

March 26, 1997

Mr. Scott Seery, CHMM Environmental Protection Division, Suite 250 Alameda County Environmental Health Department 1131 Harbor Bay Parkway Alameda, California 94502

Dear Mr. Seery:

On behalf of the Ingersoll-Rand Equipment Sales, Capsule Environmental Engineering, Inc., and our project partner, Braun Intertec Corporation, would like to submit the enclosed report, Quarterly Report October 1996 (Quarterly Report). This report is part of Ingersoll-Rand's corrective action activities to address the underground storage tank leak at 1944 Marina Boulevard, San Leandro.

The Quarterly Report was prepared to summarize the monitoring and corrective action activities for the period from July through October. It contains the results of both the July and October 1996 sampling events.

If you have any questions, comments, or need additional information cited in the report, please contact John McDermott at (800) 328-8246.

Sincerely.

John McDermott Hydrogeologist

Capsule Environmental Engineering, Inc.

Gerald E. Stuth, P.E. Senior Project Manager

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JJM:mmf

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Quarterly Report October 1996

Prepared For:

Ingersoll-Rand Equipment Sales San Leandro, California

March 20, 1997

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QUARTERLY REPORT OCTOBER 1996

Prepared For:

Ingersoll-Rand Equipment Sales 1944 Marina Boulevard San Leandro, California 94577

March 20, 1997

Prepared By:



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1.0 INTRODUCTION

Ingersoll-Rand Company (I-R) has contracted with Capsule Environmental Engineering, Inc. (Capsule) to complete the implementation of the final corrective action design and related underground storage tank (UST) response activities for its equipment sales and maintenance facility at 1944 Marina Boulevard in San Leandro, California.

As part of these activities, Capsule prepares quarterly activities reports for the facility. The objectives of these reports are to:

- Provide a summary of corrective action activities including such work as the construction, sampling, and maintenance being conducted at the facility during the quarter
- Provide a benchmark of data and interpretation to evaluate the performance of corrective action activities
- Comply with Alameda County and City of San Leandro reporting requirements

The Quarterly Report October 1996 (October 1996 Report) provides the data and summary from the quarterly ground water monitoring events that were performed in July and October 1996. The two events are summarized in one report due to the timing of the previous quarterly submittal. Additionally, the October 1996 Report provides a brief summary of the continued operation of the redesigned soil vapor extraction (SVE) system, which was placed in service in early October 1995. The SVE system summary is for the period through October 1996.

1.1 SITE DESCRIPTION

I-R operates a construction equipment sales and maintenance facility at 1944 Marina Boulevard, San Leandro, Alameda County, California (see Figure 1). The eastern shore of San Francisco Bay is approximately 1.25 miles west of the facility. The local topography around the facility is fairly flat, sloping gently toward the bay. Facility land surface elevations range from 25 to 30 feet above sea level.

The facility is situated in an area of industrial and commercial development. It is bounded on the north by Southern Pacific railroad tracks and on the south by Marina Boulevard. Immediately to the west of the facility is a manufacturer of packaging materials. To the east is an office filing equipment manufacturer. The office equipment manufacturing facility closed during the first half of 1996. The facility has perimeter fencing.

The property's building has two tenants. The closed office filing equipment manufacturer occupies the eastern portion of the building. I-R occupies the western portion of the building, which consists of an office and parts distribution area attached to a large bayed service area. To the north and west of the building is an outdoor equipment storage yard. The stored

equipment includes both new and used construction machinery. Drilling rigs, compressors, compactors, and other construction equipment are commonly stored in this area while being readied for sale, repair, rental, and salvage.

1.2 UNDERGROUND STORAGE TANK (UST) ACTIVITIES CHRONOLOGY

A detailed UST chronology is provided in the Quarterly Report April 1995.

Generally, corrective action activities began with the submittal of a UST release report to the San Leandro Fire Department in 1989. Site investigation activities since 1989 include monitoring well and boring installation, ground water and soil sampling, and reporting.

In 1992, an SVE system consisting of one regenerative vacuum blower and four vent wells, VW-1 through VW-4, were installed and operated for several months. System operation was discontinued when water levels rose and the system collected condensate. It is reported that 800 pounds of product were removed from vent well VW-3 during initial operation.

In late 1994, five additional SVE vent wells, VW-5 through VW-9, were installed. These vent wells were installed to provide the SVE system with flexibility in vacuum configuration over a larger area including the downgradient property boundary.

Ground water sampling of monitoring wells was performed in November 1989; June and October of 1994; and quarterly during 1995 and 1996. Additionally, a sample was taken from MW-4 in November 1990. The results indicated and confirmed the presence of gasoline-related volatile organic compounds (VOCs) and several chlorinated VOCs in low concentrations in site monitoring wells.

In March 1995, Alameda County directed I-R to conduct additional ground water assessment work as part of remedial activities. The additional assessment work was conducted in June and July 1995. The work included push probe-type borings and ground water sampling. The assessment findings were reported in the October 1995 Quarterly Report.

In May 1995, SVE testing was conducted on all vent wells except VW-2. The testing results were used as the basis for a redesign of the SVE system. Construction of the redesigned system began in mid-September and was completed in early October. The original regenerative vacuum blower, which is connected to vent wells VW-1, VW-4, VW-5, VW-9, and three carbon vessels, describes the redesigned system.

The redesigned SVE system became operational during October 1995. The system is generally operated during the normal work week when facility personnel are available to perform permit-required daily air monitoring.

The facility received a December 8, 1995, letter from the State Water Resources Control Board, regarding interim guidance, in light of the October 1995 Lawrence Livermore National

Laboratory report on leaking USTs. Additional supplemental instructions, prepared by the San Francisco Bay Region, California Water Quality Control Board, to the December 8 letter were received by the facility on March 15, 1996.

In the spring of 1996, rainfall and high water levels adversely affected the operation of the SVE system. Daily air monitoring showed lower influent concentrations. Additionally, more water collected in the system and had to be handled.

2.0 GROUND WATER DATA SUMMARY

Both the July and October 1996 ground water sampling events included monitoring wells MW-3, MW-4, and vent well VW-8. The July 1996 event was performed on July 25, 1996. The October 1996 event occurred on October 22, 1996. During both sampling events, water levels were also measured in MW-1, MW-2, and VW-6. Figure 2 provides an overall site plan and sampling point locations.

The analytical results, the chain of custody forms, and stabilization tests for both the July and October 1996 events can be found in Appendix A.

The June and October 1994 and the January 1995 sampling events included upgradient wells MW-1 and MW-2. During a March 2, 1995, telephone conference with Alameda County Health Care Services, it was agreed that no additional quarterly sampling of MW-1 and MW-2 would be necessary. VW-8 sampling was added to the sampling schedule during the June 1995 event to provide additional data on ground water conditions downgradient of the facility.

2.1 GROUND WATER LEVEL DATA

Depth-to-water measurements were collected as part of both the July and October 1996 events. Field measurements recorded during the stabilization tests are attached in Appendix A. A summary of all water level data from wells and vent wells is provided in Table 1.

During the July 1996 event, water level elevations beneath the facility ranged between 10.79 to 12.34 feet above sea level. During the October 1996 event, water level elevations ranged between 10.06 and 11.49 feet above sea level. Water level fluctuations continued to be seasonal. Water levels rise during the wetter winter months and decline through the rest of the year.

During the period of record, the water levels have generally fluctuated from 2 to 3 feet.

Rainfall at the nearby San Leandro Marina rainfall gauge has varied from a low of 10.13 inches in the 1989 to 1990 water year to a high of 19.33 inches during the 1994 and 1995 water year (Alameda County, 1995). The May, June, July, August, September, and October 1996 rainfall was 1.42, 0.0, 0.0, 0.0, 0.0, and 0.47 inches, respectively.

2.1.1 Ground Water Gradient

The shallow ground water in the area of the facility responds directly to seasonal rainfall. Water levels rise in response to higher rainfall in the late winter and early spring, and decline through the lower rainfall periods of summer and fall.

As Figure 3 indicates, water level elevations in individual wells respond fairly uniformly. This uniform fluctuation results in generally consistent hydraulic gradients and ground water flow direction over time.

The general ground water flow direction remains to the southwest. Ground water contours for the July 1996 event are shown in Figure 4. Ground water contours for the October 1996 event are shown in Figure 5. From January through April, a flexure appears in the ground water contours. The flexure is a trough-like feature in the contours, trending generally northeast to southwest. The flexure is likely due to the water level rising into an area of higher permeability. The flexure dissipates as water levels decline throughout the late spring and early summer.

Overall, it is generally acknowledged that because of the interlayered nature of the shallow subsurface, it is likely contours are not as uniform as portrayed. Variations in soil particle size and permeability can cause local variations in flow direction.

2.1.2 Ground Water Flow Velocity

Ground water generally flows beneath the facility in a southwesterly direction. A ground water flow velocity estimate can be calculated from:

$$v = (k*i)/n$$

where,

v = ground water flow velocity (ft/day)

k = hvdraulic conductivity (ft/day)

i = hydraulic gradient (ft/ft)

n = porosity (dimensionless)

The following list summarizes the variables and the information sources for an estimate of the variable value.

<u>Variable</u>	Estimate	Data Source
hydraulic conductivity (k)	9.0 ft/day ⁽¹⁾	IT Corporation, Data Summary Report, 1990
hydraulic gradient (I)	0.004	Capsule, Quarterly Monitoring Report, October 1996
porosity (n)	0.30 ⁽²⁾	Freeze and Cherry (1979), Table 2.4

- (1) From pumping test performed on MW-4
- (2) The cited porosity range for sand was 25% to 40%. Based upon the silty and clay nature of the site's sand, 30% was selected.

Using the October 1996 data, a ground water velocity of 0.14 feet per day, or 44 feet per year was calculated from these estimates. This velocity is consistent with previous calculated estimates and is considered low. Appendix B presents the velocity calculations. For comparison purposes, the estimates from the October 1995 measurement was also 44 feet per year.

2.2 GROUND WATER ANALYTICAL DATA

Water samples from the July and October 1996 events were analyzed using United States Environmental Protection Agency (EPA) Methods 8015, 8020, and 8260. The analytical results are presented in Table 2.

During the October 1996 analysis, the detection limits for MW-3 and MW-4 were ten times higher than previous detection limits. According to the laboratory, the higher detection limits were due to a "matrix interference." Clayton provided an explanation letter and reanalysis of duplicate samples. See the Clayton, December 9, 1996, letter and revised analyses in Appendix A. As explained in the Clayton letter, sampling holding times had been exceeded. Even though they were exceeded, the results are consistent with previous results and considered useable in data evaluation.

In the monitoring wells, no new aromatic or chlorinated VOCs were detected during the July or October 1996 events. Both MW-3 and MW-4 concentrations were generally lower or similar to previous July and October results. The sample collected from VW-8 detected similar gasoline constituents to July and October 1995 results.

Additional discussion is provided below on individual chlorinated and aromatic organic compounds.

In most instances, the laboratory-reported concentrations of the benzene, ethylbenzene, toluene, and xylene (BETX) compounds are not identical but very similar for EPA methods 8020 and 8260.

While the water samples were not collected from a public water source, the California maximum contaminant levels (MCLs) are presented for comparison purposes with the detected concentrations. The list of MCLs comes from the EPA, Region IX's publication <u>Drinking Water Standards and Health Advisories Table</u>, dated December 1995.

2.2.1 Chlorinated Organics

Chlorinated VOC detections have been found in monitoring wells.

2.2.1.1 Trichloroethene (TCE)

Throughout the MW-1 and MW-2 period of record, 1989 through 1994, these two upgradient wells consistently showed TCE detections ranging from 5 to 29 micrograms/liter (μ g/l).

Department of Toxic Substance Control information indicates that TCE is a widely occurring VOC found in the shallow ground water in the San Leandro area (WCC, 1993). Given this

information and the occurrences in upgradient wells, it likely that the TCE-impacted ground water detected in MW-1 and MW-2 is flowing onto the facility from an upgradient source.

By agreement with Alameda County, these wells have not been sampled since the January 1995 event.

The July and October 1996 analytical results from MW-4, both detected a TCE concentration of 22 μ g/l. TCE has been intermittently detected during the period of record, ranging from nondetection to 27 μ g/l. MW-4 is on the downgradient side of the facility.

No TCE was detected in the sampling of MW-3 or VW-8.

The California MCL for trichloroethene is 0.005 milligrams/liter (mg/l) or 5 μ g/l.

2.2.1.2 1,2-Dichloroethene

Cis-1,2-dichloroethene was detected during the July and October 1996 events at 5 μ g/l in MW-4. Prior to July 1996, cis-1,2-dichloroethene had not been detected in MW-4.

Over the period of record, cis-1,2-dichloroethene has been detected in OB-1. Detections in OB-1 ranged from 6.7 μ g/l to 12 μ g/l. Potential sources of these low concentrations include breakdown products of TCE and as a manufacturing artifact of TCE.

Cis-1,2-dichloroethene was detected in VW-9 at 6 μ g/l during the June 1995 sampling event.

The California MCL for cis-1,2-dichloroethylene is 0.006 mg/l or 6 μ g/l.

Trans-1,2-dichloroethene was detected in MW-4 during the July and October 1996 events at $11 \mu g/l$ and $10 \mu g/l$. Over the period of record, trans-1,2-dichloroethene has been intermittently detected in MW-4, ranging from nondetection to $16 \mu g/l$. Potential sources of these concentrations include breakdown products of TCE and as a manufacturing artifact of TCE.

The California MCL for trans-1,2-dichloroethylene is 0.010 mg/l or 10 μ g/l.

2.2.1.3 Chlorobenzene

During the July and October 1996 events, chlorobenzene was detected in MW-3 at 11 μ g/l and 12 μ g/l. In previous sampling events, chlorobenzene results in MW-3 ranged from nondetection to 19 μ g/l. Typical uses for the compound are as a solvent, in heat transfer, and in the production of pesticides. (Sax and Lewis, 1987)

The California MCL for monochlorobenzene (chlorobenzene) is 0.070 mg/l or 70 μ g/l.

2.2.1.4 Dichlorobenzene Isomers

The three isomers of dichlorobenzene were detected in MW-3 in concentrations similar to previous amounts. The three isomers, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene, have a wide variety of uses including use as a solvent, in dye manufacturing, insecticides, and industrial odor control. The isomers 1,3- and 1,4-dichlorobenzene are generally used in fumigants and insecticides. (Sax and Lewis, 1987)

During the July and October 1996 events, 1,4-dichlorobenzene was detected in MW-3 at 15 μ g/l and 13 μ g/l. Previous detections ranged from 11 μ g/l to 18 μ g/l. Isomer 1,3-dichlorobenzene was detected at 7 μ g/l and 6 μ g/l in MW-3. Previous detections ranged from 5 μ g/l to 19 μ g/l. Isomer 1,2-dichlorobenzene was detected at 62 μ g/l and 69 μ g/l in MW-3. Previous detections ranged from 42 μ g/l to 64 μ g/l.

Isomer 1,4-dichlorobenzene has a California MCL, which is .005 mg/l or 5 μ g/l and 1,2-dichlorobenzene has a California MCL, which is 0.6 mg/l or 600 μ g/l. There is no California MCL for 1,3-dichlorobenzene. There is a California action level of 130 μ g/l for a single isomer of either 1,2 or 1,3. There is also a California action level of 130 μ g/l for a sum of these two isomers.

2.2.1.5 1.2 Dichloroethane

During the July and October 1996 events, 1,2 dichloroethane was not detected. Previously there have been two occurrences in MW-4, one during June 1994 and the other during June 1995. Both results were $11 \mu g/l$.

As a note of clarification, reports prior to the January 1996 quarterly report mistakenly stated that the 1,2 dichloroethane detections were in MW-3, when they were actually from MW-4.

Typical uses for the compound include use as a solvent and as a lead scavenger in anti-knock gasoline.

During the July and October 1996 events, 1,2 dichloroethane was not detected in a ground water sample collected from VW-8. The June 1995 event indicated 6 μ g/l. Since the June 1995 result, five successive quarterly results have not detected 1,2 dichloroethane.

The California MCL for 1,2 dichloroethane is 0.0005 mg/l or 0.5 μ g/l.

2.2.2 Aromatic Organics

During the July and October 1996 events, several gasoline component VOCs continued to be detected in samples from monitoring wells MW-3, MW-4, and VW-8. Each detected VOC is discussed in the following sections.

2.2.2.1 Benzene

During the July and October 1996 events, benzene was detected in MW-3 at 10 μ g/l and 3.1 μ g/l. These concentrations are comparable to low (10 μ g/l or less) values observed during previous June and October events. For the period of record, benzene concentrations ranged from 3.1 μ g/l to 1,200 μ g/l.

Benzene concentrations in MW-3 respond seasonally. Benzene concentration increases have occurred in the January to April time periods for both 1995 and 1996. During the June and October time periods for 1995 and 1996, benzene concentrations in MW-3 decreased. Overall, these changes are attributed to increased precipitation, higher late winter water table, and the accompanying flushing of residual gasoline from soils in the area of MW-3, which is near the former gasoline UST site.

As Figure 6 indicates, MW-3 benzene values decreased for the January to April 1996 period compared to the January to April 1995 period. The SVE system became operational during October 1995.

Benzene was detected in MW-4 at 110 μ g/l and 140 μ g/l during the July and October 1996 events. These values are similar or lower than previous concentrations for the period of record. The 110 μ g/l is a period of record low. Concentrations for the period of record ranged from 110 μ g/l to 600 μ g/l. A questionable sample from late 1990 reported 1,500 μ g/l. The original October 1996 result was reported as 210 μ g/l and is considered questionable. As discussed in the December 9, 1996, Clayton letter accompanying the revised results, there was carryover in the laboratory from highly contaminated samples run prior to the San Leandro samples.

Benzene was detected in VW-8 at 74 μ g/l and 180 μ g/l for the July and October 1996 events. Since sampling began in June 1995, benzene concentrations in VW-8 have ranged from nondetection to 290 μ g/l.

The California MCL for benzene is 0.001 mg/l or 1 μ g/l.

2.2.2.2 Ethylbenzene

Ethylbenzene is another gasoline constituent detected in MW-3, MW-4, and VW-8.

The ethylbenzene concentrations detected in MW-3 were 35 μ g/l and 13 μ g/l for the July and October 1996 sampling events. The 13 μ g/l is a period of record low for MW-3. For the period of record, MW-3 ethylbenzene concentrations ranged from nondetection to 720 μ g/l.

During the July and October 1996 sampling events, the ethylbenzene concentration in MW-4 was 170 μ g/l and 240 μ g/l. The 170 μ g/l was a period of record low for MW-4.

Ethylbenzene was also detected in VW-8 at a concentration of 52 μ g/l and 190 μ g/l for the July and October events. Since sampling began at VW-8 in July 1995, ethylbenzene concentrations ranged from 0.6 μ g/l to 230 μ g/l.

The California MCL for ethylbenzene is 0.7 mg/l or 700 μ g/l.

2.2.2.3 Toluene

Toluene has been detected in MW-3, MW-4, and VW-8. Toluene is a constituent of gasoline.

The July and October 1996 concentrations in MW-3 were nondetect for toluene. Previous toluene detections in MW-3 ranged from 4 μ g/l to 1,700 μ g/l. Seasonal fluctuations in toluene concentrations are similar to fluctuations for benzene and xylene concentrations. Overall, there has been a downward trend in toluene concentrations.

The July and October 1996 concentrations in MW-4 were $0.6 \mu g/l$ and $1.2 \mu g/l$. Previous MW-4 toluene concentrations ranged from $3.6 \mu g/l$ to $110 \mu g/l$. The $0.6 \mu g/l$ detected during the July 1996 event was the lowest observed in the period of record.

The VW-8 toluene concentrations for the July and October 1996 events were 3 μ g/l and 3.9 μ g/l. VW-8 toluene concentrations have ranged from 0.3 μ g/l to 570 μ g/l for the period of record, which began in June 1995.

The California MCL for toluene is 0.150 mg/l or 150 μ g/l.

2.2.2.4 Isomers of Xylene

In the past, the three isomers of xylene have been detected in water samples from MW-3, MW-4, and VW-8. The three isomers are all constituents of gasoline.

During the July and October 1996 sampling events, o-xylene was detected at 7.8 μ g/l and 4 μ g/l in MW-3. These are periods of record lows. MW-3 concentrations of o-xylene ranged from 4 μ g/l to 940 μ g/l. P and m-xylenes were detected at 36 μ g/l and 16 μ g/l for the July and October 1996 events. These are periods of record lows. MW-3 concentrations of p and m-xylenes ranged from 16 μ g/l to 2,100 μ g/l.

In MW-4, o-xylene was detected at 12 μ g/l and 9.3 μ g/l for the July and October 1996 events. MW-4 concentrations ranged from 10 μ g/l to 320 μ g/l for o-xylene. P and m-xylenes were detected at 110 μ g/l and 170 μ g/l for the July and October 1996 events. The 110 μ g/l was a period of record low. MW-4 concentrations ranged from 110 μ g/l to 730 μ g/l. Xylene isomers were also detected in VW-8.

O-xylene concentrations for VW-8 were 0.9 μ g/l and 1.0 μ g/l for the July and October 1996 events. For the period of record, which began in June 1995, results ranged from <0.4 μ g/l to 130 μ g/l. P and m-xylenes were detected in VW-8 at 3.6 μ g/l and 6.8 μ g/l for the July and October 1996 events. P and m-xylene concentrations ranged from <0.4 μ g/l to 210 μ g/l for the period of record, which began in June 1995.

The California MCL for xylenes is 1.75 mg/l or 1,750 μ g/l for either a single isomer or the sum of the isomers.

2.2.2.5 Naphthalene

During the July and October 1996 events, naphthalene was detected in MW-3, MW-4, and VW-8. Naphthalene is a constituent of gasoline.

For the July and October 1996 events, naphthalene was detected at 10 μ g/l and 6 μ g/l in MW-3. These values are the lowest detected concentrations for the period of record. MW-3 concentrations ranged from <5 μ g/l to 150 μ g/l.

MW-4 concentrations for the July and October 1996 events were 32 μ g/l and 36 μ g/l. These values are period of record lows for MW-4. Concentrations ranged from 32 μ g/l to 120 μ g/l.

Naphthalene was detected in VW-8 at <5 μ g/l and 6 μ g/l for the July and October 1996 sampling events. VW-8 results ranged from <5 μ g/l and 46 μ g/l for the sampling period which began in June 1995.

There is no California MCL for naphthalene.

2.2.2.6 Trimethylbenzene

Both 1,2,4 and 1,3,5 trimethylbenzene were detected in MW-3, MW-4, and VW-8. These compounds are both constituents of gasoline.

The compound 1,2,4 trimethylbenzene was detected at 140 μ g/l and 95 μ g/l in MW-3 during the July and October 1996 sampling events. For the period of record MW-3 concentrations ranged from 54 μ g/l to 650 μ g/l. 1,3,5 trimethylbenzene was detected at 35 μ g/l and 23 μ g/l in MW-3 for the July and October events. MW-3 concentrations ranged from 22 μ g/l to 160 μ g/l. As with the BETX compounds, the fluctuating trimethylbenzene concentrations appear to be the response to residual gasoline constituent flushing from the soil near the MW-3 area.

During the July and October 1996 sampling events, 1,2,4 trimethylbenzene was detected at 180 μ g/l and 240 μ g/l in MW-4. These are both periods of record lows. MW-4 concentrations ranged from 180 μ g/l to 600 μ g/l. In MW-4, 1,3,5 trimethylbenzene was

detected at 44 μ g/l and 50 μ g/l. These are also periods of record lows. MW-4 concentrations ranged from 44 μ g/l to 130 μ g/l.

During the July and October 1996 sampling events, 1,2,4 trimethylbenzene was not detected in VW-8. Previous results ranged from $<5 \mu g/1$ to 270 $\mu g/1$. 1,3,5 trimethylbenzene was not detected during either the July or October 1996 events. Previous concentrations ranged from $<5 \mu g/1$ to 93 $\mu g/1$.

There is no California MCL for trimethylbenzene.

2.2.2.7 Other Gasoline Components

Throughout the period of record, a number of other gasoline-related VOCs have also been detected in MW-3, MW-4, and OB-1. Concentrations of n-butylbenzene, isopropylbenzene (cumene), sec-butylbenzene, and n-propylbenzene have been detected during sampling events.

During the July and October 1996 sampling events, these VOCs were detected in concentrations similar to those of previous sampling. Individual concentrations were generally less than $60 \mu g/l$.

2.2.2.8 Total Petroleum Hydrocarbons (TPH) as Gasoline

TPH, as gasoline, was detected at 2,100 μ g/l and 1,800 μ g/l in MW-3 during the July and October 1996 sampling events. Detections ranged from 1,600 μ g/l to 14,000 μ g/l. Fluctuating TPH concentrations in MW-3 appear to be seasonally related. Higher concentrations appear in the wetter months. MW-3 is located near the former tank area.

The TPH concentrations in MW-4 for the July and October 1996 sampling events were 4,300 μ g/l and 4,800 μ g/l. Both concentrations are periods of record lows. For the period of record, MW-4 concentrations ranged from 5,900 μ g/l to 9,700 μ g/l.

The VW-8 TPH concentrations were 800 μ g/l and 2,300 μ g/l. Previous results ranged from <5 μ g/l to 5,300 μ g/l for the period of record that began in June 1995. The <5 μ g/l value is suspect. As described in previous reports, there is a laboratory-described "heterogeneity" with this sample.

3.0 SVE SYSTEM ACTIVITY SUMMARY

This portion of the report summarizes the activities and status of the SVE system operation.

3.1 SVE System Background

A SVE system was originally installed in 1992. Operational difficulties due to high water levels limited the effectiveness of the system. During late 1994, additional SVE vents were installed. In early 1995, the system was redesigned. Construction of the redesigned SVE system was accomplished during September 1995.

Startup and operation of the redesigned SVE system began the week of October 2, 1995. Vent wells VW-1, VW-4, VW-5, and VW-9 are the currently used extraction points. Extracted air passes through three carbon vessels in series to remove the VOCs from the SVE system discharge.

On October 3, 1995, a 4-liter charcoal tube air sample was collected from the blower discharge prior to the first carbon vessel. The sample was submitted to the laboratory for chemical analysis of BETX and total hydrocarbons (THC) as gasoline. Based upon a THC (as gasoline) result of 880,000 μ g/m³ and a blower discharge of 118 cubic feet per minute, the mass removal rate of the system on October 3 was calculated to be 1.58 gallons of gasoline per day.

The SVE system operates continuously during the normal, five-day work week. The SVE system is typically not operated on weekends. The air permit requires daily air discharge monitoring. The facility is closed on weekends, so personnel are not available to perform the required air monitoring.

3.2 SVE System Operations During the Period

From April 3 to October 31, 1996, the SVE system was operated 131 days. There were 153 weekdays available for operation for the period. The unavailability of personnel to perform the required daily air monitoring and high water in vent wells were the major limiting factors on operation.

As an air permit condition, daily readings are taken from the system with a photoionization detection meter (PID). Table 3 provides a summary of the daily PID readings from the SVE system. Figure 7 shows the time series of OVM readings. PID readings were very low for mid-February to mid-April. These low levels likely result from higher winter water levels that submerge residual gasoline constituents in voids within the soil matrix near the water table. With falling water levels through April and May 1996, SVE readings increased through mid-July. From mid-July through October, PID readings decreased.

4.0 CONCLUSIONS

The conclusions combine observations, data, and evaluation for the July and October 1996 sampling events and past site work. Publicly available hydrogeologic and ground water contamination studies were also used in the evaluation. The conclusions also draw upon the SVE system operational data.

The shallow geologic setting beneath the facility is a sequence of fill, silts, clays, and sands that have been mapped as fluvial deposits. The depth to ground water varies seasonally. Over the last nine quarters of monitoring, the water table has fluctuated approximately 3 feet. During this period, water levels were at their highest in early 1995.

Water levels declined throughout the period. Declines ranged from approximately 1.3 feet to 2.4 feet. The declines were not as great as the decline observed during the same period as 1995.

The shallow ground water flows through a sequence of saturated sands, silts, and clays. Ground water gradients for the period were approximately 0.004. This is similar to past estimates. Ground water flow is to the southwest and its velocity is estimated at 44 feet per year.

The ground water fluctuations in facility monitoring wells are part of a seasonal trend of higher late winter and early spring elevations, and declining water levels for the rest of the year.

Seasonally, ground water levels in individual facility monitoring wells respond fairly uniformly.

Gasoline constituents and some chlorinated VOCs continue to be detected in monitoring wells.

Gasoline constituents were detected in three ground water sampling points downgradient of the facility.

Both chlorinated and gasoline constituent VOCs continue to be detected in the wells near the facility's downgradient boundary.

BETX constituents from the monitoring well MW-3, near the former UST, are generally lower than readings for a similar period in 1995.

Overall, many VOCs were at or near periods of record lows.

Daily SVE influent monitoring continues to show declining concentrations from the October 1995 startup of the redesigned system through October 1996.

As of October 1996, daily influent readings appear to be approaching one part per million. This declining, curving (asymptotic) behavior of daily SVE readings, as shown in Figure 7, is typical of SVE systems that are nearing completion.

5.0 ACTIVITIES STATUS SUMMARY

The following corrective action activities are either in progress or planned for the coming months.

- Continue to operate, monitor, and maintain the SVE system
- Collect SVE system air samples for analysis and mass removal calculations
- Continue ground water monitoring

6.0 RECOMMENDATIONS

6.1 RECOMMENDATION 1

The SVE system should continue to operate to maximize the removal of remaining gasoline constituents from the soil. Continued daily air monitoring will provide another quarter to observe the asymptotic trend that appears to be developing.

The system should be operated as much as possible, recognizing the operational constraints of the air permit conditions, including the requirement to do daily monitoring of the system effluent. This requirement limits system operation to the business work week.

6.2 RECOMMENDATION 2

Continue with ground water monitoring and reporting. The ground water data from wells such as MW-3 have shown downward concentration trends.

The redesigned SVE system began operation in October of 1995. The MW-3 results from the January through October 1995 period showed higher levels than the same period in 1996. Data from the January through April 1997 period should provide additional data to confirm that the observed decrease has been primarily due to the SVE system operation.

7.0 REFERENCES

- Alameda County, 1995, faxed precipitation data from the Alameda County Flood Control and Water Conservation District, Water Resources Section, Oakland, California.
- Hickenbottom, K. and Muir, K., Geohydrology and Ground Water-Quality Overview of the East Bay Plain Area, Alameda County, California 2005 (j) Report, Alameda County Flood Control and Water Conservation District, Oakland, California.
- IT Corporation, 1990, Ingersoll-Rand Corporation Data Summary Report, Subject Site: 1944 Marina Boulevard, San Leandro, California, Martinez, California.
- IT Environmental Services, 1989, Problem Assessment Report, prepared for: Ingersoll-Rand Incorporated, Martinez, California.
- Sax, N.I, and R. J. Lewis, 1987, Hawley's Condensed Chemical Dictionary, Van Nostrand Reinhold, New York.
- Woodward-Clyde Consultants, 1993, Hydrogeology of Central San Leandro and Remedial Investigation of Regional Ground Water Contamination San Leandro Plume, San Leandro, California, prepared for the California Environmental Protection Agency, Oakland, California.

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



August 21, 1996

Mr. John McDermott CAPSULE ENVIRONMENTAL ENGINEERING, INC. 1970 Oakcrest Avenue, Suite 213 St. Paul, Minnesota 55113-2624

Clayton Project No. 70664.00

Subject:

Analytical Reports for Groundwater Monitoring and Sampling at the

Ingersoll-Rand Facility in San Leandro, California

Dear Mr. McDermott:

Clayton Environmental Consultants, Inc. is pleased to transmit the attached analytical reports for the groundwater samples collected on July 25, 1996 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Upon arrival at the site on July 25, 1996, Clayton measured the depth to groundwater in monitoring wells MW-1 through MW-4 and VW-6 and VW-8. Stagnant water in the monitoring wells MW-3, MW-4, and VW-8 was purged using a 2-inch submersible pump. Approximately four to five times the well volume was pumped from each well to ensure water representative of the aquifer was present in the wells. Well volumes were calculated using depth to groundwater and total well depth measurements which were recorded to the nearest 0.01 foot upon arrival at the site. The purging was continued until sufficient volume of water had been purged for pH, temperature, and electrical conductivity to stabilize.

The following parameters were noted during the sampling activities:

- Monitoring well identification
- Static water level
- · Well depth
- Condition of water before 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



Mr. John McDermott Capsule Environmental Engineering August 21, 1996

Page 2 Clayton Project No. 70664.00

The water sample was collected using a new disposable bailer. All other equipment coming into contact with groundwater was thoroughly cleaned and decontaminated before use. Details of the groundwater monitoring and sampling event are, including depth to water measurements, provided in the water sampling field survey forms (Appendix A).

Groundwater samples were transferred into clean laboratory-supplied containers that were closed, labeled, placed immediately into an ice chest, and transported to Clayton's state-certified laboratory for analysis. In addition one trip blank and one trip blank was furnished in accordance with your quality assurance/quality control (QA/QC) program.

Groundwater samples were collected in such a manner to minimize the volatilization of a sample due to agitation and/or transfer from bailer to sample container. To document and trace samples from time of collection, a signed chain-of-custody record was completed by the sampler and accompanied the samples through the laboratory analyses. The completed chain-of-custody was included with the analytical report from the laboratory.

The groundwater generated during the sampling activities was placed in a Department of Transportation (DOT) approved 55-gallon drum. This drum was labeled and was left onsite.

The groundwater samples were analyzed using the following United States Environmental Protection Agency (USEPA) methods:

- USEPA Method 8015-M for total petroleum hydrocarbons as gasoline (TPH-G)
- USEPA Method 8020 for benzene, toluene, ethylbenzene and xylenes (BTEX)
- USEPA Method 8260 for volatile organic compounds (VOCs)

The analytical reports are included as Appendix B to this report

Should you have any questions regarding the sampling event, please contact us at (510) 426-2600.

Sincerely,

Richard J. Silva, R.E.A.

Geologist

RJS/rs Enclosures



APPENDIX A

FIELD SURVEY FORMS

CLAYTON ENVIRONMENTAL CONSULTANTS, INC. WATER SAMPLING FIELD SURVEY FORM

Project #: 70664.00 Site: INGERSON - RAND Date: July 25.199
Project #: 70664.cc Site: Indicate Site: Trust Election RAND Date: July 25,199 Well #: W47-1 Sampling Team: R-SILVA
Sampling Method: LET APPLICABLE
Field Conditions: CLEAR SILLES, WARM, SLIGHT BREEZE
Describe Equipment D-Con Before Sampling This Well:
Total Depth of Well: feet Time: Depth to Water Before Pumping: /2.6./ feet
Height of Diameter Water Column:feet
Depth Purging From:feet Time Purging Begins:
Notes on initial Discharge:
Time Volume Furged pri Conductivity T Notes

CLAYTON ENVIRONMENTAL CONSULTANTS, INC. WATER SAMPLING FIELD SURVEY FORM

Project #: 70664.00 Site: INGERSOLL-RAND Date: JULY 25/1946
Well #: Sampling Team:
Sampling Method: NOT APPLICABLE
Field Conditions: CLEAR SKIER, WHEM, SUIGHT BRE = ZE
Describe Equipment D-Con Before Sampling This Well:
Total Depth of Well: feet Time: Depth to Water Before Pumping:
Height of Diameter Water Column:feet
Depth Purging From:feet Time Purging Begins:
Notes on Initial Discharge:
Time Volume Purged pH Conductivity T Notes

CLAYTON ENVIRONMENTAL CONSULTANTS, INC. WATER SAMPLING FIELD SURVEY FORM

Project #:	706:4.00	Site:	LUGERSOLL - F	PAND	Date: July 25, 1996
Well #:	MW-3	Samplin	g Team:	ILVA	
Sampling Met	thod: Disf				
Field Condition		,		•	
Describe Equi	pment D-Con Before	Sampling Tr	nis Well:		
			· · · · · · · · · · · · · · · · · · ·		
Total Depth of Well:	20.26 feet	Time:	1120	Depth to Wate Before Pumpil	er ng: <u>15,94</u> feet
Height of Water Column: 4.32	f ee t •				Purge Volume Factor To Purge ### = 11-2# gal
Depth Purging	From: <u>/<i>9</i></u>	feet	Time Purç	ging Begins: <u>/</u>	345
Notes on Initial	Discharge:	Exe			
Time a					
<u>Time</u> _/348	Volume Purged 3-GAL	pH 7.0	Conductivity	<u>T</u>	Notes
<u></u>	6-GAL	<u>7,0</u> 6.€	914	20.3	CLEAR
1354	9-GAL	6.6	938	20.1 20.0	STEAK PURGED
1405	12-6KC	6,5	954	20.2	CLEAR DRY
					

CLAYTON ENVIRONMENTAL CONSULTANTS, INC. WATER SAMPLING FIELD SURVEY FORM

Well #:	MW-4	Samplin	ng Team: $\underline{\mathcal{R}}$. $\underline{\mathcal{S}}_{\prime\prime}$	· V.L	Date: <u>Tuly 25, 1996</u>
Sampling Me		•			EZE
Describe Equ	ipment D-Con Befor	re Sampling T	his Well:		
Total Depth of Well:	28.40 fee	et Time	: 1125	Depth to Wate Before Pumpii	r ng: <u>/8./3</u> feet
				•	
Height of Water Column: (0.7	<u>7</u> feet •	<u>Diamete</u> 2-inch 4 .16		p	urge Volume actor To Purge
Water Column: (2.7	7 feet • From:2€	2-inch 4 .16 (Voit	p	urge Volume actor <u>To Purge</u> + = <u>25.0</u> gai
Water Column: (2,7	From: <u>28</u>	2-inch 4 .16 (Finch Volt (65) = 7.00 Time Purg	ıme <u>F</u>	urge Volume actor <u>To Purge</u> + = <u>25.0</u> gai

CLAYTON ENVIRONMENTAL CONSULTANTS, INC. WATER SAMPLING FIELD SURVEY FORM

Well #:	70664 00 <u>YW-6</u> thod: <u>Not</u>	Sampling) Team:	SILVA		,
Field Condition	ons: <u>Clear</u>	- SKIES	, nurry, 5	<u> 4647 BR</u>	E.E.Z.C	
Describe Equi	ipment D-Con Before	Sampling Th	is Well:			
Total Depth of Well:	feet	Time:		Depth to Water Before Pumping	: <u>2</u>	1.17feet
Height of Water Column:					rge ctor_ =	Volume <u>To Purge</u> gai
Depth Purging	From:	_ feet	Time Purg	jing Begins:		
Notes on initial	l Discharge:				,	
	Volume Purged	pH	Conductivity			Notes
						

CLAYTON ENVIRONMENTAL CONSULTANTS, INC. WATER SAMPLING FIELD SURVEY FORM

Well #:	VW-€	Sampling	Tagersoil - g Team: R. S Bailer	SILVA		· · · · · · · · · · · · · · · · · · ·
Field Condition	ons: <u>() </u>	AR SKIE	es, WARM,	SUGKT E	BREEZE	
Describe Equ	ipment D-Con Befo	re Sampling Th	is Well:			
Total Depth of Well:	<u>25,32</u> fee	et Time:		Depth to Wate Before Pumpir		2 . 97 feet
Height of Water Column: 2.35	∑ feet •	Diameter 2-inch 4- .16	inch Volu	ıme E	urge actor 	Volume To Purge
Depth Purging	From: <u>35</u>	feet	Time Purg	ing Begins: <u>(</u>	209	
Notes on Initia	ıl Discharge:	LEAR				



APPENDIX B

ANALYTICAL REPORTS

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

August 8, 1996

Mr. Rick Day CLAYTON ENVIRONMENTAL CONS. 1252 Quarry Lane Pleasanton, CA 94566

> Client Ref.: 70664.00 Clayton Project No.: 96073.47

Dear Mr. Day:

Attached is our analytical laboratory report for the samples received on July 25, 1996. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after September 7, 1996, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH

Michael Figuel For

Director, Laboratory Services

San Francisco Regional Office

HAH/tjb

Attachments

Page 2 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: MW-3

Lab Number: 9607347-01C

Sample Matrix/Media: WATER
Preparation Method: EPA 5030A

Method Reference:

EPA 8260A

Date Sampled: 07/25/96 Date Received:

07/25/96 Date Prepared: 07/26/96 Date Analyzed: 07/26/96

Analyst: JΡ

Analyte	CAS #	Concentration (ug/L)	Limit of Detectior (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	10	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5 5 5 5 5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	13	5
Carbon disulfide	75-15-0 .	ND	5
Carbon tetrachloride	56-23-5	ND	,5
Chlorobenzene	108-90-7	11	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	62	5
1,3-Dichlorobenzene	541-73-1	7	5
1,4-Dichlorobenzene	106-46-7	15	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	ភភុសសសសសសសសសសសសសសសសសសសស
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

Page 3 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: MW-3

Lab Number:

9607347-01C

Sample Matrix/Media: Sample Matrix/Media: WATER
Preparation Method: EPA 5030A

Method Reference:

Trichloroethene

WATER

EPA 8260A

Date Sampled:

Date Received: 07/25/96 Date Prepared: 07/26/96

Date Analyzed:

07/26/96

5

07/25/96

Analyst:

JΡ

			Limit of
Analyte	CAS #	Concentration (ug/L)	Detection (ug/L)

	312 //	(-9/-/	(49//
Volatile Organic Compounds (Con	tinued)		
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	
1,3-Dichloropropane	142-28-9	ND	5 5 5 5 5 5 5 5 5 5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	35	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	7	5
p-Isopropyltoluene	99-87 - 6	ND	5 5
Methylene chloride	75-09-2	ND	
4-Methyl-2-pentanone	108-10-1	ND	20
MTBE	1634-04-4	ND	5
Naphthalene	91-20-3	10	5
n-Propylbenzene	103-65-1	26	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	ភ ភ ភ ភ ភ ភ ភ ភ ភ ភ ភ ភ ភ ភ
1,1,2-Trichloroethane	79-00-5	ND	5
			<u> </u>

79-01-6

ND

Page 4 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00

Clayton Project No. 96073.47

Sample Identification: MW-3

Lab Number: 9607347-01C

Sample Matrix/Media:

Preparation Method: Method Reference:

WATER

EPA 5030A EPA 8260A Date Sampled:

Date Received: Date Prepared:

07/25/96 07/26/96

07/25/96

Date Analyzed:

07/26/96

Analyst:

JΡ

	•			
				Limit of
			Concentration	Detection
Analyte	CAS	#	(ug/L)	(ug/L)

Volatile	Organic	Compounds	(Continued)

75-69-4	ND	5
96-18-4	ND	5
95-63-6	140	5
108-67-8	35	5
108-05-4	ND	10
75-01-4	ND	5
95-47-6	7	5
	36	5
	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4	96-18-4 ND 95-63-6 140 108-67-8 35 108-05-4 ND 75-01-4 ND 95-47-6 7

Surrogates		Recovery (%)	OC Limits (名)
4-Bromofluorobenzene	460-00-4	98	86 - 115
Dibromofluoromethane	1868-53-7	102	86 - 118
1,2-Dichloroethane-d4	17060-07-0	99	76 - 114
Toluene-d8	2037-26-5	95	88 - 110

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

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: MW-4 Date Sampled: 07/25/96 Date Received: 07/25/96 Lab Number: 9607347-02C Sample Matrix/Media: WATER Date Prepared: 07/26/96 Preparation Method: EPA 5030A Date Analyzed: 07/26/96 Method Reference: EPA 8260A Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detectio (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	110	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5 5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	8	5
Carbon disulfide	75-15-0	ND	5 5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5 5 5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5 5 5 5
cis-1,2-Dichloroethene	156-59-2	5	5

Page 6 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: MW-4 Date Sampled: 07/25/96 Lab Number: 9607347-02C Date Received: 07/25/96 Sample Matrix/Media: WATER Date Prepared: 07/26/96 Preparation Method: EPA 5030A Date Analyzed: 07/26/96 Method Reference: EPA 8260A Analyst: JΡ

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	tinued)		
trans-1,2-Dichloroethene	156-60-5	11	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5 5 5 5 5 5 5 5
1,1-Dichloropropene	563 - 58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	170	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	53	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
MTBE	1634-04-4	ND	5
Naphthalene	91-20-3	32	5
n-Propylbenzene	103-65-1	39	5
sec-Butylbenzene	135-98-8	6	5
Styrene	100-42-5	ND	5 5 5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5 5 5 5 5 5 5 5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	22	5

Page 7 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: MW-4

Lab Number:

9607347-02C

Sample Matrix/Media: Preparation Method:

WATER

EPA 5030A

Date Sampled: Date Received:

07/25/96 07/25/96 Date Prepared: 07/26/96

Date Analyzed:

07/26/96

Method Reference:	EPA 8260A		Analyst:	JP
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Comp	ounds (Contin	ued)		
Trichlorofluorometh 1,2,3-Trichloroprop 1,2,4-Trimethylbenz 1,3,5-Trimethylbenz	ane ene	75-69-4 96-18-4 95-63-6 108-67-8	ND ND 180 44	5 5 5
Vinyl acetate Vinyl chloride o-Xylene	erre	108-05-4 75-01-4 95-47-6	ND ND 11	10 5 5
p,m-Xylenes Surrogates			110 Recovery (%)	5 <u>OC Limits (%)</u>
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-e Toluene-d8	e	460-00-4 1868-53-7 17060-07-0 2037-26-5	97 93 97 95	86 - 115 86 - 118 76 - 114 88 - 110

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

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07/25/96

Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: VW-8

Lab Number:

WATER

Sample Matrix/Media: Preparation Method:

Method Reference:

9607347-03C

EPA 5030A

EPA 8260A

Date Sampled:

07/25/96 Date Received: Date Prepared: 07/26/96

Date Analyzed: 07/26/96

Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds	and the ball to		
Acetone	67-64-1	ND	20
Benzene	71-43-2	72	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5 5 5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	, 5
Chlorobenzene	108-90-7	ND	5 5 5 5 5 5 5 5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5 5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5 5
1,2-Dibromoethane	106-93-4	ND	
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5 5 5 5 5 5 5 5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: VW-8

Lab Number: 9607347-03C

Sample Matrix/Media: WATER

Preparation Method: EPA 5030A

Date Sampled: 07/25/96

Date Received: 07/25/96

Date Prepared: 07/26/96

Method Reference: EPA 8260A Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Cont	cinued)		
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	52	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
MTBE	1634-04-4	ND	5
Naphthalene	91-20-3	ND	
n-Propylbenzene	103-65-1	10	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	. ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	10	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5 5 5 5 5 5 5 5 5 5 5 5 5 5
Trichloroethene	79-01-6	ND	5

Date Sampled:

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07/25/96

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Lab Number: 9607347-03C Date Received: 07/25/96 Date Prepared: Sample Matrix/Media: WATER 07/26/96 EPA 5030A Date Analyzed: 07/26/96 Preparation Method: EPA 8260A Analyst: Method Reference: JP Limit of Concentration Detection Analyte CAS # (ug/L) (ug/L) Volatile Organic Compounds (Continued) 75-69-4 5 Trichlorofluoromethane ND 96-18-4 ND 5 1,2,3-Trichloropropane 5 1,2,4-Trimethylbenzene 95-63-6 ND 5 108-67-8 ND 1,3,5-Trimethylbenzene Vinyl acetate 108-05-4 ND 10 Vinyl chloride 75-01-4 5 ND 5 95-47-6 ND o-Xylene 5 ND p,m-Xylenes <u>Surrogates</u> Recovery (%) OC Limits (%) 460-00-4 98 4-Bromofluorobenzene 86 - 115 86 - 118 Dibromofluoromethane 98 1868-53-7 1.2-Dichloroethane-d4 17060-07-0 96 76 - 114 Toluene-d8 2037-26-5 95 88 - 110

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

Sample Identification: VW-8

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00

Clayton Project No. 96073.47

Sample Identification: FIELD BLANK Lab Number:

9607347-04C

Date Sampled: 07/25/96

Sample Matrix/Media:

WATER

Date Received: 07/25/96 Date Prepared: 07/26/96

Preparation Method: EPA 5030A Method Reference:

Date Analyzed: 07/26/96

EPA 8260A Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds			
	67-64-1	ND	20
Acetone	71-43-2	ND	20 5
Benzene Bromobenzene	108-86-1	ND	5 5
Bromochloromethane	74-97-5	ND	
Bromodichloromethane	75-27-4	ND	5 5 5
Bromoform	75-25-2	ND	
	74-83-9	ND	5 5
Bromomethane	78-93-3	ND ND	20
2-Butanone	104-51-8	ND	
n-Butylbenzene	75-15-0	ND ND	5 5
Carbon disulfide			
Carbon tetrachloride	56-23-5	ND	5 5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5 5 5 5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	- 5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5



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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: FIELD BLANK

Lab Number: 9607347-04C

Sample Matrix/Media: WATER

Preparation Method: EPA 5030A

Date Sampled: 07/25/96

Date Received: 07/25/96

Date Prepared: 07/26/96

Method Reference: EPA 8260A Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Cont	inued)		
trans-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane	156-60-5 78-87-5 142-28-9	ND ND ND	5 5 5
2,2-Dichloropropane 1,1-Dichloropropene	594-20-7 563-58-6 10061-01-5	ND ND	5 5
<pre>cis-1,3-dichloropropene trans-1,3-dichloropropene Ethylbenzene</pre>	10061-02-6 100-41-4	ND ND ND	5 5 5 5 5 5 5
Freon 113 Hexachlorobutadiene 2-Hexanone	76-13-1 87-68-3 591-78-6	ND ND	20
Isopropylbenzene p-Isopropyltoluene Methylene chloride	98-82-8 99-87-6 75-09-2	ND ND	5 5 5
4-Methyl-2-pentanone MTBE Naphthalene	108-10-1 1634-04-4 91-20-3	ND ND ND	20 5 5
n-Propylbenzene sec-Butylbenzene Styrene	103-65-1 135-98-8 100-42-5	ND ND ND	5 5 5 5 5 5 5 5 5 5 5 5
tert-Butylbenzene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane	98-06-6 630-20-6	ND ND	5 5
Tetrachloroethene Toluene	79-34-5 127-18-4 108-88-3	ND ND ND	5 5 5
<pre>1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane</pre>	87-61-6 120-82-1 71-55-6	ND ND ND	5 5
1,1,2-Trichloroethane Trichloroethene	79-00-5 79 - 01-6	ND ND	5 5

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: FIELD BLANK 9607347-04C Lab Number:

Sample Matrix/Media: WATER
Preparation Method: EPA 5030A
Method Reference: EPA 8260A

Date Sampled: 07/25/96

Date Received: 07/25/96 Date Prepared: 07/26/96 Date Analyzed: 07/26/96

Method Reference:	EPA 8260A		Analyst:	JP
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compo	ounds (Continu	ed)		
Trichlorofluorometha		75-69-4	ND	5
1,2,3-Trichloropropa		96-18-4	ND	5
1,2,4-Trimethylbenze	ene	95-63-6	ND	5
1,3,5-Trimethylbenze	ene	108-67-8 108-05-4	ND	5
Vinyl acetate Vinyl chloride		75-01-4	ND ND	10 5
o-Xylene		95-47-6	ND	
p,m-Xylenes			ND	5 5
<u>Surrogates</u>			Recovery (%)	OC Limits (%)
4-Bromofluorobenzene	:	460-00-4	97	86 - 115
Dibromofluoromethane		1868-53-7	98	86 - 118
1,2-Dichloroethane-d	14	17060-07-0	99	76 - 114
Toluene-d8		2037-26-5	93	88 - 110

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

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00

Clayton Project No. 96073.47

Sample Identification: TRIP BLANK (HCL) 0061296

Lab Number:

9607347-05C

Sample Matrix/Media: Preparation Method:

Method Reference:

WATER EPA 5030A EPA 8260A Date Received: Date Prepared:

07/25/96 07/25/96 07/26/96

Date Analyzed:

Date Sampled:

07/26/96

Analyst:

JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5 5 5 5 5 5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75 - 71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: TRIP BLANK (HCL) 0061296 Lab Number:

9607347-05C

Lab Number:
Sample Matrix/Media: WATER
Preparation Method: EPA 5030A
EPA 8260A

Date Sampled: 07/25/96

Date Received: 07/25/96 Date Prepared: 07/26/96 Date Analyzed: 07/26/96

Analyst: JΡ

				Limit Of
Analyte	CAS	#	Concentration (ug/L)	Detection (ug/L)

Analyte	CAS #	(ug/L)	(ug/L)
Volatile Organic Compounds (Con	tinued)		
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5 5 5 5 5 5 5 5 5 5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	
p-Isopropyltoluene	99-87-6	ND	5 5 5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
MTBE	1634-04-4	ND	
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	55555555555
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	ب ج
1,1,2-Trichloroethane	79-00-5	ND	5 5 5 5
Trichloroethene	79-01-6	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: TRIP BLANK (HCL) 0061296 Date Sampled: 07/25/96
Lab Number: 9607347-05C Date Received: 07/25/96
Sample Matrix/Media: WATER Date Prepared: 07/26/96
Preparation Method: EPA 5030A Date Analyzed: 07/26/96

Method Reference: EPA 8260A Analyst: JP

Method Reference. EPA	5260A	Anaryst:	JP
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds	(Continued)		
Trichlorofluoromethane 1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	75-69-4 96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND ND ND ND ND ND ND	5 5 5 5 5 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5
<u>Surrogates</u>		Recovery (%)	OC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	460-00-4 1868-53-7 17060-07-0 2037-26-5	97 100 99 95	86 - 115 86 - 118 76 - 114 88 - 110

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

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00

Clayton Project No. 96073.47

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9607347-06A

Date Received:

Sample Matrix/Media: WATER Preparation Method: EPA 5030A

Date Prepared: 07/26/96 Date Analyzed: 07/26/96

JР

Method Reference:	EPA 8260A	Analyst:	

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74 - 83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	. 5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5 5 5 5 5 5 5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00

Clayton Project No. 96073.47

Sample Identification: METHOD BLANK

9607347-06A

Lab Number:

Sample Matrix/Media: WATER
Preparation Method: EPA 5030A

Method Reference:

EPA 8260A

Date Sampled:

Date Received:

Date Prepared: 07/26/96 Date Analyzed: 07/26/96

Analyst: JΡ

		Concentration	Limit of Detection
Analyte	CAS #	(ug/L)	(ug/L)
Volatile Organic Compounds (Con	tinued)		**************************************
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5 5 5 5 5 5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
MTBE	1634-04-4	ND	5
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5 5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5 5 5
Trichloroethene	79-01-6	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00

Clayton Project No. 96073.47

Sample Identification: METHOD BLANK

Lab Number:

9607347-06A

Date Sampled:

Date Received:

Date Prepared: 07/26/96 Date Analyzed: 07/26/96

Sample Matrix/Media: WATER
Preparation Method: EPA 5030A
Method Reference: EPA 8260A Analyst: JΡ

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	tinued)		
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5 5 5 5
1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5 5 5
o-Xylene	95- 4 7 <i>-</i> 6	ND	5
p,m-Xylenes		ND	5
Surrogates		Recovery (%)	OC Limits (%)
4-Bromofluorobenzene	460-00-4	97	86 - 115
Dibromofluoromethane	1868-53-7	101	86 - 118
1,2-Dichloroethane-d4	17060-07-0	99	76 - 114
Toluene-d8	2037-26-5	95	88 - 110

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

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00

Clayton Project No. 96073.47

Sample Identification: MW-3

a,a,a-Trifluorotoluene

Lab Number:

9607347-01A

Sample Matrix/Media: WATER
Preparation Method: EPA 5030
Method Reference: EPA 8015/8020

Date Sampled: 07/25/96

Date Received: 07/25/96 Date Prepared: 08/05/96

Date Analyzed:

08/05/96

50 - 150

Analyst:

105

NAN

nechoa kererenee.	B111 0010/ 0010	12102700.	416-441
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-		0.4
Ethylbenzene	100-41-		0.3
Toluene	108-88-		0.3
o-Xylene	95-47-	6 7.8	0.4
p,m-Xylenes	-	- 30	0.4
Gasoline	-	- 2100	50
Surrogates		Recovery (%)	OC Limits (%)

98-08-8

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

Page 21 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: MW-4

Lab Number:

Sample Matrix/Media: Preparation Method: EPA 5030

9607347-02A

WATER

Method Reference: EPA 8015/8020 Date Sampled:

07/25/96 Date Received: 07/25/96 Date Prepared: 08/05/96 Date Analyzed:

Analyst.

08/05/96

method Reference:	SPA 8015/8020	Analyst:	NAN
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	110	0.4
Ethylbenzene	100-41-4		0.3
Toluene	108-88-3	0.6	0.3
o-Xylene	95-47-6	12	0.4
p,m-Xylenes		95	0.4
Gasoline		4300	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	106	50 - 150

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

Page 22 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: VW-8

Lab Number: 96

Sample Matrix/Media:

Preparation Method: Method Reference:

9607347-03A

WATER EPA 5030

EPA 8015/8020

Date Sampled: 07/25/96

Date Received: 07/25/96

Date Prepared: 08/05/96

Date Analyzed: 08/05/96 Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene Ethylbenzene Toluene o-Xylene p,m-Xylenes Gasoline	71-43-2 100-41-4 108-88-3 95-47-6	74 48 3.0 0.9 3.6 800	0.4 0.3 0.3 0.4 0.4 50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	95	50 - 150

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

Page 23 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: FIELD BLANK

Lab Number:

9607347-04A

Sample Matrix/Media: WATER
Preparation Method: EPA 5030 Method Reference:

p,m-Xylenes Gasoline

EPA 8015/8020

Date Sampled:

07/25/96 Date Received: 07/25/96

Date Prepared: 08/01/96

Date Analyzed:

08/01/96

Analyst:

NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene Ethylbenzene Toluene o-Xylene	71-43-2 100-41-4 108-88-3 95-47-6	ND ND ND ND	0.4 0.3 0.3 0.4

Surrogates	Recovery (%)	OC Limits (%)

a, a, a-Trifluorotoluene

98-08-8

96

ND

ND

50 - 150

0.4

50

Not detected at or above limit of detection ND:

Information not available or not applicable

Page 24 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: TRIP BLANK (HCL) 0061296

Lab Number:

Sample Matrix/Media: Preparation Method:

Method Reference:

9607347-05A

WATER

EPA 5030

EPA 8015/8020

Date Sampled: 07/25/96

Date Received: 07/25/96 Date Prepared: 08/01/96 Date Analyzed: 08/01/96

Date Analyzed: 08/0 Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	NĎ	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes		ND	0.4
Gasoline		ND	50
Surrogates		Recovery (%)	OC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	91	50 - 150

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

Page 25 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 70664.00 Clayton Project No. 96073.47

Sample Identification: METHOD BLANK

Lab Number:

9607347-06A

Sample Matrix/Media: Preparation Method:

WATER

Method Reference:

EPA 5030

EPA 8015/8020

Date Sampled:

Date Received:

Date Prepared: 07/31/96 07/31/96

Date Analyzed:

Analyst:

NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes		ND	0.4
Gasoline		ND	50
Surrogates		Recovery (%)	OC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	95	50 - 150

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

Clayton
ENVIRONMENTAL CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

IMPORTANT	Page oft
Date Results Requested: STANDARD TAT	For Clayton Use Only Clayton Lab Project No.
Rush Charges Authorized? Yes No	
Phone or Fax Results	9607347
Durch and Order M.	

													i			
Name RICK DAY		Client Job	No. 7	0664.00	>	Pur	chase	Order N	ło.						·	
Company CLAYTON Mailing Address City, State, Zip		Dept.			Ш	Nar	ne C	APS	ULE	E	UVLR	DHI	MEN	TAL	EN	GINEERING
Mailing Address				****	SEND	Con	npany	LHE	ER:	SOLL	- RA	ND			1	Dept.
Telephone No.	 	·] R ≥ .	Add	ress									
	FAX		, .			City	, State	Zip								
Special instructions and/or specific regulatory (method, limit of detection, etc.)	requirem	ents:		oles are: applicable)	ners	(Enter ar	'X' in th	e box b	ANA elow to	LYSIS indicate	REQU reques	ESTE! t; Enter	D a'P'if l	Preserva	ative added.*)
				inking Water	Containers		_	/\$t	/	/ /	/ /	/ /	/ ,	/ ,	Ζ,	
* Explanation of Preservative: P=HCL				oundwater astewater	ठ		(NE)			/,	/,	/,	Ι,		/,	
CLIENT SAMPLE IDENTIFICATION	DATE SAMPLE	TIME SAMPLED	MATRIX MEDIA	AIR VOLUME (specify units)	Number	12	X OK				/		/			FOR LAB USE ONLY
MW-3	7-25-9	٤	1/20	40 mus	2	XP										01/10
3				40 MLS		'	XP						***			1 (1)
Mw-4				40 MLS	_	XP	- 1								_	UZAÒ
mw-4				40mes	2	- -	XP									400
Vw-B				Homes	2	XP	217									03AB
Vw-8				40mLS	2		XP									1. (1)
FIELD BLAKES				40 mes	2	XP	- 4									04 A B
FIELD BLANKS				401145	2	= 10	XP									1 (1)
TRIP BLANKS # 0061296				40mcs	2	XP	- 17									05AB
TRIP BLANKS # 0061296	Ł		¥	40m25	2	- 14	Xρ			1						VCD
CHAIN CHARD	5/LVA	-		(print)			ignatur	e: 2	ich	-a-		fir	va.	 	l	W C.17
OF Relinquished by: Richard CUSTODY Relinquished by:	pl	re o	ate/Time	7:25-96 4:550m	Recei	ved by:	:	·			,			Dat	te/Time	Э
Heinquisited by:		D	ate/Time			ved by		1		24	<u> </u>			Dat	te/Time	e
Method of Shipment:					Recei	ved at	Lab by	AM	W	UŢ,		UL	A. C.	Da	te/Time	18/16/45
Authorized by:(Client Signature MUST Accompany Requ	uest)	Date			Samp	le Con	dition (Jpon R	eceipt:	Ø	Acce	ptable				(explain)
					<u> </u>											

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

Detroit Regional Lab 22345 Roethel Drive Novi, MI 48375 (800) 806-5887 (810) 344-1770 FAX (810) 344-2655 Atlanta Regional Lab 400 Chastain Center Blvd., N.W., Suite 490 Kennesaw, GA 30144 (800) 252-9919 (770) 499-7500 FAX (770) 423-4990 San Francisco Regional Lab 1252 Quarry Lane Pleasanton, CA 94566 (800) 294-1755 (510) 426-2657 FAX (510) 426-0106 Seattle Regional Lab 4636 E. Marginal Way S., Suite 215 Seattle, WA 98134 (800) 568-7755 (206) 763-7364 FAX (206) 763-4189 DISTRIBUTION:

White = Clayton Laboratory
Yellow = Clayton Accounting
Plnk = Client Copy

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

Clayton ENVIRONMENTAL CONSULTANTS

November 8, 1996

Mr. John McDermott CAPSULE ENVIRONMENTAL ENGINEERING, INC. 1970 Oakcrest Avenue, Suite 213 St. Paul, Minnesota 55113-2624

Clayton Project No. 97070.00

Subject:

Analytical Reports for Groundwater Monitoring and Sampling at the

Ingersoll-Rand Facility in San Leandro, California

Dear Mr. McDermott:

Clayton Environmental Consultants, Inc. is pleased to transmit the attached analytical reports for the groundwater samples collected on October 22, 1996 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Upon arrival at the site on October 22, 1996, Clayton measured the depth to groundwater in monitoring wells MW-1 through MW-4 and VW-6 and VW-8. Stagnant water in the monitoring wells MW-3, MW-4, and VW-8 was purged using a 2-inch submersible pump. Approximately four to five times the well volume was pumped from each well to ensure water representative of the aquifer was present in the wells. Well volumes were calculated using depth to groundwater and total well depth measurements which were recorded to the nearest 0.01 foot upon arrival at the site. The purging was continued until sufficient volume of water had been purged for pH, temperature, and electrical conductivity to stabilize.

The following parameters were noted during the sampling activities:

- Monitoring well identification
- Static water level
- Well depth
- Condition of water before 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

11/15 Note MW-3 E4

K:\EMR\PROJECTS\P97070\97070R00.313

Honolulu • Clayton Environmental Consultants, Inc. • Atlanta • Chicago • Cleveland Detroit Los Angeles • Minneapolis • New York • Orange County Portland Rockford • San Francisco



Mr. John McDermott Capsule Environmental Engineering November 8, 1996 Page 2 Clayton Project No. 97070.00

The water sample was collected using a new disposable bailer. All other equipment coming into contact with groundwater was thoroughly cleaned and decontaminated before use. Details of the groundwater monitoring and sampling event are, including depth to water measurements, provided in the water sampling field survey forms (Appendix A).

Groundwater samples were transferred into clean laboratory-supplied containers that were closed, labeled, placed immediately into an ice chest, and transported to Clayton's state-certified laboratory for analysis. In addition one trip blank and one trip blank was furnished in accordance with your quality assurance/quality control (QA/QC) program.

Groundwater samples were collected in such a manner to minimize the volatilization of a sample due to agitation and/or transfer from bailer to sample container. To document and trace samples from time of collection, a signed chain-of-custody record was completed by the sampler and accompanied the samples through the laboratory analyses. The completed chain-of-custody was included with the analytical report from the laboratory.

The groundwater generated during the sampling activities was placed in a Department of Transportation (DOT) approved 55-gallon drum. This drum was labeled and was left onsite.

The groundwater samples were analyzed using the following United States Environmental Protection Agency (USEPA) methods:

- USEPA Method 8015-M for total petroleum hydrocarbons as gasoline (TPH-G)
- USEPA Method 8020 for benzene, toluene, ethylbenzene and xylenes (BTEX)
- USEPA Method 8260 for volatile organic compounds (VOCs)

The analytical reports are included as Appendix B to this report

Should you have any questions regarding the sampling event, please contact us at (510) 426-2600.

Sincerely,

Richard J. Silva, R.E.A.

Rechard & Ishu

Geologist

RJS/rs Enclosures



APPENDIX A

FIELD SURVEY FORMS

Project #: 97070.00 Site: INGERSOLL-RAND Date	: Det. 22,1996
Project #: 97070.00 Site: INGERSOLL - RAND Date Well #: Sampling Team: R. SILVA	
Sampling Method: CLEAR 5	
Field Conditions: CLEAR SIKIES, COOL, SUIGHT BATEZE, NG	
Describe Equipment D-Con Before Sampling This Well:	
Total Depth of Well:feet Time: Depth to Water Before Pumping:	13.46 feet
Height of Diameter Purge Water 2-inch 4-inch Volume Factor Column: feet * .16 .65 = gal *	Volume <u>To Purge</u> gal
Depth Purging From:feet	
Notes on Initial Discharge:	
Time Volume Purged pH Conductivity T	Notes

Project #: 97070.00 Ste: INGERSOU-RAND Date: DCT. 22,18	79C
Well #: MW-2 Sampling Team: R. SILVA	
Sampling Method:	
Field Conditions: CLEAR SKIES, COOL, SLIGHT BREEZE, 265°F	
Becaute Forder at B. Com B. 4 at B. W. H.	
Describe Equipment D-Con Before Sampling This Well:	
Total Depth of Well: feet Time: Depth to Water Before Pumping: 14. 03 fe	et
Height of Diameter Purge Volume Water 2-inch 4-inch Volume Factor To Purge Column: feet * .16 .65 = gal * = gal	
Depth Purging From:feet Time Purging Begins:	
Notes on Initial Discharge:	
Time Volume Purged pH Conductivity T Notes	

Project #: 970	70.00 Site:	INGERS	OLL-RAND	Date	: Det. 22,1996
	Samp				
Sampling Method:	DISPOSABLE	BAILER			
Field Conditions:	CLEAR SKIES	cool,	SUGHT ?	BREEZE, 26	5°F
Describe Equipment I	D-Con Before Sampling	This Well:			
Total Depth of Well: 20 Height of Water Column: 3.74 feet	<u>Diame</u> 2-inch	me: <u>(03</u> eter 4-inch (.65) =	<u>4</u> Befo	th to Water pre Pumping: Purge Factor	Volume
Depth Purging From:	<u>20</u> feet		Time Purging E	legins: <u>1300</u>	-
Notes on Initial Discha	arge: <u>CUEAR</u>	·	277 2-70-01		
1303 3-1 1306 @ 6-6 1329 9-	GA 7.6	Cond 83 85 87	7 	20.7 Cs	Notes EAR EAR EAR

wtr-smp.bp

Project #: Well #: Sampling Met	mw-4	Sampling	THGERSOU - Team: R.SI	LYA	
Field Conditio	ons: <u>CLEA</u>	R SKIE	i, COOL, SLI	GHT BREE	ZE 1650F
Describe Equi	ipment D-Con Befor	e Sampling Th	is Well:		

Total Depth of Well:	_27.86fee	t Time:	1044	Depth to Water Before Pumping	
Height of Water Column: 7 <u>.02</u>	<u>∕</u> feet •		-inch Volu .65 = 5.86	Ime Fa	volume actor To Purge 4 = 23.44 gal
Depth Purging	From: <u>27</u>	feet	Time Purg	ing Begins:/	1110
Notes on Initia	nl Discharge: <u></u>	1947 GR	'AY, TURBI	D	
Time 1124 1128 1132 1136	Volume Purged 10-GAC 15-GAC 20-GAL	рн 7.6 7.7 7.5	<u>Conductivity</u> <u>950</u> <u>987</u> 994	195 193 193	Notes CLEAR CLEAR

Project #: 97	070.00 SH	: Ingers	OLL-RAND	Date:	Oct. 22,1996
Well #:	(w-6 Sai	npling Team:	R. 516VA	_	
Sampling Method:	-				
			•		
Field Conditions:	CLEAR SKI	ES, COOL,	SLIGHT BI	REEZE, LE	59=
		,			
Describe Equipmen	t D-Con Before Sampli	ng This Well:			

Total Danth					
Total Depth of Well:	feet	Time: <u>1049</u>	Depth Before	to Water Pumping:	2/ <u>83</u> feet
Height of Water	<u>Dia</u> 2-inch	meter 4-inch	Volume	Purge <u>Factor</u>	Volume <u>To Purge</u>
Column: feet	• .16	(65) =	gal '	=	
Depth Purging From	:feet	Ti	ma Durging Ros	ina.	
	1001	••	me Larding seg	ins:	
Notes on Initial Disc	h				
Notes on miliar Disc	narge:				
					•
Time Volu	me Purged pH	Conduc	Aireite e	•	•• .
	mie i diged <u>pr</u> i	Conduc	TIVITY	<u> </u>	Notes
	 				

Project #: 970	70.00 Site:	INGERSON - RA	LACT Date:	OCT. 22,1996
Well #:√ω	<u>0−8</u> Sampl	ing Team: $\underline{\mathcal{R}}$. $\underline{\mathcal{S}}$. $\underline{\mathcal{S}}$	LVA	
Sampling Method:	DISPOSABLE	E BAILER		
			REEZE ~ 65°F	•
Describe Equipment	D-Con Before Sampling	This Well:		
Total Depth of Well: 25. Height of Water Column: 1.66 feet		ne: <u>(039</u> 1	Purge	23.67 feet Volume To Purge 4.32 gai
Depth Purging From:	24 feet	Time Purgir	ng Begins: <u>1017</u>	_
Notes on Initial Disch	arge: <u>CLEAR</u>			
1221 2- 1224 3- 1228 4-	ne Purged pH Carc 7.6 Carc 7.5 GAL 7.4 GAL 7.6	Conductivity 721 739 753 742	19.6 CL	Notes EAR EAR



APPENDIX B

ANALYTICAL REPORTS

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



November 6, 1996

Mr. Richard Silva CLAYTON ENVIRONMENTAL CONS. 1252 Quarry Lane Pleasanton, CA 94566

> Client Ref.: 97070.00 Clayton Project No.: 96102.94

Dear Mr. Silva:

Attached is our analytical laboratory report for the samples received on October 22, 1996. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after December 6, 1996, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH Director, Laboratory Services San Francisco Regional Office

HAH/tjb

Attachments

of 25 Page 2

10/22/96

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: MW-3

Lab Number:

9610294-01C

Sample Matrix/Media: Preparation Method: EPA 5030A

WATER

Method Reference:

EPA 8260A

Date Sampled:

10/22/96 Date Received: Date Prepared: 10/30/96 Date Analyzed: 10/30/96

Analyst: DL

			Limit of
Analyte	CAS #	Concentration (ug/L)	Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	200
Benzene	71-43-2	ND	50
Bromobenzene	108-86-1	ND	50
Bromochloromethane	74-97-5	ND	50
Bromodichloromethane	75-27-4	ND	50
Bromoform	75-25-2	ND	50
Bromomethane	74-83-9	ND	50
. 2-Butanone	78-93-3	ND	200
n-Butylbenzene	104-51-8	ND	50
Carbon disulfide	75-15-0	ND	50
Carbon tetrachloride	56-23-5	ND	50
Chlorobenzene	108-90-7	ND	50
Chlorobenzene Chloroethane	75-00-3	ND	50
2-Chloroethylvinyl ether	110-75-8	ND	50
-1. 7	67-66-3	ND	50
Chloroform Chloromethane	74-87-3	ND	50
2-Chlorotoluene	95-49-8	ND	50
4-Chlorotoluene	106-43-4	ND	50
Dibromochloromethane	124-48-1	ND	50
1,2-Dibromo-3-chloropropane	96-12-8	ND	50
1,2-Dibromoethane	106-93-4	ND	50
	74-95-3	ND	50
Dibromomethane 1,2-Dichlorobenzene	95-50-1	60	50
1,3-Dichlorobenzene	541-73-1	ND	50
d d Dd -1-1 amahammana	106-46-7	ND	50
Dichlorodifluoromethane	75-71-8	ND	50
1,1-Dichloroethane	75~34-3	ND	50
1 2-Dichloroethane	107-06-2	ND	50
1,1-Dichloroethene	75-35-4	ND	50
1,1-Dichloroethene cis-1,2-Dichloroethene	156-59-2	ND	50

Page 3 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: MW-3

9610294-01C

10/22/96

Limit

Lab Number:

Date Received: 10/22/96

Sample Matrix/Media:

WATER

Date Prepared: 10/30/96

Preparation Method:

EPA 5030A

Date Analyzed: 10/30/96

Date Sampled:

Method	Reference:	EPA 8260A	Analyst:	DL

Analyte	CAS #	Concentration (ug/L)	of Detection (ug/L)
Volatile Organic Compounds (Cont	inued)		
trans-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane 1,1-Dichloropropene cis-1,3-dichloropropene trans-1,3-dichloropropene Ethylbenzene Freon 113 Hexachlorobutadiene 2-Hexanone Isopropylbenzene p-Isopropyltoluene Methylene chloride 4-Methyl-2-pentanone Naphthalene n-Propylbenzene sec-Butylbenzene styrene tert-Butylbenzene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene	156-60-5 78-87-5 142-28-9 594-20-7 563-58-6 10061-01-5 10061-02-6 100-41-4 76-13-1 87-68-3 591-78-6 98-82-8 99-87-6 75-09-2 108-10-1 91-20-3 103-65-1 135-98-8 100-42-5 98-06-6 630-20-6 79-34-5 127-18-4 108-88-3 87-61-6 120-82-1	ND N	50000000000000000000000000000000000000
1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene Trichlorofluoromethane	71-55-6 79-00-5 79-01-6 75-69-4	ND ND ND	50 50 50

Page 4 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: MW-3

9610294-01C

Lab Number: Sample Matrix/Media:

WATER

Preparation Method:

EPA 5030A

Date Sampled:

10/22/96 Date Received: 10/22/96 10/30/96 Date Prepared:

Date Analyzed:

10/30/96

Method Reference:	EPA 8260A		Analyst:	DL
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Comp	ounds (Contin	ıed)		
1,2,3-Trichloroprop 1,2,4-Trimethylbenz 1,3,5-Trimethylbenz Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	ene	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND 90 ND ND ND ND	50 50 50 100 50 50
Surrogates		•	Recovery (%)	QC Limits (%)
4-Bromofluorobenzen Dibromofluoromethan 1,2-Dichloroethane- Toluene-d8	ıe	460-00-4 1868-53-7 17060-07-0 2037-26-5	99 90 91 103	86 - 115 86 - 118 76 - 114 88 - 110

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

Note: Detection limits increased due to matrix interference.

Page 5 of 25

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Date Sampled: 10/22/96 Sample Identification: MW-4 9610294-02C Date Received: 10/22/96 Lab Number: 10/30/96 Date Prepared: Sample Matrix/Media: WATER Date Analyzed: 10/30/96 EPA 5030A Preparation Method: Analyst: Method Reference: EPA 8260A DL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
MIGLYCE	CILD II	(49, 1,	
Volatile Organic Compounds			
Acetone	67-64-1	300	200
Benzene	71-43-2	210	50
Bromobenzene	108-86-1	ND	50
Bromochloromethane	74-97-5	ND	50
Bromodichloromethane	75-27-4	ND	50
Bromoform	75-25-2	ND	50
Bromomethane	74-83-9	ND	50
2-Butanone	78-93-3	ND	200
n-Butylbenzene	104-51-8	ND	50
Carbon disulfide	75-15-0	ND	50
Carbon tetrachloride	56-23-5	ND	50
Chlorobenzene	108-90-7	ND	50
Chloroethane	75-00-3	ND	50
2-Chloroethylvinyl ether	110-75-8	ND	50
Chloroform	67-66-3	ND	50
Chloromethane	74-87-3	ND	50
2-Chlorotoluene	95-49-8	ND	50
4-Chlorotoluene	106-43-4	ND	50
Dibromochloromethane	124-48-1	ND	50
1,2-Dibromo-3-chloropropane	96-12-8	ND	50
1,2-Dibromoethane	106-93-4	ND	50
Dibromomethane	74-95-3	ND	50
1,2-Dichlorobenzene	95-50-1	ND	50
1,3-Dichlorobenzene	541-73-1	ND	50
1,4-Dichlorobenzene	106-46-7	ND	50
Dichlorodifluoromethane	75-71-8	ND	50
1,1-Dichloroethane	75-34-3	ND	50
1,2-Dichloroethane	107-06-2	ND	50
1,1-Dichloroethene	75-35-4	ND	50
cis-1,2-Dichloroethene	156-59-2	ND	50

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Limit

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

10/22/96 Date Sampled: Sample Identification: MW-4 Date Received: 10/22/96 Lab Number: 9610294-02C 10/30/96 Date Prepared: Sample Matrix/Media: WATER 10/30/96 Date Analyzed: EPA 5030A Preparation Method: DL

Analyst: EPA 8260A Method Reference:

Analyte	CAS #	Concentration (ug/L)	of Detection (ug/L)
Volatile Organic Compounds (Conf	inued)		
trans-1,2-Dichloroethene	156-60-5	ND	50
1,2-Dichloropropane	78-87-5	ND	50
1,3-Dichloropropane	142-28-9	ND	50
2,2-Dichloropropane	594-20-7	ND	50
1,1-Dichloropropene	563-58-6	ND	50
cis-1,3-dichloropropene	10061-01-5	ND	50
trans-1,3-dichloropropene	10061-02-6	ND	50
Ethylbenzene	100-41-4	240	50
Freon 113	76-13-1	ND	50
Hexachlorobutadiene	87-68-3	ND	50
2-Hexanone	591-78-6	ND	200
Isopropylbenzene	98-82-8	ND	50
p-Isopropyltoluene	99-87-6	ND	50
Methylene chloride	75-09-2	ND	50
4-Methyl-2-pentanone	108-10-1	ND	200
Naphthalene	91-20-3	ND	50
n-Propylbenzene	103-65-1	ND	50
sec-Butylbenzene	135-98-8	ND	50
Styrene	100-42-5	ND	50
tert-Butylbenzene	98-06-6	ND	50
1,1,1,2-Tetrachloroethane	630-20-6	ND	50
1,1,2,2-Tetrachloroethane	79-34-5	ND	50
Tetrachloroethene	127-18-4	ND	50
Toluene	108-88-3	ND	50
1,2,3-Trichlorobenzene	87-61-6	ND	50
1,2,4-Trichlorobenzene	120-82-1	ND	50
1,1,1-Trichloroethane	71-55-6	ND	50
1,1,2-Trichloroethane	79-00-5	ND	50
Trichloroethene	79-01-6	ND	50
Trichlorofluoromethane	75-69-4	ND	50

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Date Sampled: 10/22/96 Sample Identification: MW-4 Lab Number: 9610294-02C Date Received: 10/22/96 10/30/96 Date Prepared: Sample Matrix/Media: WATER Date Analyzed: 10/30/96 EPA 5030A Preparation Method: Analyst: Method Reference: EPA 8260A $D\Gamma$

-			
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (C	ontinued)		
1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND 240 50 ND ND ND 170	50 50 50 100 50 50
Surrogates		Recovery (%)	OC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	460-00-4 1868-53-7 17060-07-0 2037-26-5	101 87 92 102	86 - 115 86 - 118 76 - 114 88 - 110

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

Note: Detection limits increased due to matrix interference.

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: VW-8

10/22/96 Date Sampled: Date Received:

Lab Number:

9610294-03C

10/22/96 10/30/96

Sample Matrix/Media: Preparation Method:

WATER

Date Prepared: 10/30/96 Date Analyzed:

EPA 5030A

Method Reference:

EPA 8260A

DL Analyst:

	Limit
	of
Concentration	Detection

Analyte	CAS #	Concentration (ug/L)	Detection (ug/L)
Volatile Organic Compounds			
Acetone Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform Bromomethane 2-Butanone n-Butylbenzene Carbon disulfide Carbon tetrachloride Chlorobenzene Chloroethylvinyl ether Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethane	67-64-1 71-43-2 108-86-1 74-97-5 75-27-4 75-25-2 74-83-9 78-93-3 104-51-8 75-15-0 56-23-5 108-90-7 75-00-3 110-75-8 67-66-3 74-87-3 95-49-8 106-43-4 124-48-1 96-12-8 106-93-4 74-95-3 95-50-1 541-73-1 106-46-7 75-71-8 75-34-3 107-06-2	ND 170 ND	2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
1,1-Dichloroethene cis-1,2-Dichloroethene	75-35-4 156-59-2	ND ND	50 50

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Limit

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Date Sampled: 10/22/96 Sample Identification: VW-8 Date Received: 10/22/96 9610294-03C Lab Number: Date Prepared: 10/30/96 WATER Sample Matrix/Media: 10/30/96 Date Analyzed: Preparation Method: EPA 5030A \mathtt{DL} Analyst: EPA 8260A Method Reference:

Analyte	CAS #	Concentration (ug/L)	of Detection (ug/L)
Volatile Organic Compounds (Cont	tinued)		
trans-1,2-Dichloroethene	156-60-5	ND	50
1,2-Dichloropropane	78-87-5	ND	50
1,3-Dichloropropane	142-28-9	ND	50
2,2-Dichloropropane	594-20-7	ND	50
1,1-Dichloropropene	563-58-6	ND	50
cis-1,3-dichloropropene	10061-01-5	ND	50
trans-1,3-dichloropropene	10061-02-6	ND	50
Ethylbenzene	100-41-4	160	50
Freon 113	76-13-1	ND	50
Hexachlorobutadiene	87-68-3	ND	50
2-Hexanone	591-78-6	ND	200
Isopropylbenzene	98-82-8	ND	50
p-Isopropyltoluene	99-87-6	ND	50
Methylene chloride	75-09-2	ND	50
4-Methyl-2-pentanone	108-10-1	ND	200
Naphthalene	91-20-3	ND	50
n-Propylbenzene	103-65-1	ND	50
sec-Butylbenzene	135-98-8	ND	50
Styrene	100-42-5	ND	50
tert-Butylbenzene	98-06-6	ND	50
1,1,1,2-Tetrachloroethane	630-20-6	ND	50
1,1,2,2-Tetrachloroethane	79-34-5	ND	50
Tetrachloroethene	127-18-4	ND	50
Toluene	108-88-3	ND	50
1,2,3-Trichlorobenzene	87-61-6	ND	50
1,2,4-Trichlorobenzene	120-82-1	ND	50
1,1,1-Trichloroethane	71-55-6	ND	50
1,1,2-Trichloroethane	79-00-5	ND	50
Trichloroethene	79-01-6	ND	50
Trichloroethene Trichlorofluoromethane	75-69-4	ND	50

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: VW-8

9610294-03C

Date Sampled: 10/22/96 Date Received: 10/22/96

Sample Matrix/Media: WATER
Preparation Method: EPA 5030A

Date Prepared:

2037-26-5 103 88 - 110

10/30/96

Date Analyzed: 10/30/96

Toluene-d8

Lab Number:

Method Reference:	EPA 8260A		Analyst:	DL
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compou	ınds (Continu	1ed)		
1,2,3-Trichloropropan	ıe	96-18-4	ND	50
1,2,4-Trimethylbenzer		95-63-6	ND	50
1,3,5-Trimethylbenzer		108-67-8	ND	50
Vinyl acetate		108-05-4	ND	100
Vinyl chloride		75-01-4	ND	50
o-Xylene		95-47-6	ND	50
p,m-Xylenes			ND	50
<u>Surrogates</u>			Recovery (%)	QC Limits (%)
4-Bromofluorobenzene		460-00-4	97	86 - 115
Dibromofluoromethane		1868-53-7	97	86 - 118
1,2-Dichloroethane-d4	Į	17060-07-0	102	76 - 114

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

Note: Detection limits increased due to matrix interference.

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: FIELD BLANKS Lab Number:

9610294-04C

10/22/96

Sample Matrix/Media:

WATER

Date Sampled: Date Received: 10/22/96 Date Prepared: 10/30/96

Preparation Method: EPA 5030A

Date Analyzed: 10/30/96

Method	Reference:	EPA	8260A	Ana.	lyst:	DL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds		and make the second of the sec	
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5 5 5 5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8 .	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND .	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5 5 5 5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5 5 5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5 `
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: FIELD BLANKS

10/22/96

Lab Number:

9610294-04C

10/22/96

Date Prepared: 10/30/96

Sample Matrix/Media: WATER Preparation Method: EPA 5030A

10/30/96 Date Analyzed:

Method Reference:

EPA 8260A

Analyst:

Date Sampled:

Date Received:

DL

			Limit
Ī		Concentration	of Detection
Analyte	CAS #	(ug/L)	(ug/L)

Volatile Ord	manic Compounds	(Continued)
--------------	-----------------	-------------

156-60-5	3775	
100-00-0	ND	5
78-87-5	ND	5
142-28-9	ND	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
594-20-7	ND	5
563-58-6	ND	5
10061-01-5	ND	5
10061-02-6	ND	5
100-41-4	ND	5
76-13-1	ND	5
87-68-3	ND	
591-78-6	ND	20
98-82-8	ND	5 5 5
99-87-6	ND	5
75-09-2	ND	5
108-10-1	ND	20
	ND	5
103-65-1	ND	5
135-98-8	ND	5
100-42-5	ND	5
98-06-6	ND	5
630-20-6	ND	5
79-34-5	ND	5
127-18-4	ND	5
108-88-3	ND	5
	ND	5
	ND	5
	ND	55555555555555555
	ND	5
_	ND	5
75-69-4	ND	5
	142-28-9 594-20-7 563-58-6 10061-01-5 10061-02-6 100-41-4 76-13-1 87-68-3 591-78-6 98-82-8 99-87-6 75-09-2 108-10-1 91-20-3 103-65-1 135-98-8 100-42-5 98-06-6 630-20-6 79-34-5 127-18-4 108-88-3 87-61-6 120-82-1 71-55-6 79-00-5 79-01-6	142-28-9 594-20-7 563-58-6 ND 10061-01-5 ND 10061-02-6 ND 100-41-4 ND 76-13-1 ND 87-68-3 ND 591-78-6 ND 98-82-8 ND 99-87-6 ND 75-09-2 ND 108-10-1 ND 91-20-3 ND 103-65-1 ND 135-98-8 ND 100-42-5 ND 98-06-6 ND 630-20-6 ND 79-34-5 ND 108-88-3 ND 108-88-3 ND 108-88-3 ND 108-88-3 ND 109-61-6 ND 120-82-1 ND 71-55-6 ND 79-01-6 ND

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5

5

5

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: FIELD BLANKS Date Sampled: 10/22/96 Lab Number: 9610294-04C Date Received: 10/22/96 Sample Matrix/Media: WATER Date Prepared: 10/30/96 EPA 5030A Date Analyzed: 10/30/96 Preparation Method: Method Reference: EPA 8260A Analyst: DL

Limit οf Concentration Detection Analyte CAS # (ug/L) (ug/L) <u> Volatile Organic Compounds (Continued)</u> 5 96-18-4 1,2,3-Trichloropropane ND 5 1,2,4-Trimethylbenzene 95-63-6 ND 5 1,3,5-Trimethylbenzene 108-67-8 ND 108-05-4 ND 10

75-01-4

95-47-6

ND

ND

ND

<u>Surrogates</u>		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	460-00-4	99	86 - 115
	1868-53-7	98	86 - 118
	17060-07-0	99	76 - 114
	2037-26-5	104	88 - 110

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

Vinyl acetate

o-Xylene

p,m-Xylenes

Vinyl chloride



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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: TRIP BLANKS (HCL) #0101696

10/22/96

Lab Number:

9610294-05B

Date Sampled: Date Received: 10/22/96

Sample Matrix/Media:

WATER

Date Prepared: 11/05/96

Preparation Method:

EPA 5030A

Date Analyzed: 11/05/96

Method Reference: EPA 8260A

Analyst:

JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5 5 5 5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
<pre>2-Chloroethylvinyl ether</pre>	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
■ 2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
<pre>1,3-Dichlorobenzene</pre>	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
<pre>1,1-Dichloroethane</pre>	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
<pre>1,1-Dichloroethene</pre>	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5



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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: TRIP BLANKS (HCL)#0101696 10/22/96 Date Sampled: Date Received: Lab Number: 9610294-05B 10/22/96 Sample Matrix/Media: Date Prepared: WATER 11/05/96 Preparation Method: 11/05/96 EPA 5030A Date Analyzed:

Method Reference: EPA 8260A Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	tinued)		
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5 5 5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5 5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5 5 5 5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5



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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: TRIP BLANKS (HCL)#0101696 Date Sampled: 10/22/96
Lab Number: 9610294-05B Date Received: 10/22/96
Sample Matrix/Media: WATER Date Prepared: 11/05/96
Preparation Method: EPA 5030A Date Analyzed: 11/05/96
Mothod Poforonco: FPA 9260A

Method Reference:	EPA 8260A		Analyst:	JP
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Comp	ounds (Continu	ed)		
1,2,3-Trichloroprop	ane	96-18-4	ND	5
1,2,4-Trimethylbenz		95-63-6	ND	5 5 5
1,3,5-Trimethylbenz	ene	108-67-8	ND	
Vinyl acetate		108-05-4	ND	10
Vinyl chloride		75-01-4	ND	5
o-Xylene		95-47-6	ND	5 5
p,m-Xylenes			ND	5
<u>Surrogates</u>			Recovery (%)	OC Limits (%)
4-Bromofluorobenzen	ie	460-00-4	87	86 - 115
Dibromofluoromethan	e	1868-53-7	92	86 - 118
	d4	17060-07-0	93	76 - 114
1,2-Dichloroethane-	∠ ±			

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

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: METHOD BLANK

Date Sampled: _ _

Lab Number:

9610294-06A

Date Received:

Sample Matrix/Media: WATER Preparation Method: EPA 5030A

Date Prepared: 10/30/96 Date Analyzed: 10/30/96

Method Reference:

EPA 8260A

Analyst: JP

			Limit
			of
1		Concentration	Detection
Analyte	CAS #	(\mathtt{ug}/\mathtt{L})	(ug/L)

Analyte	CAS #	Concentration (ug/L)	Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5 5 5 5 5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5 5 5 5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
<pre>1,4-Dichlorobenzene</pre>	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5



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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: METHOD BLANK

Lab Number:

Sample Matrix/Media: WATER
Preparation Method: EPA 5030A
EPA 8260A

Method Reference:

9610294-06A

EPA 8260A

Date Sampled:

Date Received:

Date Prepared:

10/30/96 Date Analyzed: 10/30/96

Analyst: JΡ

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Cont	inued)		
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5 5 5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5 5 5 5 5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5 5 5 5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5 5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5



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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: METHOD BLANK

Lab Number:

9610294-06A

Sample Matrix/Media: Preparation Method:

WATER EPA 5030A

Date Sampled:

Date Received:

Date Prepared:

Date Analyzed:

10/30/96 10/30/96

Method Reference:	PA 8260A		Analyst:	JP
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compour	ds (Continu	<u>ed)</u>		
1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	•	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND ND ND ND ND ND	5 5 5 10 5 5 5
Surrogates			Recovery (%)	OC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8		460-00-4 1868-53-7 17060-07-0 2037-26-5	90 95 99 101	86 - 115 86 - 118 76 - 114 88 - 110

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

Date Sampled:

Recovery (%)

Page 20 of 25

10/22/96

OC Limits (%)

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

9610294-01A Date Received: 10/22/96 Lab Number: 10/23/96 Date Prepared: Sample Matrix/Media: WATER Date Analyzed: 10/23/96 Preparation Method: EPA 5030 EPA 8015/8020 Method Reference: Analyst: ${ t DL}$ Limit of Concentration Detection Analyte CAS # (ug/L) (ug/L) BTEX/Gasoline 71-43-2 0.4 3.1 Benzene 0.3 100-41-4 13 Ethylbenzene 0.3 108-88-3 NDToluene 95-47-6 4.0 0.4o-Xylene 16 0.4 p,m-Xylenes Gasoline 1800 50

Surrogates 98-08-8 110 50 - 150 a, a, a-Trifluorotoluene

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

Sample Identification: MW-3

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: MW-4

a,a,a-Trifluorotoluene

Lab Number:

9610294-02A

Sample Matrix/Media: Preparation Method: EPA 5030

WATER

Method Reference:

EPA 8015/8020

Date Sampled:

10/22/96 Date Received: 10/22/96 10/23/96

Date Prepared: Date Analyzed:

10/23/96

50 - 150

Analyst:

101

DL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene Ethylbenzene Toluene o-Xylene p,m-Xylenes Gasoline	71-43-2 100-41-4 108-88-3 95-47-6	140 220 1.2 9.3 170 4800	0.4 0.3 0.3 0.4 0.4
Surrogates		Recovery (%)	QC Limits (%)

98-08-8

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

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: VW-8 Date Sampled: 10/22/96 Lab Number: 9610294-03A Date Received: 10/22/96 Sample Matrix/Media: WATER Date Prepared: 10/23/96 Preparation Method: EPA 5030 Date Analyzed: 10/23/96 Method Reference: EPA 8015/8020 Analyst: DL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	180	0.4
Ethylbenzene	100-41-4	190	0.3
Toluene	108-88-3	3.9	0.3
o-Xylene	95-47-6	1.0	0.4
p,m-Xylenes		6.8	0.4
Gasoline		2300	50
<u>Surrogates</u>		Recovery (%)	OC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	106	50 - 150

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

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: FIELD BLANKS Date Sampled: 10/22/96 9610294-04A Date Received: 10/22/96 Lab Number: Sample Matrix/Media: WATER Date Prepared: 10/23/96 Preparation Method: EPA 5030

Mathod Boference: EPA 8015/8020 Date Analyzed: 10/23/96

Method Reference:	EPA 8015/8020		Analyst:	DL
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline				
Benzene Ethylbenzene Toluene o-Xylene p,m-Xylenes Gasoline		71-43-2 100-41-4 108-88-3 95-47-6	ND ND ND ND ND	0.4 0.3 0.3 0.4 0.4
Surrogates			Recovery (%)	OC Limits (%)
a,a,a-Trifluorotolu	iene	98-08-8	101	50 - 150

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

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: TRIP BLANKS (HCL) #0101696 10/22/96 Date Sampled: 9610294-05A Date Received: Lab Number: 10/22/96 Sample Matrix/Media: Date Prepared: WATER 10/23/96 Preparation Method: EPA 5030 Date Analyzed: 10/23/96 Method Reference: EPA 8015/8020 Analyst: DL

R	2111 0013/0020		inida, so.	22
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline				
Benzene Ethylbenzene Toluene o-Xylene p,m-Xylenes Gasoline		71-43-2 100-41-4 108-88-3 95-47-6	ND ND ND ND ND	0.4 0.3 0.3 0.4 0.4 50
Surrogates			Recovery (%)	OC Limits (%)
a,a,a-Trifluorotolue	ene	98-08-8	101	50 - 150

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

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: METHOD BLANK

Lab Number:

9610294-06A

Sample Matrix/Media: Preparation Method: EPA 5030

WATER

Method Reference:

EPA 8015/8020

Date Sampled:

Date Received:

10/23/96 Date Prepared:

Date Analyzed: 10/23/96

Analyst:

 \mathtt{DL}

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Method Reference.	0013/0020	maryse.	
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene Ethylbenzene Toluene o-Xylene p,m-Xylenes Gasoline	71-43-2 100-41-4 108-88-3 95-47-6	ND ND ND ND ND	0.4 0.3 0.3 0.4 0.4
Surrogates		Recovery (%)	OC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	102	50 - 150

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



REQUEST FOR LABORATORY **ANALYTICAL SERVICES**

For Clayton Use Only	Page of
Project No.	
Batch No.	9610294
Ind. Code	W.P.
Date Logged In (も ょ	2 By Ch
Client Job No	0.97070.00

									D	ate Log	ged In	[0]	12	By Ch	
Q Name	RICHARD SILVA	Title			Purchase Order No Client Job No. 97070.00				,						
T Comp	vany CLAYTON		ept.		, ii	Name CADSILE ENVIRONMENTAL EN				NOWLER					
Hailin	g Address				SEND	o Cor	npany	ING	E150	44-	BAN	D		Dept.	<u> </u>
Mailing Address City, State, Zip Telephone No. Telefax No.				∤ਲ ≧	Add	lress	** ₇						•		
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STANDAR				s are: f applicable)	ers.	(Enter	an 'X'	in the bo	k below i	to indica	ate requ	est; E	nter a 1	o' if Preservati	ve added ')
Special Inst	ructions: (method, limit of detection, etc	.)	1 '	ing Water	Containers			[i+]	//				//	///	
* Explanation	on of Preservative: $\rho = HCL$			cted in the of New York	ঠ				//						
	CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)		1	K W	<u> </u>	//		\angle	_			FOR LAB ISE ONLY
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	M10-3			\$40mLS	2		χ_{ρ}							VC.	0
	MW-4			840 mLS	2	XP								-02A	β
	Mw-4			140mls	2		XP							V C	D
	VW - 8			840 mcs	2	Xρ								-03A	.В
	Vw−8			240 mes	2		XP							V C	. D
	BLAKES			HOMLS	2	XP								-04	LB
FIELD	BLANKS			140 mls	2		Xρ			<u> </u>				¥ (D
TRIP I	BLANKS # 0101696			40mls	1	XP				<u> </u>	<u> </u>			-05A	R
TRIP I	LANKS # 0101696	V	<i>V</i>	240 MLS	1		Xρ							V B	Ø
	Collected by: RICHARD SIL	LVA-		8 (print)	Colle	ctor's	Signatu	ire Z	iba		fah	u			
CHAIN OF	Relinquished by: Richard	filia	Date/Time	10,22-96 4:30pm	Rece	ived by	7 :	Dos	, , ,	1				ate/Time	
CUSTODY				Rece	ived at	Lab b		WH.	[[//]	101)	C	Day Tings	16 730	
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	(Client Signature Must Accompar			-											
Di		(W . Ol				F - 4 - J L	-1	•							

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

22345 Roethel Drive Raritan Center Novi, MI 48375

(810) 344-1770

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

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

Kennesaw, GA 30144 (404) 499-7500

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

DISTRIBUTION:

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



December 16, 1996

Mr. John McDermott CAPSULE ENVIRONMENTAL ENGINEERING, INC. 1970 Oakcrest Avenue, Suite 213 St. Paul, Minnesota 55113-2624

Clayton Project No. 97070.00

Subject: Revised Analytical Reports for Groundwater Monitoring and Sampling at the

Ingersoll-Rand Facility in San Leandro, California

Dear Mr. McDermott:

Clayton Environmental Consultants, Inc. is pleased to transmit the attached revised analytical reports for the groundwater samples collected on October 22, 1996 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Should you have any questions regarding the sampling event, please contact us at (510) 426-2600.

Sincerely,

Richard J. Silva, R.E.A.

Richard Flux

Geologist

RJS/rs Enclosures 1252 Quarry Lane P.O. Box 9019 Pleasanton, CA 94566 (510) 426-2600 Fax (510) 426-0106 Clayton ENVIRONMENTAL CONSULTANTS

December 9, 1996

Mr. Richard Silva CLAYTON ENVIRONMENTAL CONS. 1252 Quarry Lane Pleasanton, CA 94566

> Client Ref.: 97070.00 Clayton Project No.: 96102.94 ADDITIONAL REPORT

Dear Mr. Silva:

Attached is our additional laboratory report for the samples received on October 22, 1996, and originally reported on November 6, 1996. As requested by Mr. John McDermott of Capsule Environmental, Inc., samples MW-3, MW-4, VW-8 and Field Blank were reanalyzed for method EPA 8260 using the duplicate sample bottles.

The detection limits on the original analysis were increased due to matrix interference. As discussed with Ms. Suzanne Haus on December 5, 1996, it was discovered that this interference was caused by carryover from highly contaminated samples run prior to the ones noted above. The samples were not reanalyzed earlier since the holding times had expired when this problem was discovered.

We appreciate the opportunity to assist you, and apologize for any inconvience this may have caused. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH Director, Laboratory Services San Francisco Regional Office

HAH/tjb Attachments

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: MW-3

Lab Number: 9610294-01D

Sample Matrix/Media: Preparation Method:

WATER

Method Reference:

EPA 5030A

EPA 8260A

Date Sampled: 10/22/96 Date Received: 10/22/96

Date Prepared: 12/05/96 Date Analyzed: 12/05/96

Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds	······································		
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	
Bromochloromethane	74-97-5	ND	5 5 5 5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	10	
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	12	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	69	5
1,3-Dichlorobenzene	541-73-1	6	5
1,4-Dichlorobenzene	106-46-7	13	5
Dichlorodifluoromethane	75-71-8	ND	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	ξ.

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: MW-3

Lab Number: 9610294-01D

Sample Matrix/Media: WATER

Preparation Method: EPA 5030A

Date Sampled: 10/22/96

Date Received: 10/22/96

Date Prepared: 12/05/96

Method Reference: EPA 8260A Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	tinued)		
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5 5 5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5 5 5 5
1,1-Dichloropropene	563-58-6	ND	5
1,1-Dichloropropene cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	13	5
Freen 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene p-Isopropyltoluene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	6	5
n-Propylbenzene	103-65-1	18	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5 5 5 5 5 5
1,1,2,2-Tetrachloroethane	79-34-5	ИD	5
Tetrachloroethene	127-18-4	$\mathbf{N}D$	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5 5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: MW-3

Lab Number:

9610294-01D

Sample Matrix/Media:

WATER

Preparation Method:

EPA 5030A

Date Sampled:

10/22/96 Date Received: 10/22/96

Date Prepared:

12/05/96

Date Analyzed:

12/05/96

Method	Reference:	EPA 8260A	Analyst:	NAN

		•	
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Co	ntinued)		
1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND 95 23 ND ND ND ND	5 5 5 5 5 5 5
Surrogates		Recovery (%)	OC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	460-00-4 1868-53-7 17060-07-0 2037-26-5	97 93 87 92	86 - 115 86 - 118 76 - 114 88 - 110

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

Sample analyzed past recommended holding times for this analysis.

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: MW-4

Lab Number: 9610294-02D

Sample Matrix/Media:

Preparation Method:

Method Reference:

WATER

EPA 5030A

EPA 8260A

Date Sampled: 10/22/96 Date Received: 10/22/96

Date Prepared: Date Analyzed:

12/05/96 12/05/96

Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds	. ,		
Acetone	67-64-1	ND	20
Benzene	71-43-2	130	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	5	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5 5 5 5 5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

Page 6 of 16

Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: MW-4

Lab Number:

9610294-02D

Sample Matrix/Media: Preparation Method:

WATER EPA 5030A

Method Reference:

EPA 8260A

Date Sampled:

Date Received: 10/22/96 Date Prepared:

Date Analyzed:

Analyst:

12/05/96 12/05/96

10/22/96

NAN

 	 	Limit
		of

Analyte	CAS #	Concentration (ug/L)	Detectior (ug/L)	
Volatile Organic Compounds (Con-	tinued)			
trans-1,2-Dichloroethene	156-60-5	10	5	
	78-87-5	ND	5	
1,2-Dichloropropane 1,3-Dichloropropane	142-28-9	ND	5	
2,2-Dichloropropane	594-20-7	ND	55555555555555	
	563-58-6	ND	5	
1,1-Dichloropropene cis-1,3-dichloropropene	10061-01-5	ND	5	
trans-1,3-dichloropropene	10061-02-6	ND	5	
Ethylhenzene	100-41-4	200	5	
Freon 113 Hexachlorobutadiene	76-13-1	ND	5	
Hexachlorobutadiene	87-68-3	ND	5	
2-Hexanone	591-78-6	ND	5	
Isopropylbenzene	98-82-8	56	5	
Isopropylbenzene p-Isopropyltoluene	99-87-6	ND	5	
Methylene chloride	75-09-2	ND		
■ 4-Methyl-2-pentanone	108-10-1	ND	20	
Naphthalene	91-20-3	36	5	
n-Propylbenzene	103-65-1	38	5	
_ sec-Butylbenzene	135-98-8	6	5	
Styrene	100-42-5	ND	5	
tert-Butylbenzene	98-06-6	ND	5	
1,1,1,2-Tetrachloroethane	630-20-6	ND	5	
■ 1,1,2,2-Tetrachloroethane	79-34-5	ND	5	
Tetrachloroethene	127-18-4	ND	5	
Toluene	108-88-3	ND	5	
■ 1,2,3-Trichlorobenzene	87-61-6	ND	5	
1,2,4-Trichlorobenzene	120-82-1	ND	5	
1,1,1-Trichloroethane	71-55-6	ND	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
_ 1,1,2-Trichloroethane	79-00-5	ND	5	
Trichloroethene	79-01-6	22	5	
Trichlorofluoromethane	75-69-4	ND	5	

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: MW-4

Lab Number:

9610294-02D

Sample Matrix/Media: Preparation Method:

WATER

EPA 5030A

Date Sampled:

Date Received:

Date Prepared:

Date Analyzed:

10/22/96 12/05/96

10/22/96

12/05/96

Method Reference: EPA 8260A Analyte			Analyst:	NAN	
		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)	
Volatile Organic Comp	ounds (Continu	ed)			
1,2,3-Trichloroprop 1,2,4-Trimethylbenz 1,3,5-Trimethylbenz Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	ene	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND 220 47 ND ND 6 140	5 5 5 5 5 5 5	
<u>Surrogates</u>			Recovery (%)	OC Limits (%)	
4-Bromofluorobenzen Dibromofluoromethan 1,2-Dichloroethane- Toluene-d8	е	460-00-4 1868-53-7 17060-07-0 2037-26-5	106 93 83 94	86 - 115 86 - 118 76 - 114 88 - 110	

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

Sample analyzed past recommended holding times for this analysis.

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: VW-8

Lab Number:

Sample Matrix/Media: WATER
Preparation Method: EPA 5030A

9610294-03D

10/22/96 Date Sampled:

Date Received: 10/22/96 Date Prepared: 12/05/96 Date Analyzed: 12/05/96

Method Reference:	EPA 8260A		Analyst:	NAN
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Com	npounds			
. Acetone		67-64-1	ND	20
Benzene		71-43-2	170	5
Bromobenzene		108-86-1	ND	5
Bromochloromethane	2	74-97-5	ND	5
Bromodichlorometha		75-27-4	ND	5
Bromoform	-	75-25-2	ND	5
Bromomethane		74-83-9	ND	5

Acecone	0, 04 1	4 - 4	F*
Benzene	71-43-2	170	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	7 4- 97-5	ND	5
Bromodichloromethane	75-27-4	ND	5 5
Bromoform	75-25-2	ND	
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: VW-8

Lab Number: 9610294-03D

Sample Matrix/Media: Preparation Method:

WATER

Method Reference:

EPA 5030A

EPA 8260A Analyst

Date Sampled: 10/22/96 Date Received: 10/22/96

Date Prepared:

10/22/96 12/05/96

Date Analyzed:

12/05/96

Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	tinued)	,	<u>, , , , , , , , , , , , , , , , , , , </u>
trans-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane 1,1-Dichloropropene cis-1,3-dichloropropene trans-1,3-dichloropropene Ethylbenzene Freon 113 Hexachlorobutadiene 2-Hexanone Isopropylbenzene p-Isopropyltoluene Methylene chloride 4-Methyl-2-pentanone Naphthalene n-Propylbenzene sec-Butylbenzene styrene tert-Butylbenzene 1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane	156-60-5 78-87-5 142-28-9 594-20-7 563-58-6 10061-01-5 10061-02-6 100-41-4 76-13-1 87-68-3 591-78-6 98-82-8 99-87-6 75-09-2 108-10-1 91-20-3 103-65-1 135-98-8 100-42-5 98-06-6 630-20-6 79-34-5	ND ND ND ND ND 190 ND	555555555555555555555555555555555555555
Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene Trichlorofluoromethane	127-18-4 108-88-3 87-61-6 120-82-1 71-55-6 79-00-5 79-01-6 75-69-4	ND ND ND ND ND ND ND	5 5 5 5 5 5 5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: VW-8

Lab Number: 9610294-03D

Sample Matrix/Media:

WATER

Preparation Method:

EPA 5030A FDA 8260A

Date Sampled:

10/22/96 10/22/96

Date Received: Date Prepared:

12/05/96

Date Analyzed:

12/05/96

MAN

Method Reference: EPA 8260A		Analyst:	NAN
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Conti	nued)		
1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND ND ND ND ND ND	5 5 5 5 5 5 5
Surrogates		Recovery (%)	OC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	460-00-4 1868-53-7 17060-07-0 2037-26-5	100 94 85 94	86 - 115 86 - 118 76 - 114 88 - 110

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

Sample analyzed past recommended holding times for this analysis.

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: FIELD BLANKS Lab Number:

9610294-04D

10/22/96

Limit

Sample Matrix/Media:

WATER

Date Received: 10/22/96 Date Prepared: 12/05/96

Preparation Method:

EPA 5030A

Date Analyzed: 12/05/96

Method Reference:

EPA 8260A

NAN

Date Sampled:

Analyst:

Analyte	CAS #	Concentration (ug/L)	of Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5_
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
_ Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
_ 1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
■ 1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: FIELD BLANKS Lab Number:

9610294-04D

10/22/96 Date Sampled: Date Received: 10/22/96 Date Prepared: 12/05/96

Sample Matrix/Media: Preparation Method:

WATER EPA 5030A

Date Analyzed: 12/05/96

Method Reference:

EPA 8260A

Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	tinued)		· · · · · · · · · · · · · · · · · · ·
trans-1,2-Dichloroethene	156-60-5	ND	5_
1,2-Dichloropropane	78-87-5	ND	5
- 1,3-proutotobrobane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene cis-1,3-dichloropropene	563-58-6	ND	5 5 5 5 5
	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
<pre>Ethylbenzene</pre>	100-41-4	ND	5
Freon 113	76-13-1	ND	
- Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
■ p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
■ sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
_ 1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
■ 1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
■ 1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc.

Client Reference: 97070.00 Clayton Project No. 96102.94

Sample Identification: FIELD BLANKS Date Sampled: 10/22/96 9610294-04D Date Received: 10/22/96 Lab Number: Date Prepared: 12/05/96 Sample Matrix/Media: WATER Date Analyzed: 12/05/96 EPA 5030A Preparation Method: EPA 8260A Analyst: NAN Method Reference:

Method Reference.	• •	111011 200	
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	tinued)		
1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND ND ND ND ND ND	5 5 5 5 5 5
Surrogates		Recovery (%)	OC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	460-00-4 1868-53-7 17060-07-0 2037-26-5	98 95 86 98	86 - 115 86 - 118 76 - 114 88 - 110

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

Sample analyzed past recommended holding times for this analysis.

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: METHOD BLANK

Lab Number:

9610294-06B

Sample Matrix/Media: Preparation Method:

EPA 5030A

Method Reference:

WATER

EPA 8260A

Date Sampled: Date Received:

Date Prepared: Date Analyzed:

12/05/96 12/05/96

Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds			
Acetone Benzene Bromobenzene	67-64-1	ND	20
	71-43-2	ND	5
	108-86-1	ND	5
Bromochloromethane Bromodichloromethane	74-97-5	ND	5
	75-27-4	ND	5
Bromoform Bromomethane 2-Butanone	75-25-2	ND	5
	74-83-9	ND	5
	78-93-3	ND	20
n-Butylbenzene Carbon disulfide Carbon tetrachloride	104-51-8 75-15-0 56-23-5	ND ND ND	5 5 5 5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	
2-Chloroethylvinyl ether Chloroform Chloromethane	110-75-8	ND	5
	67-66-3	ND	5
	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene	74-95-3	ND	5
	95-50-1	ND	5
	541-73-1	ND	5
1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane	106-46-7	ND	5
	75-71-8	ND	5
	75-34-3	ND	5
1,2-Dichloroethane 1,1-Dichloroethene cis-1,2-Dichloroethene	107-06-2	ND	5
	75-35-4	ND	5
	156-59-2	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: METHOD BLANK

Lab Number: 9610294-06B

Sample Matrix/Media: WATER Preparation Method:

Method Reference:

EPA 5030A

Date Analyzed: EPA 8260A

Analyst:

Date Prepared:

Date Sampled: Date Received:

12/05/96 12/05/96

NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Cont	inued)		
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5 5 5 5 5 5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
_ 2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
non Buturlhangana	135-98-8	ND	5
Styrene Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1.1.1.2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane Tetrachloroethene	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5 5 5 5 5 5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5 5
- 1 1 2-Mrighloroothano	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5 5
Trichlorofluoromethane	75-69-4	ND	5

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Analytical Results

for

Clayton Environmental Consultants, Inc. Client Reference: 97070.00

Clayton Project No. 96102.94

Sample Identification: METHOD BLANK

Lab Number:

9610294-06B

Sample Matrix/Media:

WATER

Preparation Method:

EPA 5030A

Date Sampled:

Date Received:

Date Prepared:

12/05/96

Date Analyzed:

12/05/96

Method Reference:	EPA 8260A		Analyst:	NAN
Analyte		CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compou	ınds (Continu	ed)		
1,2,3-Trichloropropar 1,2,4-Trimethylbenzer 1,3,5-Trimethylbenzer Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	ie	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND ND ND ND ND ND	5 5 5 5 5 5 5 5
<u>Surrogates</u>			Recovery (%)	OC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	Ĺ	460-00-4 1868-53-7 17060-07-0 2037-26-5	89 96 88 94	86 - 115 86 - 118 76 - 114 88 - 110

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



PROJECT CALCULATION SHEET

Checked by:

Date:

Project Name: Project Number: Cask Number: Gu Uslocity Containing cc:
-alculate fla an astimute of the ground water
release the an estimute of the groundwater schooling beneath San Loandon facility, a sing
N- KXL
U= gw velocity
K= hydroule conductivity
L= gradient
n= porosity
estimate of
K= 9 ft/day (from pumping tot)
i= 11.25-11.04
i= 11.25-11.0 = -25 ft = 0.0036 & 0.004
10-30 6 (From 1 tenture)
V= (9 ft/day) x (0.004) = 0.12 ft/day
A.
n= 0.15-te x 363 gry = [44-66/4/]

Table 1 Water Level Summary Table

Project Ingersoll Rand Company San Leandro CA water level data Date prepared April 15, 1995 Latest update, March 19, 1997 Prepared by JJM

	,			
Well	Dale of measurement	Measuring point elevation (feet)	Depth to water (feet)	Water level elevation (feet)
MVV-1	13-Dec-89 16-Nov-90 03-Apr-92	24 78 24 97 24 97	14 01 14 84 12 10	10 77 10 13 12 87
	21-Jun-94 20-Oct-94 25-Jan-95	24 95 24 95 24 95	12 98 13 84 10 32	11 97 11 11 14 63
	25-Apr-95 30-Jun-95 18-Oct-95	24 95 24 95 24 95	10 82 11 92 13 22	14 13 13 03 11 73
	30-Jan-96 26-Apr-96 25-Jul-96	24 95 24 95 24 95	10 99 11 18 12 61	13 96 13 77 12 34
	22-Oct-96 20-Jan-97	24 95 24 95	13 46 9 95	11 49 15 00
MW-2	13-Dec-89 16-Nov-90 03-Apr-92	24 70 24 64 24 64	14 57 15 05 13 60	10 13 9 59 11 04
	21-Jun-94	24 68	13 86	10 82
	20-Oct-94	24 68	14 31	10 37
	25-Jan-95	24 68	12 01	12 67
	25-Aor-95	24 68	12 54	12 14
	30-Jun-95 18-Oct-95	24 68 24 68	13 22 13 86	11 46 10 82
	30-Jan-96	24 68	12 49	12 19
	26-Apr-96	24 68	12 76	11 92
	25-Jut-96	24 68	13 59	11 09
	22-Oct-96 20-Jan-97	24 68 24 68	14 03 12 11	10 65 12 57
MW-3	13-Dec-89 16-Nov-90	27 33 27 51	17 13 17 67	10 20 9 84
	03-Apr-92 21-Jun-94	27 57 27 51	15 90 16 28	11 67 11 23
	20-Oct-94	27 51	16 82	10 69
	25-Jan-95	27 51	14 25	13 26
	25-Арг-95	27 51	14 60	12 91
	30-Jun-95 18-Oct-95	27 51 27 51	15 44	12 07
	30-Jan-96	27 51	16 33 14 81	11 18 12 70
	26-Apr-96	27 51	14 90	12 61
	25-Jul-96	27 51	15 94	11 57
	22-Oct-96 20-Jan-97	27 51 27 51	16 51 14 08	11 00 13 4 3
MW-4	16-Nov-90	28 92	20 28	8 64
	03-Apr-92	28 92	18 25	10 67
	21-Jun-94 20-Oct-94	28 92 28 92	18 46 19 20	10 46 9 72
	25-Jan-95	28 92	15 94	12 98
	25-Apr-95	28 92	16 52	12 40
	30-Jun-95	28 92	17 53	11 39
	18-Oct-95 30-Jan-96	28 92 28 92	18 63 16 67	10 29 12 25
	26-Apr-96	28 92	16 79	12 13
	25-Jul-96	28 92	18 13	10 79
	22-Oct-96 20-Jan-97	28 92 28 92	18 86 15 98	10 06 12 94
OB-1	21-Jun-94 20-Oct-94	30 28 30 28	19 56 20 28	10 72 10.00
	25-Jan-95	30 28	16 95	13 33
	25-Apr-95	30 28	17 53	12 75
	30-Jun-95	30 28	18 57	11 71
VW-5	30-Jun-95	33 16	21 65	11 51
8-WV	30-Jun-95 18-Oct-95	31 92	20 62	11 30
	18-Oct-95 30-Jan-96	31 92 31 92	21 61 19 79	10 31 12 13
	26-Apr-96	31 92	19 98	11 94
	25-Jul-96	31 92	21 17	10 75
	22-Oct-96 20-Jan-97	31 9 2 31 92	21 83 19 21	10 09 12 71
VW-8	30-Jun-95	33 78	22 32	11 46
	18-Oct-95	33 78	23 45	10 33
	30-Jan-96	33 78	21 38	12 40
	26-Apr-96 25-Jul-96	33 78 33 78	21 53 22 97	12 25 10 81
	22-Oct-96	33 78	23 67	10 11
	20-Jan-97	33 78	20 67	13 11
VW-9	30-Jun-95	34 58	22 98	11 60

Notes

- vater level elevations in feet above sea level
 elev source for December 13, 1989, PAR, 1989
 elev source for Nov. 18, 1990, ELG Surveying letter. 11/21/90,
 elev source for April 3, 1992. Report on Further Delineation. June 1992,
 elev source for April 3, 1992. Report on Further Delineation. June 1992,
 elev source for June 21, 1994, and later dates. Moran Engineering map, 6/94,
 elev source for vent wells. Moran Engineering map, 7/95,
 OB-1 measurements discontinued following June 30, 1995 measurement.

Table 2: San Leandro Groundwater Analytical Data Summary

Table 2: San Leandro Groundwater Analytical Data Summary					, ,		
					deromo 1.2-decromo 1.2	10- 1	26 130 160 dehero 11d- 12d- 11d- 0s-12- 9ses-12- 12- 13- 22- 11-
tromo-	dichioro- promo- promo- 2-buta-	n-butyl- carbon tetra-	chioro- chioro- chioro-	chioro- 2-chioro- 4-chioro-			Hoto- Chapte divine distance strate strate strate propers propers propers
Sample Sample PA scelone benzene benzene mediene	1	benzene paulfide chlonde	penzene etnene tom	method touene touene			index persons persons measure especies educate equate equa
West Conserved by Lab Metrod (ug/) (ug/) (ug/) (ug/)	(ug/s (ug/s (ug/s	וופטן וויפטן וויפטן	lugh lugh (ugh:	(ug/i) (ug/ii) (ug/ii)	132 13		
							न्
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Table 2: San Leandro Groundwater Analytical Data Summery

Table 2: Sen Landro Groundwarer Arteryout Dear Sommeny
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Table 2: San Leandro Groundwater Analytical Data Summary

Well VVV-5	Date Conscised 30-sun-95	Sample collection by	Lab	EPA Method 8260	acatone (ug/t) <20	benzene Iug/II <5	promo- benzene (ug/l) <5	brome- chiero metrane tug/11	bromo achioro- methane (ug/l) <5	tromo- form sug/1) <5	bromo- metrane (ug/l) <5	2-buta- none (ug/l) <20	n-butyi- bentene (ug/l1 <5	certon disurfice (ug/1) <5	cartion terra- chionde (ug/t) <5	chioro- benzerie (ug/l) <5	chloro- etrans (ugfl) <5	chloro- form (ug/l) 55	chioro- metrene (ugf) <5	2-chioro- toluene (ug/l) <5	4-chloro- tokene (ugf) <5	dibromo- cheoro- mediane (ug/l) <5	1,2-abromo 3-chioro- propane (ug/l) <5	1 2 di- bramo metrane (ugh) <5	deteromo- metrene (ug/t) <5	1,2-ds- chtoro- benzene (ug/l) <5	1 3-ds- chlors- tenzene (ug/l) <5	1 4-d- crioro- benzene (ug/l) <5	dichloro- difluoro- metriane (ug/l)	1 1-di- chloro- erame Fught	1,2-di- chioro- etheris (ug/l) <5	1 t-di- chioro- ethere (ug/t) <5	cas-1.2- chehioro- ethene (ug/1)	traine-1 2- dichtoro- etheria (ug/l) <5	1.2- dichloro- propens (ugh)	1,3- dechloro- properie (ug/l) <5	2,2- dichloro- propertie (ug/t) <5	1 1. dechtoro- properte (up/i) <\$
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	1		i		Ι΄		<u> </u>					·			<5	1 45	<5	45	- 45	<5	1 65	<5	<5	<5	<5	<5	· 45	₹\$	<5	₹5	<5	<>	<5	<5	i <5 l	<u> </u>	<u> </u>	<u> </u>
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	30-365-95	CEC	CEC	8015/8029	1	<0.4	<u> </u>			<u> </u>		 	}	<u> </u>			 	-	 	 	<u> </u>										Ĭ	1	<u> </u>		 	,		1
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Table 2: San Leandro Groundwater Analytical Data Summary

<u> </u>	Date color collected 1	coon La	EPA Metro	d (ug/i)		ethyl- trenzene (ug/l)	freon 113 (ug/f) <5	fresactio- robuta- dente (ugf)	2-hexa- none (ug-f) <20	benzen (ug/) <5		methy- tene chloride (UQ-I) <5	4-memyl- 2-part- gnorus (ug/fi <20	MITBE (ug/l)	nephthe- tane (ug/l)	n-probyl- berzene (upf) 45	SMC- DURYI- SMFESTON (US/I) <5	styrene (ug/l) <5	teri- tertyi- benzene (ug-t) 45	Secre- cream- cr	thore- chore- chore- strane (ug/t)	crearo- emene (ug/l) <5	(ug/f) <5 <0.3	1.2.3- trichisro- berszene (ug/l) <5	124- trictiono- bergene (ug/ti	11.1- trichloro- ethane (upl)	1,1,2 bichoro- strane (ug/l) <5	trustero- ettrerre (ug/t) <5	frichtero- fluoro- methana flug/fl <5	1.2.3- trichtoro- procent (ug/1)	t.2.4 emetryl- benzers (ug/t) <5	1 3.5- synethyl- benzene (ug/l) 45	hyery electron (Ngus) 01>	chtorate (ug/l)	zytemes (Leg/I)	c-rytems (ug/i) <5 <0.4	pm xytenes (ugf) 45 40 4	TPH (pacters (ug/f)	TPH EPA 8015 genoine (ug/l)
	30-jun-95 C	EC CE	C 8015-8	020		<0.3		1	 			- 	+	 						i								<u> </u>	L	 		 	:	+	 				
						-} -i	<u> </u>	-	 			- (5		-45	<5		-3	45		-45	न्ड		<10	ব		45	ব ়		
 -	30-Jun-95 C	-c : c		250 <5		- 55		+ 45	<20	न्ड	45	ન્ક	<20		45	< 5	<5	<5	8		- 45		493		 	-		!				ĭ	1			40.4	<0.4		-≪
	30-Jun-95 C	EC CE	C 40156	020		<03	_			1	7						<u>!</u>	 	 -		 		 	† 	1	1		Ī	,										
			1-0.00		-	1	:	·	1		1		ļ	 			-		 -		-	 	†	 			L							4	-	130	240		
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	28-JU-95 C	EC CE		260 ব	<5	210	< <u>\$</u>	- <5	<20		<u>লা </u>	- <	<20			3,		+			1	1	570					1	 		 		1 510	+	 	31			
	28-سا-26	EC CE	EC 8015-1	020		230	<u> </u>		420		17 45		<20	 	32	45	<5	45	~5	45	<5	< 5	11	₹5	< _	<5 _		 		5	1.00	<u>-</u>		+ -		<04	404		507
	18-Oct-95 C	EC CE	EC - {	250 <5	<5	200	i <5	+ -5	1 420		37 -3		+		-		1 -						0.3	<u> </u>	1	 	 	 		- 45		< <			-	« 5	~ \$		
	18-Oct-95 C	EC CE	EC 8015-8	020		+ 44	1-2	1	<20	45		- 45	<20		≪5	ನ	45	~ 5	~5	45	<u>- <5</u>	45	45	<u>~5</u>			1 3							1	-	2.5	2.9		S
	30-Jan-96	EC CL	EC FORE	2001 53		72		, 	+		1		T			1		<u> </u>		1	 	5	13	-	+ -		-85	4 5	-45	- <5	91	9	31 <10	<5		49	120		
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	22-Oct-96	EC C		250 <50	<50	160	(50 <u></u>	<50	<200	<50	-50_	<50	₹200	90		35	5	- 45	45	- 3	<5	< 5	<5	₹5	- 45	<\$	<5	<5	ব	<5_	- 45			+ *3	}	10			2300
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1							 		+				+	1					1						+ -	 	+ -		*5	ક	650	0 19	0 <10	₹5		1100			
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٠.	28-Jul-95	EC C				1100			_			_	1				İ		<u> </u>				1, 350	·1		· · · · · · · · · · · · · · · · · · ·		·		· 									

ARC - Aspen Research Laboratories CEC - Cisylon Environmental Consultants IT - International Technology Corporation MCL - Mobile Chem Labs Inc PAL - Precision Analytical Laboratory, Inc.

FILE: H:QUATTRO\SLWATNEWWB1 prepared by, JJM, 1/95 updated 12/95

Note Photoionization detection (PID) readings, in ppm, using OVM 580M

Data	Time	Blower/	Vessel #1/ Vessel #2	Vessel #2/ Vessel #3	Vessel #3/ Exhaust	Comments
Date	Time 4:00 PM	177.0	1.1	0.3	0.0	Comments
10/5/95 10/6/95	3:30 PM	172.0	1.1	0.0	0.0	
10/9/95	3:00 PM	158.0	1.9	0.3	0.0	
10/10/95	6:00 AM	165.0	1.9	0.3	0.0	
10/11/95	8:00 AM	158.0	1.9	0.3	0.0	,
10/12/95	5:00 PM	154.0	1.1	0.3	0.0	
10/13/95	4:45 PM	152.0	1.9	0.3	0.0	
10/14/95	11:00 AM	148.0	1.9	0.3	0.0	
10/16/95	12:00 PM	148.0	1.9	0.3	0.0	
10/17/95	1:25 PM	147.0	1.3	0.3	0.0	
10/18/95	12:00 PM	146.0	1.2	0.3	0.0	
10/19/95	5:00 PM	126.0	1.9	0.3	0.0	
10/20/95	5:00 PM	130.0	1.9	0.4	0.0	
10/21/95	7:39 AM	132.0	1.5	0.4	0.0	Sunday off
10/22/95	8:25 AM	125.0	2.3	0.3	0.0	Guilday oil
10/23/95	12:00 PM	115.0	1.9	0.3	0.0	
10/25/95	5:00 PM	112.0	2.3	0.1	0.0	
10/26/95	12:00 PM	110.0	2.4	2.2	1.2	
10/27/95	12:00 PM	111.0	2.3	2.2	1.2	
10/28/95	3:30 PM	109.0	2.7	2.2	1.7	
10/30/95	5:00 PM	101.0	2.6	3.1	3.0	
10/31/95	1:00 PM	103.0	2.6	3.5	2.6	
11/1/95						
11/7/95		89.0	2.0	0.2	0.0	with Toxi RAE
11/7/95		101.0	2.7	2.6	1.0	with Toxi RAE
11/8/95		109.0	2.8	0.5	3.0	with Toxi RAE
11/9/95						Shut down 11-9 to 11-14 to test meter
11/14/95		69.0	0.8	0.2	0.2	with Mini RAE
11/15/95		68.2	0.6	0.4	0.2	with Mini RAE
11/16/95		69.1	0.8	0.4	0.2	outside = 12.0 shut down 11-17 to 11-22 to test meters
11/17/95 11/22/95		70.2	0.7	0.4	0.2	outside = 2.0
11/23/95		70.2	0.7		0.2	shut off 11-23 to 11-27 for holiday
11/27/95	3:00 PM	71.5	0.8	0.6	0.3	outside = 2.1
11/28/95	5:00 PM	72.0	0.7	0.4	0.2	outside = 2.0
11/29/95	8:25 AM	71.1	0.8	0.4	0.2	outside = 2.1
11/30/95	4:15 PM	70.2	0.8	0.5	0.1	outside = 2.0
12/1/95	5:25 PM	69.8	0.6	0.4	0.2	outside = 2.1
12/2/95	1:52 PM	70.2	0.8	0.4	0.1	outside = 2.0
12/4/95	4:00 PM	70.2	0.9	0.5	0.2	outside = 2.5
12/5/95	5:00 PM	69.5	0.8	0.6	0.2	outside = 2.6
12/6/95	5:00 PM	70.5	0.7	0.4	0.2	outside = 2.4
	12:50 PM	69.8	0.8	0.5	0.1	outside = 2.5
12/8/95	5:00 PM	70.2	0.7	0.4	0.2	outside = 2.4
		69.2	0.9	0.6	0.2	outside = 2.6
12/14/95	5:00 PM	70.3	0.8	0.4	0.2	outside = 2.5 outside = 2.2
12/15/95 12/18/95	5:00 PM 5:00 PM	70.5 69.8	0.9 1.7	0.6	0.0	DUIGHUE - 2.2
12/18/95	4:30 PM	68.8	1.6	0.2	0.0	
12/20/95	12:25 PM	67.0	1.3	0.5	0.0	
12/21/95	11:30 AM	69.8	1.7	0.7	0.0	
12/22/95	2:30 PM	67.0	2.3	0.2	0.0	
12/26/95	3:35 PM	63.2	1,3	0.1	0.0	
12/27/95	4:10 PM	59 9	0.8	0.1	0 0	
12/28/95	5:00 PM	58.7	0.6	0.0	0.0	
12/29/95	5:10 PM	58.3	0.4	0.0	0.0	
12/30/95						Shut down 12-30 to 1-9 no one to monitor
1/9/96		58.8	0.8	0.1	0.0	

			14 1 1441		Ne (46 e	I
3.44	T l	Blower/	Vessel #1/	l		Commonts
Date	Time	Vessel #1	Vessel #2	Vessel #3	Exhaust	Comments
1/10/96		56.8	0.6	0.1	0.0	, , , , , , , , , , , , , , , , , , ,
1/11/96		55.9	0.5	0.1	0.0	
1/12/96		55.2	0.5	0.1	0.0	
1/13/96		52.5	0.3	0.0	0.0	
1/14/96		51.6 50.1	0.3	0.0	0.0	· · · · · · · · · · · · · · · · · · ·
1/15/96		51.6	0.3	0.0	0.0	
1/23/96		50.1	0.3	0.0	0.0	
1/24/96		49.2	0.3	0.0	0.0	
1/25/96		49.0	0.3	0.0	0.0	
1/28/96		48.7	0.2	0.0	0.0	
1/29/96		48.6	0.2	0.0	0.0	
1/30/96		47.9	0.2	0.0	0.0	
1/31/96						unit shut off for quarterly sampling
2/1/96		48.2	02	0.0	0.0	
2/2/96	· · · · · · · · · · · · · · · · · · ·	48,7	0.2	0.0	0.0	
2/5/96		49.1	0.2	0.0	0.0	
2/6/96		48.7	0.2	0.0	0.0	
2/9/96						not reading
2/20/96						drained 18 gal.of water
2/21/96						water being exited out of exhaust
2/21/96		3.0	0.0	0.0	0.0	
2/22/96		3.0	0.0	0.0	0.0	
2/23/96		2.8	0.0	0.0	0.0	
2/24/96		2.6	0.0	0.0	0.0	
2/26/96		2.7	0.0	0.0	0.0	
2/27/96		2.9	0.0	0.0	0.0	
2/28/96		2.6	0.0	0.0	0.0	1-2-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-
2/29/96		0.4				drained water; tank 1/2 full.
3/1/96		2.4	0.0	0.0	0.0	
3/4/96 3/5/96		1.9	0.0	0.0	0.0	
		2.0 1.8	0.0	0.0	0.0	
3/6/96		1.0	0.0	0.0	0.0	drained water, tank 1/3 fuli
3/20/96		0.0	0.0	0.0	0.0	Granico Water, tank 175 tan
3/21/96		0.0	0.0	0.0	0.0	no reading; drained water, 1/3 full
3/22/96		1.5	0.0	0.0	0.0	drained water
3/26/96		1.6	0.0	0.0	0.0	
3/27/96		1.7	0.0	0.0	0.0	
4/3/96	·····	1.2	0.0	0.0	0.0	
4/4/96		1,4	0.0	0.0	0.0	
4/8/96		1.6	0.0	0.0	0.0	
4/9/96		2.8	0.0	0.0	0.0	
4/10/96		2.6	0.0	0.0	0.0	
4/11/96		2.9	0.0	0.0	0.0	
4/12/96		2.7	0.0	0.0	0.0	
4/15/96						system off; no readings
4/16/96						system off; no readings
4/17/96						system off; no readings
4/18/98					4 -	system off; no readings
4/19/96		6.9	0.0	0.0	0.0	
4/22/96		7.6	0.0	0.0	0.0	
4/23/96		8.4	0.0	0.0	0.0	
4/24/96		8.2	0.0	0.0	0.0	decined water AIO tonk of water
4/25/96		7.6	0.0	0.0	0.0	drained water; 1/3 tank of water
4/26/96 4/29/96		7.1 9.1	0.0	0.0	0.0	
4/29/96		9.1	0.0	0.0	0.0	
5/1/96		9.1	0.0	0.0	0.0	
5/2/96		9.6	0.0	0.0	0.0	
5/3/96		10.2	0.0	0.0	0.0	
5/6/96		10.2	0.0	3.0	0.0	system off, no readings
5/7/96		13.6	0.0	0.0	•	cycle on, no readings
5/8/96		14.4	0.0	0.0	0.0	
5/9/96		14.3	0.0	0.0	0.0	
0,0,00		17.0	0.0	ÿ.ÿ <u> </u>		

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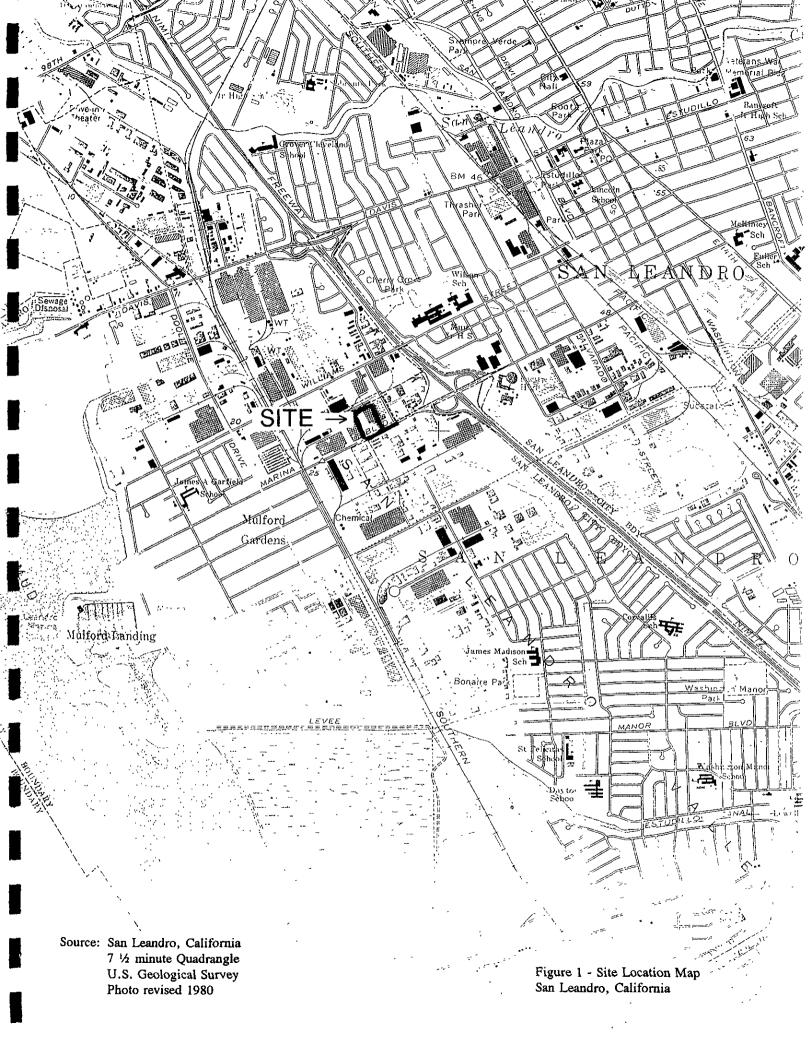
Date	Time	Blower/ Vessei #1	Vessel #1/ Vessel #2	Vessel #2/ Vessel #3	Vessel #3/ Exhaust	Comments
5/10/96		14.4	0.0	0.0	0.0	
5/13/96						system off, no readings
5/14/96						system off, no readings
5/15/96		11.1	0.0	0.0	0.0	raining
5/16/96		10.4	0.0	0.0	0.0	raining
5/17/96		ļ				no readings
5/20/96						no readings
5/21/96						no readings
5/22/96						no readings
5/23/98						no readings
5/24/96						no readings
5/27/96						no readings
5/28/96		<u> </u>				no readings
5/29/98		ļ				no readings
5/30/96		ļ				no readings
5/31/96		L				no readings
6/3/96		13.2	0.0	0.0	0.0	`
6/4/96		13.6	0.0	0.0	0.0	
6/5/96		13.0	0.0	0.0	0.0	
6/6/96		13.5	0.0	0.0	0.0	
6/7/96		13.4	0.0	0.0	0.0	
6/10/96		15.5	0.0	0.0	0.0	
6/11/96		15.3	0.0	0.0	0.0	
6/12/96	-	16.0	0.0	0.0	0.0	
6/13/98		15.3	0.0	0.0	0.0	
6/14/96		15.1	0.0	0.0	0.0	
6/17/96		10.2	0.0	0.0	0.0	
6/18/96		12.5	0.0	0.0	0.0	
6/19/96		16.6	0.0	0.0	0.0	
6/20/96		17.2	0.0	0.0	0.0	
6/21/96		17.2	0.0	0.0	0.0	
6/24/96		19.1	0.0	0.0	0.0	
6/25/96		18.2	0.0	0.0	0.0	
6/26/96		17.2	0.0	0.0	0.0	
6/27/96		16.6	0.0	0.0	0.0	
6/28/96		16.1	0.0	0.0	0.0	
7/1/96		15.1	0.0	0.0	0.0	
7/2/96		16.9	0.0	0.0	0.0	
7/3/96		17,1	0.0	0,0	0.0	
7/8/96		18.6	0.0	0.0	0.0	
7/9/96		17.9	0.0	0.0	0.0	
7/10/96		19.1	0.0	0.0	0.0	
7/11/96		16.9	0.0	0.0	0.0	
7/12/96	*******	16.9	0.0	0.0	0.0	
7/15/96		17.4	0.0	0.0	0.0	
7/16/96		16.4	0.0	0.0	0.0	
7/17/96		16.6	0.0	0.0	0.0	
7/18/96		17.2	0.0	0.0	0.0	
7/19/96		16.6	0.0	0.0	0.0	
7/22/96		14.3	0.0	0.0	0.0	
7/23/96		13.6	0.0	0.0	0.0	
7/24/96		13.2	0.0	0.0	0.0	
7/25/96		16.2	0.0	0.0	0.0	
7/26/96		15.1	0.0	0.0	0.0	
7/29/96		14.7	0.0	0.0	0.0	
7/30/96		14.3	0.0	0.0	0.0	
7/31/96	<u>.</u>	13.7	0.0	0.0	0.0	
8/1/96		14.5	0.0	0.0	0.0	
8/2/96		13.2	0.0	0.0	0.0	
		14.5	0.0	0.0	0.0	
8/5/96		11.4	0.0	0.0	0.0	
8/6/96 8/7/96		8.0	0.0	0.0	0.0	
8/8/96		9.7	0.0	0.0	0.0	
		11.0	0.0	0.0	0.0	
8/9/96						,

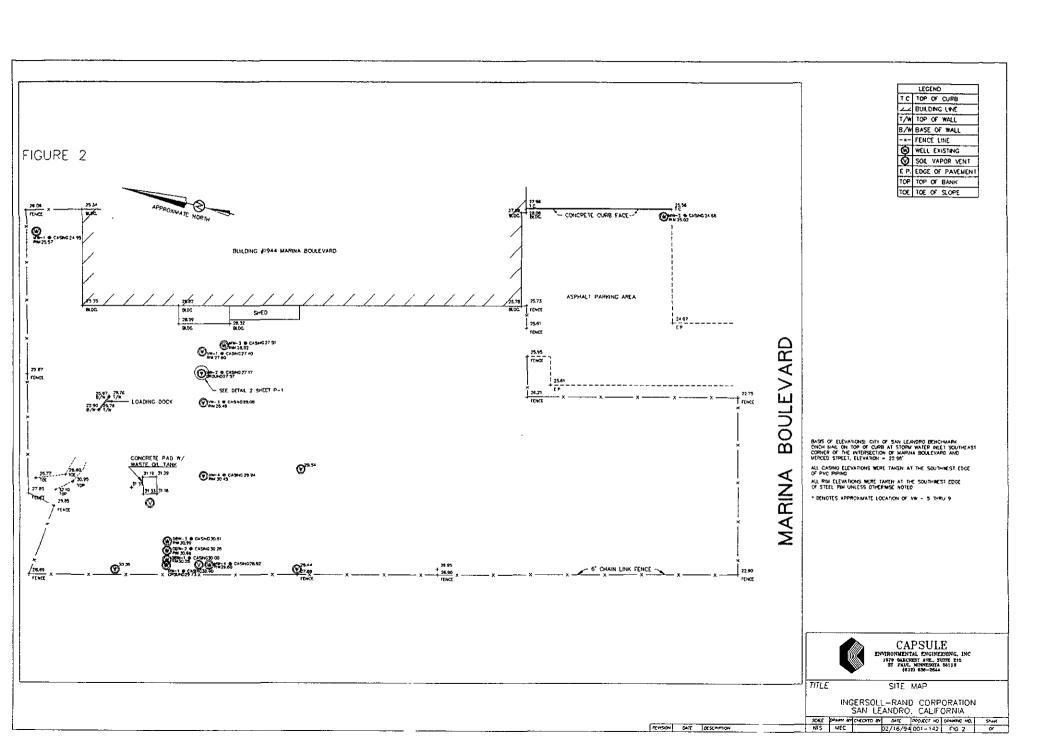
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Date	Time	Blower/ Vessel #1	Vessel #1/ Vessel #2	Vessel #2/ Vessel #3	Vessel #3/ Exhaust	Comments
8/13/96		10.4	0.0	0.0	0.0	
8/14/96		10.1	0.0	0.0	0.0	
8/15/96		10.2	0.0	0.0	0.0	
8/16/96		10.3	0.0	0.0	0.0	
8/19/96		9.7	0.0	0.0	0.0	
8/20/96		9.3	0.0	0.0	0.0	
8/21/96		9.4	0.0	0.0	0.0	
8/22/98		8.6	0.0	0.0	0.0	
8/23/96		8.8	0.0	0.0	0.0	
8/26/96		2.7	0.0	0.0	0.0	
8/27/96		0.1	0.0	0.0	0.0	
8/28/98		3.1	0.0	0.0	0.0	
8/29/96		2.1	0.0	0.0	0.0	
8/30/96		2.5	0.0	0.0	0.0	<u></u>
9/2/96		3.9	0.0	0.0	0.0	
9/3/96		3.8	0.0	0.0	0.0	
9/4/96		4.2	0.0	0.0	0.0	
9/5/96		4.7	0.0	0.0	0.0	
9/6/96		4.5	0.0	0.0	0.0	In roading (waskend)
9/7/96						no reading (weekend)
9/8/96						no reading (weekend)
9/9/96		3.8	0.0	0.0	0.0	
9/10/96		3.9	0.0	0.0	0.0	
9/11/96		4.2	0.0	0.0	0.0	
9/12/96		4.8	0.0	0.0	0.0	
9/13/96		3.7	0.0	0.0	0.0	
9/16/96		3.7	0.0	0.0	0.0	
9/17/96		4.3	0.0	0.0	0.0	
9/18/96		3.1	0.0	0.0	0.0	
9/19/96		4.2	0.0	0.0	0.0	
9/20/96		3.6	0.0	0.0	0.0	
9/23/96		4.0	0.0	0.0	0.0	
9/24/96		4.8	0.0	0.0	0.0	
9/25/98		4.6	0.0	0.0	0.0	
9/26/96		3.8	0.0	0.0	0.0	
9/27/96	· · · · · · · · · · · · · · · · · · ·	3.8	0.0	0.0	0.0	
9/30/96		4.5	0.0	0.0	0.0	
		4.3	0.0	0.0	0.0	
10/1/96		3.6		0.0	0.0	
10/2/96			0.0	0.0	0.0	
10/3/96		3.8	0.0			
10/4/96		2.7	0.0	0.0	0.0	
10/7/96		2.5	0.0	0.0	0.0	
10/8/96		3.6	0.0	0.0	0.0	
10/9/96		3.8	0.0	0.0	0.0	
10/10/96		4.5	0.0	0.0	0.0	
10/11/96		4.3	0.0	0.0	0.0	
10/14/96		4.2	0.0	0.0	0.0	
10/15/96		3.8	0.0	0.0	0.0	
10/16/98		3.4	0.0	0.0	0.0	
10/17/96		3.9	0.0	0.0	0.0	
10/18/96		3.7	0.0	0.0	0.0	
10/21/96		3.1	0.0	0.0	0.0	
10/22/96		2.4	0.0	0.0	0.0	
10/23/96		2.5	0.0	0.0	0.0	
10/24/96		1.7	0.0	0.0	0.0	
10/24/96		1.9	0.0	0.0	0.0	
			0.0	0.0	0.0	
10/28/96		2.8			0.0	Painy Day
10/29/96		2.7	0.0	0.0		Rainy Day
10/30/96		2.3	0.0	0.0	0.0	Rainy Day
10/31/96		1.9	0.0	0.0	0.0	
11/1/96		1.6	0.0	0.0	0.0	COVAT CONTRACTOR CONTR
11/4/96					<u> </u>	OVM meter broken
				.		<u> </u>

Prepared by: John McDermott, Feb. 1996 Updated by: Julie Theisen, Nov. 1996

Location: i \final96\RM\Reports\100061.04





Water Level Elevations

San Leandro, California

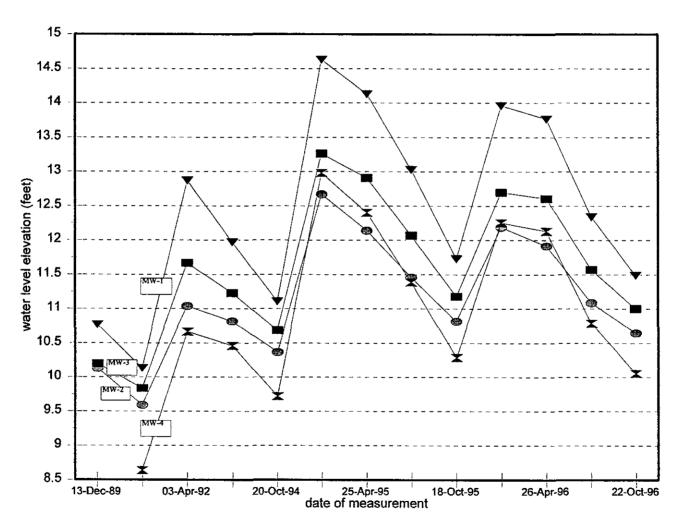
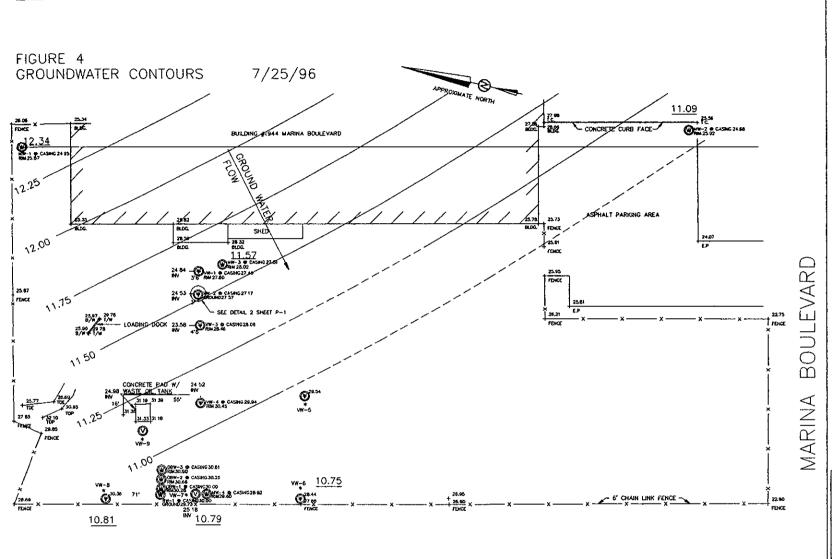


Figure 3



 LEGEND					
T C	TOP OF CURB				
~	BUILDING LINE				
T/W	TOP OF WALL				
8/W	BASE OF WALL				
~ ¥	FENCE LINE				
⊗	WELL EXISTING				
0	SOIL VAPOR VENT				
E.P.	LOGE OF PAVEMEN				
10b	TOP OF BANK				
TOE.	TOE OF SLOPE				

11.57 0

GROUND WATER ELEVATION, (FEET ABOVE SEA LEVEL)



GROUND WATER CONTOUR (FEET ABOVE SEA LEVEL)

BASIS OF ELEVATIONS CITY OF SAN LEANDRO BENCHMARK, CINCH MAIL ON TOP OF CURB AT STORM WATER HILET SOUTHEAST CORNER OF THE INTERSECTION OF MARKINA BOULEVARD AND MERCED STREET, ELEVATION = 22.96

ALL CASING ELEVATIONS WERE TAKEN AT THE SOUTHWEST EDGE OF PVC PIPING. ALL RAM ELEVATIONS WERE TAKEN AT THE SOUTHWEST EDGE OF STEEL RIM UNLESS OTHERWISE NOTED

. DENOTES APPROXIMATE LOCATION OF VW - 5 THRU 9.

Approximate Scale 1" = 85"

WELL LOCATION SURVEY INGERSOLL-RAND EQUIPMENT CORPORATION LOCATED AT 1944 MARINA BOULEVARD CITY OF SAN LEANDRO, COUNTY OF ALAMEDA, CALIFORNIA JUNE 1994

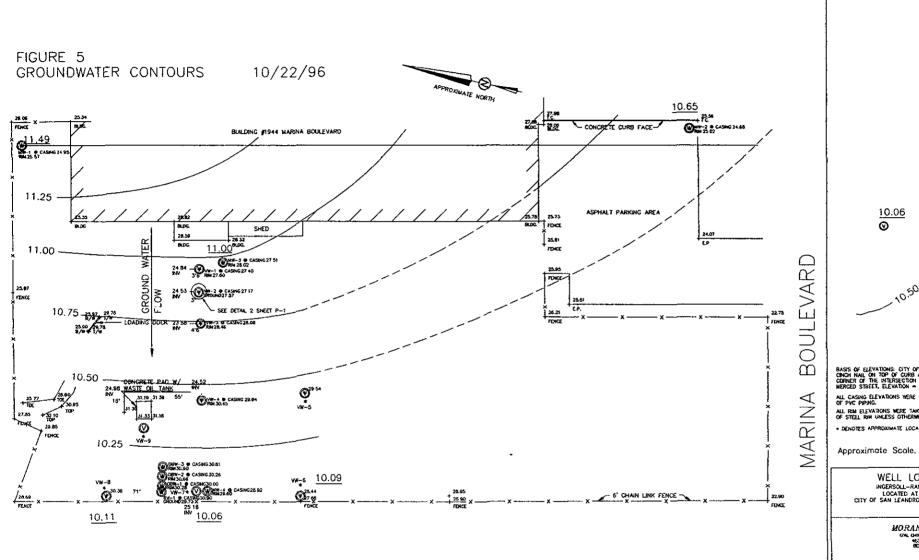
MORAN ENGINEERING
ONLOWNERS UND SURVENERS
483 NOTHICKS MORE
BETACLES CALLS ORGAN
(510) \$27-7744



CAPSULE ENVIRONMENTAL ENGINEERING, INC. 1970 GAKCKEST AVE., SUITE 216 ST PAUL, MINNESOTA 56113 (612) 836-2644

TITLE GROUND WATER CONTOUR
MAP 7/25/96
INGERSOLL—RAND CORPORATION
SAN LEANDRO, CALIFORNIA
SCOLE PORUM BY CONCESS BY ONE PROSECT NO DOCUMEN NO.
MIS MEC/LIM D3/19/97/001-327

REVISION DATE DESCRIPTION



LEGEND I C TOP OF CURB ZZ BUILDING LINE T/W TOP OF WALL B/W BASE OF WALL -x- FENCE LINE WELL EXISTING
SOL VAPOR VENT EP EOGE OF PAVEMENT TOP TOP OF BANK TOE TOE OF SLOPE

> GROUND WATER ELEVATION, (FEET ABOVE SEA LEVEL)

GROUND WATER CONTOUR (FEET ABOVE SEA LE VEL)

BASIS OF ELEVATIONS: CITY OF SAN LEANDRO BENCHMARK. CNICH NAIL ON TOP OF CURB AT STORM WATER INLET SOUTHEAST CRINER OF THE INTERSECTION OF MARINA BOULEVARD AND MERCED STREET, ELEVATION = 22 96*

ALL CASING ELEVATIONS WERE TAKEN AT THE SOUTHWEST EDGE OF PVC PIPING.

ALL RIM ELEVATIONS WERE TAKEN AT THE SOUTHWEST EDGE OF STEEL RIM UNLESS OTHERWISE NOTED.

. DENOTES APPROXIMATE LOCATION OF VW - 5 THRU 9

Approximate Scale, 1" = 85'

WELL LOCATION SURVEY INGERSOLL-RAND EQUIPMENT CORPORATION LOCATED AT 1944 MARINA BOULEVARD CITY OF SAN LEANDRO, COUNTY OF ALAMEDA, CALIFORNIA JUNE 1994

MORAN ENGINEERING
COL GROWLES VAND SURVEYORS
463 VERTICES AND SUR
SURVEYORS
SURVEYORS
(510) 527-7744



CAPSULE ENVIRONMENTAL ENGINEERING, INC. 1970 CARCREST AVE., SUITE 216 ST PAUL, MINNESOTA 66113 (612) 636-2644

GROUND WATER CONTOUR
MAP 10/22/96
INGERSOLL-RAND CORPORATION
SAN LEANDRO, CALIFORNIA TITLE

SOLE DRUM BY CHECKED BY DATE PROJECT NO DRAWING NO.

NTS MEC/LJM D3/19/97 001-327

REVISION DATE DESCRIPTION

MW-3 Benzene Concentrations

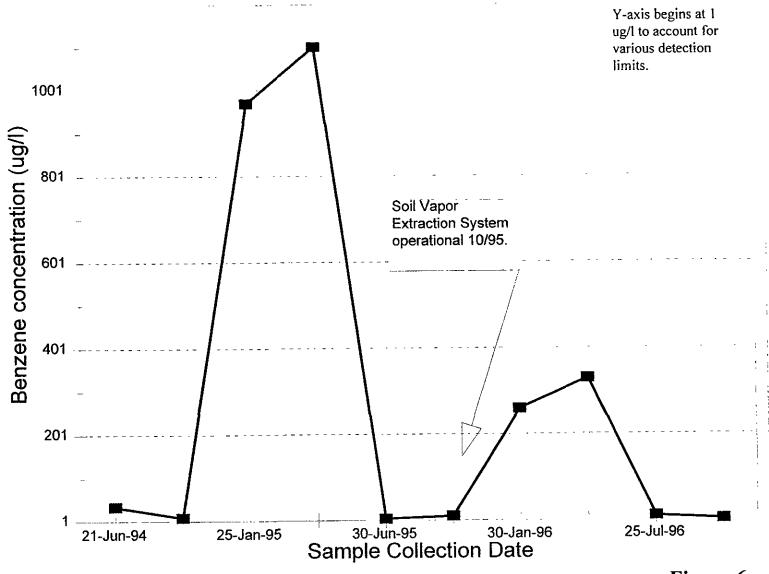


Figure 6

SVE Monitoring Ingersoll-Rand / San Leandro, California

