gpm. This low rate is due, in part, to the high amounts of clay in the soils underlying the site. At this low rate of pumping, the drawdown in the observation wells was not detectable.
↳ ≈ 80'-100' away!

9.2 SLUG TESTS

Because the pumping rate was so low, Clayton decided that a full pumping test would not be the most effective way to collect data on aquifer parameters. We decided to perform slug tests on wells MW-5B, MW-8B, and MW-7B and to determine hydraulic conductivity (K) and transmissivity (T) for the soils underlying the site.

Clayton conducted "rising water level" slug tests using the Bouwer and Rice methodology (Bouwer and Rice, 1976) on July 2, 1991. Prior to beginning the test, the static water level was measured by hand with an electric water level meter. A 4 foot long, 3.5 inch diameter PVC casing filled with sand (the "slug") was then immersed in the well. When the water level in the well returned to equilibrium, the slug was abruptly removed, and the resulting rise in water level was measured with the electric water level meter at 5-second intervals.

The tests were conducted on wells MW-5B, MW-7B, and MW-8B. The hydraulic conductivities and transmissivities that we calculated follow:

Well No.	Hydraulic Conductivity	Transmissivity
MW-5B	3.34×10^{-5} ft/second	44.64 ft^2/day
MW-7B	2.31×10^{-5} ft/second	30.85 ft^2/day
MW-8B	3.38×10^{-5} ft/second	45.26 ft^2/day

Hydraulic conductivity is approximately the same as permeability of the soils. The hydraulic conductivities that we calculated from the slug tests are low. This indicates that the soils under the site have low permeability. This is also evidenced by the low pumping rate achieved during the step pumping test and information from the borehole logs. These hydraulic conductivities will be taken into account when evaluating remediation systems for the site.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Information from the tasks completed to date revealed:

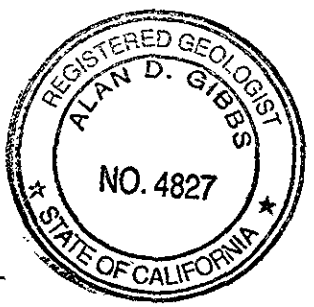
- Benzene is present in concentrations above DHS action levels in monitoring well MW-5B.
- DCE, TCE, and PCE are present in concentration above DHS action levels in monitoring well MW-7B. These constituents are also present in well MW-8B in concentrations below or slightly above DHS action levels.
- The diesel concentration of 230 ppb in the sample from MW-14 is above the EPA SNARL.
- Low levels of purgeable halocarbons are present in several of the other monitoring wells on the site.
- There does not appear to be a significant tidal influence on groundwater levels at the site.
- Most of the utility trenches located on and around the site are above the level of the groundwater table and should not affect the flow of groundwater. However, the sanitary sewer is near the surface of the groundwater table and may affect the flow of groundwater.
- The optimum pumping rate sustained during the step test of monitoring well MW-5B was approximately 0.7 to 0.8 gpm.
- Groundwater onsite occurs from 5 to 7 feet bgs. The flow direction changes across the site. On July 10, 1991, there appeared to be a high spot at the south corner of the South Shore Car Wash. From there, groundwater flows (1) south and southwest, toward the bay, and across the Texaco and dry cleaning sites, and (2) north and northeast across the former location of the USTs at the South Shore Car Wash.

Based on the above conclusions, Clayton makes the following recommendations:

- During quarterly monitoring, sample only wells in which compounds analyzed for have been detected. Sample the remaining wells on an annual basis.

This report prepared by:

Laurene E. Compton
Geologist

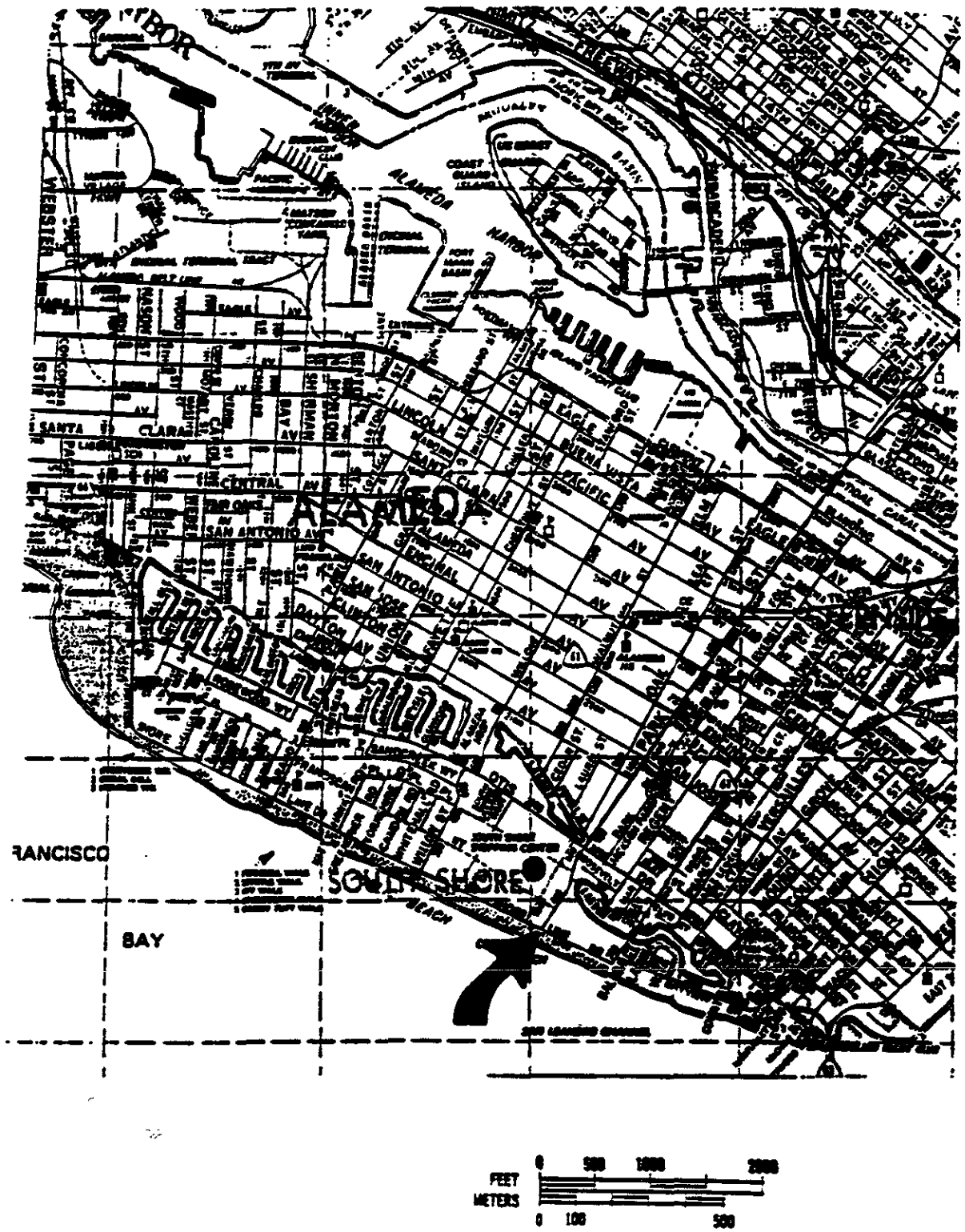


This report reviewed by:

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

September 24, 1991

FIGURES



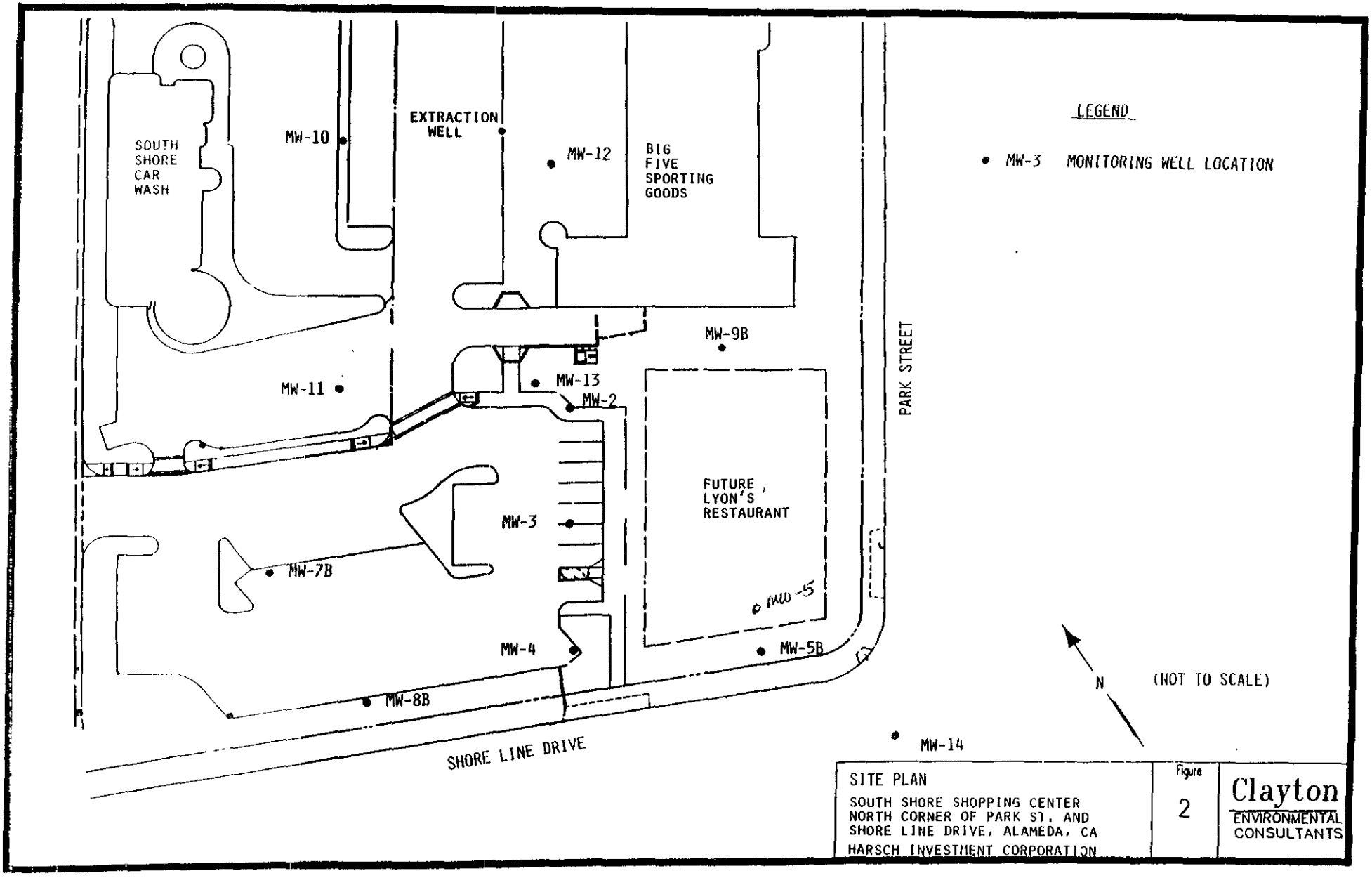
Site Location Map
Harsch Investment Corporation
Park Street and Shore Line Drive
Alameda, California

Clayton Project No. 29196.00

Figure
1

29196-01-17

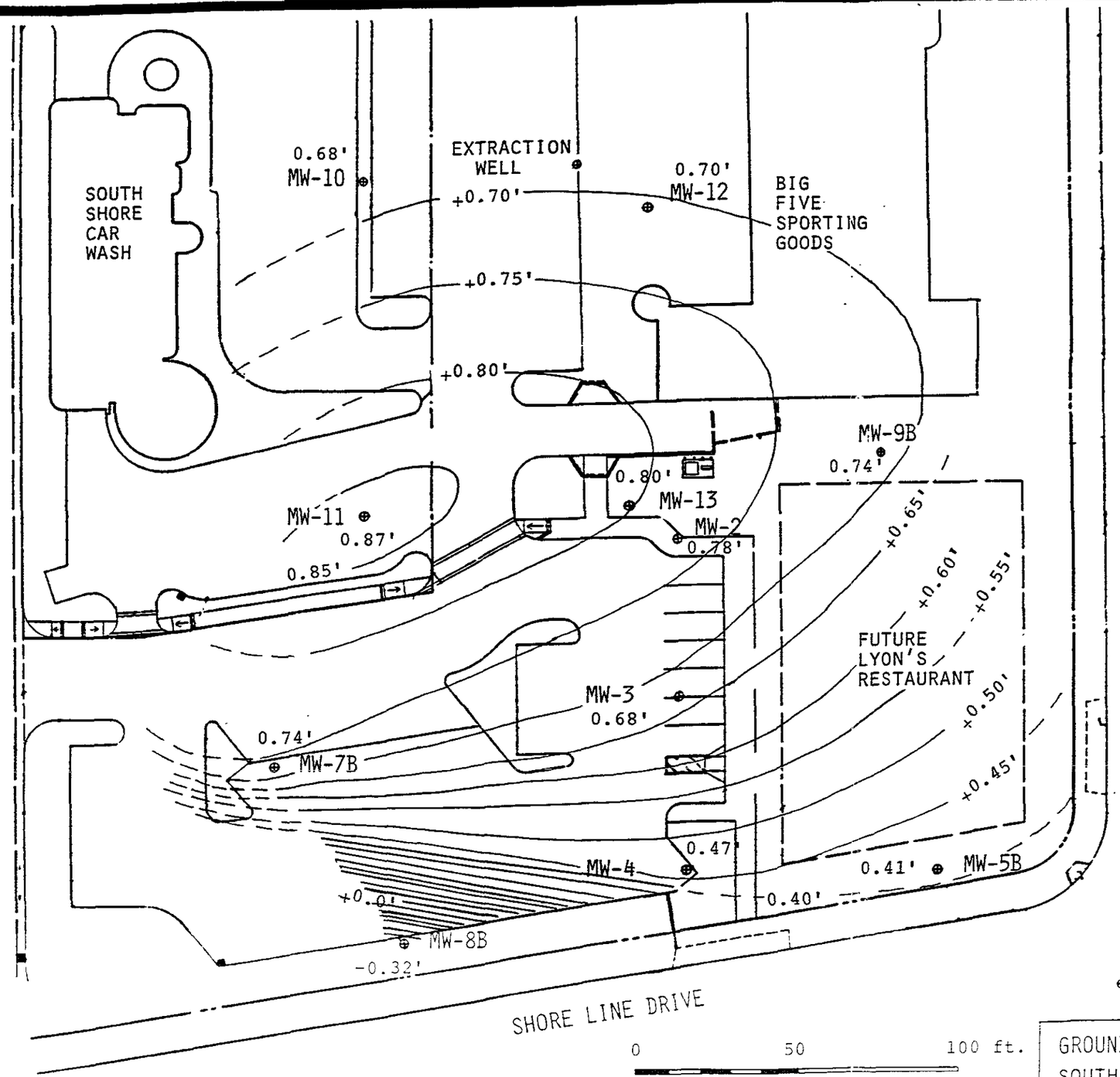
Clayton
ENVIRONMENTAL
CONSULTANTS



SITE PLAN
SOUTH SHORE SHOPPING CENTER
NORTH CORNER OF PARK ST. AND
SHORE LINE DRIVE, ALAMEDA, CA
HARSCH INVESTMENT CORPORATION

Figure 2

Clayton ENVIRONMENTAL CONSULTANTS



LEGEND

⊕ MW-3	MONITORING WELL LOCATION
0.70'	GROUNDWATER ELEVATION
+0.3	GROUNDWATER CONTOUR

SURVEYED TO THE CITY OF ALAMEDA DATUM
BY NOLTE AND ASSOCIATES

0 50 100 ft.

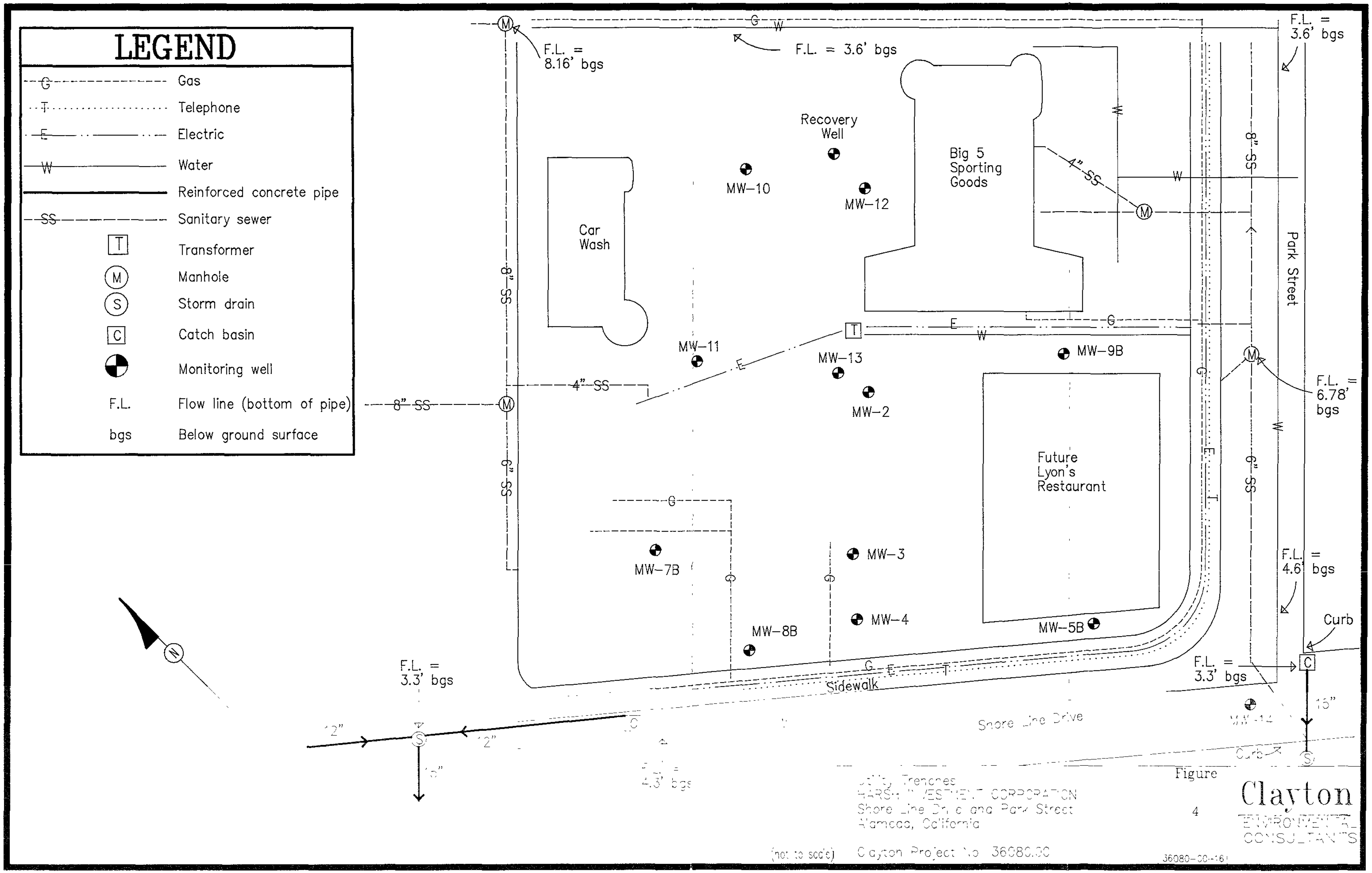
GRAPHIC SCALE

CONTOUR INTERVAL: 0.05 FEET

GROUNDWATER CONTOUR MAP
SOUTH SHORE SHOPPING CENTER
NORTH CORNER OF PARK ST. AND
SHORE LINE DRIVE, ALAMEDA CA
HARSCH INVESTMENT CORPORATION

Figure 3

Clayton
ENVIRONMENTAL CONSULTANTS



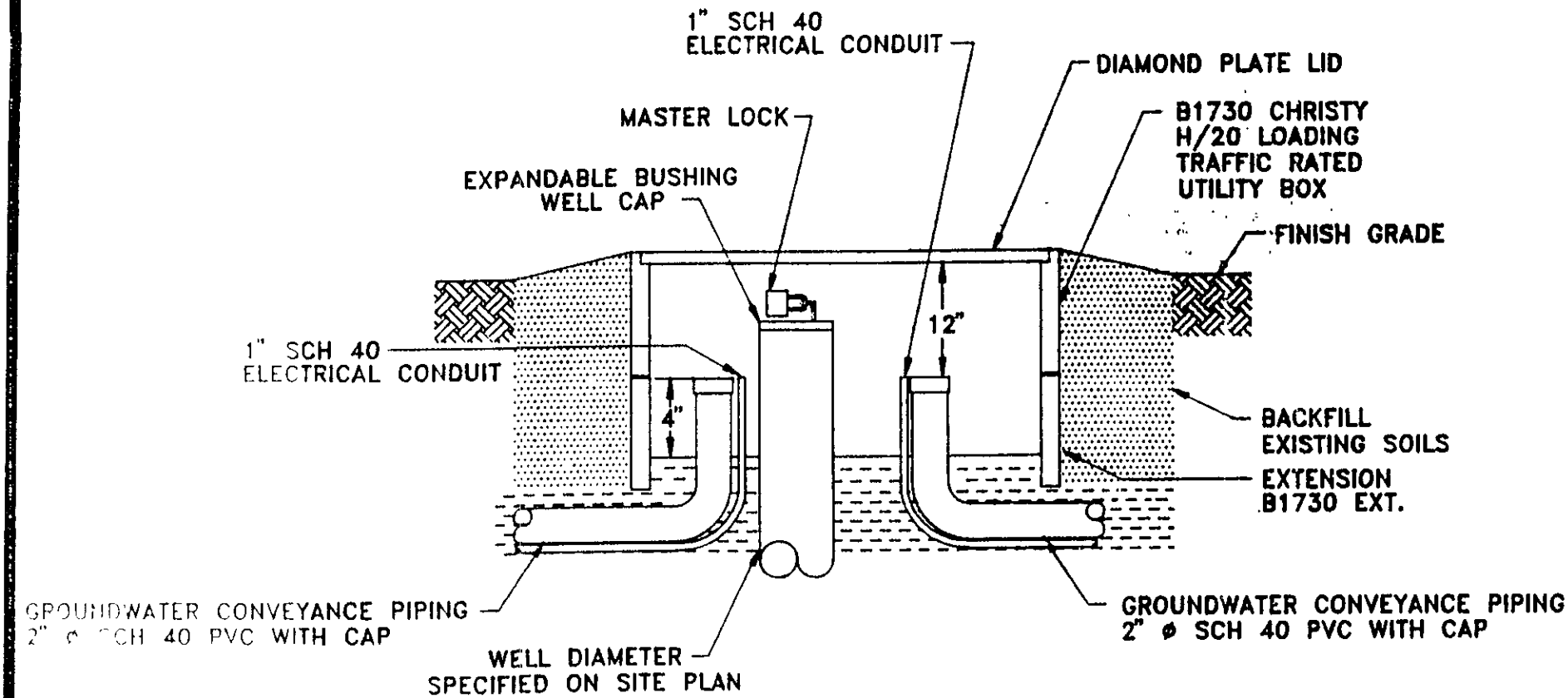
Utility Trenches
HARSCH INVESTMENT CORPORATION
Shore Line Drive and Park Street
Alameda, California

(not to scale) Clayton Project No. 36080.00

Figure 4

Clayton ENVIRONMENTAL CONSULTANTS

36080-00-16



W/4 MONITORING WELL

NOT TO SCALE

FROM: EVAX TECHNOLOGIES, INC., 6-13-91

WELL HEAD DETAIL South Shore Center Park Street and Shore Line Drive Alameda, California Harsch Investment Corporation	Figure 5	Clayton ENVIRONMENTAL CONSULTANTS

TABLES

TABLE 1

Depth to Groundwater and Groundwater Elevations
South Shore Center
Corner of Park Street and Shore Line Drive
Alameda, California

Collected July 10, 1991
Harsch Investment Corporation

Well Number	Casing Elevation (feet)	Depth to Groundwater (feet bgs)	Groundwater Elevation City of Alameda datum (feet)	Groundwater Elevation Mean Sea Level (feet)
MW-2	7.49	6.71	0.78	4.19
MW-3	6.84	6.16	0.68	4.09
MW-4	6.51	6.04	0.47	3.88
MW-5B	5.08	4.67	0.41	3.82
MW-7B	5.52	4.78	0.74	4.15
MW-8B	6.15	6.47	-0.32	3.09
MW-9B	7.47	6.73(1)	0.74	4.15
MW-10(2)	8.10	7.42	0.68	0.77
MW-11(2)	7.01	6.14	0.87	4.09
MW-12(2)	8.33	7.63	0.70	4.28
MW-13(2)	7.45	6.65	0.80	4.11
MW-14	5.98(3)	5.55	not measured	not measured

bgs below ground surface
(1) depth to groundwater was measured on July 17, 1991
(2) well belonging to South Shore Car Wash
(3) surveyed to top of traffic vault

Site is surveyed to the City of Alameda datum by Nolte and Associates, June 5, 1991.

The United States Geological Survey (USGS) mean sea level equals -3.41 feet on the City of Alameda datum (USGS 0 feet elevation = -3.41 feet elevation on City of Alameda datum)

TABLE 2

Well Construction Details
for
Monitoring Wells Located at
South Shore Center
Corner of Park Street and Shore Line Drive
Alameda, California

July 1, 1991
Harsch Investment Corporation

Well Number	Total Depth (feet bgs)	Top of Screened Interval (feet bgs)	Diameter (inches)
MW-2	14.28	3.78	4
MW-3	12.92	2.45	4
MW-4	15.67	5.17	4
MW-5B	12.70	2.20	4
MW-7B	13.50	3.00	4
MW-8B	21.94	16.44	4
MW-9B	14.80	4.30	4
MW-14	14.17	3.67	4

bgs below ground surface

TABLE 3

Summary of Analytical Results of Soil Samples
Collected on April 10, 1991

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

Chemical	B-8, 5'	B-14, 5'	Regulatory Guidelines
Toluene	0.056 ppm	<0.005 ppm	not applicable[1]
Diesel	1 ppm	<1 ppm	100 ppm[1]
Chromium	36 ppm	20 ppm	500 ppm[2]
Lead	8 ppm	3 ppm	1,000 ppm[2]
Nickel	32 ppm	16 ppm	2,000 ppm[2]
Zinc	57 ppm	12 ppm	5,000 ppm[2]

ppm parts per million (approximately equal to milligrams per kilogram)
< not detected at of above the indicated value (detection limit)

(1) Regulatory guidelines estimated from the Leaching Potential Analysis for Gasoline and Diesel (Table 2-1) in the Leaking Underground Fuel Tank Field Manual (LUFT Manual), October 1989.

(2) Total Threshold Limit Concentration (TTLC)

This table reports only detected compounds. All other compounds for which analyses were conducted were below analytical detection limits.

TABLE 4

Summary of Analytical Results of Quarterly Groundwater Sampling
at
South Shore Center
Corner of Park Street and Shoreline Drive
Alameda, California

Collected November 29 and 30, 1990

Chemical	MW-1 (ppb)	MW-2 (ppb)	MW-3 (ppb)	MW-4 (ppb)	MW-5 (ppb)	MW-7 (ppb)	MW-8 (ppb)	MW-9 (ppb)	Regulatory Guidelines (ppb)
EPA Method 8015/8020 for:									
Benzene	ND	ND	ND	ND	800	ND	ND	ND	1(1)
Toluene	ND	ND	0.5	ND	12	ND	ND	ND	100(2)
Ethylbenzene	ND	ND	ND	ND	320	ND	ND	ND	680(1)
Xylenes	ND	ND	ND	ND	66	ND	ND	ND	1,750(1)
Gasoline	ND	ND	ND	ND	2,900	ND	ND	ND	not applicable
EPA Method 8015 for:									
Diesel	ND	ND	ND	ND	ND	ND	ND	ND	100(3)
EPA Method 418.1 for:									
Hydrocarbons	ND	1 ppm	ND	ND	2 ppm	ND	ND	1 ppm	not applicable
EPA Method 601 for Purgeable Halocarbons:									
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	6(1)
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	440	1.2	ND	6(2)
1,2-Dichlorethene (total)	ND	ND	ND	ND	ND	440	1.2	ND	6(2)
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	0.5(4)
Trichloroethene	ND	ND	0.5	0.5	ND	520	3.0	ND	5(4)
Tetrachloroethene	0.6	ND	ND	ND	ND	1,900	0.9	1.5	5(1)

ND not detected
ppb parts per billion which is approximately equal to micrograms per liter (µg/L)
ppm parts per million which is approximately equal to milligrams per liter (mg/L)

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

(2) California State Action Levels (DHS)

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

(4) MCL for Drinking Water Standards (DHS)

Regulatory Guidelines are taken from Jon B. Marshack's *A Compilation of Water Quality Goals, October 1990*

TABLE 5

Summary of Analytical Results of Baseline Groundwater Sampling
at
South Shore Center
Corner of Park Street and Shoreline Drive
Alameda, California

Collected April 16 and 17, 1991

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 (ppb)
EPA Method 8015/8020 for:										
Benzene	ND	ND	ND	ND	1,300	ND	ND	ND	2.9	1(1)
Toluene	ND	ND	ND	ND	45	ND	ND	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 3520 for:										
Hydrocarbons	ND	ND	ND	ND	ND	ND	ND	ND	ND	not applicable
EPA Method 601 for Purgeable Halocarbons:										
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	0.5	6(1)
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	90	6.8	ND	ND	6(2)
1,2-Dichlorethene (total)	ND	ND	ND	ND	ND	90	6.8	ND	ND	6(2)
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	4.6	0.5(4)
Trichloroethene	ND	ND	ND	ND	ND	200	7.7	ND	0.4	5(4)
Tetrachloroethene	2.8	ND	3.0	ND	ND	1,600	1.1	3.3	16	5(1)

ND not detected
ppb parts per billion which is approximately equal to micrograms per liter (µg/L)
ppm parts per million which is approximately equal to milligrams per liter (mg/L)

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

(2) California State Action Levels (DHS)

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

(4) MCL for Drinking Water Standards (DHS)

Regulatory Guidelines are taken from Jon B. Marshack's *A Compilation of Water Quality Goals, October 1990*

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TABLE 6

Summary of Analytical Results of Quarterly Groundwater Sampling
at
South Shore Center
Park Street and Shoreline Drive
Alameda, California

Collected July 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)
EPA Method 8015/8020 for:									
Benzene	<0.4	<0.4	<0.4	3.1	NA	NA	<0.4	0.8	1[1]
Toluene	<0.3	<0.3	<0.3	3.7	NA	NA	<0.3	0.8	100[2]
Ethylbenzene	<0.3	<0.3	<0.3	13	NA	NA	<0.3	<0.3	680[1]
Xylenes	<0.4	<0.4	<0.4	2.2	NA	NA	<0.4	0.8	1,750[1]
Gasoline	<50	<50	<50	400	NA	NA	<50	<50	not applicable
EPA Method 3510 for:									
Diesel	NA	NA	NA	<400[4]	NA	NA	NA	180	100[3]
EPA Method 5520 for:									
Hydrocarbons	NA	NA	NA	<5 ppm	NA	NA	NA	<5 ppm	not applicable
EPA Method 601 for Purgeable Halocarbons:									
1,1-Dichloroethene	<0.2	<0.2	<0.2	<0.2	4.6	<0.2	<0.2	<0.2	6[1]
Trans-1,2-Dichloroethene	<0.4	<0.4	<0.4	<0.4	2.6	<0.4	<0.4	<0.4	10[2]
Cis-1,2-Dichloroethene	<0.4	<0.4	<0.4	<0.4	170	11	<0.4	<0.4	6[2]
1,2-Dichlorethene (total)	<0.4	<0.4	<0.4	<0.4	170	11	<0.4	<0.4	6[2]
1,2-Dichloroethane	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	6.6	0.5[1]
Trichloroethene	<0.3	<0.3	<0.3	<0.3	660	19	<0.3	<0.3	5[1]
1,1,2-Trichloroethane	<0.6	<0.6	<0.6	<0.6	0.8	<0.6	<0.6	<0.6	32[1]
Bromoform	<0.7	<0.7	<0.7	<0.7	1.7	<0.7	<0.7	<0.7	100[1]
Tetrachloroethene	<0.5	<0.5	<0.5	<0.5	7,800	0.9	<0.5	<0.5	5[1]
Chlorobenzene	<0.7	<0.7	<0.7	<0.7	4.8	<0.7	<0.7	<0.7	30[1]
EPA Method 160.1 for:									
Total Dissolved Solids (TDS)	NA	NA	NA	1,000 ppm	NA	NA	NA	2,000 ppm	3,000 ppm[5]

NA not analyzed
ppb parts per billion which is approximately equal to micrograms per liter (µg/l)
ppm parts per million which is approximately equal to milligrams per liter (mg/l)
<0.3 detection limit

(1) Maximum Contaminant Level (MCL) for Drinking Water Standards (DHS)
(2) California State Action Levels (DHS)
(3) Health Advisories or Suggested No-Adverse-Response Levels (EPA)
(4) Detection limit increased due to the presence of gasoline in the sample
(5) California State Water Resources Control Board Resolution No. 88-63 *Sources of Drinking Water*

Except for TDS, regulatory guidelines are taken from Jon B. Marshack's *A Compilation of Water Quality Goals, October 1990*

TABLE 7

Depths to Groundwater Through a 12-Hour Tidal Cycle

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

Collected March 5, 1991
Clayton Project No. 33909.00

Time	MW-1	MW-2	MW-3	MW-4	MW-5	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13
0630	6.54	7.02	6.83	6.44	5.28	5.71	6.12	7.92	9.34	5.91	8.07	7.90
0730	6.55	7.03	6.84	6.46	5.24	5.71	6.12	7.92	9.34	5.91	8.09	7.90
0830	6.55	7.01	6.84	6.45	5.25	5.71	6.12	7.91	9.34	5.92	8.10	7.90
0930	6.54	7.00	6.83	6.45	5.25	5.70	6.12	7.92	9.35	5.91	8.09	7.89
1030	6.54	7.00	6.82	6.45	5.25	5.70	6.11	7.91	9.33	5.91	8.09	7.88
1130	6.54	6.99	6.81	6.44	5.24	5.69	6.10	7.91	9.31	5.90	8.08	7.87
1310	6.53	6.98	6.80	6.44	5.23	5.68	6.09	7.90	9.30	5.90	8.06	7.86
1410	6.53	6.98	6.80	6.43	5.23	5.68	6.08	7.90	9.29	5.89	8.06	7.86
1510	6.53	6.97	6.79	6.42	5.22	5.67	6.08	7.89	9.28	5.89	8.07	7.85
1615	6.54	6.97	6.80	6.44	5.23	5.68	6.08	7.90	9.29	5.89	8.07	7.85
1715	6.54	6.98	6.80	6.44	5.23	5.69	6.09	7.90	9.29	5.90	8.08	7.86
1830	6.54	6.98	6.80	6.44	5.24	5.68	6.08	7.91	9.29	5.90	8.08	7.85

All measurements are in feet below ground surface
High tide occurred at 1557 and was 4.6 feet
Low tide occurred at 0914 and was 2.5 feet

Table 8

Wells Located Within 1/2 Mile of
South Shore Center at the
Corner of Park Street and Shore Line Drive
Alameda, California

Well Number	Well Owner	Well Location	Distance	Direction/ Gradient	Total Depth of Well (feet)	Depth to Water (feet)	Well Casing Diameter (inches)	Well Screen Interval (feet)	Well Use
2S/3W 18N1	EBMUD	Otis Dr. & Mound St.	1/2 mile	East/ Crossgradient	50	N/A	N/A	N/A	DES
2S/3W 18N2	Progressive Electric	Otis Dr. & Mound St.	1/2 mile	East/ Crossgradient	65	N/A	N/A	N/A	CAT
2S/3W 18N3	Verner Anderson	2812 Otis Dr.	1/2 mile	East/ Crossgradient	40	5	N/A	N/A	DES
2S/4W 13G1	Shell Oil Co	2160 Otis Dr.	3/8 mile	North/ Up- to Crossgradient	19	4	3	15	MON
2S/4W 13G2	Shell Oil Co	2160 Otis Dr.	3/8 mile	North/ Up- to Crossgradient	17	6	4	13	MON
2S/4W 13G3	Shell Oil Co	2160 Otis Dr.	3/8 mile	North/ Up- to Crossgradient	17	4	4	13	MON
2S/4W 13J2	EBMUD	Otis Dr. 90° east of Regent St.	1/4 mile	Northeast/ Upgradient	50	N/A	N/A	N/A	CAT
2S/4W 13J3	R L. Robinson	1032 Regent St.	3/8 mile	Northeast/ Upgradient	20	?	4	?	IRR
2S/4W 13K1	Tucknott Electric (EBMUD)	295 Park St.	~200 ft.	Southwest/ Downgradient	67	N/A	N/A	N/A	CAT
N/A	Murray Stevens	2351 Shore Line Dr.	1/8 mile	Northwest/ Crossgradient	15	8	2	10	MON
N/A	Murray Stevens	2351 Shore Line Dr.	1/8 mile	Northwest/ Crossgradient	15	8	2	10	MON
N/A	Murray Stevens	2351 Shore Line Dr.	1/8 mile	Northwest/ Crossgradient	15	8	4	10	MON
N/A	Murray Stevens	2351 Shore Line Dr.	1/8 mile	Northwest/ Crossgradient	15	8	2	10	MON

CAT = Cathodic Well
DES = Destroyed Well
MON = Monitoring Well
IRR = Irrigation Well
N/A = Not applicable

APPENDIX A

BOREHOLE LOGS

Clayton
ENVIRONMENTAL CONSULTANTS

LOG OF EXPLORATORY BORING

Project No.: 33909.00 Date: 5/6/91
Client: Harsch Investment Corp.
Location: Shoreline & Park, Alameda
Logged By: R. Seymour Driller: Aqua Science

BORING NO. MW-5B

Sheet 1 of 1

Field Location of Boring:

Ground Elevation: Datum:

Drilling Method: Mobil B-57, hollow stem auger
Hole Diameter: 10"
Casing Installation Data: TD - 13.5', 10' slotted, 5' blank, sand to 2.5', 1' bentonite seal, 1-1/2' neat cement slurry

Water Level	5-6'				
Time	1400				
Date	5/6/91				

Drilling Rate (ft/min)	PID — OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (uscs)	Litho-graphic Symbol	DESCRIPTION
						Asphalt 3", Base Coarse 6"
		1		SP		
		2				Sand, clean, loose, moderate brown (5 YR 4/4), damp, no odor
		3				
		4				
		5				Hit water between 5' and 6'
		6				Color change, medium dark gray (N4), cuttings saturated
		7				
		8				
		9		SP		
		10				
		11				
		12				
		13				
						TD = 13.5'
		14				Used 10' slotted, 5' blank, 4-3/4 sacks sand
		15				
		16				
		17				
		18				

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LOG OF EXPLORATORY BORING

Project No.: 33909.00 Date: 5/6/91
Client: Harsch Investment Corp.
Location: Shoreline & Park, Alameda
Logged By: R. Seymour Driller: Aqua Science

BORING NO. MW-7B

Sheet 1 of 1

Field Location of Boring:

Ground Elevation: Datum:

Drilling Method: Mobil B-57, hollow stem auger
Hole Diameter: 10"
Casing Installation Data: TD - 13, 10' slotted, 5' blank, sand to 2-1/2', bentonite 1',, cement slurry from 1-1/2 to grade

Water Level	4'				
Time	0830				
Date	5/6/91				

Drilling Rate (ft/min)	PID — OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (uscs)	Litho-graphic Symbol	DESCRIPTION
		1				
		2				Drilled out old 2" well
		3				
		4				
		5				
		6				
		7				
		8				
		9				
		10				
		11				
		12		OL		Slightly sandy-clay, gray-black (N2), saturated
		13				TD = 13'
		14				10' slotted, 5' blank - left 2' sticking up, it will be graded
		15				
		16				
		17				
		18				

Clayton
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LOG OF EXPLORATORY BORING

Project No.: 33909.00 Date: 4/10/91
Client: Harsch Investment Corporation
Location: Park & Shoreline, Alameda
Logged By: R. Seymour Driller: Aqua Science

BORING NO. MW-8B
Sheet 1 of 2

Field Location of Boring:

Ground Elevation: Datum:

Drilling Method: Mobil B-57, hollow-stem auger

Hole Diameter:

Casing Installation Data: TD of well 20'9", 5' of screen

Water Level	7'	6.86'				
Time	1500	1340				
Date	4/10/91	4/17/91				

Drilling Rate (ft/min)	PID / OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (uscs)	Lithographic Symbol	DESCRIPTION
						Sand with some silt, dark yellowish-brown (10 YR 4/2) damp, loose, medium grained, no odor, poorly graded
		1				
		2				
	0					
		3		SP		
		4				
		5	12			
	12		15			
		6	20			
		7				
				▽	▽	Hit water between 7' and 8'
		8				
		9				
		10				
		11				
		12				Color change to dark grey (N3), abundant shells
		13				
				SP		
		14	12			Color change to greyish-black (N2), sand, fine grained, no odor
	0		16			
		15	16			
		16	-			
			-			
	0	17	10			
		18	5			Sand, greyish-black, some shells, "rotten" odor, 5% fine
	0		4			

Clayton
ENVIRONMENTAL
CONSULTANTS

LOG OF EXPLORATORY BORING

Project No.: 33909.00 Date: 4/10/91
Client: Harsch Investment Corporation
Location: Park & Shoreline, Alameda
Logged By: R. Seymour Driller: Aqua Science

BORING NO. MW-8B
Sheet 2 of 2

Field Location of Boring:

Ground Elevation: Datum:

Drilling Method: Mobil B-57, hollow-stem auger
Hole Diameter:
Casing Installation Data: TD of well 20'9", 5' of screen

Water Level	7'	6.86'			
Time	1500	1340			
Date	4/10/91	4/17/91			

Drilling Rate (ft/min)	PID / OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (uscs)	Lithographic Symbol	DESCRIPTION
			7			
		19				
		20	1			
			1			Slightly sandy clay, greyish-black (N2), wet, soft, ~10% fine grained sand
		21	1			
				OL		
		22				TD = 22'
						Filled bottom up with bentonite to anchor the casing
		23				
						Bottom of casing at 20'9"
		24				Sand at 13'9"
						Bentonite at 12'9"
		25				
		26				
		27				
		28				
		29				
		30				
		31				
		32				
		33				
		34				
		35				
		36				

Clayton
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LOG OF EXPLORATORY BORING

Project No.: 35277.00 Date: 05/15/91
Client: Harsh Investment
Location: Shoreline Drive & Park Street, Alameda
Logged By: Richard Silva Driller: Aqua Science

BORING NO. MW-9B

Sheet 1 of 1

Field Location of Boring:

Approximately 20 ft. east of former monitoring well MW-9

Ground Elevation: Datum:

Drilling Method: Continuous flight hollow-stem auger

Hole Diameter: 10.5 inches

Casing Installation Data: Screen 15'-5'; solid 5'-0'; Sand 15'-4'; Bentonite 4'-3'; Grout 3' to surface

Water Level	7.30'				
Time	1449				
Date	4/16/91				

Drilling Rate (ft/min)	PID — OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (usca)	Litho-graphic Symbol	DESCRIPTION
		1		SP		Brownish silty sand, poorly graded, moist, no product odor
		2				
		3				
		4				
		5				
		6				
		7		SP		Gray silty sand, trace of shell fragments, coarse-grained, poorly graded, no product odor
		8				
		9				
		10				
		11				
		12				
		13				
		14				
		15				Terminate boring at 15 feet; set well at 15 feet
		16				
		17				
		18				

Clayton
ENVIRONMENTAL
CONSULTANTS

LOG OF EXPLORATORY BORING

Project No.: 33909.00 Date: 4/10/91
Client: Harsch Investment Corporation
Location: Park & Shoreline, Alameda
Logged By: R. Seymour Driller: Aqua Science

BORING NO. MW-14

Sheet 1 of 1

Field Location of Boring:

Ground Elevation: Datum:

Drilling Method: Mobil B-57, hollow-stem auger

Hole Diameter: 10"

Casing Installation Data: 10' screen, 4' blank, sand to 3'

Water Level	5.5	4.74			
Time	1100	1230			
Date	4/10/91	4/17/91			

Drilling Rate (ft/min)	PID — OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (usca)	Litho-graphic Symbol	DESCRIPTION
						Asphalt
		1				
		2				Sand, dark yellowish-brown (10YR 4/2), dry, fine to medium grain
		3				
		4		SP		Increasing clay content for 6"
		5	6			(Wrapped middle sample)
	12		15	▽		Hit water at 5.5'
		6	26			
		7				Color change to pale brown (5YR 5/2)
		8				
		9				
		10				
		11				
		12				
		13				
		14				TD = 14', 10' screen
		15				Sand up to 3', bentonite 1' to 7' bgs, flush mounted the well box
		16				
		17				
		18				

APPENDIX B

DRILLING/MONITORING WELL PERMITS

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (415) 484-2600

19 March 1991

Clayton Environmental Consultants
P.O. Box 9019
Pleasanton, CA 94566

Gentlemen:

Enclosed is Groundwater Protection Ordinance permit 91147 for a monitoring well construction project at 2375 Shore Line Drive in Alameda for Harsch Investment.

Please note that permit condition A-2 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, and permit number.

If you have any questions, please contact Todd Wendler or Craig Mayfield at 484-2600.

Very truly yours,

J. Killingstad, Chief
Water Resources Engineering

TW:mm
Enc.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94566 ♦ (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2375 Shore Line Drive, Alameda, California

CLIENT
Name Harsch Investment Corporation
Address 235 W. MacArthur Phone (415) 658-1400
City Oakland CA Zip 94611

APPLICANT
Name Clayton Environmental Consultants
Address P.O. Box 9019 Phone (415) 426-2600
City Peasanton, CA Zip 94566

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	xxx	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger xxx
Cable ___ Other ___

DRILLER'S LICENSE NO. C57 48700

WELL PROJECTS
Drill Hole Diameter 10 in. Maximum
Casing Diameter 4 in. Depth 25 ft.
Surface Seal Depth 3 ft. Number 2 *

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE April 1, 1991
ESTIMATED COMPLETION DATE April 1, 1991

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE _____ Date 3-2-

FOR OFFICE USE

PERMIT NUMBER 91147
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

* On one of these wells we will be overdrilling an existing 2" well and replacing it with a 4" well.

Approved _____ Date 18 Mar 91
Todd N. Wendler

121989

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (415) 484-2600

22 March 1991

Clayton Environmental Consultants
P.O. Box 9019
Pleasanton, CA 94566

Gentlemen:

Enclosed is Groundwater Protection Ordinance permit 91148 for the destruction of wells 2S/3W 13K80 and 13K81 at 2375 Shore Line Drive in Alameda for Harsch Investment Corporation.

Please note that permit condition A-2 requires that a well destruction report be submitted after completion of the work. The report should include a description of methods and materials used to destroy the well, location sketch, date of destruction, and permit number.

If you have any questions, please contact Todd Wendler or Craig Mayfield at 484-2600.

Very truly yours,

J. Killingstad, Chief
Water Resources Engineering

TW:mm
Enc.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 2375 Shore Line Drive, Alameda, California

PERMIT NUMBER 91148

LOCATION NUMBER 2S/3W 13K80 and 13K81

CLIENT

Name Harsch Investment Corporation

Address 235 W. MacArthur Phone (415) 658-1400

City Oakland CA Zip 94611

APPLICANT

Name Clayton Environmental Consultants

Address P.O. Box 9019 Phone (415) 426-2600

City Peasanton, CA Zip 94566

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	___	Well Destruction	xxx*

PROPOSED WATER SUPPLY WELL USE

Domestic ___ Industrial ___ Other ___

Municipal ___ Irrigation ___

DRILLING METHOD:

Mud Rotary ___ Air Rotary ___ Auger xxx

Cable ___ Other ___

DRILLER'S LICENSE NO. C57 48700

WELL PROJECTS

Drill Hole Diameter 10 in. Maximum

Casing Diameter 2 in. Depth 15 ft.

Surface Seal Depth 5 ft. Number 1**

GEOTECHNICAL PROJECTS

Number of Borings ___ Maximum

Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE April 1, 1991

ESTIMATED COMPLETION DATE April 1, 1991

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] Date 3-12-91

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

(E.) WELL DESTRUCTION. See attached.

* Existing 2-inch monitoring well will be overdrilled and the borehole filled with grout.

** Additional monitoring well to be destroyed and replaced with 4-inch diameter. See 91147.

Approved [signature] Date 18 Mar 91

Todd N. Wendler

121989

18 March 1991

ZONE 7
WATER RESOURCES ENGINEERING
GROUNDWATER PROTECTION ORDINANCE

HARSCH INVESTMENT CORPORATION
2375 SHORE LINE DRIVE
ALAMEDA
WELLS 2S/3W 13K80 THROUGH 13K81
PERMIT 91148

Destruction Requirements

1. Drill out the well so that casing, seal, and gravel pack are removed to the bottom of the well.

2. Using a tremie pipe, fill the hole to 2 feet below the lower of finished grade or original ground with neat cement.

3. After seal has set, backfill the remaining hole with compacted material.

These destruction requirements as proposed by Alan Gibbs of Clayton Environmental meet or exceed the Zone 7 minimum requirements.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (415) 484-2600

1 May 1991

Clayton Environmental Consultants
P.O. Box 9019
Pleasanton, CA 94566

Gentlemen:

Enclosed is Drilling Ordinance permit 91236 for a monitoring well construction project at 2375 Shore Line Drive in Alameda for Harsch Investment Corporation.

Please note that permit condition A-2 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, and permit number.

If you have any questions, please contact Wyman Hong or me at 484-2600.

Very truly yours,

Craig A. Mayfield

Craig A. Mayfield
Water Resources Engineer

WH:mm
Enc.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2375 Shoreline Drive
Alameda, California

CLIENT
Name Harsch Investment Corporation
Address 235 W. MacArthur Phone (415) 658-1400
City Oakland Zip 94611

APPLICANT
Name Clayton Environmental Consultants
Address P.O. Box 9019 Phone (415) 426-2600
City Pleasanton Zip 94566

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	X	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. C57 48700

WELL PROJECTS
Drill Hole Diameter 10 in. Maximum
Casing Diameter 4 in. Depth 25 ft.
Surface Seal Depth 10 ft. Number 1 *

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE May 3, 1991
ESTIMATED COMPLETION DATE May 3, 1991

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE _____ Date 4-2c-11

FOR OFFICE USE

PERMIT NUMBER 91236
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

* Add one more monitoring well as discussed with Clayton Environmental representative Alan Gibbs.

Approved Wyman Hong Date 29 Apr 91
Wyman Hong

121989

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (415) 484-2600

2 May 1991

Clayton Environmental Consultants
P.O. Box 9019
Pleasanton, CA 94566

Gentlemen:

Enclosed is Groundwater Protection Ordinance permit 91237 for the destruction of wells 2S/4W 13K80 and 13K81 at 2375 Shore Line Drive in Alameda for Harsch Investment Corporation.

Please note that permit condition A-2 requires that a well destruction report be submitted after completion of the work. The report should include a description of methods and materials used to destroy the well, location sketch, date of destruction, and permit number.

If you have any questions, please contact Wyman Hong or me at 484-2600.

Very truly yours,

Craig A. Mayfield

Craig A. Mayfield
Water Resources Engineer

WH:mm
Enc.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2375 Shoreline Drive
Alameda, California

CLIENT
Name Harsch Investment Corporation
Address 235 W. MacArthur Phone (415) 658-1400
City Oakland Zip 94611

APPLICANT
Name Clayton Environmental Consultants
Address P.O. Box 9019 Phone (415) 426-2600
City Pleasanton Zip 94566

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	___	Well Destruction	X MW-7

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. C57 48700

WELL PROJECTS
Drill Hole Diameter 10 in. Maximum
Casing Diameter 2 in. Depth 15 ft.
Surface Seal Depth 5 ft. Number 1 *

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE May 3, 1991
ESTIMATED COMPLETION DATE May 3, 1991

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE R.G. Date 4-26-91

FOR OFFICE USE

PERMIT NUMBER 91237
LOCATION NUMBER 2S/4W 13K80 and 13K81

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

(E.) WELL DESTRUCTION. See attached.

* Destroying one more monitoring well as discussed with Clayton Environmental representative Alan Gibbs.

Approved Wyman Hong Date 29 Apr 91
Wyman Hong

121989

30 April 1991

ZONE 7
WATER RESOURCES ENGINEERING
GROUNDWATER PROTECTION ORDINANCE

HARSCH INVESTMENT CORPORATION
2375 SHORE LINE DRIVE
ALAMEDA
WELLS 2S/4W 13K80 AND 13K81
PERMIT 91237

Destruction Requirements

1. Drill out the well so that casing, seal, and gravel pack are removed to the bottom of the well.

2. Using a tremie pipe, fill the hole to 2 feet below the lower of finished grade or original ground with neat cement.

3. After seal has set, backfill the remaining hole with compacted material.

These destruction requirements as proposed by Alan Gibbs of Clayton Environmental meet or exceed the Zone 7 minimum requirements.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (415) 484-2600

21 May 1991

Clayton Environmental Consultants
P.O. Box 9019
Pleasanton, CA 94566

Gentlemen:

Enclosed is Drilling permit 91269 for a monitoring well construction project at 2375 Shore Line Drive in Alameda for Harsch Investment Corporation.

Please note that permit condition A-2 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, and permit number.

If you have any questions, please contact Wyman Hong or me at 484-2600.

Very truly yours,

Craig A. Mayfield

Craig A. Mayfield
Water Resources Engineer

WH:mm
Enc.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2375 Shoreline Drive
Alameda, California

CLIENT
Name Harsch Investment Corporation
Address 235 W. MacArthur Phone (415)658-1400
City Oakland Zip 94611

APPLICANT
Name Clayton Environmental Consultants
Address P.O. Box 9019 Phone (415)426-2600
City Pleasanton Zip 94566

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	X	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. C5748700

WELL PROJECTS
Drill Hole Diameter 10 in. Maximum
Casing Diameter 4 in. Depth 15 ft.
Surface Seal Depth 5 ft. Number 1

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE May 15, 1991
ESTIMATED COMPLETION DATE May 15, 1991

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] Date 5-13-91

Alan Blake, Senior Project Geologist, CLAYTON

FOR OFFICE USE

PERMIT NUMBER 91269
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 14 May 91
Wyman Hong

12/89

APPENDIX C

CLAYTON DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS FOR BOREHOLE/MONITORING WELL INSTALLATION

DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS FOR BOREHOLE/MONITORING WELL INSTALLATION

BOREHOLE INSTALLATION

Clayton Environmental Consultants, Inc. acquires the proper governmental agency permits to bore, drill, or destroy all proposed boreholes and monitoring wells that intersect with groundwater aquifers and writes a health and safety plan.

Clayton subcontracts only with drillers who possess a current C-57 water well contractor's license issued by the State of California and whose personnel have attended the OSHA 40-hour Hazardous Materials Safety Training. Prior to starting work, a "tailgate" safety meeting including discussion of the safety hazards and precautions relevant to the particular job will be held with all personnel working on the job. Well drillers are identified on permit applications.

Borings are drilled dry by hollow- or solid-stem, continuous flight augers. Augers, drill rods, and other working components of the drilling rig are steam-cleaned before arriving onsite to prevent the introduction of contaminants. These components are also steam-cleaned between borings away from boring locations. Cleaned augers, rods, and other components are stored, and/or covered when not in use.

Our bore logs include a detailed description of subsurface stratigraphy. Clayton examines the soil brought to the surface by drilling operations, and samples undisturbed soil every 5 feet or as otherwise specified. Soil cuttings are screened for hydrocarbon contamination using a photoionization detector. Boring logs are filled out in the field by a professional geologist, civil engineer, engineering geologist who is registered by the State of California, or a technician who is trained and working under the supervision of one of the previously mentioned persons, using the Unified Soil Classification System.

SOIL SAMPLING

Soil samples are taken every 5 feet, at areas of obvious contamination, or as otherwise specified, with a California modified split-spoon sampler that is lined with three six-inch brass tubes. The sampler and rod are inserted into the borehole to the current depth and a hammer of known weight and height above the sampler are allowed to free-fall onto the rod, advancing the assembly 18 inches into undisturbed soil. Clayton uses the number of blows necessary to drive the sampler into the ground to help evaluate the consistency of materials encountered. The sampler is then pulled from the borehole and disassembled, and the three brass tubes are separated for inspection and labeling.

Clayton uses new brass liners or liners cleaned with a trisodium phosphate (TSP) solution, double rinsed with clean tap water, and air dried prior to each sampling. The sampler is also cleaned with TSP and rinsed with tap water between sampling events.

Soil samples selected for laboratory analysis are left in the brass liners, sealed with aluminum foil and plastic caps, taped for air tightness, labeled, and immediately placed into a pre-cooled ice chest chilled to less than 4°C. Labels contain the following information: site name, date and time sampled, borehole number and depth, and the sampler's initials. The samples are transported under chain-of-custody to a state-certified laboratory. The laboratory analyzes soil samples within the prescribed holding time, storing them at temperatures below 4°C at all times.

Pending results of laboratory analysis, excess drilling and sampling cuttings are placed into Department of Transportation (DOT)-approved drums, labeled with the name of the site, address, and well number, and left at the site. Uncontaminated soil may be disposed of by the client. Soil found to contain levels of contaminants above local or state action levels will require that the client dispose of it in accordance with hazardous waste regulations. At the client's request, we will assist with the disposal of contaminated soil.

WELL CONSTRUCTION

Boreholes are converted to monitoring wells by placing 2-inch or 4-inch diameter well casing with flush-threaded joints and slotted screen into the borehole. Construction materials include polyvinyl chloride (PVC), stainless steel, or low carbon steel. The most suitable material for a particular installation will depend on the parameters to be monitored. All screens and casings used are in a contaminant-free condition when placed in the ground. No thread lubrication is used, other than teflon tape, for connecting the casing segments.

Wells extend at least 10 feet into the upper saturated zone, but do not extend through any clay layers greater than 5 feet that are below the shallow water table. Factory-slotted casing is used throughout and extends at least 2 feet above the permeable water-bearing zone. The top of the well is solid casing. The annular space of the borehole is backfilled with washed, kiln-dried sand to a point at least 1 foot above the slotted screen. A seal above the filter pack is formed by placing a 1- to 2-foot layer of bentonite pellets on top of the sand. The bentonite pellets are moistened by pouring clean tap water down the hole so that they can expand and seal the annulus. A neat cement grout is placed above the bentonite seal and brought to the ground surface.

Well casings are protected from surface contamination, accidental damage, and unauthorized entry or tampering with water-tight locking caps on the well casings. The caps are usually surrounded by a concrete vault. Wells are clearly identified with a metal tag or other device where the following information is recorded: well number, depth to water, depth of well, casing data including location of screened interval.

WELL DEVELOPMENT

The well seal in newly developed wells must set up for 48 to 72 hours prior to development. Since development of the well can volatilize contaminants present, the well must also settle for at least 48 to 72 hours between development and the first purging/sampling incident.

All monitoring wells are initially developed to clean the well and stabilize sand, gravel, and disturbed aquifer materials around the screened internal perforations. Wells are developed

by pumping (or bailing) and surging until water turbidity and specific conductance stabilize. In some cases, where wells are installed in low permeability formations and the wells purge dry, the well is allowed to recover and is purged dry three times. Clean tap water is introduced into the well if it does not recover rapidly enough.

Pending results by laboratory analysis, purge water from well development and sampling is placed into DOT-approved drums, labeled with the name of the site, address, well number, and left at the site. Uncontaminated water may be disposed of by the client. Water found to contain levels of contaminants above local or state action levels requires that the client dispose of it in accordance with hazardous waste requirements. At the client's request, we can assist with the disposal of contaminated purge water.

GROUNDWATER SAMPLING

To collect a representative sample of the groundwater, stagnant water within the well casing and filter material must be purged and fresh aquifer water allowed to replace it. The water is purged from the well by pumping or bailing at least three well volumes. Well volumes are calculated by measuring depth to groundwater to the nearest 0.01 foot upon arrival at the well before any purging has begun. Groundwater samples are collected only after purging has been of sufficient duration for pH, temperature, and electrical conductivity to stabilize. When purging low-yield wells, the wells are purged to dryness. When the well recovers to 80% of the depth measured upon arrival, samples are collected.

Field sampling logs maintained for each well include:

- Monitoring well identification
- Static water level, before and after pumping
- Well depth
- Condition of water prior to purging (e.g., amount of free product)
- Purge rate and volume
- pH, temperature, and conductivity during purging
- Time purged
- Time of sample collection
- Sampling method
- Name of sampler
- Climatic conditions

Water samples are collected using clean teflon bailers. All equipment that contacts samples is thoroughly cleaned before arrival at the site and between sampling events.

Water is collected in clean laboratory-supplied containers, labeled, placed immediately into an ice chest pre-cooled to 4°C, and transported to Clayton's laboratory for analysis. One trip blank will be furnished in accordance with our quality assurance/quality control (QA/QC) program.

All samples are collected in such a manner so as to minimize the volatilization of a sample due to agitation and/or transfer from bailer to sample container. Samples are collected so that contaminants most sensitive to volatilization are sampled first.

Preservatives are not added to any sample, unless instructed. If requested, they are supplied by Clayton's laboratory.

All sample containers are labeled in the field. Labels contain the following information: project name, sample identification number, project number, date and time of collection, and sampler's initials.

Under no circumstances are sealed sample containers opened by anyone other than the laboratory personnel who perform the requested analyses. If it is necessary for samples or sample chests to leave the immediate control of the sampler prior to delivery to the laboratory, for example during shipment by Federal Express, a custody seal is placed on each sample container and/or sample chest to ensure that the samples have not been tampered with during transportation. The custody seal is signed by the sampler, and the date and time that the seal was placed is recorded. The elapsed time between sample collection and delivery to the laboratory never exceeds 48 hours. Water samples are not held for more than 14 days prior to analysis and are kept at 4°C at all times.

To document and trace samples from time of collection, a signed chain-of-custody record is filled out by the sampler and accompanies the samples through the laboratory analyses. The completed chain-of-custody is included with the analytical report from the laboratory.

REFERENCES

Groundwater Monitoring Guidelines, Revised February 1990. Alameda County District Groundwater Protection Program.

Leaking Underground Fuel Tank (LUFT) Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Tank Closure, May 1988. State of California LUFT Task Force.

Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks, Revised November 1989. North Coast, San Francisco Bay, and Central Valley regions of the California State Water Quality Control Board.

Standards for the Construction and Destruction of Wells and Other Deep Excavations in Santa Clara County, Revised June 1989. Santa Clara Valley Water District.

APPENDIX D

MONITORING WELL SCHEMATICS

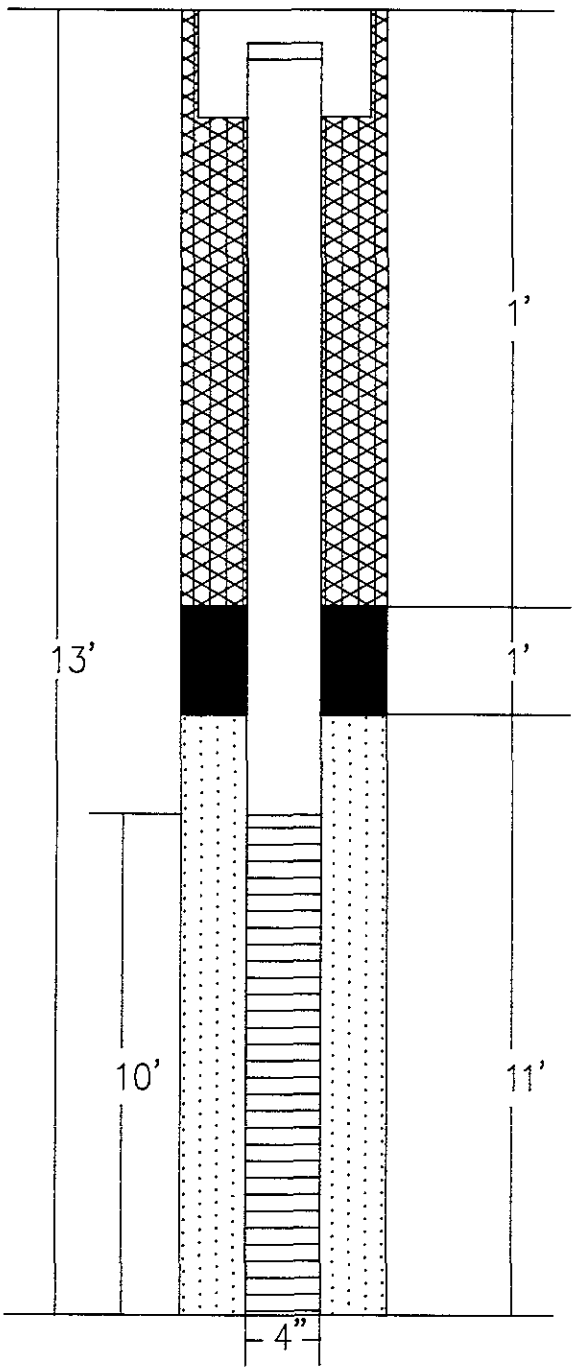
EXPLANATION

Concrete

Bentonite

Sand #3

0.01" Slotted Screen



Monitoring Well Diagram (MW-5B)
HARSCH INVESTMENT CORPORATION
South Shore Shopping Center
Park Street and Shore Line Drive
Alameda, California
Clayton Project No. 36080.00

(not to scale)

Clayton
ENVIRONMENTAL
CONSULTANTS

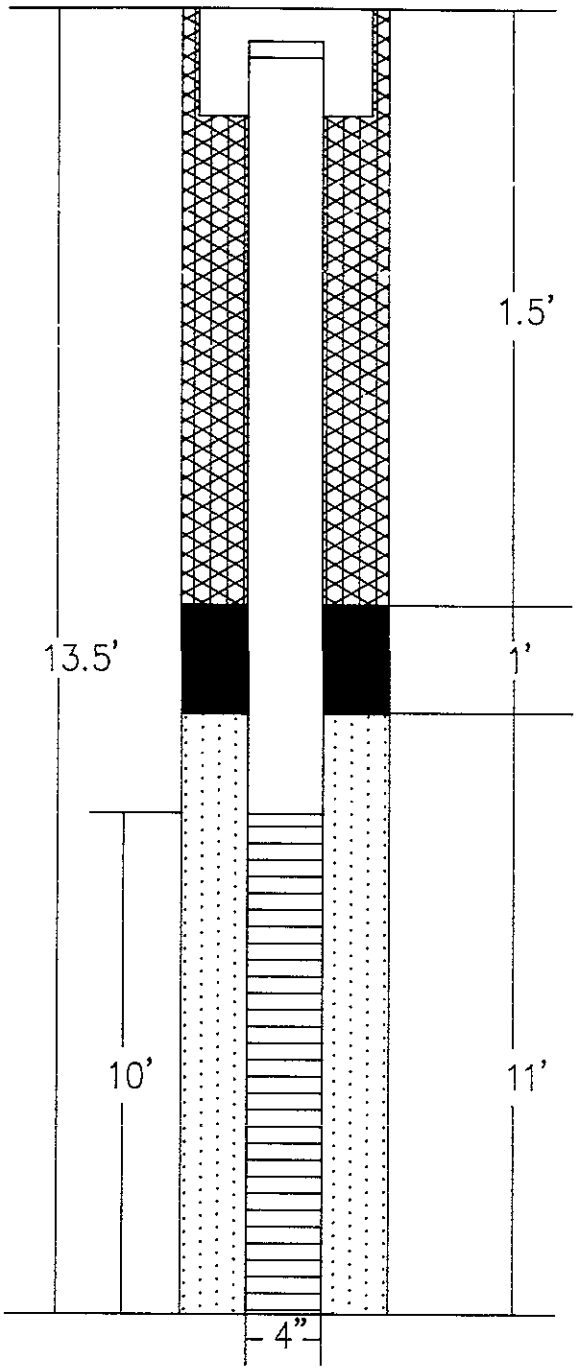
EXPLANATION

Concrete

Bentonite

Sand #3

0.01" Slotted Screen



(not to scale)

Monitoring Well Diagram (MW-7B)
HARSCH INVESTMENT CORPORATION
South Shore Shopping Center
Park Street and Shore Line Drive
Alameda, California
Clayton Project No. 36080.00

Clayton
ENVIRONMENTAL
CONSULTANTS

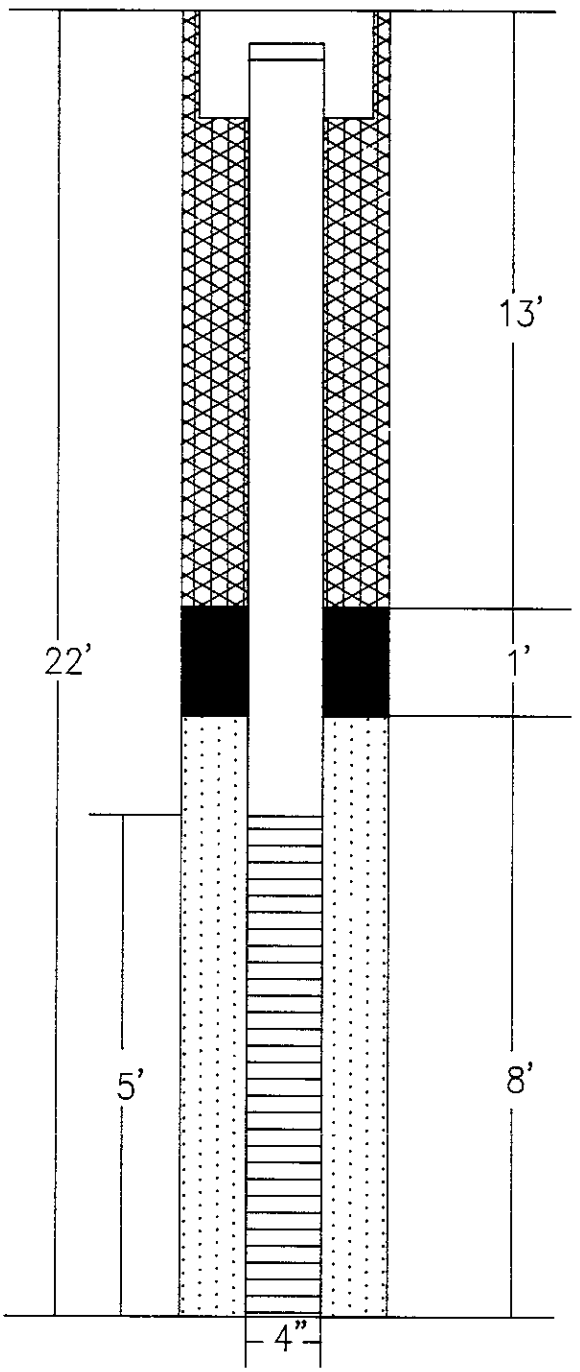
EXPLANATION

Concrete

Bentonite

Sand #3

0.01" Slotted Screen



(not to scale)

Monitoring Well Diagram (MW-8B)
HARSCH INVESTMENT CORPORATION
South Shore Shopping Center
Park Street and Shore Line Drive
Alameda, California
Clayton Project No. 36080.00

Clayton
ENVIRONMENTAL
CONSULTANTS

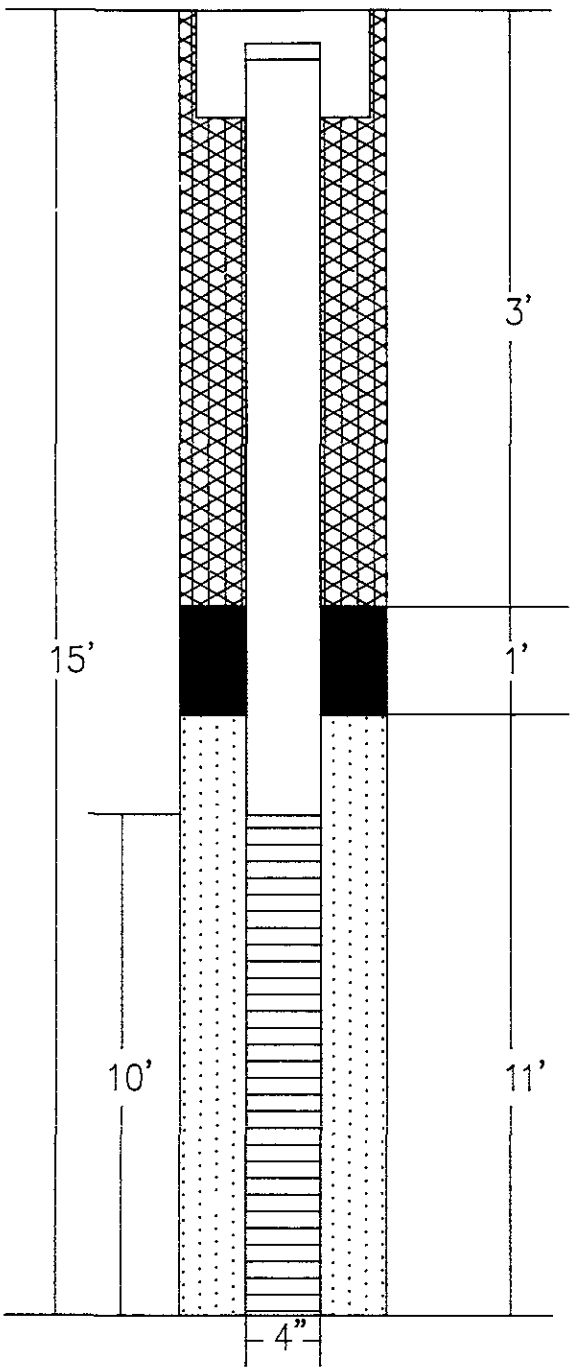
EXPLANATION

Concrete

Bentonite

Sand #3

0.01" Slotted Screen



(not to scale)

Monitoring Well Diagram (MW-9B)
HARSCH INVESTMENT CORPORATION
South Shore Shopping Center
Park Street and Shore Line Drive
Alameda, California
Clayton Project No. 36080.00

Clayton
ENVIRONMENTAL
CONSULTANTS

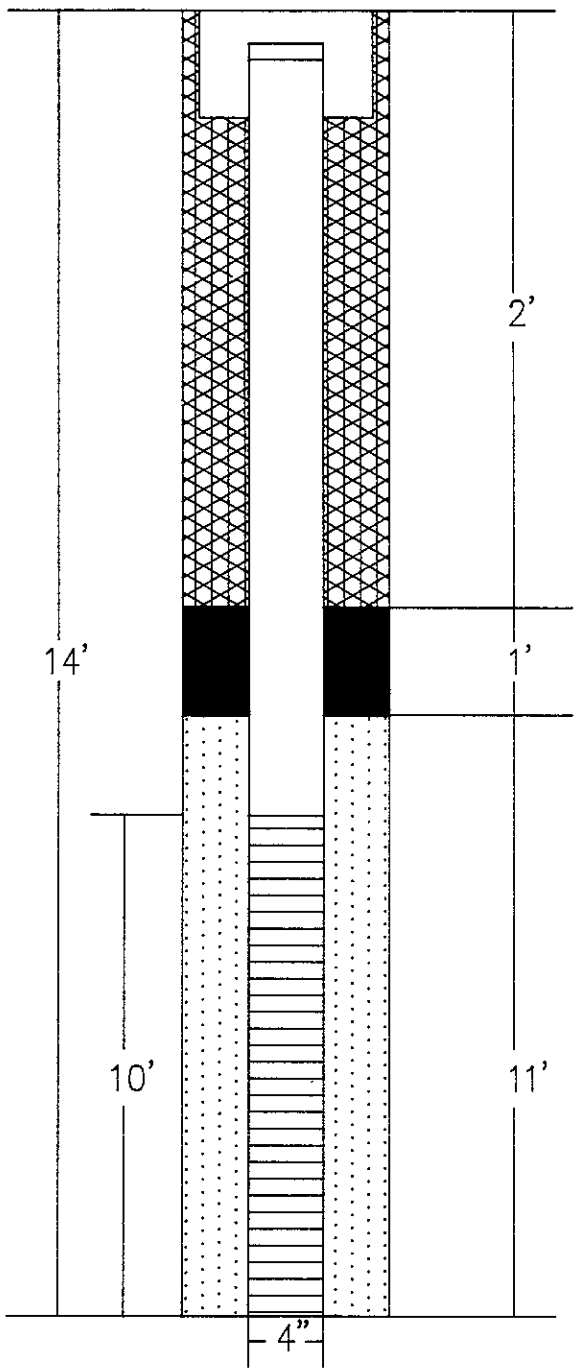
EXPLANATION

Concrete

Bentonite

Sand #3

0.01" Slotted Screen



Monitoring Well Diagram (MW-14)
HARSCH INVESTMENT CORPORATION
South Shore Shopping Center
Park Street and Shore Line Drive
Alameda, California
Clayton Project No. 36080.00

Clayton
ENVIRONMENTAL
CONSULTANTS

(not to scale)

APPENDIX E

WATER SAMPLING FIELD DATA SHEETS

Clayton
ENVIRONMENTAL
CONSULTANTS

QUARTERLY SAMPLING

NOVEMBER 1990

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 32645.00 Site: Harsch - Alameda Date: 11/30/90

Well No: MW-1 Sampling Team: Mike Springman

Sampling Method: Submersible pump/disposable bailer

Field Conditions: Clear skies, dry, cool

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth to Well: 14.8 Time: 1145 Depth to Water Before Purging: 7.56

Volume Height of Water Column:		2-inch	4-inch		Volume		Purge Factor		To Purge
7.24	*	.16	(.65)	=	4.7	*	5	=	23.5

Depth Purging From: 14 Time Purging Begins: 1200

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1203	5	7.8	4300	68°C	Cloudy into clear
1207	10	7.6	4900	69°C	Slightly cloudy
1212	15	7.8	5000+	69°C	Clear
1215	20	7.8	5000+	68°C	Clear
1220	25	7.8	5000+	69°C	Clear

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

Time Field Parameter Measurement Begins: 1255

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.6	7.6	7.6	7.6
Conductivity	5000+	4950	4800	4800
T°C	68°C	68°C	68°C	68°C

Pre-Sample Collection Gallons Purged: 25

Time Sample Collection Begins: 1240

Time Sample Collection Ends: 1250

Total Gallons Purged: 26

Comments: Well locking lid does not close correctly

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 32645.00 Site: Harsch - Alameda Date: 11/29/90

Well No: MW-2 Sampling Team: Mike Springman

Sampling Method: Submersible pump/disposable bailer

Field Conditions: Partly cloudy, dry

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent cleaner, double rinsed, and steam cleaned

Total Depth to Well: 14.8 Time: 1140 Depth to Water Before Purging: 7.92

Volume Height of Water Column:		2-inch		4-inch		Volume		Purge Factor		To Purge
6.88	*	.16		(.65)	=	4.47	*	5	=	22.35

Depth Purging From: 14.0 Time Purging Begins: 1145

Notes on Initial Discharge: Water sandy, cloudy

Time	Volume Purged	pH	Conductivity	T	Comments
1150	5	7.8	300	66°C	Very cloudy
1200	10	7.6	400	66°C	Cloudy
1207	15	7.7	700	66°C	Cloudy
1220	20	7.8	1000	68°C	Cloudy
1225	25	7.7	1000	66°C	Cloudy

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

Time Field Parameter Measurement Begins: *1300*

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.8	7.6	7.8	7.8
Conductivity	600	500	400	500
T°C	66°C	66°C	66°C	66°C

Pre-Sample Collection Gallons Purged: 25

Time Sample Collection Begins: 1235

Time Sample Collection Ends: 1245

Total Gallons Purged:

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 32645.00 Site: Harsch - Alameda Date: 11/29/90

Well No: MW-3 Sampling Team: Mike Springman

Sampling Method: Submersible pump/disposable bailer

Field Conditions: Partly overcast, dry

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent cleaner, double rinsed, and steam cleaned

Total Depth to Well: 14.2 Time: 1020 Depth to Water Before Purging: 7.86

Volume Height of Water Column:		2-inch	4-inch		Volume		Purge Factor		To Purge
6.34	*	.16	(.65)	=	4.12	*	5	=	20.60

Depth Purging From: 13.5 Time Purging Begins: 1025

Notes on Initial Discharge: Water cloudy and sandy

Time	Volume Purged	pH	Conductivity	T	Comments
1030	5	7.3	1150	70°C	Water cloudy
1037	10	7.2	1200	68°C	Slightly clearer
1045	15	7.2	1000	68°C	Slightly cloudy
1050	20	7.3	1150	66°C	Slightly cloudy
1055	25	7.3	1100	66°C	Slightly cloudy

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

Time Field Parameter Measurement Begins: 1125

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.2	7.2	7.3	7.2
Conductivity	1100	1100	1100	1150
T°C	68°C	68°C	68°C	68°C

Pre-Sample Collection Gallons Purged: 25

Time Sample Collection Begins: 1100

Time Sample Collection Ends: 1115

Total Gallons Purged:

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 32645.00 Site: Harsch - Alameda Date: 11/29/90

Well No: MW-4 Sampling Team: Mike Springman

Sampling Method: Submersible pump/disposable bailer

Field Conditions: Partly overcast, dry

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent cleaner, double rinsed, and steam cleaned

Total Depth to Well: 16.82 Time: 1325 Depth to Water Before Purging: 7.76

Volume Height of Water Column:		2-inch		4-inch		Volume		Purge Factor		To Purge
9.06	*	.16		(.65)	=	5.88	*	5	=	29.40

Depth Purging From: Time Purging Begins: 1330

Notes on Initial Discharge: Very cloudy

Time	Volume Purged	pH	Conductivity	T	Comments
1335	5	7.9	1450	68°C	Cloudy, sandy
1340	10	7.8	1450	69°C	Cloudy, sandy
1344	15	7.8	1500	69°C	Cloudy
1350	20	7.9	1550	70°C	Cloudy
1355	25	N/G	2000	70°C	Cloudy
1400	30	N/G	2000	70°C	Cloudy

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

Time Field Parameter Measurement Begins: 1435

	Rep #1	Rep #2	Rep #3	Rep #4
pH	N/G	N/G	N/G	N/G
Conductivity	1950	1950	1950	1950
T°C	69°C	69°C	69°C	69°C

Pre-Sample Collection Gallons Purged: 30

Time Sample Collection Begins: 1410

Time Sample Collection Ends: 1430

Total Gallons Purged:

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 32645.00 Site: Harsch - Alameda Date: 11/30/90

Well No: MW-5 Sampling Team: Mike Springman

Sampling Method: Submersible pump/disposal bailer

Field Conditions: Clear skies, dry, warm

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth to Well: 15.6 Time: 1315 Depth to Water Before Purging: 6.5

Volume Height of Water Column:			2-inch	4-inch		Volume		Purge Factor		To Purge
9.1	*		.16	(.65)	=	5.91	*	5	=	29.55

Depth Purging From: 15 Time Purging Begins: 1330

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1335	5	7.2	1600	69°C	Cloudy into clear
1339	10	7.2	1500	68°C	Clear
1343	15	7.2	2100	68°C	Clear
1349	20	7.6	4100	68°C	Clear purged dry
1358	25	7.8	2100	68°C	Partly cloudy
1403	30	7.8	3900	68°C	Partly cloudy

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

Time Field Parameter Measurement Begins: 1425

	Rep #1	Rep #2	Rep #3	Rep #4
pH	8	8	8	8
Conductivity	2350	2450	2300	2400
T°C	N/A	N/A	N/A	N/A

Pre-Sample Collection Gallons Purged:	30
Time Sample Collection Begins:	1410
Time Sample Collection Ends:	1420
Total Gallons Purged:	31

Comments: Temperature not taken for field parameters because thermometer was broken.

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 32645.00 Site: Harsch - Alameda Date: 11/30/90

Well No: MW-7 Sampling Team: Mike Springman

Sampling Method: Disposable bailer

Field Conditions: Clear skies, dry, cool

Describe Equipment Decontamination Before Sampling This Well:

Disposable bailers, no decontamination required

Total Depth to Well: 12.38 Time: 1445 Depth to Water Before Purging: 7.86

Volume Height of Water Column:		2-inch		4-inch		Volume		Purge Factor		To Purge
4.52	*	(.16)		.65	=	.72	*	5	=	3.6

Depth Purging From: 11.5 Time Purging Begins: 1455

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1457	1	8	1200	N/A	Clear
1501	2	8	1400	N/A	Clear
1505	3	8	1250	N/A	Clear
1509	4	8	1200	N/A	Clear

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

Time Field Parameter Measurement Begins: 1539

	Rep #1	Rep #2	Rep #3	Rep #4
pH	12+	8.4	8.4	8.4
Conductivity	1100	1050	1000	1000
T°C	N/A	N/A	N/A	N/A

Pre-Sample Collection Gallons Purged: 4

Time Sample Collection Begins: 1520

Time Sample Collection Ends: 1535

Total Gallons Purged: 5

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 32645.00 Site: Harsch - Alameda Date: 11/30/90

Well No: MW-8 Sampling Team: Mike Springman

Sampling Method: Submersible pump/disposable bailer

Field Conditions: Clear skies, dry, cool

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth to Well: 11.74 Time: 1545 Depth to Water Before Purging: 7.4

Volume Height of Water Column:		2-inch		4-inch		Volume		Purge Factor		To Purge
4.34	*	(.16)		.65	=	.69	*	5	=	3.45

Depth Purging From: 11 Time Purging Begins: 1550

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1555	1	8.4	1600	N/A	Clear
1600	2	8.4	1750	N/A	Clear
1604	3	8.4	1950	N/A	Clear
1608	4	8.4	2000	N/A	Clear

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

Time Field Parameter Measurement Begins: 1630

	Rep #1	Rep #2	Rep #3	Rep #4
pH	8.6	8.4	8.6	8.4
Conductivity	1800	1800	1800	1750
T°C	N/A	N/A	N/A	N/A

Pre-Sample Collection Gallons Purged: 4

Time Sample Collection Begins: 1615

Time Sample Collection Ends: 1625

Total Gallons Purged: 5

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 32645.00 Site: Harsch - Alameda Date: 11/30/90

Well No: MW-9 Sampling Team: Mike Springman

Sampling Method: Submersible pump/disposable bailer

Field Conditions: Clear skies, dry, cool

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth to Well: 15.26 Time: 0950 Depth to Water Before Purging: 7.88

Volume Height of Water Column:		2-inch		4-inch		Volume		Purge Factor		To Purge
7.38	*	.16		(.65)	=	4.79	*	5	=	23.95

Depth Purging From: 14 Time Purging Begins: 1030

Notes on Initial Discharge: Water slightly cloudy

Time	Volume Purged	pH	Conductivity	T	Comments
1040	5	7.7	1650	70°C	Slightly cloudy
1045	10	7.8	1850	70°C	Cloudy
1050	15	8.2	1400	69°C	Cloudy, pump rate slowing
1055	20	8.2	1500	69°C	Cloudy
1100	25	8.2	1500	69°C	Cloudy

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

Time Field Parameter Measurement Begins: 1135

	Rep #1	Rep #2	Rep #3	Rep #4
pH	8.0	8.2	8.0	8.0
Conductivity	1450	1500	1450	1500
T°C	69°C	70°C	70°C	70°C

Pre-Sample Collection Gallons Purged: 25

Time Sample Collection Begins: 1115

Time Sample Collection Ends: 1130

Total Gallons Purged: 26

Comments:

Clayton
ENVIRONMENTAL
CONSULTANTS

QUARTERLY SAMPLING

APRIL 1991

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 33909.00 *Site*: Harsch - Alameda *Date*: 4/16/91

Well No: MW-1 *Sampling Team*: Robyn Seymour/Mike Springman

Sampling Method: Purged with pump, sampled with bailer

Field Conditions: Sunny, windy, 55 to 60°F

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well: 14.84 ft. *Time*: 1350 *Depth to Water Before Purging*: 6.14 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
8.70 ft.	*	.16	(.65)	=	5.65	*	4	=	22.67 gals.

Depth Purging From: 13.5 ft. *Time Purging Begins*: 1355

Notes on Initial Discharge: Clear

Time	Volume Purged	pH	Conductivity	T	Comments
1359	5	7.6	5,000	66°C	
1401	10	7.6	4,600	66°C	
1404	15	7.6	5,000	66°C	
1407	20	7.6	5,000	65°C	
1410	23	7.6	5,000	65°C	

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

Time Field Parameter Measurement Begins:

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.6	7.6	7.6	7.6
Conductivity	4,000	4,000	4,000	4,000
T°C	64°C	64°C	64°C	64°C

Pre-Sample Collection Gallons Purged: 23

Time Sample Collection Begins: 1420

Time Sample Collection Ends: 1430

Total Gallons Purged: 25

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 33909.00 *Site*: Harsch - Alameda *Date*: 4/17/91

Well No: MW-2 *Sampling Team*: Mike Springman

Sampling Method: Purged with pump, sampled with bailer

Field Conditions: Sunny, clear, warm

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well: 14.84 ft. *Time*: 1100 *Depth to Water Before Purging* 6.38 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
8.46 ft.	*	.16	(.65)	=	5.49	*	4	=	21.96 gals.

Depth Purging From: 14 ft. *Time Purging Begins*: 1115

Notes on Initial Discharge: Slightly cloudy

Time	Volume Purged	pH	Conductivity	T	Comments
1117	5	7.4	500	62°C	Clear
1120	10	7.6	1200	62°C	Slightly cloudy
1124	15	7.4	1100	64°C	Clear
1128	20	7.4	1100	64°C	Clear
1132	25	7.4	1100	64°C	Clear

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

Time Field Parameter Measurement Begins: 1207

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.2	7.2	7.2	7.2
Conductivity	600	600	600	600
T°C	64°C	64°C	64°C	64°C

Pre-Sample Collection Gallons Purged: 25

Time Sample Collection Begins: 1155

Time Sample Collection Ends: 1205

Total Gallons Purged: 26

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 33909.00 *Site*: Harsch - Alameda *Date*: 4/17/91

Well No: MW-3 *Sampling Team*: Mike Springman

Sampling Method: Purged with pump, sampled with bailer

Field Conditions: Sunny, clear, warm

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well: 14.4 ft. *Time*: 1235 *Depth to Water Before Purging*: 6.3 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
8.1 ft.	*	.16	(.65)	=	5.26	*	4	=	21.04 gals.

Depth Purging From: 14 ft. *Time Purging Begins*: 1242

Notes on Initial Discharge: Clear, no odor

Time	Volume Purged	pH	Conductivity	T	Comments
1244	5	7.4	1,200	64°C	Clear
1247	10	7.4	1,400	64°C	Clear
1250	15	7.4	1,500	64°C	Clear
1253	20	7.4	1,500	64°C	Clear

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	7.4	7.4	7.4	7.4
Conductivity	1,200	1,200	1,200	1,200
T°C	64°C	64°C	64°C	64°C

Pre-Sample Collection Gallons Purged: 20

Time Sample Collection Begins: 1310

Time Sample Collection Ends: 1315

Total Gallons Purged: 21

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 33909.00 *Site*: Harsch - Alameda *Date*: 4/17/91

Well No: MW-4 *Sampling Team*: Mike Springman

Sampling Method: Purged with pump, sampled with bailer

Field Conditions: Sunny, clear, warm

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well: 16.84 ft. *Time*: 1510 *Depth to Water Before Purging*: 6.22 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
10.62 ft.	*	.16	(.65)	=	6.9	*	4	=	27.6 gals.

Depth Purging From: 16 ft. *Time Purging Begins*: 1520

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1522	5	7.4	1,000	64°C	Clear, no odor
1524	10	7.4	1,600	64°C	Clear
1528	15	7.6	1,700	64°C	Clear
1532	20	7.6	1,800	64°C	Clear
1535	25	7.6	1,800	64°C	Clear

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

Time Field Parameter Measurement Begins:

	Rep #1	Rep #2	Rep #3	Rep #4
pH				
Conductivity				
T°C				

Pre-Sample Collection Gallons Purged: 21

Time Sample Collection Begins: 1510

Time Sample Collection Ends: 1520

Total Gallons Purged: 23

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 34683.07 *Site*: Harsch *Date*: May 1, 1991

Well No: MW-5 *Sampling Team*: Richard Silva

Sampling Method: Disposable bailer for purging and sampling

Field Conditions: Cloudy, windy, light drizzle at times, ~50°F

Describe Equipment Decontamination Before Sampling This Well:

Total Depth of Well: 14.90 ft. *Time*: 1145 *Depth to Water Before Purging* 5.85 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
9.05 ft.	*	.16	(.65)	=	5.88	*	4	=	23.53 gals.

Depth Purging From: ft. *Time Purging Begins*: 1155

Notes on Initial Discharge: Brownish silty water, strong odor

Time	Volume Purged	pH	Conductivity	T	Comments
1201	5	7.2	2400	17.2°C	Brownish, silty water, strong odor
1210	10	7.2	2400	17.2°C	Brownish, silty water, strong odor
1221	15	7.2	2400	17.2°C	Brownish, silty water, strong odor
1230	20	7.2	2500	17.2°C	Brownish, silty water, strong odor
1241	25	7.2	2450	17.2°C	Brownish, silty water, strong odor

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

Time Field Parameter Measurement Begins: 1310

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.2	7.2	7.2	7.2
Conductivity	2400	2450	2400	2450
T°C	17.2°C	17.2°C	17.2°C	17.2°C

Pre-Sample Collection Gallons Purged: 25

Time Sample Collection Begins: 1250

Time Sample Collection Ends: 1300

Total Gallons Purged: 27

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 33909.00 *Site*: Harsch - Alameda *Date*: 4/16/91

Well No: MW-7 *Sampling Team*: Robyn Seymour/Mike Springman

Sampling Method: Purged with pump, sampled with bailer

Field Conditions: Sunny, windy, 55 to 60°F

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well: 11.74 ft. *Time*: 1120 *Depth to Water Before Purging* 5.8 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
5.94 ft.	*	(.16)	.65	=	.95	*	4	=	2.8 gals.

Depth Purging From: 11 ft. *Time Purging Begins*: 1128

Notes on Initial Discharge: Cloudy, no odor

Time	Volume Purged	pH	Conductivity	T	Comments
1131	1	7.8	900	64°C	Cloudy
1134	2	7.8	1,500	61°C	
1136	3	7.8	1,500	60°C	
1139	4	7.8	1,200	60°C	Cleared up

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

Time Field Parameter Measurement Begins: 1200

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.8	7.8	7.8	7.8
Conductivity	1,000	700	800	800
T°C	61°C	60°C	60°C	60°C

Pre-Sample Collection Gallons Purged: 4

Time Sample Collection Begins: 1150

Time Sample Collection Ends: 1200

Total Gallons Purged: 5

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 33909.00 *Site*: Harsch - Alameda *Date*: 4/17/91

Well No: MW-8B *Sampling Team*: Mike Springman

Sampling Method: Purged with pump, sampled with bailer

Field Conditions: Sunny, windy, 55 to 60°F

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well:		*Time*:		*Depth to Water Before Purging*:	
	22.6 ft.		1340		6.86 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
15.74 ft.	*	.16	(.65)	=	10.23	*	4	=	40.92 gals.

Depth Purging From: 15 ft. *Time Purging Begins*: 1352

Notes on Initial Discharge: Clear, no odor

Time	Volume Purged	pH	Conductivity	T	Comments
1356	10	7.4	5,000+	67°C	Clear
1400	20	7.6	5,000+	66°C	Clear
1406	30	7.6	5,000+	66°C	Clear
1413	40	7.6	5,000+	66°C	Clear

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

Time Field Parameter Measurement Begins: 1450

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.6	7.6	7.6	7.6
Conductivity	5,000+	5,000+	5,000+	5,000+
T°C	62°C	62°C	62°C	62°C

Pre-Sample Collection Gallons Purged: 40

Time Sample Collection Begins: 1430

Time Sample Collection Ends: 1445

Total Gallons Purged: 41

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 33909.00 *Site*: Harsch - Alameda *Date*: 4/16/91

Well No: MW-9 *Sampling Team*: Robyn Seymour/Mike Springman

Sampling Method: Purged with pump, sampled with bailer

Field Conditions: Sunny, windy, 55 to 60°F

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well: 15.28 ft. *Time*: 1449 *Depth to Water Before Purging*: 7.38 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
7.90 ft.	*	.16	(.65)	=	5.13	*	4	=	20.54 gals.

Depth Purging From: 14.5 ft. *Time Purging Begins*:

Notes on Initial Discharge: Clear

Time	Volume Purged	pH	Conductivity	T	Comments
1502	5	7.6	2,000	66°C	
1504	8	7.4	2,000	64°C	
1506	11	7.4	2,000	66°C	Cloudy
1508	17	7.4	2,000	66°C	Cleared
1510	21	7.4	2,000	66°C	

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

Time Field Parameter Measurement Begins:

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.6	7.6	7.6	7.6
Conductivity	2,200	2,200	2,300	2,300
T°C	64°C	64°C	64°C	64°C

Pre-Sample Collection Gallons Purged: 24

Time Sample Collection Begins: 1300

Time Sample Collection Ends: 1310

Total Gallons Purged: 26

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: 33909.00 *Site*: Harsch - Alameda *Date*: 4/16/91

Well No: MW-14 *Sampling Team*: Robyn Seymour/Mike Springman

Sampling Method: Purged with pump, sampled with bailer

Field Conditions: Sunny, windy, 55 to 60°F

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well: 14 ft. *Time*: 1230 *Depth to Water Before Purging*: 4.74 ft.

Volume Height of Water Column		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
9.26 ft.	*	.16	(.65)	=	6.02	*	4	=	24 gals.

Depth Purging From: 13 ft. *Time Purging Begins*:

Notes on Initial Discharge: Crystal clear

Time	Volume Purged	pH	Conductivity	T	Comments
1241	**10**	**7.8**	**3,500**	**64°C**	Clear
1242	12	7.8	3,500	64°C	
1244	15	7.6	5,000	64°C	
1246	20	7.6	5,000	64°C	
1248	22	7.6	5,000	64°C	
1250	24	7.6	5,000	64°C	

Field Conditions: Sunny, windy, 55 to 60°F

Describe Equipment Decontamination Before Sampling This Well:

Used clean pump and disposable bailers

Total Depth of Well:	14 ft.	*Time*:	1230	*Depth to Water Before Purging*:	4.74 ft.

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
9.26 ft.	*	.16	.65	=	6.02	*	4	=	24 gals.

Depth Purging From: 13 ft. *Time Purging Begins*:

Notes on Initial Discharge: Crystal clear

Time	Volume Purged	pH	Conductivity	T	Comments
1241	10	7.8	3,500	64°C	Clear
1242	12	7.8	3,500	64°C	
1244	15	7.6	5,000	64°C	
1246	20	7.6	5,000	64°C	
1248	22	7.6	5,000	64°C	
1250	24	7.6	5,000	64°C	

Clayton
ENVIRONMENTAL
CONSULTANTS

QUARTERLY SAMPLING

JULY 1991

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **34683.07** *Site*: **Harsch - Alameda** *Date*: **7/10/91**

Well No: **MW-2** *Sampling Team*: **G. Williams/L. Compton**

Sampling Method: **Submersible pump and disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth of Well: **14.28 ft.** *Time*: **1400** *Depth to Water Before Purging*: **6.71 ft.**

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
7.57 ft.	*	.16	(.65)	=	**4.92 gals**	*	**5**	=	**24.6 gals.**

Depth Purging From: **13 ft.** *Time Purging Begins*: **1403**

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1405	**5**	**7.4**	**350**	**66°**	
1409	10	7.4	375	66°	
1413	15	7.5	700	66°	
1417	20	7.6	700	66°	
1423	25	7.7	1500	66°	

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

Time Field Parameter Measurement Begins: **1433**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**7.6**	**7.6**	**7.6**	**7.6**
Conductivity	**400**	**350**	**350**	**500**
T°F	**68**	**68**	**68**	**68**

Pre-Sample Collection Gallons Purged: **25**

Time Sample Collection Begins: **1445**

Time Sample Collection Ends: **1455**

Total Gallons Purged: **26**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **34683.07** *Site*: **Harsch - Alameda** *Date*: **7/10/91**

Well No: **MW-3** *Sampling Team*: **G. Williams/L. Compton**

Sampling Method: **Submersible pump and disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth of Well: **12.92 ft.** *Time*: **1300** *Depth to Water Before Purging*: **6.16 ft.**

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
6.76 ft.	*	.16	(.65)	=	**4.39 gals**	*	**5**	=	**21.9 gals.**

Depth Purging From: **12 ft.** *Time Purging Begins*: **1306**

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1307	**5**	**7.4**	**950**	**66°**	**Clear**
1308	10	7.4	900	66°	Slows at 10 gallons
1310	15	7.4	1400	66°	
1315	20	7.4	1550	66°	
1318	25	7.4	1600	66°	

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

Time Field Parameter Measurement Begins: 1325

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.5	7.4	7.4	7.4
Conductivity	1350	1300	1300	1300
T°F	67	67	67	67

Pre-Sample Collection Gallons Purged: 22

Time Sample Collection Begins: 1335

Time Sample Collection Ends: 1337

Total Gallons Purged: 23

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **34683.07** *Site*: **Harsch - Alameda** *Date*: **7/11/91**

Well No: **MW-4** *Sampling Team*: **G. Williams**

Sampling Method: **Submersible pump and disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth of Well: **15.65 ft.** *Time*: **1210** *Depth to Water Before Purging*: **6.05 ft.**

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
9.6 ft.	*	.16	(.65)	=	**6.24 gals**	*	**5**	=	**31.2 gals.**

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

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1215	**5**	**7.8**	**1600**	**71°**	
1217	10	7.8	1700	71°	
1219	15	7.8	1750	71°	
1221	20	7.8	1750	71°	
1223	25	7.8	1750	71°	
1226	30	7.8	1700	71°	

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

Time Field Parameter Measurement Begins: **1246**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**7.8**	**7.8**	**7.75**	**7.8**
Conductivity	**1700**	**1700**	**1700**	**1700**
T°F	**71**	**71**	**71**	**71**

Pre-Sample Collection Gallons Purged: **32**

Time Sample Collection Begins: **1245**

Time Sample Collection Ends: **1246**

Total Gallons Purged: **33**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **34683.07** *Site*: **Harsch - Alameda** *Date*: **7/10/91**

Well No: **MW-5** *Sampling Team*: **G. Williams/L. Compton**

Sampling Method: **Submersible pump and disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth of Well: **12.70 ft.** *Time*: **1400** *Depth to Water Before Purging*: **4.67 ft.**

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
8.03 ft.	*	.16	(.65)	=	**5.21 gals**	*	**5**	=	**26.1 gals.**

Depth Purging From: **11 ft.** *Time Purging Begins*: **1251**

Notes on Initial Discharge: **Slightly cloudy**

Time	Volume Purged	pH	Conductivity	T	Comments
1251	**0**	**7.5**	**1700**	**73°**	**Slightly cloudy**
1254	5	7.3	1450	73°	Clears
1257	10	7.2	1450	73°	
1300	15	7.3	1600	73°	
1305	20	7.3	1700	73°	
1310	25	7.3	1650	73°	

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

Time Field Parameter Measurement Begins: **1327**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.3	7.3	7.3	7.3
Conductivity	1400	1400	1400	1400
T°F	73	73	73	73

Pre-Sample Collection Gallons Purged: **25**

Time Sample Collection Begins: **1335**

Time Sample Collection Ends: **1345**

Total Gallons Purged: **26**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **34683.07** *Site*: **Harsch - Alameda** *Date*: **7/11/91**

Well No: **MW-7** *Sampling Team*: **G. Williams**

Sampling Method: **Submersible pump and disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth of Well: **13 ft.** *Time*: **1300** *Depth to Water Before Purging*: **4.8 ft.**

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
8.2 ft.	*	.16	(.65)	=	**5.33 gals**	*	**5**	=	**26.65 gals.**

Depth Purging From: **12 ft.** *Time Purging Begins*: **1258**

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1300	**5**	**8.0**	**1500**	**71°**	
1303	**10**	**7.9**	**1400**	**71°**	
1306	**15**	**7.9**	**1900**	**71°**	
1309	20	7.9	2200	71°	
1315	25	7.9	2700	71°	
1318	28	7.9	3500	71°	
1322	33	7.9	1800	71°	
1325	38	7.9	1800	71°	

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

Time Field Parameter Measurement Begins: **1325**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**7.9**	**7.9**	**7.9**	**7.9**
Conductivity	**1800**	**1700**	**1700**	**1700**
T°F	**71**	**71**	**71**	**71**

Pre-Sample Collection Gallons Purged: **38**

Time Sample Collection Begins: **1340**

Time Sample Collection Ends: **1342**

Total Gallons Purged: **39**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **34683.07** *Site*: **Harsch - Alameda** *Date*: **7/11/91**

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

Sampling Method: **Submersible pump and disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth of Well: **21.95** *Time*: **1005** *Depth to Water Before Purging*: **6.46.**

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
15.49	*	.16	(.65)	=	**10.07 gals**	*	**5**	=	**50.34 gals.**

Depth Purging From: **20 ft.** *Time Purging Begins*: **1020**

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1035	**10**	**7.6**	**>5000***	**72°**	**Strong hydrogen sulfide odor**
1050	20	7.7	*	72°	Strong hydrogen sulfide odor
1105	30	7.8	*	72°	Strong hydrogen sulfide odor
1120	40	7.9	*	72°	Strong hydrogen sulfide odor
1135	50	7.8	*	72°	Strong hydrogen sulfide odor

* Off scale

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

Time Field Parameter Measurement Begins: **1145**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**8.2**	**8.3**	**8.3**	**8.3**
Conductivity	**2200**	**2000**	**2000**	**2000**
T°F	**71**	**71**	**71**	**71**

Pre-Sample Collection Gallons Purged: **50**

Time Sample Collection Begins: **1150**

Time Sample Collection Ends: **1156**

Total Gallons Purged: **51**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **34683.07** *Site*: **Harsch - Alameda** *Date*: **7/17/91**

Well No: **MW-9B** *Sampling Team*: **M. Springman**

Sampling Method: **Submersible pump and disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth of Well: **14.8 ft.** *Time*: **1225** *Depth to Water Before Purging*: **6.73 ft.**

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
8.05 ft.	*	.16	(.65)	=	**5.23 gals**	*	**4**	=	**20.93 gals.**

Depth Purging From: **14 ft.** *Time Purging Begins*: **1240**

Notes on Initial Discharge: **Clear, no odor**

Time	Volume Purged	pH	Conductivity	T	Comments
1243	**5**	**7.7**	**1900**	**60°**	**Clear**
1247	10	7.6	1230	60°	Clear
1250	15	7.65	1170	60°	Clear
1305	20	7.6	1200	60°	Clear

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

Time Field Parameter Measurement Begins: **1330**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**7.6**	**7.6**	**7.6**	**7.6**
Conductivity	**1200**	**1200**	**1200**	**1200**
T°F	**60**	**60**	**60**	**60**

Pre-Sample Collection Gallons Purged: **20**

Time Sample Collection Begins: **1320**

Time Sample Collection Ends: **1325**

Total Gallons Purged: **22**

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job No: **34683.07** *Site*: **Harsch - Alameda** *Date*: **7/10/91**

Well No: **MW-14** *Sampling Team*: **G. Williams/L. Compton**

Sampling Method: **Submersible pump and disposable bailer**

Field Conditions: **Clear, warm**

Describe Equipment Decontamination Before Sampling This Well:

Submersible pump decontaminated with detergent wash, double rinsed, and steam cleaned

Total Depth of Well: **14.17 ft.** *Time*: **1130** *Depth to Water Before Purging*: **5.55 ft.**

Volume Height of Water Column:		*2-inch*	*4-inch*		*Volume*		*Purge Factor*		*To Purge*
8.62 ft.	*	.16	(.65)	=	**5.60 gals**	*	**5**	=	**28.02 gals.**

Depth Purging From: **13 ft.** *Time Purging Begins*: **1145**

Notes on Initial Discharge:

Time	Volume Purged	pH	Conductivity	T	Comments
1145	**3**	**7.4**	**2600**	**74°**	**Clear**
1147	**10**	**7.4**	**4200**	**72°**	**Slows after ~5 gallons**
1149	**15**	**7.4**	**3800**	**72°**	
1151	**20**	**7.4**	**4800**	**72°**	
1154	**25**	**7.4**	**5000**	**72°**	
1157	30	7.4	5300	72°	
1158	35	7.4	5400	72°	
1159	36	7.4	4400	72°	
1200	37	7.4	4400	72°	
1201	40	7.4	3700	72°	
1206	50	7.4	3800	72°	

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

Time Field Parameter Measurement Begins: **1215**

	Rep #1	Rep #2	Rep #3	Rep #4
pH	**7.5**	**7.5**	**7.8**	**7.5**
Conductivity	**2900**	**2900**	**2750**	**2900**
T°F	**72**	**72**	**72**	**72**

Pre-Sample Collection Gallons Purged: **50**

Time Sample Collection Begins: **1220**

Time Sample Collection Ends: **1230**

Total Gallons Purged: **51**

Comments:

APPENDIX F

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS FOR SOIL SAMPLES COLLECTED FROM BOREHOLES B-8B AND B-14

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(415) 426-2600
Fax (415) 426-0106

Clayton
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CONSULTANTS

April 23, 1991

Ms. Robyn Seymour
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, Ca. 94566

Client Ref. 33909.00
Clayton Project No. 91041.16

Dear Ms. Seymour:

Attached is our analytical laboratory report for the samples received on April 10, 1991. On April 15, 1991 you requested that Sample Rinse be analyzed for BTEX also. 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

CE 00778

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification: B-14, 5'
Lab Number: 9104116-01A
Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analytical Method: EPA 8010

Date Sampled: 04/09/91
Date Received: 04/10/91
Date Prepared: 04/11/91
Date Analyzed: 04/11/91

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.02
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
1,2-Dichloroethene (total)	540-59-0	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06
2-Chloroethylvinylether	100-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	B-8B, 5'	Date Sampled:	04/09/91
Lab Number:	9104116-02A	Date Received:	04/10/91
Sample Matrix/Media:	SOIL	Date Prepared:	04/11/91
Preparation Method:	EPA 5030	Date Analyzed:	04/11/91
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.02
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
1,2-Dichloroethene (total)	540-59-0	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06
2-Chloroethylvinylether	100-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9104116-04A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	04/11/91
Preparation Method:	EPA 5030	Date Analyzed:	04/11/91
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.02
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
1,2-Dichloroethene (total)	540-59-0	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06
2-Chloroethylvinylether	100-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	B-14, 5'	Date Sampled:	04/09/91
Lab Number:	9104116-01A	Date Received:	04/10/91
Sample Matrix/Media:	SOIL	Date Prepared:	04/11/91
Preparation Method:	EPA 5030	Date Analyzed:	04/12/91
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Xylenes	1330-20-7	ND	0.005
Gasoline	-----	ND	0.3

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	B-8B, 5'	Date Sampled:	04/09/91
Lab Number:	9104116-02A	Date Received:	04/10/91
Sample Matrix/Media:	SOIL	Date Prepared:	04/11/91
Preparation Method:	EPA 5030	Date Analyzed:	04/12/91
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	0.056	0.005
Ethylbenzene	100-41-4	ND	0.005
Xylenes	1330-20-7	ND	0.005
Gasoline	-----	ND	0.3

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9104116-04A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	04/11/91
Preparation Method:	EPA 5030	Date Analyzed:	04/11/91
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Xylenes	1330-20-7	ND	0.005
Gasoline	-----	ND	0.3

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	RINSE SAMPLE	Date Sampled:	04/09/91
Lab Number:	9104116-03A	Date Received:	04/10/91
Sample Matrix/Media:	WATER	Date Analyzed:	04/17/91
Analytical Method:	EPA 8020		

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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification: METHOD BLANK
Lab Number: 9104116-04A
Sample Matrix/Media: SOIL
Analytical Method: EPA 8020

Date Sampled: --
Date Received: --
Date Analyzed: 04/17/91

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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	See below	Date Received:	04/10/91
Lab Number:	9104116	Date Extracted:	04/12/91
Sample Matrix/Media:	SOIL	Date Analyzed:	04/14/91
Analytical Method:	EPA 8015		
Extraction Method:	EPA 3550		

Lab No.	Sample I.D.	Date Collected	Diesel Fuel (mg/kg)	Detection Limit (mg/kg)
-01A	B-14, 5'	04/09/91	1	1
-02A	B-8B, 5'	04/09/91	ND	1
-04A	METHOD BLANK	--	ND	1

ND = Less than the indicated limit of detection (LOD)
-- = Information not available or not applicable

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	B-14, 5'	Date Sampled:	04/09/91
Lab Number:	9104116-01A	Date Received:	04/10/91
Sample Matrix/Media:	SOIL	Date Digested:	04/16/91
Digestion Method:	EPA 3050	Date Analyzed:	04/16/91
Analytical Method:	EPA 6010		

Analyte	Concentration (mg/kg)	Limit of Detection (mg/kg)
Cadmium	<0.1	0.1
Chromium	20	1
Lead	3	1
Nickel	16	1
Zinc	12	1

< Less than, below limit of detection
-- Information not available or not applicable

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	B-8B, 5'	Date Sampled:	04/09/91
Lab Number:	9104116-02A	Date Received:	04/10/91
Sample Matrix/Media:	SOIL	Date Digested:	04/16/91
Digestion Method:	EPA 3050	Date Analyzed:	04/16/91
Analytical Method:	EPA 6010		

Analyte	Concentration (mg/kg)	Limit of Detection (mg/kg)
Cadmium	<0.1	0.1
Chromium	36	1
Lead	8	1
Nickel	32	1
Zinc	57	1

< Less than, below limit of detection
-- Information not available or not applicable

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9104116-04A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Digested:	04/16/91
Digestion Method:	EPA 3050	Date Analyzed:	04/16/91
Analytical Method:	EPA 6010		

Analyte	Concentration (mg/kg)	Limit of Detection (mg/kg)
Cadmium	<0.1	0.1
Chromium	<1	1
Lead	<1	1
Nickel	<1	1
Zinc	<1	1

< Less than, below limit of detection
-- Information not available or not applicable

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.16

Sample Identification:	See below	Date Sampled:	04/09/91
Lab Number:	9104116	Date Received:	04/10/91
Sample Matrix/Media:	Soil	Date Extracted:	04/16/91
Extraction Method:	Std. Method 5520E	Date Analyzed:	04/16/91
Analytical Method:	Std. Method 5520F		

Laboratory No.	Sample Identification	Hydrocarbons (mg/kg)
-01	B-14, 5'	<50
-02	B-8B, 5'	<50
-MB	Method Blank	<50
Limit of Detection:		50

< Less than the indicated limit of detection (LOD)

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Harsch Investment Corp

For Clayton Use Only	Page ____ of ____
Project No.	
Batch No.	9104116
Client No.	
Date Logged In	4/10/91 By [illegible]

REPORT RESULTS TO
Name: Robyn Seymour — Title: Geologist
Company: Clayton — Dept. EE
Mailing Address
City, State, Zip
Telephone No — Telefax No.

Purchase Order No. — Client Job No. 339091

SEND INVOICE TO
Name
Company — Dept.
Address
City, State, Zip

Date Results Required. | Rush Charges Authorized? ☐ Yes ☒ No | Phone Results ☐

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

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

* Explanation of Preservative

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	3510 for diesel	5030/8015 gas/BTEX	5520 waste oil & grease	8010 purgeable halocarbons	ICAP Pb, Cadmium, Cr, Zinc, Nickel	HOLD				FOR LAB USE ONLY
B-14, 5'	4/9/91	Soil	2x8	1	✓	✓	✓	✓	✓					01A
B EB, 5'	4/9/91	Soil	↓	↓	✓	✓	✓	✓	✓					02
Rinse sample	4/9/91	water	2x40ml	2						✓				03↓, B

CHAIN OF CUSTODY

Relinquished by: Robyn Seymour	Date/Time 4/10/91 1100	Received by: J Mitchell	Date/Time 4/10/91 @ 11:00 AM
Relinquished by: J Mitchell	Date/Time 4/10/91 12:33	Received at Lab by: Rebecca [illegible]	Date/Time 4/10/91 12:33 pm
Method of Shipment.		Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)	

Authorized by: Robyn Seymour Date 4/10/91
(Client Signature Must Accompany Request)

CE 00792

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

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

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

APPENDIX G

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS FOR QUARTERLY GROUNDWATER SAMPLING NOVEMBER 1990

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

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

CE 00888

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

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

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:	9011261-02A	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	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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90112.61

Sample Identification:	MW-4	Date Sampled:	11/29/90
Lab Number:	9011261-03A	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

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

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:	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

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

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

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90112.61

Sample Identification: MW-3
Lab Number: 9011261-02G
Sample Matrix/Media: WATER
Analytical Method: EPA 601

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

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90112.61

Sample Identification: MW-4
Lab Number: 9011261-03G
Sample Matrix/Media: WATER
Analytical Method: EPA 601

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

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90112.61

Sample Identification: METHOD BLANK
Lab Number: 9011261-05A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 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	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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90112.61

Sample Identification:	See below	Date Sampled:	11/29/90
Lab Number:	9011261	Date Received:	11/29/90
Sample Matrix/Media:	Water	Date Extracted:	12/06/90
Analytical Method:	EPA 8015	Date Analyzed:	12/07/90
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 Detection:		50

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90112.61

Sample Identification:	See below	Date Sampled:	11/29/90
Lab Number:	9011261	Date Received:	11/29/90
Sample Matrix/Media:	Water	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 detection:		1

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

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page ____ of ____
Project No.	2111G-11
Batch No.	9011261
Client No.	
Date Logged In	11/30/90 By TS

REPORT RESULTS TO

Name: Laurene Compton | Title:
Company: Clayton | Dept.:
Mailing Address:
City, State, Zip:
Telephone No: | Telefax No.:

SEND INVOICE TO

Purchase Order No.: | Client Job No.: Quarterly Sampling
Name: Harsch Investment
Company: | Dept.:
Address:
City, State, Zip:

Date Results Required: Normal TAT | Rush Charges Authorized? ☐ Yes ☑ No | Phone Results ☑

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

* Explanation of Preservative: Pres. HCl

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

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *) 8015/8020 BTEX	8015 DIESEL	418.1	601	FOR LAB USE ONLY
MW-2	11/29/90	WATER	40 mL	2	XP				01 A,B
↓	↓	↓	Liter	2		X			C,D
			Liter	2			XP		E,F
			40 mL	2				X	↓ G,H
MW-3			40 mL	2	XP				02 A,B
↓			LITER	2		X			C,D
			LITER	2			XP		E,F
			40 mL	2				X	↓ G,H
		↓							

CHAIN OF CUSTODY

Relinquished by: M Spragman | Date/Time 11-29-90 4:10PM
Relinquished by: | Date/Time
Method of Shipment:

Received by: | Date/Time
Received at Lab by: Tracy Salus | Date/Time 11/29/90 4:15PM
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: CE 0065:9

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

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

6/90

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only | Page ____ of ____
Project No. [illegible]
Batch No. 9011261
Client No.
Date Logged In 11/30/90 By TS

REPORT RESULTS TO
Name: Laurene Compton | Title:
Company: Clayton | Dept.:
Mailing Address:
City, State, Zip:
Telephone No: | Telefax No.:

Purchase Order No. | Client Job No. Quarterly Sampling

SEND INVOICE TO
Name: Harsch Investment
Company: | Dept.:
Address:
City, State, Zip:

Date Results Required: Normal TAT
Rush Charges Authorized? ☐ Yes ☒ No
Phone Results ☒

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

* Explanation of Preservative: Pres. 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	8015/8020 GAS & BTEX	8015 DIESEL	418.1	601	Hold						FOR LAB USE ONLY
MW-4	11/29/90	WATER	40 ML	2	XP										03A,B
↓	↓	↓	LITER	2		X									C,D
↓	↓	↓	LITER	2			XP								E,F
↓	↓	↓	40 ML	2				X							G,H
Trip Blank (0112690)		H_2O	40ml	1					XP						04A

CHAIN OF CUSTODY
Relinquished by: M Springmen | Date/Time 11-29-90 4:10 PM
Received by: | Date/Time
Relinquished by: | Date/Time
Received at Lab by: Terry Saito | Date/Time 11/29/90 4:15pm
Method of Shipment
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:

CE 00900

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

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

6/90

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

December 14, 1990

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

Client Ref. 29196.00
Clayton Project No. 90120.05

Dear Ms. Compton:

Attached is our analytical laboratory report for the samples received on November 30, 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/tb
Attachments

CE 00869

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification:	MW-1	Date Sampled:	11/30/90
Lab Number:	9012005-01A	Date Received:	11/30/90
Sample Matrix/Media:	WATER	Date Prepared:	12/08/90
Preparation Method:	EPA 5030	Date Analyzed:	12/08/90
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification:	MW-5	Date Sampled:	11/30/90
Lab Number:	9012005-02A	Date Received:	11/30/90
Sample Matrix/Media:	WATER	Date Prepared:	12/08/90
Preparation Method:	EPA 5030	Date Analyzed:	12/08/90
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	800	4
Toluene	108-88-3	12	3
Ethylbenzene	100-41-4	320	3
Xylenes	1330-20-7	66	4
Gasoline	-----	2,900	500

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

Clayton
ENVIRONMENTAL CONSULTANTS

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification:	MW-9	Date Sampled:	11/30/90
Lab Number:	9012005-03A	Date Received:	11/30/90
Sample Matrix/Media:	WATER	Date Prepared:	12/08/90
Preparation Method:	EPA 5030	Date Analyzed:	12/08/90
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification:	MW-8	Date Sampled:	11/30/90
Lab Number:	9012005-04A	Date Received:	11/30/90
Sample Matrix/Media:	WATER	Date Prepared:	12/08/90
Preparation Method:	EPA 5030	Date Analyzed:	12/08/90
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification:	MW-7	Date Sampled:	11/30/90
Lab Number:	9012005-05A	Date Received:	11/30/90
Sample Matrix/Media:	WATER	Date Prepared:	12/08/90
Preparation Method:	EPA 5030	Date Analyzed:	12/08/90
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9012005-07A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	12/08/90
Preparation Method:	EPA 5030	Date Analyzed:	12/08/90
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification: MW-1
Lab Number: 9012005-01G
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 11/30/90
Date Received: 11/30/90
Date Analyzed: 12/11/90

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	0.6	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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification: MW-5
Lab Number: 9012005-02G
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 11/30/90
Date Received: 11/30/90
Date Analyzed: 12/11/90

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification: MW-9
Lab Number: 9012005-03G
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 11/30/90
Date Received: 11/30/90
Date Analyzed: 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	1.5	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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification: MW-8
Lab Number: 9012005-04G
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 11/30/90
Date Received: 11/30/90
Date Analyzed: 12/07/90

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	60
Bromomethane	74-83-9	ND	70
Vinyl chloride	75-01-4	ND	50
Chloroethane	75-00-3	ND	50
Methylene chloride	75-09-2	ND	200
1,1-Dichloroethene	75-35-4	ND	20
1,1-Dichloroethane	75-35-3	ND	40
Trans-1,2-Dichloroethene	156-60-5	ND	40
Cis-1,2-Dichloroethene	156-59-2	440	40
1,2-Dichloroethene (total)	540-59-0	440	40
Chloroform	67-66-3	ND	50
1,2-Dichloroethane	107-06-2	ND	30
1,1,1-Trichloroethane	71-55-6	ND	50
Carbon tetrachloride	56-23-5	ND	60
Bromodichloromethane	75-27-4	ND	70
1,2-Dichloropropane	78-87-5	ND	50
Cis-1,3-Dichloropropene	10061-01-5	ND	50
Trichloroethene	79-01-6	520	30
Dibromochloromethane	124-48-1	ND	60
1,1,2-Trichloroethane	79-00-5	ND	60
Trans-1,3-Dichloropropene	10061-02-6	ND	60
2-Chloroethylvinylether	100-75-8	ND	100
Bromoform	75-25-2	ND	70
Tetrachloroethene	127-18-4	1,900	50
1,1,2,2-Tetrachloroethane	79-34-5	ND	50
Chlorobenzene	108-90-7	ND	70
1,3-Dichlorobenzene	541-73-7	ND	200
1,2-Dichlorobenzene	95-50-1	ND	400
1,4-Dichlorobenzene	106-46-7	ND	400
Dichlorodifluoromethane	75-71-8	ND	100
Trichlorofluoromethane	75-69-4	ND	40
Freon 113	76-13-1	ND	60

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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification: MW-7
Lab Number: 9012005-05G
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 11/30/90
Date Received: 11/30/90
Date Analyzed: 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	1.2	0.4
1,2-Dichloroethene (total)	540-59-0	1.2	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	3.0	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	0.9	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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification: METHOD BLANK
Lab Number: 9012005-07A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 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	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

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification:	See below	Date Sampled:	11/30/90
Lab Number:	9012005	Date Received:	11/30/90
Sample Matrix/Media:	Water	Date Extracted:	12/05/90
Extraction Method:	EPA 3510	Date Analyzed:	12/08/90
Analytical Method:	EPA 8015		

Laboratory No.	Sample Identification	Diesel (µg/L)	Limit of Detection (µg/L)
-01	MW-1	ND	50
-02	MW-5	ND	800[a]
-03	MW-9	ND	50
-04	MW-8	ND	50
-05	MW-7	ND	50
-MB	METHOD BLANK	ND	50

ND = Not detected at or above limit of detection

[a] Detection limit increased due to weatherd gasoline present in sample.

Results of Analysis
for
Harsch Investments

Client Reference: 29196.00
Clayton Project No. 90120.05

Sample Identification:	See below	Date Sampled:	11/30/90
Lab Number:	9012005	Date Received:	11/30/90
Sample Matrix/Media:	Water	Date Analyzed:	12/06/90
Analytical Method:	EPA 418.1		

Laboratory No.	Sample Identification	Total Recoverable Petroleum Hydrocarbons (mg/L)
-01	MW-1	<1
-02	MW-5	2
-03	MW-9	1
-04	MW-8	<1
-05	MW-7	<1
-MB	METHOD BLANK	<1
Limit of detection:		1

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

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page ____ of ____
Project No.	
Batch No.	9012005
Client No.	
Date Logged In	12/3/90 By

REPORT RESULTS TO

Name: Laurene Compton | Title:
Company: Clayton | Dept.:
Mailing Address:
City, State, Zip:
Telephone No: | Telefax No.:

Purchase Order No.: | Client Job No.: Quarterly Sampling

SEND INVOICE TO

Name: Harsch Investment
Company: | Dept.:
Address:
City, State, Zip:

Date Results Required: Normal TAT | Rush Charges Authorized? ☐ Yes ☒ No | Phone Results ☐

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

* Explanation of Preservative: Pres. w/ HCl

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

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *) 8015/8020 Gas BTEX	8015 Diesel	418.1	601	FOR LAB USE ONLY
MW-1	11-30-90	WATER	40 ML	2	XP				01A,B
↓	↓	↓	LITER	2		X			C,D
↓	↓	↓	LITER	2			XP		E,F
↓	↓	↓	40 ML	2				X	↓G,H
MW-5	↓	↓	40 ML	2	XP				02A,B
↓	↓	↓	LITER	2		X			C,D
↓	↓	↓	LITER	2			XP		E,F
↓	↓	↓	40 ML	2				X	↓G,H

CHAIN OF CUSTODY

Relinquished by: M. Spurgeman | Date/Time 11-30-90 5:35 PM
Relinquished by: | Date/Time
Method of Shipment:

Received by: | Date/Time
Received at Lab by: | Date/Time 12/3/90 5:4
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: CE 00884

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

DISTRIBUTION:
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Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page ____ of ____
Project No.	
Batch No.	9012005
Client No.	
Date Logged In	12/3/90 By TS

REPORT RESULTS TO

Name: Lawrence Compton | Title:
Company: Clayton | Dept.:
Mailing Address:
City, State, Zip:
Telephone No.: | Telefax No.:

Purchase Order No.: | Client Job No.: Quarterly Sampl

SEND INVOICE TO

Name: Harsch Investment
Company | Dept.:
Address:
City, State, Zip:

Date Results Required: Normal TAT | Rush Charges Authorized? ☐ Yes ☒ No | Phone Results ☐

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

* Explanation of Preservative: Pres. w/ 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	8015/8020 GAS & BTEX	8015 Diesel	418.1	601	FOR LAB USE ONLY
MW-9	11/30/90	WATER	40 ML	2	X				03 A,B
↓	↓	↓	LITER	2		X			C,D
			~~LITER~~	2			X		E,F
			40 ML	2				X	↓ G,H
MW-8			40 ML	2	X				04 A,B
↓			LITER	2		X			C,D
			LITER	2			X		E,F
↓	↓	↓	40 ML	2				X	↓ G,H

CHAIN OF CUSTODY

Relinquished by: M Spurgeon | Date/Time 11-30-90 5:35
Relinquished by: Walter A. Stell | Date/Time
Method of Shipment:

Received by: | Date/Time
Received at Lab by: Walter A. Stell | Date/Time 11/30/90 5:4
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: CE 00885

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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Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page ____ of ____
Project No.	
Batch No.	9012005
Client No.	
Date Logged In	12/3/90 By TS

REPORT RESULTS TO
Name: Laurene Compton — Title:
Company: Clayton — Dept.:
Mailing Address:
City, State, Zip:
Telephone No — Telefax No.

Purchase Order No. — Client Job No.: Quarterly Sampling

SEND INVOICE TO
Name: Harsch Investment
Company: — Dept.:
Address:
City, State, Zip:

Date Results Required: Normal TAT
Rush Charges Authorized? ☐ Yes ☒ No
Phone Results ☐

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

Special Instructions: (method, limit of detection, etc.)
* Explanation of Preservative: Pres. w/ Hcl

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	8015/8020 GAS BTEX	8015 Diesel	418.1	601	Hold						FOR LAB USE ONLY
MW-7	11-30-90	WATER	40 ML	2	XP										05A,B
↓	↓	↓	LITER	2		X									C,D
			LITER	2			XP								E,F
			40 ML	2				X							G,H
Trip Blank (01112.90)		H2O	40ml	1					X						

CHAIN OF CUSTODY
Relinquished by: M Spangenoff — Date/Time 11-30-90 5:35 PM — Received by: — Date/Time
Relinquished by: [signature] — Date/Time — Received at Lab by: [signature] — Date/Time 11/30/90 5:40
Method of Shipment: — Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain)

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

CE 00885

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

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

DISTRIBUTION:
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APPENDIX H

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS FOR QUARTERLY GROUNDWATER SAMPLING APRIL 1991

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

April 18, 1991

Ms. Robyn Seymour
CLAYTON ENVIRONMETAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref. 33909.00
Clayton Project No. 91041.76

Dear Ms. Seymour:

Attached is our analytical laboratory report for the samples received on April 16, 1991. 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/tb
Attachments

CE 00833

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification:	MW-7	Date Sampled:	04/16/91
Lab Number:	9104176-01A	Date Received:	04/16/91
Sample Matrix/Media:	WATER	Date Prepared:	04/17/91
Preparation Method:	EPA 5030	Date Analyzed:	04/17/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification:	MW-14	Date Sampled:	04/16/91
Lab Number:	9104176-02A	Date Received:	04/16/91
Sample Matrix/Media:	WATER	Date Prepared:	04/17/91
Preparation Method:	EPA 5030	Date Analyzed:	04/17/91
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	2.9	0.4
Toluene	108-88-3	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes	1330-20-7	0.5	0.4
Gasoline	-----	ND	50

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification:	MW-1	Date Sampled:	04/16/91
Lab Number:	9104176-03A	Date Received:	04/16/91
Sample Matrix/Media:	WATER	Date Prepared:	04/17/91
Preparation Method:	EPA 5030	Date Analyzed:	04/17/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9104176-04A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	04/17/91
Preparation Method:	EPA 5030	Date Analyzed:	04/17/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification:	See below	Date Received:	04/16/91
Lab Number:	9104176	Date Extracted:	04/16/91
Sample Matrix/Media:	WATER	Date Analyzed:	04/17/91
Analytical Method:	EPA 8015		
Extraction Method:	EPA 3510		

Lab No.	Sample I.D.	Date Collected	Diesel Fuel (ug/L)	Detection Limit (ug/L)
-01C	MW-7	04/16/91	ND	50
-02C	MW-14	04/16/91	230	50
-03C	MW-1	04/16/91	ND	50
-04A	METHOD BLANK	--	ND	50

ND = Less than the indicated limit of detection (LOD)
-- = Information not available or not applicable

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification: MW-7
Lab Number: 9104176-01E
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 04/16/91
Date Received: 04/16/91
Date Analyzed: 04/17/91

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	20
Bromomethane	74-83-9	ND	20
Vinyl chloride	75-01-4	ND	10
Chloroethane	75-00-3	ND	10
Methylene chloride	75-09-2	ND	50
1,1-Dichloroethene	75-35-4	ND	5
1,1-Dichloroethane	75-35-3	ND	10
Trans-1,2-Dichloroethene	156-60-5	ND	10
Cis-1,2-Dichloroethene	156-59-2	90	10
1,2-Dichloroethene (total)	540-59-0	90	10
Chloroform	67-66-3	ND	10
1,2-Dichloroethane	107-06-2	ND	8
1,1,1-Trichloroethane	71-55-6	ND	10
Carbon tetrachloride	56-23-5	ND	20
Bromodichloromethane	75-27-4	ND	20
1,2-Dichloropropane	78-87-5	ND	10
Cis-1,3-Dichloropropene	10061-01-5	ND	10
Trichloroethene	79-01-6	200	8
Dibromochloromethane	124-48-1	ND	20
1,1,2-Trichloroethane	79-00-5	ND	20
Trans-1,3-Dichloropropene	10061-02-6	ND	20
2-Chloroethylvinylether	100-75-8	ND	30
Bromoform	75-25-2	ND	20
Tetrachloroethene	127-18-4	1,600	10
1,1,2,2-Tetrachloroethane	79-34-5	ND	10
Chlorobenzene	108-90-7	ND	20
1,3-Dichlorobenzene	541-73-7	ND	50
1,2-Dichlorobenzene	95-50-1	ND	100
1,4-Dichlorobenzene	106-46-7	ND	100
Dichlorodifluoromethane	75-71-8	ND	30
Trichlorofluoromethane	75-69-4	ND	10
Freon 113	76-13-1	ND	20

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification: MW-14
Lab Number: 9104176-02E
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 04/16/91
Date Received: 04/16/91
Date Analyzed: 04/17/91

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	0.5	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	4.6	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	0.4	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	16	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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification: MW-1
Lab Number: 9104176-03E
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 04/16/91
Date Received: 04/16/91
Date Analyzed: 04/17/91

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	2.8	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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification: METHOD BLANK
Lab Number: 9104176-04A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 04/17/91

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.76

Sample Identification:	See below	Date Sampled:	04/16/91
Lab Number:	9104176	Date Received:	04/16/91
Sample Matrix/Media:	Water	Date Extracted:	04/17/91
Extraction Method:	Std. Method 5520B	Date Analyzed:	04/18/91
Analytical Method:	Std. Method 5520F		

Laboratory No.	Sample Identification	Hydrocarbons (mg/L)
-01	MW-7	<5
-02	MW-14	<5
-03	MW-1	<5
-MB	METHOD BLANK	<5
Limit of Detection:		5

< Less than the indicated limit of detection (LOD)

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	9104176
Client No.	
Date Logged In	4/16/91 By TS

REPORT RESULTS TO
Name: Robyn Seymour Title: Geologist
Company: Clayton Dept.
Mailing Address
City, State, Zip
Telephone No Telefax No.

Purchase Order No. Client Job No.

SEND INVOICE TO
Name
Company Dept.
Address
City, State, Zip

Date Results Required: Rush Charges Authorized? [X] Yes [ ] No Phone Results [ ]

Special Instructions: (method, limit of detection, etc.)
sample MW-7, EPA601 - 48 hour TAT
sample MW-14 1gas, BTEX, dsl, 5520 - 48 hour
Explanation of Preservative:

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	5030/8015-8020 TPH gas/BTEX (2x40ml)	3510/8015 diesel	5520 total pet hc's	601 purgeable halocarbons (2x40ml)						FOR LAB USE ONLY
MW-7	4/16/91	water	3 40ml (4), 1L (2)	6	✓ P	✓	✓ P	* ✓						01 A→F
MW-14	4/16/91	water	↓	↓	* P	*	* P	✓						02 A→F
MW-1	4/16/91	water	↓	↓	✓ P	✓	✓ P	✓						03 A→F

CHAIN OF CUSTODY
Relinquished by: Robyn Seymour Date/Time 4/16/91 @ 2:20 Received by: J Mitchell Date/Time 4/16/91 @ 2:20
Relinquished by: J Mitchell Date/Time 4/16/91 @ 315 Received at Lab by: Tracy B Bull Date/Time 4/16/91 3:15
Method of Shipment: Sample Condition Upon Receipt: [X] Acceptable [ ] Other (explain)

Authorized by: Robyn Seymour Date 4/16/91
(Client Signature Must Accompany Request)

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

CE 00849

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

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

6/90

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(415) 426-2600
Fax (415) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

April 24, 1991

Ms. Robyn Seymour
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, Ca. 94566

Client Ref. 33909.00
Clayton Project No. 91041.78

Dear Mr. Seymour:

Attached is our analytical laboratory report for the samples received on April 16, 1991. 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

CE 00852

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.78

Sample Identification:	MW-9	Date Sampled:	04/16/91
Lab Number:	9104178-01A	Date Received:	04/16/91
Sample Matrix/Media:	WATER	Date Prepared:	04/18/91
Preparation Method:	EPA 5030	Date Analyzed:	04/18/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.78

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9104178-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	04/18/91
Preparation Method:	EPA 5030	Date Analyzed:	04/18/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.78

Sample Identification:	See below	Date Received:	04/16/91
Lab Number:	9104178	Date Extracted:	04/18/91
Sample Matrix/Media:	WATER	Date Analyzed:	04/20/91
Analytical Method:	EPA 8015		
Extraction Method:	EPA 3510		

Lab No.	Sample I.D.	Date Collected	Diesel Fuel (ug/L)	Detection Limit (ug/L)
-01C	MW-9	04/16/91	ND	50
-02A	METHOD BLANK	--	ND	50

ND = Less than the indicated limit of detection (LOD)
-- = Information not available or not applicable

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.78

Sample Identification: MW-9
Lab Number: 9104178-01G
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 04/16/91
Date Received: 04/16/91
Date Analyzed: 04/19/91

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	3.3	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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.78

Sample Identification: METHOD BLANK
Lab Number: 9104178-02A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 04/19/91

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.78

Sample Identification:	See below	Date Sampled:	04/16/91
Lab Number:	9104178	Date Received:	04/16/91
Sample Matrix/Media:	Water	Date Extracted:	04/18/91
Extraction Method:	Std. Method 5520B	Date Analyzed:	04/22/91
Analytical Method:	Std. Method 5520F		

Laboratory No.	Sample Identification	Hydrocarbons (mg/kg)
-01	MW-9	<5
-MB	Method Blank	<5
Limit of Detection:		5

< Less than the indicated limit of detection (LOD)

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Harsch
33909

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	9104178
Client No.	
Date Logged In 4/16/91	By R...

REPORT RESULTS TO
Name: Robyn Seymour | Title: Geologist
Company | Dept.
Mailing Address
City, State, Zip
Telephone No. | Telefax No.

Purchase Order No. | Client Job No.

SEND INVOICE TO
Name
Company | Dept.
Address
City, State, Zip

Date Results Required. | Rush Charges Authorized? ☐ Yes ☒ No | Phone Results ☐

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

* Explanation of Preservative: BTEX P=Hcl 5520 P=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	8010/8020 Mod. BTEX	8015 Mod. Diesel	5520 Total Petroleum	Purgeable Halocarbons							FOR LAB USE ONLY
MW-9	4/16/91	water	2-40ml	2	✓P										01 A,B
↓	↓	↓	2-1L	2		✓									C,D
			2 ↓	2			✓P								E,F
			2-40ml	2				✓							G,H

CHAIN OF CUSTODY
Relinquished by: Robyn Seymour | Date/Time 4/16/91 | Received by: M Sprague | Date/Time 4-16-91 4:00p
Relinquished by: M Sprague | Date/Time 4-16-91 5:15pm | Received at Lab by: Tracy A Bull | Date/Time 4/16/91 5:15p
Method of Shipment
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: Robyn Seymour Date ______
(Client Signature Must Accompany Request)

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

CE 00859

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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PINK - Client Copy

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Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

April 30, 1991

Ms. Robyn Seymour
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, Ca. 94566

Client Ref. 33909.00
Clayton Project No. 91041.97

Dear Ms. Seymour:

Attached is our analytical laboratory report for the samples received on April 17, 1991. 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

CE 00822

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification:	MW 2	Date Sampled:	04/17/91
Lab Number:	9104197-01A	Date Received:	04/17/91
Sample Matrix/Media:	WATER	Date Prepared:	04/23/91
Preparation Method:	EPA 5030	Date Analyzed:	04/23/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification:	MW 3	Date Sampled:	04/17/91
Lab Number:	9104197-02A	Date Received:	04/17/91
Sample Matrix/Media:	WATER	Date Prepared:	04/23/91
Preparation Method:	EPA 5030	Date Analyzed:	04/23/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification:	MW 8B	Date Sampled:	04/17/91
Lab Number:	9104197-03A	Date Received:	04/17/91
Sample Matrix/Media:	WATER	Date Prepared:	04/23/91
Preparation Method:	EPA 5030	Date Analyzed:	04/23/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification:	MW 4	Date Sampled:	04/17/91
Lab Number:	9104197-04A	Date Received:	04/17/91
Sample Matrix/Media:	WATER	Date Prepared:	04/23/91
Preparation Method:	EPA 5030	Date Analyzed:	04/23/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9104197-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	04/23/91
Preparation Method:	EPA 5030	Date Analyzed:	04/23/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification: MW 2
Lab Number: 9104197-01E
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 04/17/91
Date Received: 04/17/91
Date Analyzed: 04/23/91

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification: MW 3
Lab Number: 9104197-02C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 04/17/91
Date Received: 04/17/91
Date Analyzed: 04/23/91

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	3.0	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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification: MW 8B
Lab Number: 9104197-03E
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 04/17/91
Date Received: 04/17/91
Date Analyzed: 04/24/91

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	6.8	0.4
1,2-Dichloroethene (total)	540-59-0	6.8	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	7.7	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	1.1	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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification: MW 4
Lab Number: 9104197-04C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 04/17/91
Date Received: 04/17/91
Date Analyzed: 04/23/91

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification: METHOD BLANK
Lab Number: 9104197-06A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 04/23/91

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

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification:	See below	Date Received:	04/17/91
Lab Number:	9104197	Date Extracted:	04/18/91
Sample Matrix/Media:	WATER	Date Analyzed:	04/20/91
Analytical Method:	EPA 8015		
Extraction Method:	EPA 3510		

Lab No.	Sample I.D.	Date Collected	Diesel Fuel (ug/L)	Detection Limit (ug/L)
-01I	MW 2	04/17/91	ND	50
-02E	MW 3	04/17/91	ND	50
-03I	MW 8B	04/17/91	ND	50
-04E	MW 4	04/17/91	ND	50
-06A	METHOD BLANK	--	ND	50

ND = Less than the indicated limit of detection (LOD)
-- = Information not available or not applicable

Results of Analysis
for
Harsch Investments

Client Reference: 33909.00
Clayton Project No. 91041.97

Sample Identification:	See below	Date Sampled:	04/17/91
Lab Number:	9104197	Date Received:	04/17/91
Sample Matrix/Media:	Water	Date Extracted:	04/18/91
Extraction Method:	Std. Method 5520B	Date Analyzed:	04/22/91
Analytical Method:	Std. Method 5520F		

Laboratory No.	Sample Identification	Hydrocarbons (mg/L)
-01	MW 2	<5
-02	MW 3	<5
-03	MW 8B	<5
-04	MW 4	<5
-MB	Method Blank	<5
Limit of Detection:		5

< Less than the indicated limit of detection (LOD)

Clayton ENVIRONMENTAL CONSULTANTS

A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only | Page 1 of 2

Project No.

Batch No. 9104197

Client No.

Date Logged In 4/18/91 | By TS

REPORT RESULTS TO

Name Robyn Seymour | Title

Company Clayton | Dept.

Mailing Address

City, State, Zip

Telephone No | Telefax No.

Purchase Order No. | Client Job No. 33909.00

SEND INVOICE TO

Name

Company | Dept.

Address

City, State, Zip

Date Results Required: | Rush Charges Authorized? ☐ Yes ☐ No | Phone Results ☐

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

* Explanation of Preservative: BTEX P= HCl 5520 P= 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	3510/8015 - 8030 TPH as gas/BTEX	601: Purgeable Halocarbons	3510/8015 DIESEL	5520 F HYDROCARBON WASTE	FOR LAB USE ONLY
MW 2	4-17-91	WATER	40 mL	4	X				01 A,B,C,D
			40 mL	4		X			E,F,G,H
			Liter	2			X		I J
			Liter	2				X	K L
MW 3			40 mL	2	X				02 A,B
			40 mL	2		X			C,D
			LITER	1			X		E
			LITER	1				X	F

CHAIN OF CUSTODY

Relinquished by M. Sprague | Date/Time 4-17-91 5:15 PM

Relinquished by: | Date/Time

Method of Shipment:

Received by: | Date/Time

Received at Lab by: Tracy B Bullock | Date/Time 4/17/91 515

Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: M. Sprague Date 4-17-91
(Client Signature Must Accompany Request)

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

CE 00835

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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ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 2 of 2
Project No.	
Batch No.	9104197
Client No.	
Date Logged In 4/18/91	By TS

REPORT RESULTS TO

- Name: Robyn Seymour — Title:
- Company: Clayton — Dept.:
- Mailing Address:
- City, State, Zip:
- Telephone No — Telefax No.:

Purchase Order No. — Client/Job No. 33909.00

SEND INVOICE TO

- Name:
- Company: — Dept.:
- Address:
- City, State, Zip:

Date Results Required. | Rush Charges Authorized? ☐ Yes ☐ No | Phone Results ☐

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

* Explanation of Preservative: BTEX P=HCl 5520 P=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	3510/8015-8020 TPH as GAS/BTEX	601- Purgeable Halocarbons	3510/8015 DIESEL	5520 F Hydrocarbon Waste	HOLD GC						FOR LAB USE ONLY
MW 8B	4-17-91	WATER	40 mL	4	X P										03A,B,C,D
↓	↓	↓	40 mL	4		X									E,F,G,H
↓	↓	↓	LITER	2			X								I,J
↓	↓	↓	LITER	2				X P							K,L
MW 4	↓	↓	40 mL	2	X P										04A,B
↓	↓	↓	40 mL	2		X									C,D
↓	↓	↓	LITER	1			X								E
↓	↓	↓	LITER	1				X P							F
TRIP BLANK		WATER	40 ml	1					X						05A
TRIP BLANK HCl		↓	↓	1					X P						B

CHAIN OF CUSTODY

Relinquished by: M. Spragman	Date/Time 4-17-91 5:15 PM	Received by:	Date/Time
Relinquished by:	Date/Time	Received at Lab by: [signature]	Date/Time 4/17/91 5:15 pm
Method of Shipment:		Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)	

Authorized by. M Spragman Date 4-17-91
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below: CE 00836

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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Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(415) 426-2600
Fax (415) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

May 8, 1991

Mr. Richard Silva
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, Ca. 94566

Client Ref. 34683.07
Clayton Project No. 91050.24

Dear Mr. Silva:

Attached is our analytical laboratory report for the samples received on May 1, 1991. 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

CE 00860

Clayton
ENVIRONMENTAL
CONSULTANTS

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91050.24

Sample Identification:	MW-5	Date Sampled:	05/01/91
Lab Number:	9105024-01A	Date Received:	05/01/91
Sample Matrix/Media:	WATER	Date Prepared:	05/02/91
Preparation Method:	EPA 5030	Date Analyzed:	05/02/91
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	1,300	8
Toluene	108-88-3	45	6
Ethylbenzene	100-41-4	370	6
Xylenes	1330-20-7	100	8
Gasoline	-----	4,000	1,000

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91050.24

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9105024-03A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	05/02/91
Preparation Method:	EPA 5030	Date Analyzed:	05/02/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91050.24

Sample Identification:	See below	Date Received:	05/01/91
Lab Number:	9105024	Date Extracted:	05/02/91
Sample Matrix/Media:	WATER	Date Analyzed:	05/03/91
Analytical Method:	EPA 8015		
Extraction Method:	EPA 3510		

Lab No.	Sample I.D.	Date Collected	Diesel Fuel (ug/L)	Detection Limit (ug/L)
-01F	MW-5	05/01/91	ND	500
-03A	METHOD BLANK	--	ND	50

ND = Less than the indicated limit of detection (LOD)
-- = Information not available or not applicable

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91050.24

Sample Identification: MW-5
Lab Number: 9105024-01C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 05/01/91
Date Received: 05/01/91
Date Analyzed: 05/04/91

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	6
Bromomethane	74-83-9	ND	7
Vinyl chloride	75-01-4	ND	5
Chloroethane	75-00-3	ND	5
Methylene chloride	75-09-2	ND	20
1,1-Dichloroethene	75-35-4	ND	2
1,1-Dichloroethane	75-35-3	ND	4
Trans-1,2-Dichloroethene	156-60-5	ND	4
Cis-1,2-Dichloroethene	156-59-2	ND	4
1,2-Dichloroethene (total)	540-59-0	ND	4
Chloroform	67-66-3	ND	5
1,2-Dichloroethane	107-06-2	ND	3
1,1,1-Trichloroethane	71-55-6	ND	5
Carbon tetrachloride	56-23-5	ND	6
Bromodichloromethane	75-27-4	ND	7
1,2-Dichloropropane	78-87-5	ND	5
Cis-1,3-Dichloropropene	10061-01-5	ND	5
Trichloroethene	79-01-6	ND	3
Dibromochloromethane	124-48-1	ND	6
1,1,2-Trichloroethane	79-00-5	ND	6
Trans-1,3-Dichloropropene	10061-02-6	ND	6
2-Chloroethylvinylether	100-75-8	ND	10
Bromoform	75-25-2	ND	7
Tetrachloroethene	127-18-4	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Chlorobenzene	108-90-7	ND	7
1,3-Dichlorobenzene	541-73-7	ND	20
1,2-Dichlorobenzene	95-50-1	ND	40
1,4-Dichlorobenzene	106-46-7	ND	40
Dichlorodifluoromethane	75-71-8	ND	10
Trichlorofluoromethane	75-69-4	ND	4
Freon 113	76-13-1	ND	6

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91050.24

Sample Identification: METHOD BLANK
Lab Number: 9105024-03A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 05/04/91

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91050.24

Sample Identification:	See below	Date Sampled:	05/01/91
Lab Number:	9105024	Date Received:	05/01/91
Sample Matrix/Media:	Water	Date Extracted:	05/02/91
Extraction Method:	Std. Method 5520B	Date Analyzed:	05/02/91
Analytical Method:	Std. Method 5520F		

Laboratory No.	Sample Identification	Hydrocarbons (mg/L)
-01	MW-5	<5
-MB	Method Blank	<5
Limit of Detection:		5

< Less than the indicated limit of detection (LOD)

Clayton ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only | Page _____ of _____
Project No.
Batch No. 9105024
Client No.
Date Logged In 5/2/91 | By TS

REPORT RESULTS TO
Name RICHARD SILVA | Title
Company HARSCH INVESTMENT | Dept.
Mailing Address
City, State, Zip
Telephone No | Telefax No.

Purchase Order No. | Client Job No. 34683.07

SEND INVOICE TO
Name RICHARD SILVA
Company CLAYTON | Dept.
Address
City, State, Zip

Date Results Required: NORMAL TAT
Rush Charges Authorized? ☐ Yes ☐ No
Phone Results ☐

Special Instructions: (method, limit of detection, etc.)
NORMAL 2 WEEK TURNAROUND
* Explanation of Preservative: Pres. w/ 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	5030/8015 8020 for Gas & BTEX	601/8010 for Purgeable Hydrocarbons	3510/8015 for Diesel	5520F	HOLD	HOLD	FOR LAB USE ONLY
MW-5	5-1-91	H_2O	40 mls	2	Xp						01 A,B
↓	↓	↓	40 mls	3		X					C,D,E
			LITER	2			X				F,G
	↓	↓	LITER	2				Xp			↓ H,I
TRIP BLANK #0041991	5-1-91	H_2O	40 mls	1					Xp		02 A
TRIP BLANK #0042491	5-1-91	↓	40 mls	1						X	↓ B

CHAIN OF CUSTODY
Relinquished by: Richard Silva | Date/Time 5-1-91 / 4:20 pm.
Relinquished by: | Date/Time
Method of Shipment:

Received by: | Date/Time
Received at Lab by: Tracy Salvo | Date/Time 5/1/91 4:20pm
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: Richard Silva Date 5-1-91
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below: CE 00867

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

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

APPENDIX I

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS FOR QUARTERLY GROUNDWATER SAMPLING JULY 1991

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

July 24, 1991

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

Client Ref. 34683.07
Clayton Project No. 91070.80

Dear Ms. Compton:

Attached is our analytical laboratory report for the samples received on July 10, 1991. 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/ca
Attachments

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.80

Sample Identification:	MW-2	Date Sampled:	07/10/91
Lab Number:	9107080-01A	Date Received:	07/10/91
Sample Matrix/Media:	WATER	Date Prepared:	07/22/91
Preparation Method:	EPA 5030	Date Analyzed:	07/22/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.80

Sample Identification:	MW-3	Date Sampled:	07/10/91
Lab Number:	9107080-02A	Date Received:	07/10/91
Sample Matrix/Media:	WATER	Date Prepared:	07/22/91
Preparation Method:	EPA 5030	Date Analyzed:	07/22/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.80

Sample Identification:	MW-5B	Date Sampled:	07/10/91
Lab Number:	9107080-03A	Date Received:	07/10/91
Sample Matrix/Media:	WATER	Date Prepared:	07/22/91
Preparation Method:	EPA 5030	Date Analyzed:	07/22/91
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	3.1	0.4
Toluene	108-88-3	3.7	0.3
Ethylbenzene	100-41-4	13	0.3
Xylenes	1330-20-7	2.2	0.4
Gasoline	-----	400	50

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.80

Sample Identification:	MW-14	Date Sampled:	07/10/91
Lab Number:	9107080-06A	Date Received:	07/10/91
Sample Matrix/Media:	WATER	Date Prepared:	07/22/91
Preparation Method:	EPA 5030	Date Analyzed:	07/22/91
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	0.8	0.4
Toluene	108-88-3	0.8	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes	1330-20-7	0.8	0.4
Gasoline	-----	ND	50

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.80

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9107080-07A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	07/22/91
Preparation Method:	EPA 5030	Date Analyzed:	07/22/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.80

Sample Identification: MW-2
Lab Number: 9107080-01C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/10/91
Date Received: 07/10/91
Date Analyzed: 07/11/91

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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: MW-2

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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
Bromofluorobenzene	460-00-4	68	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: 34683.07
Clayton Project No. 91070.80

Sample Identification: MW-3
Lab Number: 9107080-02C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/10/91
Date Received: 07/10/91
Date Analyzed: 07/11/91

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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: MW-3

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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**
Bromofluorobenzene	460-00-4	68	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: 34683.07
Clayton Project No. 91070.80

Sample Identification: MW-5B
Lab Number: 9107080-03C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/10/91
Date Received: 07/10/91
Date Analyzed: 07/11/91

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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: MW-5B

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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**
Bromofluorobenzene	460-00-4	75	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: 34683.07
Clayton Project No. 91070.80

Sample Identification: MW-14
Lab Number: 9107080-06C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/10/91
Date Received: 07/10/91
Date Analyzed: 07/11/91

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	6.6	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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: MW-14

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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**
Bromofluorobenzene	460-00-4	64	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: 34683.07
Clayton Project No. 91070.80

Sample Identification: METHOD BLANK
Lab Number: 9107080-07A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 07/11/91

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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: METHOD BLANK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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
Bromofluorobenzene	460-00-4	73	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: 34683.07
Clayton Project No. 91070.80

Sample Matrix/Media: WATER
Preparation Method: SM 5520B
Analysis Method: SM 5520F

Date Received: 07/10/91
Date Prepared: 07/16/91
Date Analyzed: 07/16/91

Lab No.	Sample ID	Date Sampled	Hydrocarbons (mg/L)
03E	MW-5B	07/10/91	<5
06E	MW-14	07/10/91	<5
07A	METHOD BLANK	--	<5
Detection Limit:			5

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.80

Sample Matrix/Media: WATER
Analysis Method: EPA 160.1
Date Received: 07/10/91
Date Analyzed: 07/12/91

Lab No.	Sample ID	Date Sampled	Total Dissolved Solids (mg/L)
03I	MW-5B	07/10/91	1000
06H	MW-14	07/10/91	2000
07A	METHOD BLANK	--	<10
Detection Limit:			10

ND Not detected at or above limit of detection
< 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

For Clayton Use Only	Page 1 of 2
Project No.	
Batch No.	9107080
Client No.	
Date Received	7/10/91 By RPR
Date Logged In	↓ By ↓

Purchase Order No. | Client Job No. 34683.07

SEND INVOICE TO
Name Harsch
Company Clayton Dept.
Address
City, State, Zip

REPORT RESULTS TO
Name Laurene Compton Title
Company Clayton Dept.
Mailing Address
City, State, Zip
Telephone No. Telefax No.

Date Results Required: Standard TAT

Rush Charges Authorized? ☐ Yes ☑ No

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

* Explanation of Preservative:

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	5030/8015-8020 Gas + BTEX	601	5520F Hydrocarbons 3510/8015 Diesel	TDS	Hold	FOR LAB USE ONLY
MW-2	7-10-91	H2O	40 ml	2	X					01A,B
↓			40 ml	2		X				↓ C,D
MW-3			40 ml	2	X					02A,B
↓			40 ml	2		X				↓ C,D
MW-5B			40 ml	2	X					03A,B
			40 ml	2		X				C,D
			liter	2			X			E,F
			liter	2				X		G,H
			Pint	1					X	I
Trip Blanks (007039) Hold (005319)	↓	↓	40 ml	2						04A,05A

CHAIN OF CUSTODY (if required)
Relinquished by: Laurene Compton Date/Time 7-10-91
Relinquished by: Date/Time 445
Method of Shipment:

Received by: Date/Time
Received at lab by: Rebecca A. Turnbaugh Date/Time 7/11/91 4:45
Sample condition upon receipt:

Authorized by: Laurene Compton Date 7-10-91
(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 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

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

7/89 20K

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 2 of 2
Project No.	
Batch No. 9107080	
Client No.	
Date Received 7/10/91	By RBL
Date Logged In	By

Purchase Order No.
Client Job No. 34683.07

SEND INVOICE TO
Name: Harsch
Company: Clayton | Dept.
Address:
City, State, Zip:

REPORT RESULTS TO
Name: Laurene Compton | Title
Company: Clayton | Dept.
Mailing Address:
City, State, Zip:
Telephone No. | Telefax No.

Date Results Required: Standard TAT
Rush Charges Authorized? ☐ Yes ☑ No

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

* Explanation of Preservative:

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	5030/8015-8020 Gas + BTEX	601	5520F Hydrocarbons	3510/8015 Diesel	TDS						FOR LAB USE ONLY
MW-14	7-10-91	H2O	40ml	2	X										-06A,B
↓	↓	↓	40ml	2		X									C,D
			liter	2			X								E,F
			liter	1				X							G
			liter	1					X						H

CHAIN OF CUSTODY (if required)

Relinquished by: L.e. Compton	Date/Time 7-10-91 445	Received by:	Date/Time
Relinquished by:	Date/Time	Received at lab by: Rebecca [illegible]	Date/Time 7/10/91 4:45
Method of Shipment:		Sample condition upon receipt: OK	

Authorized by: L.e. Compton Date 7-10-91
(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 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

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

7/89 20K

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

July 24, 1991

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

Client Ref. 34683.07
Clayton Project No. 91070.90

Dear Ms. Compton:

Attached is our analytical laboratory report for the samples received on July 11, 1991. 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/caa
Attachments

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.90

Sample Identification: MW-4
Lab Number: 9107090-01C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/11/91
Date Received: 07/11/91
Date Analyzed: 07/12/91

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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: MW-4

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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
Bromofluorobenzene	460-00-4	90	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: 34683.07
Clayton Project No. 91070.90

Sample Identification: MW-7B
Lab Number: 9107090-02A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/11/91
Date Received: 07/11/91
Date Analyzed: 07/12/91

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	4.6	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	2.6	0.4
Cis-1,2-Dichloroethene	156-59-2	170	0.4
1,2-Dichloroethene (total)	540-59-0	170	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	660	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	0.8	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6
2-Chloroethylvinylether	100-75-8	ND	1
Bromoform	75-25-2	1.7	0.7
Tetrachloroethene	127-18-4	7,800	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: MW-7B

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Chlorobenzene	108-90-7	4.8	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
Bromofluorobenzene	460-00-4	104	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: 34683.07
Clayton Project No. 91070.90

Sample Identification: MW-8B
Lab Number: 9107090-03A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/11/91
Date Received: 07/11/91
Date Analyzed: 07/12/91

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	11	0.4
1,2-Dichloroethene (total)	540-59-0	11	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	19	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	0.9	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: MW-8B

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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
Bromofluorobenzene	460-00-4	89	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: 34683.07
Clayton Project No. 91070.90

Sample Identification: METHOD BLANK
Lab Number: 9107090-04A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 07/12/91

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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: METHOD BLANK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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
Bromofluorobenzene	460-00-4	98	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: 34683.07
Clayton Project No. 91070.90

Sample Identification:	MW-4	Date Sampled:	07/11/91
Lab Number:	9107090-01A	Date Received:	07/11/91
Sample Matrix/Media:	WATER	Date Prepared:	07/22/91
Preparation Method:	EPA 5030	Date Analyzed:	07/22/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91070.90

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9107090-04A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	07/22/91
Preparation Method:	EPA 5030	Date Analyzed:	07/22/91
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

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

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No. 9107090	
Client No.	
Date Received 7/11/91	By
Date Logged In	By

Purchase Order No. | Client Job No. 34683.07

SEND INVOICE TO: Name Harsch; Company Clayton; Dept.; Address; City, State, Zip

REPORT RESULTS TO: Name Laurene Compton; Title; Company Clayton; Dept.; Mailing Address; City, State, Zip; Telephone No.; Telefax No.

Date Results Required: Standard TAT | Rush Charges Authorized? ☐ Yes ☐ No

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

* Explanation of Preservative:

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	5030/8015-8020 Gas + BTEX	601	FOR LAB USE ONLY
MW-4	7-11-91	H_2O	40 ml	2	X		-01A,B
MW-4	↓	↓	40ml	2		X	-01D
MW-7B			40ml	2		X	-02A,B
MW-8B			40ml	2		X	-03A,B

CHAIN OF CUSTODY (If required)
Relinquished by: Laurene Compton | Date/Time 7-11-91
Relinquished by: | Date/Time 445
Method of Shipment:

Received by: | Date/Time
Received at lab by: Rebecca A Tussing Chiarello | Date/Time 7/11/91 4:45
Sample condition upon receipt:

Authorized by: Laurene Compton (Client Signature Must Accompany Request) Date 7-11-91

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

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

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

7/89 20K

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

July 26, 1991

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

Client Ref. 34683.07
Clayton Project No. 91071.54

Dear Ms. Compton:

Attached is our analytical laboratory report for the samples received on July 17, 1991. 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/caa
Attachments

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91071.54

Sample Identification:	MW-9B	Date Sampled:	07/17/91
Lab Number:	9107154-01A	Date Received:	07/17/91
Sample Matrix/Media:	WATER	Date Prepared:	07/23/91
Preparation Method:	EPA 5030	Date Analyzed:	07/23/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91071.54

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9107154-03A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	07/23/91
Preparation Method:	EPA 5030	Date Analyzed:	07/23/91
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

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

Results of Analysis
for
Harsch Investments

Client Reference: 34683.07
Clayton Project No. 91071.54

Sample Identification: MW-9B
Lab Number: 9107154-01C
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: 07/17/91
Date Received: 07/17/91
Date Analyzed: 07/18/91

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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: MW-9B

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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
Bromofluorobenzene	460-00-4	97	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: 34683.07
Clayton Project No. 91071.54

Sample Identification: METHOD BLANK
Lab Number: 9107154-03A
Sample Matrix/Media: WATER
Analytical Method: EPA 601

Date Sampled: --
Date Received: --
Date Analyzed: 07/18/91

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

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

Results of Analysis
for
Harsch Investments
(continued)

Client Reference: 34683.07

Sample Identification: METHOD BLANK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
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
Bromofluorobenzene	460-00-4	97	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

For Clayton Use Only	Page ____ of ____
Project No.	
Batch No.	9107154
Client No.	
Date Logged In	7/17/91 By TS

REPORT RESULTS TO
Name: Laurene Compton | Title:
Company: Clayton | Dept.:
Mailing Address:
City, State, Zip:
Telephone No: | Telefax No.:

Purchase Order No.: | Client Job No.: 34683.07

SEND INVOICE TO
Name: Hassch
Company: | Dept.:
Address:
City, State, Zip:

Date Results Required: Normal TAT
Rush Charges Authorized? ☐ Yes ☒ No
Phone Results ☐

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

* Explanation of Preservative: P= 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	Gas & BTX	601	Hold	FOR LAB USE ONLY
MW-9B	7-17-91	Water	40 mL	2	X			01 A,B
↓	↓	↓	↓	2		X		↓ C,D
Trip Blank				1			X	02 A
↓				1			X	↓ B

CHAIN OF CUSTODY
Relinquished by: M Spragman | Date/Time: 7-17-91 3:00 PM
Relinquished by: | Date/Time:
Method of Shipment:

Authorized by: M Spragman Date: 7-17-91
(Client Signature Must Accompany Request)

Received by: | Date/Time:
Received at Lab by: Tracy Dalso | Date/Time: 7/17/91
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

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

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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