



CAPSULE ENVIRONMENTAL
PROTECTION

ENVIRONMENTAL ENGINEERING, INC.

98 JUL 27 PM 4:55

July 24, 1998

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 Ingersoll-Rand Equipment Sales, Capsule Environmental Engineering, Inc. would like to submit the enclosed report, Semiannual Report January 1998 (Semiannual Report). This report is part of Ingersoll-Rand's corrective action activities to address the former underground storage tank leak at 1944 Marina Boulevard, San Leandro, California.

The Semiannual Report was prepared after our conversations in late June regarding the status of the corrective action and our closure submittals. The Semiannual Report was prepared to summarize the status of monitoring and corrective action activities. It includes the sampling results for the January 1998 sampling event.

Capsule is also preparing a work plan to address the additional work called for in Alameda County's letter dated April 3, 1998.

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

Sincerely,

CAPSULE ENVIRONMENTAL ENGINEERING, INC.

John McDermott
Hydrogeologist

JJM:dmh

cc/enc: Kevin Graves/ Regional Water Quality Control Board, Oakland, CA
Robert Heindl/Ingersoll-Rand Equipment Sales, Bethlehem, PA (2 copies)
Tim Tinsley/Ingersoll-Rand Equipment Sales, San Leandro, CA
Michael Bakaldin/San Leandro Fire Department, San Leandro, CA

1970 Oakcrest Avenue, Suite 215 • St. Paul, MN 55113-2624 • (612) 636-2644 • Fax (612) 636 3106
Toll Free 1-800-328-8246

**Semiannual Report
January 1998**

Prepared For:

**Ingersoll-Rand
Equipment Sales
San Leandro, California**

July 24, 1998

SEMIANNUAL REPORT

JANUARY 1998

Prepared For:

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

July 24, 1998

Prepared By:



CAPSULE
ENVIRONMENTAL ENGINEERING INC
1970 Oakcrest Avenue, Suite 215
St. Paul, Minnesota 55113
(612) 636-2644

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	SITE DESCRIPTION.....	1
1.2	UST ACTIVITIES CHRONOLOGY	2
2.0	GROUND WATER DATA SUMMARY	4
2.1	GROUND WATER LEVEL DATA	4
2.1.1	Ground Water Gradient	4
2.1.2	Ground Water Flow Velocity	5
2.2	GROUND WATER ANALYTICAL DATA	6
2.2.1	Chlorinated Organics	6
2.2.1.1	Trichloroethene (TCE)	6
2.2.1.2	1,2-Dichloroethene	7
2.2.1.3	Chlorobenzene	7
2.2.1.4	Dichlorobenzene Isomers	8
2.2.1.5	1,2 Dichloroethane	8
2.2.2	Aromatic Organics	8
2.2.2.1	Benzene	9
2.2.2.2	Ethylbenzene	9
2.2.2.3	Toluene	10
2.2.2.4	Isomers of Xylene	10
2.2.2.5	Naphthalene.....	10
2.2.2.6	Other Gasoline Components	10
2.2.2.7	Total Petroleum Hydrocarbons (TPH) as Gasoline	10
3.0	SOIL VAPOR EXTRACTION (SVE) SYSTEM ACTIVITY SUMMARY	12
3.1	SVE System Background.....	12
3.2	SVE System Operations During the Period	12
4.0	CONCLUSIONS	13
5.0	RECOMMENDATION	14
6.0	REFERENCES	15

TABLE OF CONTENTS CONTINUED

APPENDICES

Appendix A - Analytical Data From January 1998 Ground Water Monitoring

TABLES

Table 1 - Water Level Summary Table

Table 2 - Ground Water Analytical Data Summary

FIGURES

Figure 1 - Site Location Map

Figure 2 - Site Plan and Well Locations

Figure 3 - Water Level Elevations

Figure 4 - Ground Water Contours January 1998

Figure 5 - MW-3 BETX Concentrations

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 activity 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; and,
- comply with Alameda County and City of San Leandro reporting requirements

The Semiannual Report January 1998 (January 1998 Report) provides the data and summary from the semiannual groundwater monitoring event that was performed in January 1998. Previous sampling and reporting was performed on a quarterly basis. Alameda County authorized a change to semiannual sampling and reporting on October 20, 1997.

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 down-gradient 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.

In July 1997 a limited voluntary investigation of a portion of the facility, identified as a suspected former storage area for 5-gallon pails and 55-gallon drums of used lubricants and other petroleum products, was conducted. The results were reported in the North Fence Soil Investigation Report January 1998. The investigation consisted of hydraulic push soil samples, analyzed for volatile and semi-volatile organic compounds, oil and grease and metals. No impacted soils were identified.

In September 1997 a technical recommendation for closure of the SVE system was submitted to Alameda County.

In October 1997 a low risk determination, consisting of a technical determination of low risk, using the State Water Board's Supplementation Instructions, was submitted to Alameda County.

An April 1998 Alameda County letter called for additional investigation of the petroleum-impacted groundwater detected in the northwest corner of the facility during the July 1995 and July 1997 investigations.

2.0 GROUND WATER DATA SUMMARY

The January 1998 ground water sampling events included monitoring wells MW-3, MW-4, and vent well VW-8. The January 1998 event was performed on January 29, 1998. During the sampling, 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 the January 1998 event can be found in Appendix A.

The June and October 1994 and the January 1995 sampling events included up-gradient 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 down gradient of the facility.

2.1 GROUND WATER LEVEL DATA

Depth-to-water measurements were collected as part of the January 1998 event. 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 January 1998 event, water level elevations beneath the facility ranged between 13.50 to 16.90 feet above sea level. Water levels were at period of record highs and continued to fluctuate seasonally. 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 4 feet.

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 directions over time.

The general ground water flow direction remains to the southwest. Ground water contours for the January 1998 events are shown on Figure 4. As observed during previous January observations, 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, its 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 = hydraulic 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>	<u>Estimate</u>	<u>Data Source</u>
hydraulic conductivity (k)	9.0 ft/day ⁽¹⁾	IT Corporation, Data Summary Report, 1990
hydraulic gradient (I)	0.010	Capsule, Quarterly Monitoring Report, January 1998
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 January 1998 data, a ground water velocity of 0.3 feet per day, or 109 feet per year was calculated from these estimates. This velocity is slightly higher than previous calculated estimates. The higher velocity estimate is due to the steeper hydraulic gradient observed in January 1998. Appendix B presents the velocity calculations.

For comparison purposes, past velocity estimates have ranged from 44 to 88 feet per year.

2.2 GROUND WATER ANALYTICAL DATA

Water samples from the January 1998 events were analyzed using United States Environmental Protection Agency (EPA) Methods 8015, 8020, and 8260. The analytical results are presented in Table 2.

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

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 MCL list comes from the California Department of Health Services website, www.dhs.ca.gov, updated April 2, 1998.

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 up-gradient wells showed TCE detections ranging from 5 to 29 micrograms/liter ($\mu\text{g/l}$).

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

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

The January 1998 analytical results from MW-4 detected a TCE concentration of 6 $\mu\text{g/l}$. TCE has been intermittently detected during the period of record, ranging from nondetection to 27 $\mu\text{g/l}$. MW-4 is on the down-gradient 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 $\mu\text{g/l}$.

2.2.1.2 1,2-Dichloroethene

Cis-1,2-dichloroethene was last detected during the July and October 1996 events at 5 $\mu\text{g/l}$ in MW-4. Since the October 1996 event, cis-1,2-dichloroethene has not been detected in MW-4.

Potential sources of these concentrations include breakdown products of TCE.

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

Trans-1,2-dichloroethylene was detected in MW-4 during the April 1997 event at 7 µg/l. Over the period of record, trans-1,2-dichloroethylene has been intermittently detected in MW-4, ranging from nondetection to 16 µg/l. Trans-1,2-dichloroethylene was not detected in MW-4 during the January 1998 event.

Potential sources of these concentrations include breakdown products of TCE.

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

2.2.1.3 Chlorobenzene

Chlorobenzene was not detected during the January 1998 event. In previous sampling events, chlorobenzene results in MW-3 ranged from nondetection to 19 µg/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 µg/l.

2.2.1.4 Dichlorobenzene Isomers

The three isomers of dichlorobenzene were not detected in MW-3 during the January 1998 event. In past events the three isomers, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene, were detected.

The California MCL for the isomers, 1,2-dichlorobenzene and 1,4-dichlorobenzene, are 0.6 mg/l or 600 µg/l and 0.005 mg/l or 5 µg/l. There is no California MCL for 1,2-dichlorobenzene.

2.2.1.5 1,2 Dichloroethane

During the January 1998 event, 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 µg/l.

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

2.2.2 Aromatic Organics

During the January 1998 event, 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. Generally, most VOCs were very low for this time of year. Typically, the highest yearly concentrations are seen in samples from the January and April events.

2.2.2.1 Benzene

During the January 1998 event, benzene was detected in MW-3 at 38 $\mu\text{g}/\text{l}$. This concentration is an order of magnitude lower than measured during January 1996 or 1997 events. For the period of record, benzene concentrations ranged from 3.1 $\mu\text{g}/\text{l}$ to 1,200 $\mu\text{g}/\text{l}$.

As Figure 4 indicates, MW-3 benzene concentrations respond seasonally. Benzene concentration increases have occurred in the January to April time periods and decreased during the June and October events. Overall, these yearly 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. The overall benzene decline results from the soil remediation.

Benzene was detected in MW-4 at 110 $\mu\text{g}/\text{l}$ during the January 1998 event. As Figure 5 indicates, the 110 $\mu\text{g}/\text{l}$ is similar to 1996 values and continues a long term downward trend.

Benzene was not detected in VW-8. This the first non detection of benzene by both EPA methods 8260 and 8015/8020 for the two and half year period of quarterly results.

The California MCL for benzene is 0.001 mg/l or 1 $\mu\text{g}/\text{l}$.

2.2.2.2 Ethylbenzene

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

Ethylbenzene was detected at 1.5 $\mu\text{g}/\text{l}$ in MW-3 were during the January 1998 sampling event. The previous period of record detectable low was 13 $\mu\text{g}/\text{l}$. For the period of record, MW-3 ethylbenzene concentrations ranged from nondetection to 720 $\mu\text{g}/\text{l}$. As Figure 4 shows levels continue to decline in MW-3.

During the January 1998 sampling event, the ethylbenzene concentration in MW-4 was 200 $\mu\text{g}/\text{l}$.

Ethylbenzene was detected in VW-8 at a concentration of 0.4 $\mu\text{g}/\text{l}$ during the January 1998 event. This is a period of record low for VW-8. Since sampling began at VW-8 in July 1995, ethylbenzene concentrations ranged from 0.6 $\mu\text{g}/\text{l}$ to 230 $\mu\text{g}/\text{l}$.

The California MCL for ethylbenzene is 0.7 mg/l or 700 $\mu\text{g}/\text{l}$.

2.2.2.3 Toluene

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

The January 1998 concentration in MW-3 was 2.6 $\mu\text{g}/\text{l}$. Previous toluene detections in MW-3 ranged from 4 $\mu\text{g}/\text{l}$ to 1,700 $\mu\text{g}/\text{l}$. Seasonal fluctuations in toluene concentrations are similar to fluctuations for benzene and xylene concentrations. Overall, there has been a downward trend in toluene concentrations. As shown in Figure 4, MW-3 toluene concentrations have been less than 30 $\mu\text{g}/\text{l}$ since April 1996.

The January 1998 concentration in MW-4 was 15 $\mu\text{g}/\text{l}$. Previous MW-4 toluene concentrations ranged from 3.6 $\mu\text{g}/\text{l}$ to 110 $\mu\text{g}/\text{l}$. As shown in Figure 5, the toluene concentration indicates a small concentration increase. Values have still been 20 $\mu\text{g}/\text{l}$ or less for more than three years.

Toluene was not detected in VW-8 during the January 1998 event. VW-8 toluene concentrations have ranged from 0.3 $\mu\text{g}/\text{l}$ to 570 $\mu\text{g}/\text{l}$ for the period of record, which began in June 1995.

The California MCL for toluene is 0.150 mg/l or 150 $\mu\text{g}/\text{l}$.

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 January 1998 sampling event, o-xylene was detected at 66 $\mu\text{g}/\text{l}$ in MW-3. For the period of record, MW-3 concentrations of o-xylene ranged from 4 $\mu\text{g}/\text{l}$ to 940 $\mu\text{g}/\text{l}$. P and m-xylenes were detected 7.5 $\mu\text{g}/\text{l}$. For the period of record, MW-3 concentrations of p and m-xylenes ranged from 16 $\mu\text{g}/\text{l}$ to 2,100 $\mu\text{g}/\text{l}$. As Figure 4 indicates, the winter increase in xylene levels has decayed significantly over the period of record.

In MW-4, o-xylene was detected at 2.6 $\mu\text{g}/\text{l}$. For the period of record, MW-4 concentrations ranged from 10 $\mu\text{g}/\text{l}$ to 320 $\mu\text{g}/\text{l}$ for o-xylene. P and m-xylenes were detected at 33 $\mu\text{g}/\text{l}$. Both values are period of record lows. As Figure 5 indicates, xylene concentrations continue a marked downward trend.

No xylene isomers were detected in VW-8. For the period of record, which began in June 1995, o-xylene results ranged from $<0.4 \mu\text{g/l}$ to $130 \mu\text{g/l}$. P and m-xylene concentrations ranged from $<0.4 \mu\text{g/l}$ to $210 \mu\text{g/l}$ for the period of record, which began in June 1995.

The California MCL for xylenes is 1.75 mg/l or $1,750 \mu\text{g/l}$ for either a single isomer or the sum of the isomers.

2.2.2.5 Naphthalene

During the January 1998 event, naphthalene was detected in MW-3 and MW-4. Naphthalene is a constituent of gasoline.

Naphthalene was detected at $6 \mu\text{g/l}$ in MW-3. This value is comparable to the lowest detected concentrations for the period of record. MW-3 concentrations ranged from $<5 \mu\text{g/l}$ to $150 \mu\text{g/l}$.

The MW-4 concentration for the January 1998 event was $35 \mu\text{g/l}$. This value is consistent with period of record lows for MW-4. Concentrations ranged from $32 \mu\text{g/l}$ to $120 \mu\text{g/l}$.

There is no California MCL for naphthalene.

2.2.2.6 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 January 1998 sampling event, these VOCs were detected in concentrations similar to those of previous sampling. Individual concentrations were generally less than $60 \mu\text{g/l}$.

2.2.2.7 Total Petroleum Hydrocarbons (TPH) as Gasoline

TPH, as gasoline, was detected at $470 \mu\text{g/l}$ in MW-3 during the January 1998 sampling event. This concentration is a period of record low. MW-3 is located near the former tank area.

The TPH concentration in MW-4 was $4,400 \mu\text{g/l}$. This concentration is consistent with periods of record lows. For the period of record, MW-4 concentrations ranged from $4,300 \mu\text{g/l}$ to $9,700 \mu\text{g/l}$.

No TPH was detected in VW-8. Previous results ranged from $< 5 \mu\text{g}/\text{l}$ to $5,300 \mu\text{g}/\text{l}$ for the period of record that began in June 1995. The < 5 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

An 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 $880,000 \mu\text{g}/\text{m}^3$ 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

During February 1998 the blower motor failed. Given the low water quality results from the January 1998 event and the closure recommendation submitted to Alameda County in September 1997, it was decided to wait on the closure determination before restarting the system.

4.0 CONCLUSIONS

The conclusions combine observations, data, and evaluation for the January 1998 sampling event 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.

Water levels were at period of record highs during the January 1998 event.

The shallow ground water flows through a sequence of saturated sands, silts, and clays. Ground water gradients for the period were approximately 0.01. This is higher than past estimates. Ground water flow is to the southwest and its velocity is estimated at 100 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 down gradient of the facility.

BETX constituents from monitoring well MW-3, near the former UST, continued to decline to very low levels during the January 1998 event.

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

The SVE system blower motor failed during February 1998.

Given the very low ground water concentrations and the SVE closure recommendation, the system was not restarted.

5.0 RECOMMENDATION

5.1 RECOMMENDATION

The SVE system should be closed. While the north fence issue remains unresolved, the SVE operation does not address this area.

6.0 REFERENCES

- 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.

San Francisco Regional Office

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

Clayton
ENVIRONMENTAL
CONSULTANTS

February 16, 1998

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

Clayton Project No. 70-97070.00

Subject: Analytical Reports for Groundwater Monitoring and Sampling at the
Ingersoll-Rand Facility in San Leandro, California

Dear Mr. McDermott:

Clayton Environmental Consultants, a division of Clayton Group Services, Inc., is pleased to transmit the analytical results for the groundwater samples collected on January 29, 1998 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Upon arrival at the site, Clayton measured the depth to groundwater in monitoring wells MW-1 through MW-4, VW-6 and VW-8. 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. Stagnant water in monitoring wells MW-3, MW-4, and VW-8 was purged using disposable bailers. Approximately four times the casing volume was removed from MW-3, MW-4 and VW-8. All wells were sampled after 80% recovery. The purging was continued until sufficient volume of water had been removed for pH, temperature, and electrical conductivity to stabilize.

Mr. John McDermott
Capsule Environmental Engineering
February 16, 1998

Page 2
Clayton Project No. 97070.00

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

Water samples were 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, including depth to water measurements, are 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 field 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 8015M 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)

Mr. John McDermott
Capsule Environmental Engineering
February 16, 1998

Page 3
Clayton Project No. 97070.00

The certified laboratory analytical reports are included as Appendix B to this report.

Should you have any questions regarding the sampling event, please contact Marc Mullaney at (510) 426-2656.

Sincerely,



Marc R. Mullaney
Geologist



Richard W. Day, R.G., CEG, CHG
Supervisor, Geosciences and Remediation
Environmental Risk Management and
Remediation
San Francisco Regional Office

MRM/

Enclosures

APPENDIX A

FIELD SURVEY FORMS

APPENDIX B

ANALYTICAL REPORTS

San Francisco Regional Office

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

Clayton
LABORATORY
SERVICES

February 13, 1998

Mr. Marc Mullaney
CLAYTON ENVIRONMENTAL CONS.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 70-97070.00
Clayton Project No.: 98013.20

Dear Mr. Mullaney:

Attached is our analytical laboratory report for the samples received on January 29, 1998. 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 March 15, 1998, unless you have requested otherwise.

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

Sincerely,



Andrew C. Bradeen
Director, Laboratory Services
San Francisco Regional Office

ACB/las

Attachments

7-10-98
F-10-98

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: MW-3	Date Sampled: 01/29/98
Lab Number: 9801320-01C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds</u>			
Acetone	67-64-1	ND	20
Benzene	71-43-2	38	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
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	6	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
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: MW-3	Date Sampled: 01/29/98
Lab Number: 9801320-01C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
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
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	6	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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: MW-3	Date Sampled: 01/29/98
Lab Number: 9801320-01C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

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

Volatile Organic Compounds (Continued)

1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	9	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	20
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	75	5
p,m-Xylenes	--	6	5

Surrogates

		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
Dibromofluoromethane	1868-53-7	90	86 - 118
1,2-Dichloroethane-d4	17060-07-0	91	80 - 120
Toluene-d8	2037-26-5	98	88 - 110
4-Bromofluorobenzene	460-00-4	98	86 - 115

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification:	MW-4	Date Sampled:	01/29/98
Lab Number:	9801320-02C	Date Received:	01/29/98
Sample Matrix/Media:	WATER	Date Prepared:	02/04/98
Preparation Method:	EPA 5030A	Date Analyzed:	02/04/98
Method Reference:	EPA 8260A	Analyst:	DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds</u>			
Acetone	67-64-1	ND	20
Benzene	71-43-2	110	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	14	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
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
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: MW-4	Date Sampled: 01/29/98
Lab Number: 9801320-02C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
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
Ethylbenzene	100-41-4	200	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	42	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	35	5
n-Propylbenzene	103-65-1	71	5
sec-Butylbenzene	135-98-8	8	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	6	5
Trichlorofluoromethane	75-69-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: MW-4	Date Sampled: 01/29/98
Lab Number: 9801320-02C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

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

Volatile Organic Compounds (Continued)

1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	190	5
1,3,5-Trimethylbenzene	108-67-8	34	5
Vinyl acetate	108-05-4	70	20
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	39	5

Surrogates

		Recovery (%)	QC Limits (%)
Dibromofluoromethane	1868-53-7	87	86 - 118
1,2-Dichloroethane-d4	17060-07-0	86	80 - 120
Toluene-d8	2037-26-5	98	88 - 110
4-Bromofluorobenzene	460-00-4	99	86 - 115

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: VW-8	Date Sampled: 01/29/98
Lab Number: 9801320-03C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds</u>			
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
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
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: VW-8	Date Sampled: 01/29/98
Lab Number: 9801320-03C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
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
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
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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: VW-8	Date Sampled: 01/29/98
Lab Number: 9801320-03C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

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

Volatile Organic Compounds (Continued)

1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	20
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5

Surrogates

		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
Dibromofluoromethane	1868-53-7	104	86 - 118
1,2-Dichloroethane-d4	17060-07-0	103	80 - 120
Toluene-d8	2037-26-5	101	88 - 110
4-Bromofluorobenzene	460-00-4	95	86 - 115

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification:	FIELD BLANK	Date Sampled:	01/29/98
Lab Number:	9801320-04C	Date Received:	01/29/98
Sample Matrix/Media:	WATER	Date Prepared:	02/04/98
Preparation Method:	EPA 5030A	Date Analyzed:	02/04/98
Method Reference:	EPA 8260A	Analyst:	DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds</u>			
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
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
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: FIELD BLANK	Date Sampled: 01/29/98
Lab Number: 9801320-04C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
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
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
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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: FIELD BLANK	Date Sampled: 01/29/98
Lab Number: 9801320-04C	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	20
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
Dibromofluoromethane	1868-53-7	112	86 - 118
1,2-Dichloroethane-d4	17060-07-0	117	80 - 120
Toluene-d8	2037-26-5	101	88 - 110
4-Bromofluorobenzene	460-00-4	98	86 - 115

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification:	TRIP BLANK	Date Sampled:	01/29/98
Lab Number:	9801320-05B	Date Received:	01/29/98
Sample Matrix/Media:	WATER	Date Prepared:	02/04/98
Preparation Method:	EPA 5030A	Date Analyzed:	02/04/98
Method Reference:	EPA 8260A	Analyst:	DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds</u>			
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
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
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: TRIP BLANK	Date Sampled: 01/29/98
Lab Number: 9801320-05B	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
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
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
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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification:	TRIP BLANK	Date Sampled:	01/29/98
Lab Number:	9801320-05B	Date Received:	01/29/98
Sample Matrix/Media:	WATER	Date Prepared:	02/04/98
Preparation Method:	EPA 5030A	Date Analyzed:	02/04/98
Method Reference:	EPA 8260A	Analyst:	DTL

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

Volatile Organic Compounds (Continued)

1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	20
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5

Surrogates

		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
Dibromofluoromethane	1868-53-7	112	86 - 118
1,2-Dichloroethane-d4	17060-07-0	117	80 - 120
Toluene-d8	2037-26-5	100	88 - 110
4-Bromofluorobenzene	460-00-4	95	86 - 115

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9801320-06A	Date Received: --
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds</u>			
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
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
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9801320-06A	Date Received: --
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
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
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
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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9801320-06A	Date Received: --
Sample Matrix/Media: WATER	Date Prepared: 02/04/98
Preparation Method: EPA 5030A	Date Analyzed: 02/04/98
Method Reference: EPA 8260A	Analyst: DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	20
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
Dibromofluoromethane	1868-53-7	99	86 - 118
1,2-Dichloroethane-d4	17060-07-0	102	80 - 120
Toluene-d8	2037-26-5	101	88 - 110
4-Bromofluorobenzene	460-00-4	96	86 - 115

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: MW-4	Date Sampled: 01/29/98
Lab Number: 9801320-02A	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/05/98
Preparation Method: EPA 5030	Date Analyzed: 02/05/98
Method Reference: EPA 8015/8020	Analyst: FHK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	100	0.4
Ethylbenzene	100-41-4	170	0.3
Toluene	108-88-3	15	0.3
o-Xylene	95-47-6	2.6	0.4
p,m-Xylenes	--	33	0.4
Gasoline	--	4400	50

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	133	50 - 150

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: MW-3	Date Sampled: 01/29/98
Lab Number: 9801320-01A	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/05/98
Preparation Method: EPA 5030	Date Analyzed: 02/05/98
Method Reference: EPA 8015/8020	Analyst: FHK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	37	0.4
Ethylbenzene	100-41-4	1.5	0.3
Toluene	108-88-3	2.6	0.3
o-Xylene	95-47-6	66	0.4
p,m-Xylenes	--	7.5	0.4
Gasoline	--	470	50

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	136	50 - 150

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: VW-8	Date Sampled: 01/29/98
Lab Number: 9801320-03A	Date Received: 01/29/98
Sample Matrix/Media: WATER	Date Prepared: 02/05/98
Preparation Method: EPA 5030	Date Analyzed: 02/05/98
Method Reference: EPA 8015/8020	Analyst: FHK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	0.4	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

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	128	50 - 150

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification:	FIELD BLANK	Date Sampled:	01/29/98
Lab Number:	9801320-04A	Date Received:	01/29/98
Sample Matrix/Media:	WATER	Date Prepared:	02/05/98
Preparation Method:	EPA 5030	Date Analyzed:	02/05/98
Method Reference:	EPA 8015/8020	Analyst:	FHK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
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
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	127	50 - 150

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification:	TRIP BLANK	Date Sampled:	01/29/98
Lab Number:	9801320-05A	Date Received:	01/29/98
Sample Matrix/Media:	WATER	Date Prepared:	02/05/98
Preparation Method:	EPA 5030	Date Analyzed:	02/05/98
Method Reference:	EPA 8015/8020	Analyst:	FHK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
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
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	134	50 - 150

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97070.00
Clayton Project No. 98013.20

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9801320-06A	Date Received: --
Sample Matrix/Media: WATER	Date Prepared: 02/05/98
Preparation Method: EPA 5030	Date Analyzed: 02/05/98
Method Reference: EPA 8015/8020	Analyst: FHK

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
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

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	140	50 - 150

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

REQUEST FOR LABORATORY ANALYTICAL SERVICES

IMPORTANT

Date Results Requested: STANDARD TAT
 Rush Charges Authorized? Yes No
 Phone or Fax Results

For Clayton Use Only
Clayton Lab Project No.

9801320

REPORT RESULTS TO	Name <u>Marc Mullaney</u>	Client Job No. <u>70-97070.00</u>	Purchase Order No.
	Company <u>CEL</u>	Dept.	Name
	Mailing Address		Company
	City, State, Zip		Dept.
	Telephone No.	FAX No.	Address
			City, State, Zip

Special instructions and/or specific regulatory requirements:
(method, limit of detection, etc.) P=Hcl

Samples are:
(check if applicable)

Drinking Water
 Groundwater
 Wastewater

* Explanation of Preservative:

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.)										FOR LAB USE ONLY							
						1	2	3	4	5	6	7	8	9	10		11	12					
MW-3	129-98		WATER	40 ML	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O1A-D
MW-4	↓		↓	40 ML	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O2A-D
VW-8	↓		↓	40 ML	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O3A-D
Field Blank	↓		↓	40 ML	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O4A-D
Trip Blank	129-98		WATER	40 ML	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O5A-B

CHAIN OF CUSTODY	Collected by: <u>M Springman</u> (print)	Collector's Signature: <u>M. Springman</u>		
	Relinquished by: <u>M Springman</u>	Date/Time: <u>1-29-98 3:30</u>	Received by:	Date/Time:
	Relinquished by:	Date/Time:	Received by:	Date/Time:
	Method of Shipment:	Received at Lab by: <u>Cheryl Allen</u>	Date/Time: <u>1/29/98</u>	
Authorized by: _____	Date: _____	Sample Condition Upon Receipt: <input type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain) <u>3:30</u>		

(Client Signature MUST Accompany Request)

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 (248) 344-1770 FAX (248) 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
 Pink = Client Copy

MONITORING WELL DATA SHEET

DATE: 1-29-98

PROJECT #:

CLIENT: Capsule

WELL #:

FACILITY: Ingersoll Ranch

FIELD TECH: M Springman

PAGE: 1 OF 1

WELL #	MW-1	MW-2	MW-3	MW-4	VW-6	VW-8
TIME OPENED (24 hr)	11:00	1110	1050	1040	1020	1030
TIME (24 hr)						
WATER DEPTH (ft)	8.05	11.18	13.40	15.10	18.22	19.84
WELL DEPTH (ft)					--	
WELL DIAMETER (in)						
WELL VOLUME (gal)						
SHEEN OR FILM						
PRODUCT THICKNESS (ft)						
FIELD SAMPLE COLOR						
PURGE						
DEVELOP						
SAMPLE						
METHOD						
PURGED WATER VOL. (gal)						
PURGED COLOR						
PURGED PROD. VOL. (gal)						
PURGE SEQUENCE						
PROD DETECT METHOD						

COMMENTS:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job #: _____ Site: Ingersoll Road Date: 1-29-98

Well #: VW-8 Sampling Team: M. Springman

Sampling Method: Disposable Bailer

Field Conditions: Cloudy, cool

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 25.50 feet Time: 10:30 Depth to Water Before Pumping: 19.84 feet

Volume Height of Water Column: 5.66 feet * $\frac{\text{Diameter}}{2\text{-inch } .16 \text{ 4-inch } \textcircled{65}} = \frac{\text{Volume}}{3.67} \text{ gal} * \frac{\text{Purge Factor}}{4} = \frac{\text{To Purge}}{14.68}$

Depth Purging From: 200 feet Time Surging Begins: 11:25

Notes on Initial Discharge: Clear

Time	Volume Purged	pH	Conductivity	T	Notes
<u>11:35</u>	<u>5</u>	<u>8.52</u>	<u>-83.2 mV</u>	<u>19.7</u>	<u>Clear</u>
<u>11:45</u>	<u>10</u>	<u>7.74</u>	<u>-62.2 mV</u>	<u>19.7</u>	<u>Clear</u>
<u>11:55</u>	<u>15</u>	<u>7.93</u>	<u>-56.6 mV</u>	<u>19.7</u>	<u>Clear</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job #: _____ Site: Ingersoll Road Date: 1-29-98

Well #: MW-3 Sampling Team: M Springman

Sampling Method: Disposable Bailor

Field Conditions: Cloudy, cool

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 20.44 feet Time: 10:50 Depth to Water Before Pumping: 13.40 feet

Volume Height of Water Column: 7.04 feet * Diameter 2-inch 4-inch .16 (.65) = 4.57 gal * Purge Factor 4 = To Purge 18.28

Depth Purging From: 19.0 feet Time Surging Begins: 1:15

Notes on Initial Discharge: Clear

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1:20</u>	<u>5</u>	<u>7.51</u>	<u>-34.2 mV</u>	<u>20.1</u>	<u>Clear</u>
<u>1:25</u>	<u>10</u>	<u>7.45</u>	<u>-30.7 mV</u>	<u>19.9</u>	<u>Clear</u>
<u>1:30</u>	<u>15</u>	<u>7.24</u>	<u>-20.3 mV</u>	<u>19.4</u>	<u>Clear</u>
<u>1:35</u>	<u>20</u>	<u>7.17</u>	<u>-17.1 mV</u>	<u>19.7</u>	<u>Clear</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job #: _____ Site: Ingersoll Ranch Date: 1-29-98

Well #: MW-4 Sampling Team: M Springman

Sampling Method: Disposable Bailer

Field Conditions: Cloudy / Cool

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 28.06 feet Time: 10:40 Depth to Water Before Pumping: 15.10 feet

Volume Height of Water Column: 12.96 feet * $\frac{\text{Diameter}}{2}$ = 8.42 gal * Purge Factor 4 = To Purge 33.68

Diameter
 2-inch 4-inch
 .16 (.65)

Depth Purging From: 27.0 feet Time Surging Begins: 12:20

Notes on Initial Discharge: Cloudy Silty

Time	Volume Purged	pH	Conductivity	T	Notes
12:25	5	6.99	-9.3 mV	19.7	clear
12:30	10	7.26	-20.9 mV	19.6	clear
12:35	15	7.25	-20.1 mV	19.8	clear
12:40	20	7.07	-12.5 mV	19.7	clear
12:45	25	7.00	-9.2 mV	19.8	clear
12:50	30	6.96	-7.0 mV	20.0	clear
12:55	35	6.96	-7.0 mV	19.8	clear

Table 1
Water Level Summary Table

Project: Ingersoll-Rand Company, San Leandro, CA water level data

Date prepared: April 15, 1995

Latest update: June 22, 1998

Prepared by: JJM

Well	Date of measurement	Measuring point elevation (feet)	Depth to water (feet)	Water level elevation (feet)
MW-1	13-Dec-89	24.78	14.01	10.77
	16-Nov-90	24.97	14.84	10.13
	03-Apr-92	24.97	12.10	12.87
	21-Jun-94	24.95	12.98	11.97
	20-Oct-94	24.95	13.84	11.11
	25-Jan-95	24.95	10.32	14.63
	25-Apr-95	24.95	10.82	14.13
	30-Jun-95	24.95	11.92	13.03
	18-Oct-95	24.95	13.22	11.73
	30-Jan-96	24.95	10.99	13.96
	26-Apr-96	24.95	11.18	13.77
	25-Jul-96	24.95	12.61	12.34
	22-Oct-96	24.95	13.46	11.49
	20-Jan-97	24.95	9.95	15.00
	24-Apr-97	24.95	11.88	13.07
	18-Jul-97	24.95	13.03	11.92
29-Jan-98	24.95	8.05	16.90	
MW-2	13-Dec-89	24.70	14.57	10.13
	16-Nov-90	24.64	15.05	9.59
	03-Apr-92	24.64	13.60	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-Apr-95	24.68	12.54	12.14
	30-Jun-95	24.68	13.22	11.46
	18-Oct-95	24.68	13.86	10.82
	30-Jan-96	24.68	12.49	12.19
	26-Apr-96	24.68	12.76	11.92
	25-Jul-96	24.68	13.59	11.09
	22-Oct-96	24.68	14.03	10.65
	20-Jan-97	24.68	12.11	12.57
	24-Apr-97	24.68	13.14	11.54
	18-Jul-97	24.68	13.80	10.88
29-Jan-98	24.68	11.18	13.50	
MW-3	13-Dec-89	27.33	17.13	10.20
	16-Nov-90	27.51	17.67	9.84
	03-Apr-92	27.57	15.90	11.67

Well	Date of measurement	Measuring point elevation (feet)	Depth to water (feet)	Water level elevation (feet)
	21-Jun-94	27.51	16.28	11.23
	20-Oct-94	27.51	16.82	10.69
	25-Jan-95	27.51	14.25	13.26
	25-Apr-95	27.51	14.60	12.91
	30-Jun-95	27.51	15.44	12.07
	18-Oct-95	27.51	16.33	11.18
	30-Jan-96	27.51	14.81	12.70
	26-Apr-96	27.51	14.90	12.61
	25-Jul-96	27.51	15.94	11.57
	22-Oct-96	27.51	16.51	11.00
	20-Jan-97	27.51	14.08	13.43
	24-Apr-97	27.51	15.45	12.06
	18-Jul-97	27.51	16.24	11.27
	29-Jan-98	27.51	13.40	14.11
MW-4	16-Nov-90	28.92	20.28	8.64
	03-Apr-92	28.92	18.25	10.67
	21-Jun-94	28.92	18.46	10.46
	20-Oct-94	28.92	19.20	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	28.92	18.63	10.29
	30-Jan-96	28.92	16.67	12.25
	26-Apr-96	28.92	16.79	12.13
	25-Jul-96	28.92	18.13	10.79
	22-Oct-96	28.92	18.86	10.06
	20-Jan-97	28.92	15.98	12.94
	24-Apr-97	28.92	17.54	11.38
	18-Jul-97	28.92	18.51	10.41
	29-Jan-98	28.92	15.10	13.82
OB-1	21-Jun-94	30.28	19.56	10.72
	20-Oct-94	30.28	20.28	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
VW-6	30-Jun-95	31.92	20.62	11.30
	18-Oct-95	31.92	21.61	10.31
	30-Jan-96	31.92	19.79	12.13
	26-Apr-96	31.92	19.98	11.94
	25-Jul-96	31.92	21.17	10.75
	22-Oct-96	31.92	21.83	10.09
	20-Jan-97	31.92	19.21	12.71
	29-Jan-98	31.92	18.22	13.70

Well	Date of measurement	Measuring point elevation (feet)	Depth to water (feet)	Water level elevation (feet)
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	33.78	21.53	12.25
	25-Jul-96	33.78	22.97	10.81
	22-Oct-96	33.78	23.67	10.11
	20-Jan-97	33.78	20.67	13.11
	24-Apr-97	33.78	22.62	11.16
	18-Jul-97	33.78	23.35	10.43
29-Jan-98	33.78	19.84	13.94	
VW-9	30-Jun-95	34.58	22.98	11.60

Notes:

- elev.source for December 13, 1989: PAR, 1989
- elev. source for Nov. 16, 1990: ELG Surveying letter, 11/21/90
- elev. source for April 3, 1992: Report on Further Delineation, June 1992
- elev. source for June 21, 1994 and later dates: Moran Engineering map,
- elev. source for vent wells: Moran Engineering map,7/95
- OB-1 measurements discontinued following June 30, 1995 measureme

FILE. I:\FINAL\FINAL97\RM\REPORTS\SLWATLEV.XLS

San Leandro Groundwater Analytical Data Summary
 IRES, San Leandro, CA

Well	Date Collected	Sample collection by	Lab	EPA Method	1,2-dichloro-benzene (ug/l)	1,3-dichloro-benzene (ug/l)	1,4-dichloro-benzene (ug/l)	dichloro-difluoro-methane (ug/l)	1,1-dichloro-ethane (ug/l)	1,2-dichloro-ethane (ug/l)	1,1-dichloro-ethene (ug/l)	cis-1,2-dichloro-ethene (ug/l)	trans-1,2-dichloro-ethene (ug/l)	1,2-dichloro-propane (ug/l)	1,3-dichloro-propane (ug/l)	2,2-dichloro-propane (ug/l)	1,1-dichloro-propene (ug/l)	cis-1,3-dichloro-propene (ug/l)	trans-1,3-dichloro-propene (ug/l)	ethylbenzene (ug/l)	freon 113 (ug/l)	hexachloro-robuta-diene (ug/l)	2-hexa-none (ug/l)	isopropyl-benzene (ug/l)	p-iso-propyl-toluene (ug/l)	
MW-1	17-Nov-89	IT	PAL	8010/8020																ND						
	21-Jun-94	CEC	ARC	8260	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	21-Jun-94	CEC	ARC	8015				<1.0									<1.0									
	21-Jun-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5	
	21-Jun-94	CEC	CEC	8015				<5									<5									
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5	
	20-Oct-94	CEC	CEC	8015/8020				<5									<5				<0.3					
25-Jan-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5		
25-Jan-95	CEC	CEC	8015/8020				<5									<5				<0.3						
MW-2	17-Nov-89	IT	PAL	8010/8020																ND						
	21-Jun-94	CEC	ARC	8260	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	21-Jun-94	CEC	ARC	8015				<1.0									<1.0									
	21-Jun-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5	
	21-Jun-94	CEC	CEC	8015				<5									<5									
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5	
	20-Oct-94	CEC	CEC	8015/8020				<5									<5				<0.3					
25-Jan-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5		
25-Jan-95	CEC	CEC	8015/8020				<5									<5				<0.3						
MW-3	17-Nov-89	IT	PAL	8010/8020																ND						
	21-Jun-94	CEC	ARC	8260	42	6.6	13	<1.0	<1.0	<1.0	<1.0	1.0 & <5.	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	120	<5	<1.0	<20	13	1.0 & <5.	
	21-Jun-94	CEC	ARC	8015				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	170	<5	<5	<20	17	<5	
	21-Jun-94	CEC	CEC	8260	45	7	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	90	<5	<5	<20	20	<5	
	21-Jun-94	CEC	CEC	8015				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	96	<5	<5	<20		<5	
	20-Oct-94	CEC	CEC	8260	64	9	18	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	80	<5	<5	<20	<30	<5	
	20-Oct-94	CEC	CEC	8015/8020				<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	86	<5	<5	<100	<30	<5
	25-Jan-95	CEC	CEC	8260	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	86	<5	<5	<20	<5	<5
	25-Jan-95	CEC	CEC	8015/8020				<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	720	<5	<5	<20	29	<5
	26-Apr-95	CEC	CEC	8260	43	6	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	20	<5	<5	<20	<5	<5	
	26-Apr-95	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	46	<5	<5	<20	9	<5
	30-Jun-95	CEC	CEC	8260	58	9	17	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	20	<5	<5	<20	<5	<5	
	30-Jun-95	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	46	<5	<5	<20	9	<5
	18-Oct-95	CEC	CEC	8260	64	9	16	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	46	<5	<5	<20	17	<5	
	18-Oct-95	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	160	<5	<5	<20	17	<5
	30-Jan-96	CEC	CEC	8260	42	5	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	150	<5	<5	<20	17	<5	
	30-Jan-96	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	270	<5	<5	<20	19	<5
	26-Apr-96	CEC	CEC	8260	57	7	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	170	<5	<5	<20	7	<5	
	26-Apr-96	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	35	<5	<5	<20	7	<5
	25-Jul-96	CEC	CEC	8260	62	7	15	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	27	<5	<5	<20		<5	
	25-Jul-96	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	13	<5	<5	<200	<50	<50
	22-Oct-96	CEC	CEC	8260	60	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<200	<50	<50
	22-Oct-96	CEC	CEC	8260	69	6	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	13	<5	<5	<20	<5	<5
	22-Oct-96	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	13	<5	<5	<20	<5	<5
	20-Jan-97	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	17	<5	<5	<5	<5	<5
20-Jan-97	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	13	<5	<5	<5	<5	<5	
24-Apr-97	CEC	CEC	8260A	45	7	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	290	<5	<5	<5	24	<5	
24-Apr-97	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	240	<5	<5	<5		<5	
18-Jul-97	CEC	CEC	8260A	50	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	30	<5	<5	<100	<30	<30	
18-Jul-97	CEC	CEC	8015/8020				<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	30	<5	<5	<100	<30	<30	
29-Jan-98	CEC	CEC	8260A	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5		
29-Jan-98	CEC	CEC	8015/8020				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1.5	<5	<5	<20	<5	<5	
MW-4	16-Nov-90	IT	MCL	5030																720						
	21-Jun-94	CEC	ARC	8260	1.0 & <5.	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0 & <5.	16	<1.0	<1.0	1.0 & <5.	<1.0	<1.0	<1.0	230	<5	<1.0	<100	43	1.0 & <5.	
	21-Jun-94	CEC	ARC	8015				<1.0									<1.0									
	21-Jun-94	CEC	CEC	8260	<30	<30	<30																			

San Leandro Groundwater Analytical Data Summary
 IRES, San Leandro, CA

Well	Date Collected	Sample collection by	Lab	EPA Method	methylene chloride (ug/l)	4-methyl-2-pentanone (ug/l)	MTBE (ug/l)	naphthalene (ug/l)	n-propylbenzene (ug/l)	sec-butylbenzene (ug/l)	styrene (ug/l)	tert-butylbenzene (ug/l)	tetra-chloro-ethane (ug/l)	tetra-chloro-ethane (ug/l)	tetra-chloro-ethene (ug/l)	toluene (ug/l)	1,2,3-trichlorobenzene (ug/l)	1,2,4-trichlorobenzene (ug/l)	1,1,1-trichloroethane (ug/l)	1,1,2-trichloroethane (ug/l)	trichloroethene (ug/l)	trichloro-fluoromethane (ug/l)	1,2,3-trichloropropane (ug/l)	1,2,4-trimethylbenzene (ug/l)	1,3,5-trimethylbenzene (ug/l)		
MW-1	17-Nov-89	IT	PAL	8010/8020												ND					29						
	21-Jun-94	CEC	ARC	8260	<1.0			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0 & <5.	<1.0	<1.0	<1.0	<1.0	<1.0	18	<1.0	<1.0	<1.0	<1.0		
	21-Jun-94	CEC	ARC	8015																							
	21-Jun-94	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	20	<5	<5	<5	<5	
	21-Jun-94	CEC	CEC	8015																							
	20-Oct-94	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	
	20-Oct-94	CEC	CEC	8015/8020													<0.3										
	25-Jan-95	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	16	<5	<5	<5	<5	
25-Jan-95	CEC	CEC	8015/8020													<0.3											
MW-2	17-Nov-89	IT	PAL	8010/8020												ND											
	21-Jun-94	CEC	ARC	8260	<1.0			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0 & <5.	<1.0	<1.0	<1.0	<1.0	<1.0	10	<1.0	<1.0	<1.0	<1.0		
	21-Jun-94	CEC	ARC	8015																							
	21-Jun-94	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	
	21-Jun-94	CEC	CEC	8015																							
	20-Oct-94	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	
	20-Oct-94	CEC	CEC	8015/8020													<0.3										
	25-Jan-95	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
25-Jan-95	CEC	CEC	8015/8020													<0.3											
MW-3	17-Nov-89	IT	PAL	8010/8020																							
	21-Jun-94	CEC	ARC	8260	<1.0			18	33	1.0 & <5.	<1.0	<1.0	<1.0	<1.0	<1.0	1.0 & <5.	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	63	
	21-Jun-94	CEC	ARC	8015																							
	21-Jun-94	CEC	CEC	8260	<5	<5		<5	43	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	120	22	
	21-Jun-94	CEC	CEC	8015																							
	20-Oct-94	CEC	CEC	8260	<5	<5		29	43	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	150	46	
	20-Oct-94	CEC	CEC	8015/8020													4.4										
	25-Jan-95	CEC	CEC	8260	<30	<100		100	<30	<30	<30	<30	<30	<30	<30	<30	410	<30	<30	<30	<30	<30	<30	<30	350	80	
	25-Jan-95	CEC	CEC	8015/8020													340										
	26-Apr-95	CEC	CEC	8260	<5	<20		150	83	5	<5	82	<5	<5	<5	<5	1600	<5	<5	<5	<5	<5	<5	<5	650	160	
	26-Apr-95	CEC	CEC	8015/8020													1700										
	30-Jun-95	CEC	CEC	8260	<5	<5		14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	54	40	
	30-Jun-95	CEC	CEC	8015/8020													1.7										
	18-Oct-95	CEC	CEC	8260	<5	<5		14	23	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	110	28	
	18-Oct-95	CEC	CEC	8015/8020													1.5										
	30-Jan-96	CEC	CEC	8260	<5	<20		85	57	5	<5	<5	<5	<5	<5	<5	46	<5	<5	<5	<5	<5	<5	<5	<5	390	110
	30-Jan-96	CEC	CEC	8015/8020													48										
	26-Apr-96	CEC	CEC	8260	<5	<20	<5	89	65	7	<5	<5	<5	<5	<5	<5	140	<5	<5	<5	<5	<5	<5	<5	<5	440	110
	26-Apr-96	CEC	CEC	8015/8020													100										
	25-Jul-96	CEC	CEC	8260	<5	<20	<5	10	26	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	140	35
	25-Jul-96	CEC	CEC	8015/8020													<0.3										
	22-Oct-96	CEC	CEC	8260	<50	<200		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	90	<50
	22-Oct-96	CEC	CEC	8260	<5	<20		6	18	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	95	23
	22-Oct-96	CEC	CEC	8015/8020													<0.3										
	20-Jan-97	CEC	CEC	8260	<5	<20	<5	28	<5	<5	<5	<5	<5	<5	<5	<5	9	<5	<5	<5	<5	<5	<5	<5	<5	68	10
20-Jan-97	CEC	CEC	8015/8020													7.3											
24-Apr-97	CEC	CEC	8260A	<5	<20	<5	64	80	8	<5	<5	<5	<5	<5	<5	25	<5	<5	<5	<5	<5	<5	<5	<5	680	97	
24-Apr-97	CEC	CEC	8015/8020													21											
18-Jul-97	CEC	CEC	8260A	<30	<100	<30	<30	40	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	220	60	
18-Jul-97	CEC	CEC	8015/8020													<2											
29-Jan-98	CEC	CEC	8260A	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	9	<5	
29-Jan-98	CEC	CEC	8015/8020													2.6											
MW-4	16-Nov-90	T	VCL	5030												2000											
	21-Jun-94	CEC	ARC	8260	<1.0			46	54	1.0 & <5	<1.0	<1.0	<1.0	<1.0	<1.0	19	<1.0	<1.0	<1.0	<1.0	15	<1.0	<1.0	<1.0	<1.0		
	21-Jun-94	CEC	ARC	8015																							
	21-Jun-94	CEC	CEC	8260	<30	<100		<30	60	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	530	110	
	21-Jun-94	CEC	CEC	8015																							
	20-Oct-94	CEC	CEC	8260	<5	<20		36	78	3	<5	<5	<5	<5	<5	34	<5	<5	<5	<5	<5	27	<5	<5	300	100	
	20-Oct-94	CEC	CEC	8015/8020												33											
	25-Jan-95	CEC	CEC	8260	<30	<30		120	100	<30	<30	<30	<30	<30	<30	90	<30	<30	<30	<30	<30	<30	<30	<30	600	120	
	25-Jan-95	CEC	CEC	8015/8020																							

San Leandro Groundwater Analytical Data Summary
 (RES, San Leandro, CA)

Well	Date Collected	Sample collection by	Lab	EPA Method	vinyl acetate (ug/l)	vinyl chloride (ug/l)	xylenes (ug/l)	o-xylene (ug/l)	p,m xylenes (ug/l)	TPH gasoline (ug/l)	TPH EPA 8015 gasoline (ug/l)	TPH diesel (ug/l)	Remarks	Data Source	
MW-1	17-Nov-89	IT	PAL	8010/8020			ND			ND			TCE-only reported 8010 result	Problem Assessment Report, 1989 quarterly monitoring	
	21-Jun-94	CEC	ARC	8260		<1.0		<1.0	<1.0				EQL for PCE is 5.0 ug/l		
	21-Jun-94	CEC	ARC	8015							<50				
	21-Jun-94	CEC	CEC	8260	<10	<5		<5	<5						quarterly monitoring
	21-Jun-94	CEC	CEC	8015							<50				
	20-Oct-94	CEC	CEC	8260	<10	<5		<5	<5						
	20-Oct-94	CEC	CEC	8015/8020				<0.4	<0.4		<50				
	25-Jan-95	CEC	CEC	8260	<10	<5		<5	<5						
25-Jan-95	CEC	CEC	8015/8020				<0.4	<0.4		<50					
MW-2	17-Nov-89	IT	PAL	8010/8020			ND			ND			TCE-only reported 8010 result	Problem Assessment Report, 1989	
	21-Jun-94	CEC	ARC	8260		<1.0		<1.0	<1.0				EQL for 8260 VOCs is 5.0 ug/l		
	21-Jun-94	CEC	ARC	8015							<50				
	21-Jun-94	CEC	CEC	8260	<10	<5		<5	<5						
	21-Jun-94	CEC	CEC	8015							<50				
	20-Oct-94	CEC	CEC	8260	<10	<5		<5	<5						
	20-Oct-94	CEC	CEC	8015/8020				<0.4	<0.4		<50				
	25-Jan-95	CEC	CEC	8260	<10	<5		<5	<5						
25-Jan-95	CEC	CEC	8015/8020				<0.4	<0.4		<50					
MW-3	17-Nov-89	IT	PAL										PAR cites "free product on well. No sample collected."	Problem Assessment Report, 1989 Aspen analytical report	
	21-Jun-94	CEC	ARC	8260		<1.0		31	100				m,p-xylene reported out of linear range		
	21-Jun-94	CEC	ARC	8015							2700				
	21-Jun-94	CEC	CEC	8260	<10	<5		40	150						
	21-Jun-94	CEC	CEC	8015							2900				
	20-Oct-94	CEC	CEC	8260	<10	<5		68	140				Reported acetone is lab error. See CEC letter, 12/22/94		
	20-Oct-94	CEC	CEC	8015/8020				69	160		2600				
	25-Jan-95	CEC	CEC	8260	<30	<30		820	1000						
	25-Jan-95	CEC	CEC	8015/8020				760	1100		7100				
	26-Apr-95	CEC	CEC	8260	<10	<5		900	2100						
	26-Apr-95	CEC	CEC	8015/8020				940	1500		14000				
	30-Jun-95	CEC	CEC	8260	<10	<5		26	41						
	30-Jun-95	CEC	CEC	8015/8020				33	99		1600				
	18-Oct-95	CEC	CEC	8260	<10	<5		23	77						
	18-Oct-95	CEC	CEC	8015/8020				24	83		2000				
	30-Jan-96	CEC	CEC	8260	<10	<5		570	630						
	30-Jan-96	CEC	CEC	8015/8020				590	740		6400				
	26-Apr-96	CEC	CEC	8260	<10	<5		600	1200				MTBE added to EPA 8260 analytes		
	26-Apr-96	CEC	CEC	8015/8020				320	640		5200				
	25-Jul-96	CEC	CEC	8260	<10	<5		7	36						
	25-Jul-96	CEC	CEC	8015/8020				7.8	30		2100				
	22-Oct-96	CEC	CEC	8260	<100	<50		<50	<50				Lab contamination. See lab narrative for higher detection limits.		
	22-Oct-96	CEC	CEC	8260		<5		<5	14				Run of EPA 8260. See case narrative.		
	22-Oct-96	CEC	CEC	8015/8020				4.0	16		1800				
	20-Jan-97	CEC	CEC	8260	<10	<5		250	99						
	20-Jan-97	CEC	CEC	8015/8020				240	82		1200				
	24-Apr-97	CEC	CEC	8260A	<20	<5		60	480						
24-Apr-97	CEC	CEC	8015/8020				56	390		5100					
18-Jul-97	CEC	CEC	8260A	<100	<30		<30	30							
18-Jul-97	CEC	CEC	8015/8020				3	29		2100					
29-Jan-98	CEC	CEC	8260A	<20	<5		75	6							
29-Jan-98	CEC	CEC	8015/8020				66	7.5		470					
MW-4	16-Nov-90	T	MCL	5030			27000			32000				Data Summary Report, 1990	
	21-Jun-94	CEC	ARC	8260		>1.0 & <5.0		44	270						
	21-Jun-94	CEC	ARC	8015							3000				
	21-Jun-94	CEC	CEC	8260	<50	<30		50	530						
	21-Jun-94	CEC	CEC	8015							7600				
	20-Oct-94	CEC	CEC	8260	<10	<5		110	330				Reported acetone is lab error. See CEC letter, 12/22/94		
	20-Oct-94	CEC	CEC	8015/8020				120	520		7800				
	25-Jan-95	CEC	CEC	8260	<50	<30		310	550						
	25-Jan-95	CEC	CEC	8015/8020				320	730		3700				
	26-Apr-95	CEC	CEC	8260	<10	<5		60	430						
	26-Apr-95	CEC	CEC	8015/8020				24	210		6100				

Well	Date Collected	Sample collection by	Lab	EPA Method	1,2-dichloro-benzene (ug/l)	1,3-dichloro-benzene (ug/l)	1,4-dichloro-benzene (ug/l)	dichloro-difluoro-methane (ug/l)	1,1-dichloro-ethane (ug/l)	1,2-dichloro-ethane (ug/l)	1,1-dichloro-ethene (ug/l)	cis-1,2-dichloro-ethene (ug/l)	trans-1,2-dichloro-ethene (ug/l)	1,2-dichloro-propane (ug/l)	1,3-dichloro-propane (ug/l)	2,2-dichloro-propane (ug/l)	1,1-dichloro-propene (ug/l)	cis-1,3-dichloro-propene (ug/l)	trans-1,3-dichloro-propene (ug/l)	ethyl-benzene (ug/l)	freon 113 (ug/l)	hexachloro-robuta-diene (ug/l)	2-hexa-none (ug/l)	isopropyl-benzene (ug/l)	p-iso-propyl-toluene (ug/l)	
MW-4 continued	30-Jun-95	CEC	CEC	8260	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	570	<5	<5	<5	60	<5	
	30-Jun-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	380	<5	<5	<5	<5	<5	
	18-Oct-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	490	<5	<5	<5	53	<5	
	18-Oct-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	330	<5	<5	<5	<5	<5	
	30-Jan-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	280	<5	<5	<5	34	<5	
	30-Jan-96	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	310	<5	<5	<5	<5	<5	
	26-Apr-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	240	<5	<5	<5	56	<5	
	26-Apr-96	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	230	<5	<5	<5	<5	<5	
	25-Jul-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	5	11	<5	<5	<5	<5	<5	170	<5	<5	<5	53	<5	
	25-Jul-96	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	170	<5	<5	<5	<5	<5	
	22-Oct-96	CEC	CEC	8260	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	240	<50	<50	<200	<50	<50
	22-Oct-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	5	10	<5	<5	<5	<5	<5	<5	200	<5	<5	<5	56	<5
	22-Oct-96	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	220	<5	<5	<5	<5	<5
	20-Jan-97	CEC	CEC	8260	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	410	<10	<40	<50	<10	<10
	20-Jan-97	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	340	<5	<5	<5	<5	<5
	24-Apr-97	CEC	CEC	8260A	<5	<5	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5	<5	<5	110	<5	<5	<20	46	<5
	24-Apr-97	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	110	<5	<5	<5	<5	<5
	18-Jul-97	CEC	CEC	8260A	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	560	<50	<50	<200	60	<50
	18-Jul-97	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	450	<5	<5	<5	42	<5
29-Jan-98	CEC	CEC	8260A	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	200	<5	<5	<20	42	<5	
29-Jan-98	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	170	<5	<5	<5	<5	<5	
OB-1	21-Jun-94	CEC	ARC	8260	1.0 & < 5.	<1.0	<1.0	<1.0	1.0 & <5.	<1.0	<1.0	6.7	12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10	<1.0	<1.0	<20	28	<1.0	
	21-Jun-94	CEC	ARC	8015	<5	<5	<5	<5	<5	<5	<5	9	14	<5	<5	<5	<5	<5	<5	10	<5	<5	<20	39	<5	
	21-Jun-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	9	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	30	<5	
	21-Jun-94	CEC	CEC	8015	<5	<5	<5	<5	<5	<5	<5	9	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	30	<5	
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	9	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	30	<5	
	20-Oct-94	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	8	10	<5	<5	<5	<5	<5	<5	<5	5.2	<5	<5	<20	30	44
	25-Jan-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	8	10	<5	<5	<5	<5	<5	<5	<5	32	<5	<5	<20	30	<5
	25-Jan-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	8	10	<5	<5	<5	<5	<5	<5	<5	24	<5	<5	<20	30	<5
	26-Apr-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	7	15	<5	<5	<5	<5	<5	<5	<5	10	<5	<5	<20	38	<5
	26-Apr-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	7	15	<5	<5	<5	<5	<5	<5	<5	7.4	<5	<5	<20	38	<5
	30-Jun-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	12	15	<5	<5	<5	<5	<5	<5	<5	17	<5	<5	<20	48	<5
	30-Jun-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	12	15	<5	<5	<5	<5	<5	<5	<5	15	<5	<5	<20	48	<5
	VW-5	30-Jun-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5	
		30-Jun-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.3	<5	<5	<20	<5	<5
VW-6	30-Jun-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5		
	30-Jun-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.3	<5	<5	<20	<5	<5	
VW-8	28-Jul-95	CEC	CEC	8260	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	210	<5	<5	<20	21	<5	
	28-Jul-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	230	<5	<5	<20	17	<5	
	18-Oct-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	200	<5	<5	<20	17	<5	
	18-Oct-95	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.6	<5	<5	<20	<5	<5
	30-Jan-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5	
	30-Jan-96	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5	
	26-Apr-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7.2	<5	<5	<20	9	<5
	26-Apr-96	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	91	<5	<5	<20	9	<5
	25-Jul-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	58	<5	<5	<20	<5	<5
	25-Jul-96	CEC	CEC	8015/8020	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	48	<5	<5	<20	<5	<5
	22-Oct-96	CEC	CEC	8260	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	160	<50	<50	<200	<50	<50
	22-Oct-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	190	<5	<5	<20	11	

Well	Date Collected	Sample collection by	Lab	EPA Method	methy-lene chloride (ug/l)	4-methyl-2-pent-anone (ug/l)	MTBE (ug/l)	naphtha-lene (ug/l)	n-propyl-benzene (ug/l)	sec-butyl-benzene (ug/l)	styrene (ug/l)	tert-butyl-benzene (ug/l)	tetra-chloro-ethane (ug/l)	tetra-chloro-ethane (ug/l)	tetra-chloro-ethene (ug/l)	toluene (ug/l)	1,2,3-trichloro-benzene (ug/l)	1,2,4-trichloro-benzene (ug/l)	1,1,1-trichloro-ethane (ug/l)	1,1,2-trichloro-ethane (ug/l)	trichloro-ethene (ug/l)	trichloro-fluoro-methane (ug/l)	1,2,3-trichloro-propane (ug/l)	1,2,4-trimethyl-benzene (ug/l)	1,3,5-trimethyl-benzene (ug/l)
	30-Jun-95	CEC	CEC	8260	<5	<20		98	110	10	<5	<5	<5	<5	<5	19	<5	<5	<5	<5	8	<5	<5	690	130
	30-Jun-95	CEC	CEC	8015/8020												18									
	18-Oct-95	CEC	CEC	8260	<5	<20		65	110	13	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	530	91
MW-4 continued	18-Oct-95	CEC	CEC	8015/8020												5.4									
	30-Jan-96	CEC	CEC	8260	<5	<20		85	89	10	<5	<5	<5	<5	<5	12	<5	<5	<5	<5	<5	<5	<5	500	120
	30-Jan-96	CEC	CEC	8015/8020												12									
	26-Apr-96	CEC	CEC	8260	<5	<20	<5	45	61	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	270	69
	26-Apr-96	CEC	CEC	8015/8020												3.6									
	25-Jul-96	CEC	CEC	8260	<5	<20	<5	32	39	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	180	44
	25-Jul-96	CEC	CEC	8015/8020												0.6									
	22-Oct-96	CEC	CEC	8260	<50	<200		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	240	50
	22-Oct-96	CEC	CEC	8260	<5	<20		36	38	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	220	47
	22-Oct-96	CEC	CEC	8015/8020												1.2									
	20-Jan-97	CEC	CEC	8260	<10	<40	<10	70	110	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	500	90
	20-Jan-97	CEC	CEC	8015/8020												2.8									
	24-Apr-97	CEC	CEC	8260A	<5	<20	<5	17	35	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	140	39
	24-Apr-97	CEC	CEC	8015/8020												1.2									
	18-Jul-97	CEC	CEC	8260A	<50	<200	<50	110	140	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	670	190
	18-Jul-97	CEC	CEC	8015/8020												4									
	29-Jan-98	CEC	CEC	8260A	<5	<20	<5	35	71	8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	190	34
	29-Jan-98	CEC	CEC	8015/8020												15									
	21-Jun-94	CEC	ARC	8260	<1.0			>1.0 & <5.0	5.4	1.0 & >5.	<1.0	<1.0	<1.0	<1.0	<1.0	1.0 & <5.	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0 & <5.	<1.0
OB-1	21-Jun-94	CEC	ARC	8015					6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	21-Jun-94	CEC	CEC	8260	<5	<20		<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	21-Jun-94	CEC	CEC	8015						<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8015/8020												3.3									
	25-Jan-95	CEC	CEC	8260	<5	<20		<5	11	<5	<5	<5	<5	<5	<5	39	<5	23	<5	<5	<5	<5	<5	<5	<5
	25-Jan-95	CEC	CEC	8015/8020												29									
	26-Apr-95	CEC	CEC	8260	<5	<20		<5	8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5
	26-Apr-95	CEC	CEC	8015/8020												3.4									
	30-Jun-95	CEC	CEC	8260	<5	<20		<5	11	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5	<5	<5	8	<5
	30-Jun-95	CEC	CEC	8015/8020												7									
VW-5	30-Jun-95	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	30-Jun-95	CEC	CEC	8015/8020												<0.3									
VW-6	30-Jun-95	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	30-Jun-95	CEC	CEC	8015/8020												<0.3									
VW-8	28-Jul-95	CEC	CEC	8260	<5	<20		46	57	6	<5	<5	<5	<5	<5	44	<5	<5	<5	<5	<5	<5	<5	270	61
	28-Jul-95	CEC	CEC	8015/8020												570									
	18-Oct-95	CEC	CEC	8260	<5	<20		32	45	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5	<5	170	21
	18-Oct-95	CEC	CEC	8015/8020												0.3									
	30-Jan-96	CEC	CEC	8260	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	30-Jan-96	CEC	CEC	8015/8020												1.5									
	26-Apr-96	CEC	CEC	8260	<5	<20	<30	18	25	<5	<5	<5	<5	<5	<5	41	<5	<5	<5	<5	<5	<5	<5	91	93
	26-Apr-96	CEC	CEC	8015/8020												31									
	25-Jul-96	CEC	CEC	8260	<5	<20	<5	<5	10	<5	<5	<5	<5	<5	<5	<5	<5	10	<5	<5	<5	<5	<5	<5	<5
	25-Jul-96	CEC	CEC	8015/8020												3									
	22-Oct-96	CEC	CEC	8260	<50	<200	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	22-Oct-96	CEC	CEC	8260	<5	<20		6	35	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	22-Oct-96	CEC	CEC	8015/8020												3.9									
	20-Jan-97	CEC	CEC	8260	<5	<20	<5	5	9	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5	<5	<5	29	9
	20-Jan-97	CEC	CEC	8015/8020												6.8									
	24-Apr-97	CEC	CEC	8260A	<5	<20	<5	15	17	<5	<5	<5	<5	<5	<5	16	<5	<5	<5	<5	<5	<5	<5	67	21
	24-Apr-97	CEC	CEC	8015/8020												12									
	18-Jul-97	CEC	CEC	8260A	<5	<20	<5	9	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	28	5
	18-Jul-97	CEC	CEC	8015/8020												2.1									
	29-Jan-98	CEC	CEC	8260A	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	29-Jan-98	CEC	CEC	8015/8020												<0.4									
VW-9	28-Jul-95	CEC	CEC	8260	<5																				

Well	Date Collected	Sample collection by	Lab	EPA Method	vinyl acetate (ug/l)	vinyl chloride (ug/l)	xylenes (ug/l)	o-xylene (ug/l)	p,m xylenes (ug/l)	TPH gasoline (ug/l)	TPH EPA 8015 gasoline (ug/l)	TPH diesel (ug/l)	Remarks	Data Source
MW-4 continued	30-Jun-95	CEC	CEC	8260	<10	<5		74	520					
	30-Jun-95	CEC	CEC	8015/8020				53	400		7800			
	18-Oct-95	CEC	CEC	8260	<10	<5		17	250					
	18-Oct-95	CEC	CEC	8015/8020				10	190		5900			
	30-Jan-96	CEC	CEC	8260	<10	<5		110	330					
	30-Jan-96	CEC	CEC	8015/8020				110	380		5900			
	26-Apr-96	CEC	CEC	8260	<10	<5		15	160				MTBE added to EPA 8260 analytes	
	26-Apr-96	CEC	CEC	8015/8020				17	170		5400			
	25-Jul-96	CEC	CEC	8260	<10	<5		11	110					
	25-Jul-96	CEC	CEC	8015/8020				12	95		4300			
	22-Oct-96	CEC	CEC	8260	<100	<50		<50	170				Lab contamination. See lab narrative for higher detection limits. Rerun of EPA 8260. See case narrative.	
	22-Oct-96	CEC	CEC	8260	<5	<5		6	140					
	22-Oct-96	CEC	CEC	8015/8020				9.3	170		4800			
	20-Jan-97	CEC	CEC	8260	<10	<10		10	180				Lab note. Dilution necessary for quantitation.	
	20-Jan-97	CEC	CEC	8015/8020				10	210		6400			
	24-Apr-97	CEC	CEC	8260A	<20	<5		3	99					
	24-Apr-97	CEC	CEC	8015/8020				8.5	120		4100			
	18-Jul-97	CEC	CEC	8260A	<200	<50		<50	580					
18-Jul-97	CEC	CEC	8015/8020				45	480		6400				
29-Jan-98	CEC	CEC	8260A	70	<5		<5	39						
29-Jan-98	CEC	CEC	8015/8020				2.6	33		4400				
OB-1	21-Jun-94	CEC	ARC	8260		<1.0		>1.0 & <5.	6.6					
	21-Jun-94	CEC	ARC	8015						2800				
	21-Jun-94	CEC	CEC	8260	<10	<5		<5	7					
	21-Jun-94	CEC	CEC	8015						1600				
	20-Oct-94	CEC	CEC	8260	<10	<5		<5	<5					
	20-Oct-94	CEC	CEC	8015/8020				0.9	5		2600			
	25-Jan-95	CEC	CEC	8260	<10	<5		21	45					
	25-Jan-95	CEC	CEC	8015/8020				15	35		3900			
	26-Apr-95	CEC	CEC	8260	<10	<5		<5	8					
	26-Apr-95	CEC	CEC	8015/8020				2	6.2		2400			
	30-Jun-95	CEC	CEC	8260	<10	<5			15					
	30-Jun-95	CEC	CEC	8015/8020				3.1	13		2600		Lab note-Purgeable hydroc. do not match typical gasoline pattern	
	VW-5	30-Jun-95	CEC	CEC	8260	<10	<5		<5	<5				
30-Jun-95		CEC	CEC	8015/8020				<0.4	<0.4		<50			
VW-6	30-Jun-95	CEC	CEC	8260	<10	<5		<5	<5					
	30-Jun-95	CEC	CEC	8015/8020				<0.4	<0.4		<50			
VW-8	28-Jul-95	CEC	CEC	8260	<10	<5		130	210					
	28-Jul-95	CEC	CEC	8015/8020				89	180		5300			
	18-Oct-95	CEC	CEC	8260	<10	<5		31	69					
	18-Oct-95	CEC	CEC	8015/8020				<0.4	<0.4		500		Laboratory suggested inhomogeneity of vials (see Clayton report)	
	30-Jan-96	CEC	CEC	8260				<5	<5					
	30-Jan-96	CEC	CEC	8015/8020				2.6	2.9		50		Laboratory suggested heterogenous sample. (see Clayton report)	
	26-Apr-96	CEC	CEC	8260	<10	<5		49	120				MTBE added to EPA 8260 analytes	
	26-Apr-96	CEC	CEC	8015/8020				35	80		1400			
	25-Jul-96	CEC	CEC	8260	<10			<5	<5					
	25-Jul-96	CEC	CEC	8015/8020				0.9	3.6		800			
	22-Oct-96	CEC	CEC	8260	<100	<50		<50	<50				Lab contamination. See lab narrative for higher detection limits. Rerun of EPA 8260. See case narrative.	
	22-Oct-96	CEC	CEC	8260	<5	<5		<5	<5					
	22-Oct-96	CEC	CEC	8015/8020				1.0	6.8		2300			
	20-Jan-97	CEC	CEC	8260	<5	<5		14	41					
	20-Jan-97	CEC	CEC	8015/8020				15	42		620			
	24-Apr-97	CEC	CEC	8260A	<20	<5		26	86					
24-Apr-97	CEC	CEC	8015/8020				24	78		960				
18-Jul-97	CEC	CEC	8260A	<20	<5		<5	27						
18-Jul-97	CEC	CEC	8015/8020				2.1	29		680				
29-Jan-98	CEC	CEC	8260A	<20	<5		<5	<5						
29-Jan-98	CEC	CEC	8015/8020				<0.4	<0.4		<50				
VW-9	28-Jul-95	CEC	CEC	8260	<10	<5		1100	1900					
	28-Jul-95	CEC	CEC	8015/8020				1200	2400		32000			

Well	Date Collected	Sample collection by	Lab	EPA Method	acetone (ug/l)	benzene (ug/l)	bromo-benzene (ug/l)	bromo-chloro-methane (ug/l)	bromo-dichloro-methane (ug/l)	bromo-form (ug/l)	bromo-methane (ug/l)	2-buta-none (ug/l)	n-butyl-benzene (ug/l)	carbon disulfide (ug/l)	carbon tetra-chloride (ug/l)	chloro-benzene (ug/l)	chloro-ethane (ug/l)	chloro-form (ug/l)	chloro-methane (ug/l)	2-chloro-toluene (ug/l)	4-chloro-toluene (ug/l)	dibromo-chloro-methane (ug/l)	.2-dibromo-3-chloro-propane (ug/l)	1,2 di-bromo-ethane (ug/l)	dibromo-methane (ug/l)
------	----------------	----------------------	-----	------------	----------------	----------------	----------------------	-----------------------------	-------------------------------	-------------------	----------------------	--------------------	------------------------	-------------------------	------------------------------	-----------------------	----------------------	--------------------	-----------------------	-------------------------	-------------------------	-------------------------------	------------------------------------	----------------------------	------------------------

ARC - Aspen Research Laboratories
CEC - Clayton Environmental Consultants
IT - International Technology Corporation

MCL - Mobile Chem Labs Inc.
PAL - Precision Analytical Laboratory, Inc.

FILE: I:\final\final97\RM\REPORTS\SANLEAN\GWATER.XLS
prepared by: JJM, 1/95 updated: 1/98

Well	Date Collected	Sample collection by	Lab	EPA Method	1,2-dichloro-benzene (ug/l)	1,3-dichloro-benzene (ug/l)	1,4-dichloro-benzene (ug/l)	dichloro-difluoro-methane (ug/l)	1,1-dichloro-ethane (ug/l)	1,2-dichloro-ethane (ug/l)	1,1-dichloro-ethene (ug/l)	cis-1,2-dichloro-ethene (ug/l)	trans-1,2-dichloro-ethene (ug/l)	1,2-dichloro-propane (ug/l)	1,3-dichloro-propane (ug/l)	2,2-dichloro-propane (ug/l)	1,1-dichloro-propene (ug/l)	cis-1,3-dichloro-propene (ug/l)	trans-1,3-dichloro-propene (ug/l)	ethyl-benzene (ug/l)	freon 113 (ug/l)	hexachloro-butadiene (ug/l)	2-hexanone (ug/l)	isopropyl-benzene (ug/l)	p-isopropyl-toluene (ug/l)
------	----------------	----------------------	-----	------------	-----------------------------	-----------------------------	-----------------------------	----------------------------------	----------------------------	----------------------------	----------------------------	--------------------------------	----------------------------------	-----------------------------	-----------------------------	-----------------------------	-----------------------------	---------------------------------	-----------------------------------	----------------------	------------------	-----------------------------	-------------------	--------------------------	----------------------------

ARC - Aspen Research Laboratories
CEC - Clayton Environmental Consultants
IT - International Technology Corporation

MCL - Mobile Chem Labs Inc.
PAL - Precision Analytical Laboratory, Inc.

FILE: I:\final\final97\RM\REPORTS\SANLEAN\GWATER.XLS
prepared by: JJM, 1/95 updated: 1/98

Well	Date Collected	Sample collection by	Lab	EPA Method	methylene chloride (ug/l)	4-methyl-2-pentanone (ug/l)	MTBE (ug/l)	naphthalene (ug/l)	n-propylbenzene (ug/l)	sec-butylbenzene (ug/l)	styrene (ug/l)	tert-butylbenzene (ug/l)	tetrachloroethane (ug/l)	tetrachloroethane (ug/l)	tetrachloroethene (ug/l)	toluene (ug/l)	1,2,3-trichlorobenzene (ug/l)	1,2,4-trichlorobenzene (ug/l)	1,1,1-trichloroethane (ug/l)	1,1,2-trichloroethane (ug/l)	trichloroethene (ug/l)	trichlorofluoromethane (ug/l)	1,2,3-trichloropropane (ug/l)	1,2,4-trimethylbenzene (ug/l)	1,3,5-trimethylbenzene (ug/l)
------	----------------	----------------------	-----	------------	---------------------------	-----------------------------	-------------	--------------------	------------------------	-------------------------	----------------	--------------------------	--------------------------	--------------------------	--------------------------	----------------	-------------------------------	-------------------------------	------------------------------	------------------------------	------------------------	-------------------------------	-------------------------------	-------------------------------	-------------------------------

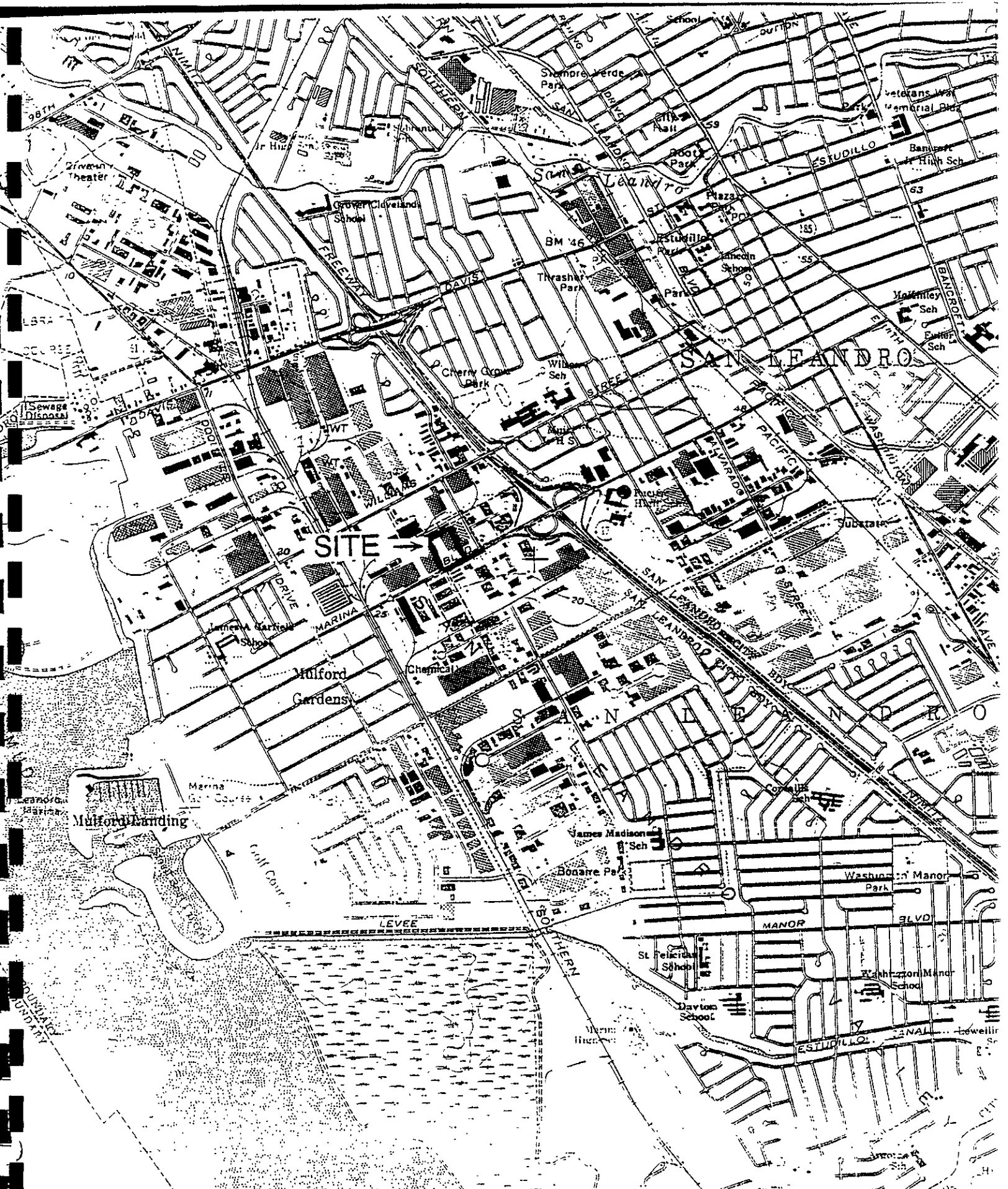
ARC - Aspen Research Laboratories
CEC - Clayton Environmental Consultants
IT - International Technology Corporation

FILE: I:\final\final97\RM\REPORTS\SANLEAN\GWATER.XLS
prepared by: JJM, 1/95 updated: 1/98

Well	Date Collected	Sample collection by	Lab	EPA Method	vinyl acetate (ug/l)	vinyl chloride (ug/l)	xylenes (ug/l)	o-xylene (ug/l)	p.m xylenes (ug/l)	TPH gasoline (ug/l)	TPH EPA 8015 gasoline (ug/l)	TPH diesel (ug/l)	Remarks	Data Source
------	----------------	----------------------	-----	------------	----------------------	-----------------------	----------------	-----------------	--------------------	---------------------	------------------------------	-------------------	---------	-------------

ARC - Aspen Research Laboratories
CEC - Clayton Environmental Consultants
IT - International Technology Corporation

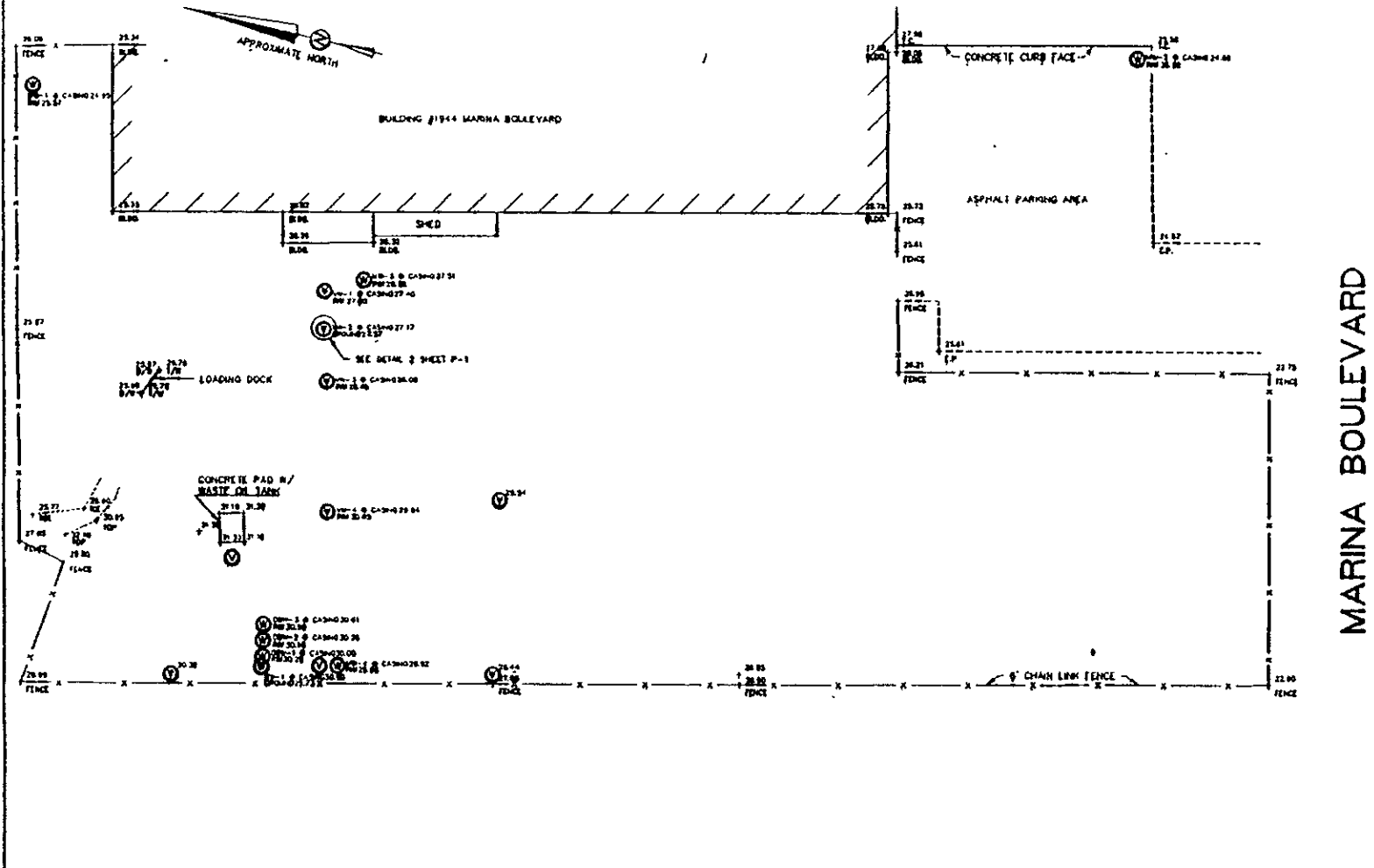
FILE: I:\final\final\97\RM\REPORTS\SANLEAN\GWATER.XLS
prepared by: JJM, 1/95 updated: 1/98



Source: San Leandro, California
 7 1/2 minute Quadrangle
 U.S. Geological Survey
 Photo revised 1980

Figure 1 - Site Location Map
 San Leandro, California

FIGURE 2



MARINA BOULEVARD

LEGEND	
T/C	TOP OF CURB
B/L	BUILDING LINE
T/W	TOP OF WALL
B/W	BASE OF WALL
-X-	FENCE LINE
⊗	WELL EXISTING
⊙	SOL VAPOR VENT
E/P	EDGE OF PAVEMENT
TOP	TOP OF BANK
TOE	TOE OF SLOPE

BASE OF ELEVATIONS: CITY OF SAN LEANDRO BENCHMARK
 CORNER W/4 ON TOP OF CURB AT STORM WATER W/4111 SOUTHWEST
 CORNER OF THE INTERSECTION OF MARINA BOULEVARD AND
 HENCKES STREET ELEVATION = 25.80'
 ALL CASINO ELEVATIONS WERE TAKEN AT THE SOUTHWEST EDGE
 OF THE PAD/DOCK
 ALL RM ELEVATIONS WERE TAKEN AT THE SOUTHWEST EDGE
 OF STEEL RM UNLESS OTHERWISE NOTED.
 - DENOTES APPROXIMATE LOCATION OF YR - 3 APRU 9

CAPSULE
 ENVIRONMENTAL ENGINEERING, INC.
 1870 MARCETTI AVE., SUITE 314
 SAN LEANDRO, CALIFORNIA 94577
 (925) 436-0843

TITLE		SITE MAP	
INGERSOLL-RAND CORPORATION SAN LEANDRO, CALIFORNIA			
SCALE	DRAWN BY	CHECKED BY	DATE
1"=40'	MJC	MJC	02/16/94
PROJECT NO.	DRAWING NO.	PAGE	
001-142	FIG 2	OF	

Water Level Elevations
Ingersoll-Rand Equipment Sales
San Leandro, California

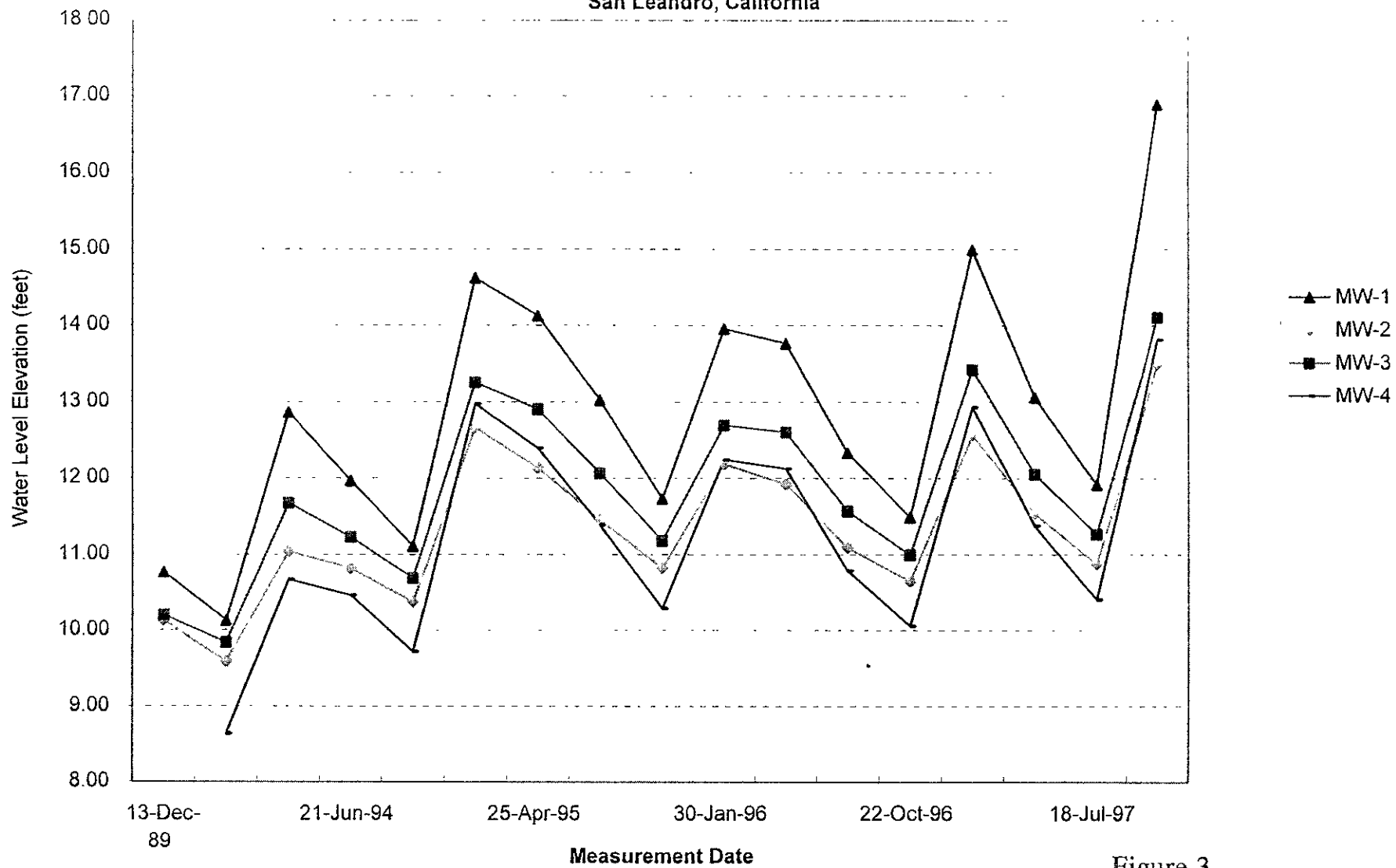
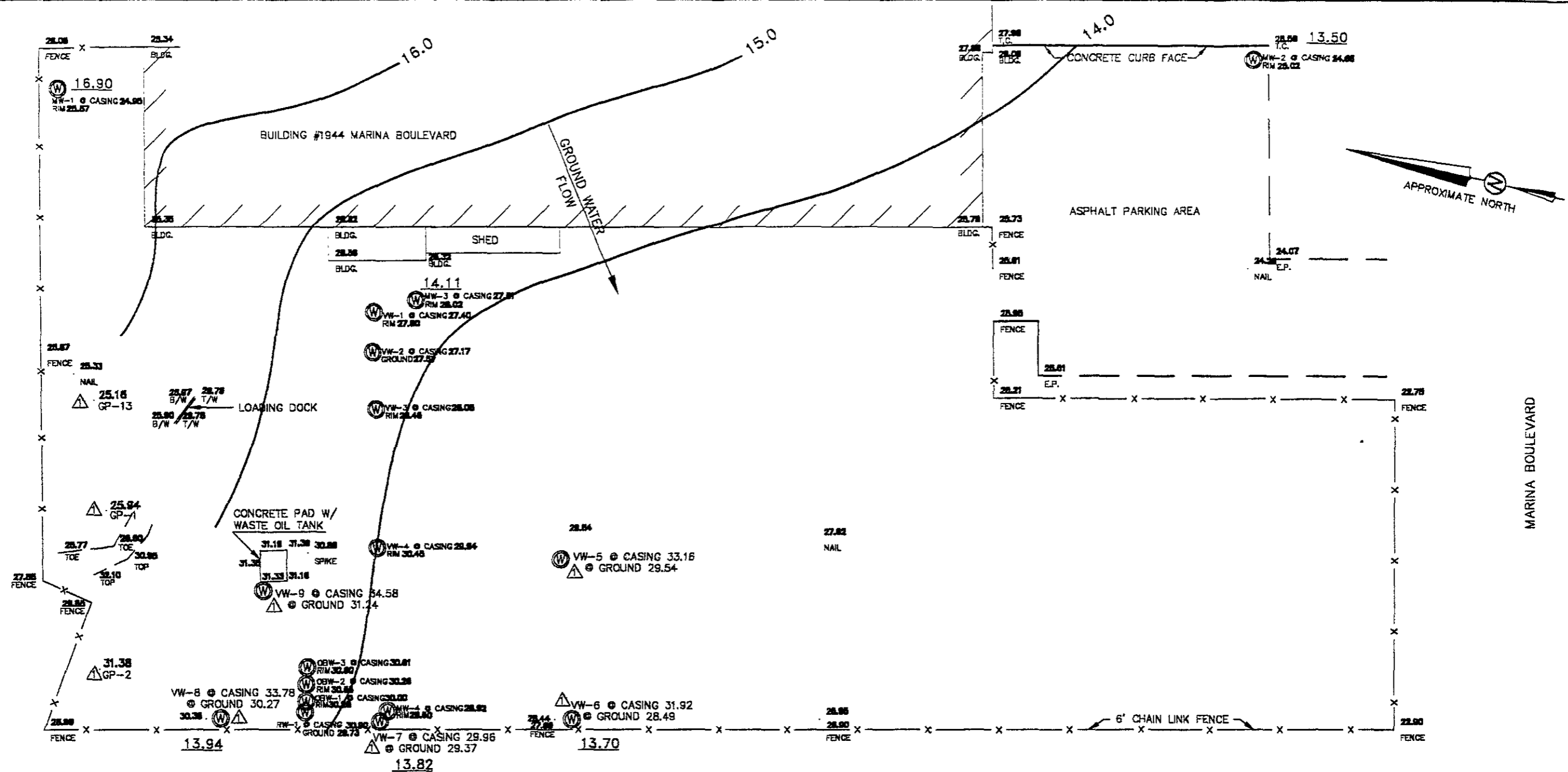


Figure 3



LEGEND	
T.C.	TOP OF CURB
---	BUILDING LINE
T/W	TOP OF WALL
E/W	BASE OF WALL
-x-	FENCE LINE
⊙	WELL
E.P.	EDGE OF PAVEMENT
TOP	TOP OF BANK
TOE	TOE OF SLOPE

LEGEND:

16.0 GROUND WATER CONTOUR (FEET ABOVE SEA LEVEL) ON JANUARY 29, 1998

16.90 GROUND WATER LEVEL (FEET ABOVE SEA LEVEL) ON JANUARY 29, 1998

WELL LOCATION SURVEY

INGERSOLL-RAND EQUIPMENT CORPORATION
 LOCATED AT 1944 MARINA BOULEVARD
 CITY OF SAN LEANDRO, COUNTY OF ALAMEDA, CALIFORNIA

JUNE 1994
 SURVEYED JULY 7, 1995

SCALE: 1" = 50'

MORAN ENGINEERING

CIVIL ENGINEERS & LAND SURVEYORS
 930 SHATTUCK AVENUE
 BERKELEY, CALIFORNIA
 94704
 (510) 527-7744

F.B. 6588

\\MARINA.DWG

JCB 684-3513

GRAPHIC SCALE

25 0 25 50




(IN FEET)
 1 INCH = 50 FEET

BASIS OF ELEVATIONS: CITY OF SAN LEANDRO BENCHMARK,
 CINC H NAIL ON TOP OF CURB AT STORM WATER NLET SOUTHEAST
 CORNER 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.



CAPSULE
 ENVIRONMENTAL ENGINEERING, INC.
 1970 OAKCREST AVE., SUITE 215
 ST. PAUL, MINNESOTA 55113
 (612) 838-2844

TITLE: GROUND WATER CONTOUR MAP
 1/29/98
 INGERSOLL-RAND COMPANY
 SAN LEANDRO, CALIFORNIA

DRAWN BY: CD CHECKED BY: JUM DATE: 1/7/98 PROJECT NO: 001-327 DRAWING NO.: C0598-1 FIGURE: 4

