CAPSULE®
ENVIRONMENTAL ENGINEERING, INC

October 23, 1996

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

Dear Mr. Seery:

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

The Quarterly Report July 1996 was prepared to summarize the monitoring and corrective action activities for the period from April to June 1996.

As a follow-up to our September 30, 1996, telephone conversation, Capsule appreciates your approval of our request for additional time to submit this quarterly report.

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

Sincerely,

John McDermott
Hydrogeologist
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Gerald E. Stuth, P.E.
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Quarterly Report
July 1996

Prepared For:

Ingersoll-Rand
Equipment Sales
San Leandro, California

October 15, 1996

QUARTERLY REPORT
July 1996

Prepared For:

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

October 15, 1996

Prepared By:

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1.0 INTRODUCTION

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

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

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

The Quarterly Report July 1996 (July 1996 Report) provides the data and summary from the quarterly ground water monitoring event that was performed in April 1996. Additionally, the July 1996 Report provides a brief summary of the continued operation of the redesigned soil vapor extraction (SVE) system, which was placed in service in early October 1995. The SVE system summary is for the period through June 1996.

1.1 SITE DESCRIPTION

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

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

The property's building has two tenants. The 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 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 was removed from vent well VW-3 during initial operation.

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

Ground water sampling of monitoring wells was performed in November 1989; June and October of 1994; January, April, July, and October 1995; and January and April 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 groundwater 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, described the new 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.

via ACDEH Corresp.

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

2.0 GROUND WATER DATA SUMMARY

The April 1996 ground water sampling event (April 1996 event) included monitoring wells MW-3, MW-4, and vent well VW-8. The April 1996 event was performed on April 26, 1996. Additionally, water levels were 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 can be found in Appendix A.

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

2.1 GROUND WATER LEVEL DATA

Depth-to-water measurements were collected as part of the April 1996 event. Field measurements recorded during the stabilization tests are attached in Appendix A. A summary of all water level data from wells and measuring point elevations is provided in Table 1.

During the April 1996 event, water level elevations beneath the facility ranged between 11.92 to 13.77 feet above sea level. Water level elevation hydrographs for the four monitoring wells are presented in Figure 3. Overall, water level elevations across the facility were down 0.09 to 0.27 feet from the January 1996 measurements. Water level elevations were approximately 0.3 feet lower than for April 1995. During the late winter and spring of 1995, water levels were at period of records highs. Water level fluctuations are seasonal. Water levels rise during the wetter winter months and decline through the rest of the year.

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

Rainfall at the nearby San Leandro Marina rainfall gauge has varied from a low of 10.13 inches in the 1989 to 1990 water year to a high of 19.33 inches during the 1994 and 1995 water year (Alameda County, 1995). The January, February, March, and April 1996 rainfall was 4.61, 3.93, 1.18, and 1.42 inches, respectively.

2.1.1 Ground Water Gradient

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

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

The general ground water flow direction remains to the southwest. Ground water contours for the April 1996 event are shown in Figure 4. From January through April a "flexure" persisted in the ground water contours. The flexure is a trough-like feature in the contours, trending generally northeast to southwest. This feature is a seasonal phenomenon. It was also observed during the late winter of 1994 through spring of 1995 and has been reported and discussed in previous quarterly reports. The flexure is likely due to the water level rising into an area of higher permeability. In 1995, the flexure dissipated as water levels declined throughout the late spring and early summer.

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

2.1.2 Ground Water Flow Velocity

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

$$v = ki/n$$

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.

Variable	Estimate	Data Source
hydraulic conductivity (k)	9.0 ft/day[1]	IT Corporation, Data Summary Report, 1990
hydraulic gradient (I)	0.0075	Capsule, Quarterly Monitoring Report, July 1996
porosity (n)	0.30 [2]	Freeze and Cherry (1979), Table 2.4

(1) From pumping test performed on MW-4

(2) The cited porosity range for sand was 25% to 40%. Based upon the silty and clay nature of the site's sand, 30% was selected.

A ground water velocity of 0.22 feet per day, or 82 feet per year was calculated from these estimates. This velocity is considered low. Appendix B presents the velocity calculations.

For comparison purposes, the estimates from the June 1995 and January 1996 measurements were 0.15 feet per day or 55 feet per year and 0.22 feet per day or 77 feet per year, respectively.

2.2 GROUND WATER ANALYTICAL DATA

The April 1996 event water samples were analyzed using United States Environmental Protection Agency (EPA) Methods 8015, 8020, and 8260. The analytical results are presented in Table 2.

In the monitoring wells, no new aromatic or chlorinated VOCs were detected during the April 1996 event. Both MW-3 and MW-4 concentrations were generally similar to results from January 1996 event. The sample collected from VW-8 detected similar gasoline constituents at similar to slightly higher concentrations than detected in previous samples. As explained later, there have been questions with the previous two samples from VW-8.

During the April 1996 event the laboratory added methyl-tert-butyl ether (MTBE) to the EPA 8260 compound list. This compound was not detected in the April 1996 samples.

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

In most instances, the laboratory-reported concentrations of the benzene, ethylbenzene, toluene, xylene (BETX) compounds are different, but similar, for EPA methods 8020 and 8260. In the January 1996 quarterly report, the laboratory reported and discussed a "heterogeneity", or appreciable dissimilarity in the VW-8 sample results for the two methods. The heterogeneity did not reoccur during the April 1996. No additional information or data has become available to clarify the reason for heterogeneity. Given the comparable EPA 8020 and 8260 results for April event, the heterogeneity is considered an isolated incident.

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

2.2.1 Chlorinated Organics

Chlorinated VOC detections have been found in monitoring wells.

2.2.1.1 Trichloroethene (TCE)

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

Department of Toxic Substance Control information indicates that TCE is a widely occurring VOC found in the shallow ground water in the San Leandro area (WCC, 1993). Given this information and the occurrences in upgradient wells, it likely that the TCE-impacted ground water detected in MW-1 and MW-2 is flowing onto the facility from an upgradient source.

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

For the April 1996 analytical results from MW-4, TCE was detected at 15 μg/l.

TCE was not detected in the October 1995 or the January 1996 events. Prior to October 1995 TCE detections in MW-4 were intermittent, ranging from 8 to 27 μg/l. MW-4 is on the downgradient side of the facility. No TCE was detected in the sampling of MW-3 or VW-8.

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

2.2.1.2 1,2-Dichloroethene

No cis-1,2-dichloroethene was detected during the April 1996 event.

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

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

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

No trans-1,2-dichloroethene was detected during the April 1996 event.

Over the period of record, trans-1,2-dichloroethene has been detected in MW-4 and OB-1. For the past four quarterly events, the MW-4 samples have indicated nondetection. Previous MW-4 concentrations range from 8 to 16 μg/l. Past detections in OB-1 ranged from 10 to 15 μg/l. Potential sources of these concentrations include breakdown products of TCE and as a manufacturing artifact of TCE.

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

2.2.1.3 Chlorobenzene

During the April 1996 event, chlorobenzene was detected in MW-3 at 13 μg/l. In previous sampling events, chlorobenzene results in MW-3 ranged from nondetect 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 detected in MW-3 in concentrations similar to previous amounts. For the period of record concentrations have ranged from 6 to 64 μg/l. The three isomers, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene have a wide variety of uses including use as a solvent, in dye manufacturing, insecticides, and industrial odor control. The isomers 1,3- and 1,4-dichlorobenzene are generally used in fumigants and insecticides. (Sax and Lewis, 1987).

During the April 1996 event, 1,4-dichlorobenzene was detected at 14 μg/l in MW-3. Previous detections ranged from 11 to 18 μg/l. Isomer 1,3-dichlorobenzene was detected at 7 μg/l in MW-3. Previous detections ranged from 5 to 9 μg/l. Isomer 1,2-dichlorobenzene was detected at 57 μg/l in MW-3. Previous detections ranged from 42 to 64 μg/l.

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

2.2.1.5 1,2 Dichloroethane

During the April 1996 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.

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

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

During the April 1996 event, 1,2 dichloroethane was not detected in a ground water sample collected from VW-8. The June 1995 event indicated 6 μg/l. Since the June 1995 result, three successive quarterly results have not detected 1,2 dichloroethane.

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

2.2.2 Aromatic Organics

During the April 1996 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.

2.2.2.1 Benzene

During the April 1996 event, benzene was detected in MW-3 at 330 μg/l. This concentration is comparable to the 290 μg/l detected in January 1996. Previous benzene concentrations ranged from 9 μg/l in October 1994 to 1,200 μg/l in April 1995.

Benzene concentration increases have occurred in the January to April time periods for both 1995 and 1996. Overall, the increases 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.

Benzene was detected in MW-4 at 190 μg/l. This is comparable with the January 1996 concentration of 180 μg/l, the lowest benzene value recorded for MW-4. Concentrations for the period of record ranged from 180 to 600 μg/l. A questionable sample from late 1990 reported 1,500 μg/l.

Benzene was detected in VW-8 at 41 μg/l. This value is significantly higher than the January 1996 concentration of 18 μg/l. The January 1996 sample was referred to by the laboratory as "heterogeneous," which is discussed more thoroughly discussed in Section 2.2.

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

2.2.2.2 Ethylbenzene

Ethylbenzene is another gasoline constituent detected in MW-3, MW-4, and VW-8. During the April 1996 sampling event, concentrations ranged from 58 to 270 μg/l.

The ethylbenzene concentration detected in MW-3 was 270 μg/l. As a note, the 270 μg/l was detected by EPA Method 8260 and 170 μg/l was detected by EPA Method 8020. During the

January 1996 event, 160 μg/l was detected. For the period of record, MW-3 ethylbenzene concentrations ranged from 20 to 720 μg/l.

During the April 1996 sampling event, the ethylbenzene concentration in MW-4 was 240 μg/l. For the January 1996 event the concentration was 310 μg/l. Previous detections ranged from 230 to 720 μg/l.

Ethylbenzene was also detected in VW-8 at a concentration of 91μg/l. The January 1996 concentration was 7.2 μg/l . The January result was questionable because of the sample heterogeneity issue, which is discussed in Section 2.2.

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

2.2.2.3 Toluene

Toluene detections in MW-3, MW-4, and VW-8 were 140, 3.6, and 41μg/l, respectively.

Previous detections in MW-3 have ranged from 4 to 1,700 μg/l. The April 1996 concentration of 140 μg/l is up from the January 1996 result of 48 μg/l. The April 1996 result is still an order of magnitude lower than the 1,700 μg/l detected in the April 1995 sample. Seasonal fluctuations in toluene concentrations are similar to fluctuations for benzene and xylene concentrations.

Previous MW-4 toluene concentrations range from 6 to 110 μg/l. The 3.6 μg/l detected during the April 1996 event was the lowest observed in the period of record.

The VW-8 toluene concentration was 31 μg/l. VW-8 toluene concentrations have ranged from 0.3 to 570 μg/l for the period of record, which began in June 1995.

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

2.2.2.4 Isomers of Xylene

All three isomers of xylene were detected in MW-3, MW-4, and VW-8 during the April 1996 sampling event.

O-xylene was detected at 600 μg/l in MW-3. Previous MW-3 concentrations of o-xylene ranged from 24 to 940 μg/l with the lowest value occurring during the October 1995 sampling event. P and m-xylenes were detected at 1,200 μg/l in MW-3. As a note, the 1,200 μg/l was detected by EPA Method 8260. The EPA Method 8020 concentration was 640 μg/l. Previous MW-3 concentrations of p and m-xylenes ranged from 41 to 2,100 μg/l. As with the January 1996 concentration, the xylene appears to be the result of flushing of residual gasoline from the soil in the MW-3 area.

In MW-4 o-xylene was detected 17 μg/l. Previous MW-4 concentrations ranged from 10 to 320 μg/l for o-xylene. P and m-xylenes were detected at 170 μg/l, a period of record low. Previous MW-4 concentrations ranged from 190 to 730 μg/l. The o-xylene concentration was an order of magnitude lower than detected during the January 1996 sampling event.

Xylene isomers were also detected in VW-8. O-xylene was detected in VW-8 at 49 μg/l.

O-xylene concentrations have ranged from <0.4 to 130 μg/l for the period of record, which began in June 1995. P and m-xylenes were detected in VW-8 at 120 μg/l. P and m-xylene concentrations ranged from <0.4 to 210 μg/l for the period of record, which began in June 1995.

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

2.2.2.5 Napthalene

During the April 1996 event, naphthalene was detected in MW-3, MW-4, and VW-8.

Naphthalene was detected at 89 μg/l in MW-3. Previous MW-3 concentrations ranged from 14 to 150 μg/l. The January 1996 concentration was 85 μg/l. The higher concentrations correlate with wetter periods. As with the BETX compounds, the naphthalene concentration appears associated with flushing of residual gasoline in the MW-3 area.

The MW-4 concentration was 45 μg/l. Previous MW-4 concentrations range from 46 to 120 μg/l. The April 1996 result is at the period of record low.

Naphthalene was detected in VW-8 at 18 μg/l. Previous results ranged from <5 and 46 μg/l for the sampling period which began in June 1995.

There is no California MCL for napthalene.

2.2.2.6 Trimethylbenzene

Both 1,2,4 and 1,3,5 trimethylbenzene were detected in MW-3, MW-4, and VW-8.

The compound 1,2,4 trimethylbenzene was detected at 440 μg/l in MW-3 during the April 1996 event. Previous MW-3 concentrations range from 54 to 650 μg/l. 1,3,5 trimethylbenzene was detected at 110 μg/l in MW-3. Previous MW-3 concentrations range from 22 to 160 μg/l. As with the BETX compounds, the fluctuating trimethylbenzene concentrations appear to be the response to residual gasoline constituent flushing from the soil near the MW-3 area.

During the April 1996 event, 1,2,4 trimethylbenzene was detected at 270 μg/l in MW-4. This is a period of record low. Previous MW-4 concentrations range from 300 to 600 μg/l. In MW-4, 1,3,5 trimethylbenzene was detected at 69 μg/l. This is a period of record low. Previous MW-4 concentrations range from 81 to 130 μg/l.

During the April 1996 event, 1,2,4 trimethylbenzene was detected in VW-8 at 91μg/l. Previous concentrations ranged from <5 to 270 μg/l. 1,3,5 trimethylbenzene was detected at 93 μg/l. Previous concentrations ranged from <5 to 61 μg/l.

There is no California MCL for trimethylbenzene.

2.2.2.7 Other Gasoline Components

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

During the April 1996 event, these VOCs were detected in concentrations similar to those of previous sampling. Individual concentrations were generally less than 60 μg/l

2.2.2.8 Total Petroleum Hydrocarbons (TPH) as Gasoline

TPH, as gasoline, was detected at 5,200 μg/l in MW-3 during the April 1996 event. Previous detections ranged from 1,600 to 14,000 μg/l. Fluctuating TPH concentrations in MW-3 appear to be seasonally related. Higher concentrations appear in the wetter months. MW-3 is located near the former tank area.

The TPH concentration in MW-4 was 5,400 μg/l. For the period of record, MW-4 concentrations ranged from 5,900 to 9,700 μg/l.

The VW-8 concentration was 1,400 μg/l. Previous results ranged from <5 to 5,300 μg/l for the period of record that began in June 1995. The <5 μg/l value is from the January 1996 sample. As previously discussed in Section 2.2, there is a laboratory-described "heterogeneity" with this sample.

3.0 SOIL VAPOR EXTRACTION SYSTEM ACTIVITY SUMMARY

This portion of the July 1996 Report summarizes the activities and status of the SVE system operation.

3.1 SVE System Background

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

Startup and operation of the redesigned SVE system began the week of October 2, 1995. Vent wells VW-1, VW-4, VW-5, and VW-9 are the currently used extraction points. Extracted air passes through three carbon vessels in series to remove the volatile organic compounds 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 $\mu g/m^3$ 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. 1995

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 Quarter

From January 1 to March 30, 1996, the SVE system was operated 33 days. There were 65 weekdays available for operation for the period. Personnel changes at the facility and the availability of personnel to perform the required daily air monitoring were major limiting factors in operation. Additionally, high water levels in the vent wells caused operating interruptions.

The SVE system operated for 44 days during the period from April through June 1996. There were 64 weekdays available for system during the period.

As an air permit condition, daily readings are taken from the system with a photoionization detection meter (PID). Table 3 provides a summary of the daily PID readings from the SVE system. Figure 5 shows the time series of OVM readings.

PID readings were very low for mid-February to mid-April. These low levels likely result from higher winter water levels that submerge residual gasoline constituents in voids within the soil matrix near the water table.

4.0 CONCLUSIONS

The conclusions combine observations, data, and evaluation for the April 1996 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. Over the last seven quarters of monitoring, the water table has fluctuated approximately 3 feet. During this period, water levels were at their highest in early 1995.

Water levels declined from January to April 1996. The decline was not as great as the decline observed during the same period as 1995.

The shallow ground water flows through a sequence of saturated sands, silts, and clays. During the April 1996 event, the ground water gradient was 0.008. The water table elevation varied from 11.9 to 13.8 feet above sea level and its velocity is estimated at 82 feet per year. Ground water flow is to the southwest.

The April ground water fluctuations in facility monitoring wells are part of a seasonal trend of higher late winter and early spring elevations.

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

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

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

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

BETX constituents from the monitoring well MW-3, near the former UST, remained similar to the amounts detected during the January 1996 event.

Daily SVE influent monitoring shows declining concentrations from the October 1995 startup of the redesigned system to present.

5.0 ACTIVITIES STATUS SUMMARY

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

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

6.0 RECOMMENDATIONS

6.1 RECOMMENDATION 1

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

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

6.2 RECOMMENDATION 2

The July 1996 sampling results will provide two years of quarterly data. These data should be used to evaluate the current monitoring program for well selection, frequency of sampling and analytical methods. Once the program evaluation is completed, the results and appropriate modifications, if any, should be forwarded to the regulatory agencies.

7.0 REFERENCES

Alameda County, 1995, faxed precipitation data from the Alameda County Flood Control and Water Conservation District, Water Resources Section, Oakland, California.

Hickenbottom, K. and Muir, K., Geohydrology and Ground water-Quality Overview of the East Bay Plain Area, Alameda County, California 2005 (j) Report, Alameda County Flood Control and Water Conservation District, Oakland, California.

IT Corporation, 1990, Ingersoll Rand Corporation Data Summary Report, Subject Site: 1944 Marina Boulevard, San Leandro, California, Martinez, California.

IT Environmental Services, 1989, Problem Assessment Report, prepared for: Ingersoll-Rand Incorporated, Martinez, California.

Sax, N.I, and R. J. Lewis, 1987, Hawley's Condensed Chemical Dictionary, Van Nostrand Reinhold, New York.

Woodward-Clyde Consultants, 1993, Hydrogeology of Central San Leandro and Remedial Investigation of Regional Ground water Contamination San Leandro Plume, San Leandro, California, prepared for the California Environmental Protection Agency, Oakland, California.

San Francisco Regional Office

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

Clayton
ENVIRONMENTAL
CONSULTANTS

May 13, 1996

Mr. Jay S. Mattsfield
CAPSULE ENVIRONMENTAL ENGINEERING, INC.
1970 Oakcrest Avenue, Suite 213
St. Paul, Minnesota 55113-2624

Clayton Project No. 67552.01

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

Dear Mr. Mattsfield:

Clayton Environmental Consultants, Inc. is pleased to transmit the attached analytical reports for the groundwater samples collected on April 26, 1996 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Upon arrival at the site on April 26, 1996, Clayton measured the depth to groundwater in monitoring wells MW-1 through MW-4 and VW-6 and VW-8. Stagnant water in the monitoring wells MW-3, MW-4, and VW-8 was purged using a 2-inch submersible pump. Approximately four to five times the well volume was pumped from each well to ensure water representative of the aquifer was present in the wells. Well volumes were calculated using depth to groundwater and total well depth measurements which were recorded to the nearest 0.01 foot upon arrival at the site. The purging was continued until sufficient volume of water had been purged for pH, temperature, and electrical conductivity to stabilize.

The following parameters were noted during the sampling activities:

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

- Name of sampler
- Climatic conditions

The water sample was collected using a new disposable bailer. All other equipment coming into contact with groundwater was thoroughly cleaned and decontaminated before use at the site. Detail of the groundwater monitoring and sampling event is provided in the water sampling field survey forms (Appendix A).

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

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

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

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

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

The analytical reports are included in Appendix B.

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

Sincerely,

Richard J. Silva

Richard J. Silva, R.E.A.
Geologist

RJS/rs
Enclosures

APPENDIX A

FIELD SURVEY FORMS

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552.01 **Site:** INGERSOLL RAND **Date:** APRIL 26 1996

Well #: MW-1 **Sampling Team:** R. SILVA

Sampling Method: NOT APPLICABLE

Field Conditions: _____

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: _____ feet **Time:** 1050 **Depth to Water Before Pumping:** 16.18 feet

Height of Water Column: ____ feet * Diameter: 2-inch .16, 4-inch (.65) = Volume _____ gal * Purge Factor _____ = Volume To Purge _____ gal

Depth Purging From: _____ feet **Time Purging Begins:** _____

Notes on Initial Discharge: _____

Time	Volume Purged	pH	Conductivity	T	Notes

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: _____

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

Pre-sample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: _____

Total Gallons Purged: _____

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552.01 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1996

Well #: MW-2 **Sampling Team:** R. SILVA

Sampling Method: NOT APPLICABLE

Field Conditions: _____

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: _____ feet **Time:** 1035 **Depth to Water Before Pumping:** 17.76 feet

Height of Water Column: ____ feet * Diameter: 2-inch .16, 4-inch (.65) = Volume _____ gal * Purge Factor _____ = Volume To Purge _____ gal

Depth Purging From: _____ feet **Time Purging Begins:** _____

Notes on Initial Discharge: _____

Time	Volume Purged	pH	Conductivity	T	Notes

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM (CONTINUED)

Time Field Parameter Measurement Begins: _____

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

Pre-sample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: _____

Total Gallons Purged: _____

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552101 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1996

Well #: MW-3 **Sampling Team:** R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE, ~75°F

Describe Equipment D-Con Before Sampling This Well: N/A

Total Depth of Well: 25.32 feet **Time:** 1055 **Depth to Water Before Pumping:** 19.90 feet

Height of Water Column		Diameter 2-inch (.16)	Diameter 4-inch (.65)		Volume		Purge Factor		Volume To Purge
5.42 feet	•		(.65)	=	3.52 gal	•	4	=	14.08 gal

Depth Purging From: 25 feet **Time Purging Begins:** 1315

Notes on Initial Discharge: CLEAR

Time	Volume Purged	pH	Conductivity	T	Notes
1318	3-GAL	6.4	860	19.1	CLEAR
1320	6-GAL	6.2	864	19.0	CLEAR
1322	9-GAL	5.9	846	19.0	CLEAR
1324	12-GAL	6.0	933	19.0	CLEAR, PURGED DRY
1330	14-GAL	6.1	888	19.2	CLEAR

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1335

	Rep #1	Rep #2	Rep #3	Rep #4
pH	6.2	6.2	6.2	6.1
Conductivity	874	869	882	871
T°C	19.2	19.2	19.2	19.1

Pre-sample Collection Gallons Purged: 15
Time Sample Collection Begins: 1340
Time Sample Collection Ends: 1345
Total Gallons Purged: 16

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 6755201 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1996

Well #: MW-4 **Sampling Team:** R-SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, 10 KM, SLIGHT BREEZE, ~75°F

Describe Equipment D-Con Before Sampling This Well: N/A

Total Depth of Well: 32.92 feet **Time:** 1100 **Depth to Water Before Pumping:** 21.79 feet

Height of Water Column: 11.13 feet • Diameter: 2-inch .16, 4-inch (.65) = **Volume** 7.23 gal • **Purge Factor** 4 = **Volume To Purge** 28.92 gal

Depth Purging From: 32 feet **Time Purging Begins:** 1130

Notes on Initial Discharge: LIGHT GRAY, CLOUDY, SLIGHT ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
1135	10-GAL	5.4	921	19.2	CLEAR, SLIGHT ODOR
1140	20-GAL	5.7	1023	19.1	CLEAR, SLIGHT ODOR
1143	25-GAL	5.7	1054	19.1	CLEAR, SLIGHT ODOR
1146	30-GAL	5.7	1083	19.1	CLEAR, SLIGHT ODOR

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1155

	Rep #1	Rep #2	Rep #3	Rep #4
pH	5.8	5.7	5.7	5.7
Conductivity	981	1019	1041	1073
T°C	19.0	18.9	18.9	18.8

Pre-sample Collection Gallons Purged: 30
Time Sample Collection Begins: 1200
Time Sample Collection Ends: 1205
Total Gallons Purged: 31

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552.01 Site: INGERSOLL RAND Date: APRIL 26, 1996

Well #: VW-6 Sampling Team: R. SILVA

Sampling Method: NOT APPLICABLE

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE, ~75°F

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: _____ feet Time: 1110 Depth to Water Before Pumping: 24.98 feet

Height of Water Column: ____ feet • Diameter: 2-inch .16, 4-inch (.65) = Volume _____ gal • Purge Factor _____ = Volume To Purge _____ gal

Depth Purging From: _____ feet Time Purging Begins: _____

Notes on Initial Discharge: _____

Time	Volume Purged	pH	Conductivity	T	Notes

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: _____

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

Pre-sample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: _____

Total Gallons Purged: _____

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552.01 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1996

Well #: VW-8 **Sampling Team:** R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE, ~75°F

Describe Equipment D-Con Before Sampling This Well: N/A

Total Depth of Well: 30.38 feet **Time:** 1105 **Depth to Water Before Pumping:** 26.53 feet

Height of Water Column: 3.85 feet • Diameter: 2-inch .16, 4-inch (.65) = **Volume** 2.50 gal • **Purge Factor** 4 = **Volume To Purge** 10.01 gal

Depth Purging From: 30 feet **Time Purging Begins:** 1220

Notes on Initial Discharge: LIGHT BROWN, CLOUDY, SLOW RECOVERY, SLIGHT ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
1222	2-GAL	6.6	619	19.0	CLEAR, SLIGHT ODOR
1224	4-GAL	6.6	442	18.8	CLEAR, SLIGHT ODOR
1226	6-GAL	6.4	616	18.7	CLEAR, PURGED DRY
1239	8-GAL	6.5	443	18.9	CLEAR, SLIGHT ODOR
1241	10-GAL	6.4	436	18.8	CLEAR, SLIGHT ODOR

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1250

	Rep #1	Rep #2	Rep #3	Rep #4
pH	6.1	6.1	6.1	6.1
Conductivity	448	447	446	444
T°C	18.9	18.8	18.8	18.7

Pre-sample Collection Gallons Purged: 10
Time Sample Collection Begins: 1255
Time Sample Collection Ends: 1300
Total Gallons Purged: 11

Comments:

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
ENVIRONMENTAL
CONSULTANTS

May 10, 1996

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

Client Ref.: 67552.01
Clayton Project No.: 96044.71

Dear Mr. Silva:

Attached is our analytical laboratory report for the samples received on April 26, 1996. Following the cover letter is the Quality Control Narrative detailing sample information/problems and a summary of the quality control issues. 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 June 9, 1996, unless you have requested otherwise.

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

Sincerely,

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

HAH/kmd

Attachments

QUALITY CONTROL NARRATIVE
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Information/Problems:

There were no problems with sample receipt.

Analytical Problems:

No problems were encountered with the sample analyses.

Quality Control:

The quality control data is summarized in the Quality Assurance Data Package, which follows the analytical report.

- MS/MSD: A matrix spike and matrix spike duplicate were analyzed where applicable. Spikes for EPA Method 8015/8020 showed results outside quality control limits. The LCS for this method showed all results within quality control limits.
- LCS/LCSD: A laboratory control spike and duplicate were analyzed where applicable, and all results were acceptable.
- ICV/CCV: Response for all analytes met Clayton acceptance criteria.
- Surrogate Recoveries: All surrogate recoveries were acceptable. The surrogate recoveries, where applicable, are listed on the sample result pages.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	MW-3	Date Sampled:	04/26/96
Lab Number:	9604471-01C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	330	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	22	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	13	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	57	5
1,3-Dichlorobenzene	541-73-1	7	5
1,4-Dichlorobenzene	106-46-7	14	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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	MW-3	Date Sampled:	04/26/96
Lab Number:	9604471-01C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	270	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	19	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	89	5
n-Propylbenzene	103-65-1	65	5
sec-Butylbenzene	135-98-8	7	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	140	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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	MW-3	Date Sampled:	04/26/96
Lab Number:	9604471-01C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	440	5
1,3,5-Trimethylbenzene	108-67-8	110	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	600	5
p,m-Xylenes	--	1200	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	102	86 - 115
Dibromofluoromethane	1868-53-7	102	86 - 118
1,2-Dichloroethane-d4	17060-07-0	106	76 - 114
Toluene-d8	2037-26-5	99	88 - 110

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	MW-4	Date Sampled:	04/26/96
Lab Number:	9604471-02C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	160	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	13	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	MW-4	Date Sampled:	04/26/96
Lab Number:	9604471-02C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	240	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	56	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	45	5
n-Propylbenzene	103-65-1	61	5
sec-Butylbenzene	135-98-8	7	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	15	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	MW-4	Date Sampled:	04/26/96
Lab Number:	9604471-02C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	270	5
1,3,5-Trimethylbenzene	108-67-8	69	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	15	5
p,m-Xylenes	--	160	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	99	86 - 115
Dibromofluoromethane	1868-53-7	97	86 - 118
1,2-Dichloroethane-d4	17060-07-0	96	76 - 114
Toluene-d8	2037-26-5	96	88 - 110

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	VW-8	Date Sampled:	04/26/96
Lab Number:	9604471-03C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND	20
Benzene	71-43-2	41	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	7	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	VW-8	Date Sampled:	04/26/96
Lab Number:	9604471-03C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	91	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	9	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	30
Naphthalene	91-20-3	18	5
n-Propylbenzene	103-65-1	25	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	41	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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	VW-8	Date Sampled:	04/26/96
Lab Number:	9604471-03C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63-6	91	5
1,3,5-Trimethylbenzene	108-67-8	33	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	49	5
p,m-Xylenes	--	120	5
Surrogates		**Recovery (%)**	**QC Limits (%)**
4-Bromofluorobenzene	460-00-4	98	86 - 115
Dibromofluoromethane	1868-53-7	96	86 - 118
1,2-Dichloroethane-d4	17060-07-0	94	76 - 114
Toluene-d8	2037-26-5	98	88 - 110

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	FIELD BLANKS	Date Sampled:	04/26/96
Lab Number:	9604471-04C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	FIELD BLANKS	Date Sampled:	04/26/96
Lab Number:	9604471-04C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
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	30
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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	FIELD BLANKS	Date Sampled:	04/26/96
Lab Number:	9604471-04C	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
Trichlorofluoromethane	75-69-4	ND	5
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	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	98	86 - 115
Dibromofluoromethane	1868-53-7	96	86 - 118
1,2-Dichloroethane-d4	17060-07-0	94	76 - 114
Toluene-d8	2037-26-5	97	88 - 110

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	TRIP BLANKS #0021295	Date Sampled:	04/26/96
Lab Number:	9604471-06A	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	TRIP BLANKS #0021295	Date Sampled:	04/26/96
Lab Number:	9604471-06A	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
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	30
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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	TRIP BLANKS #0021295	Date Sampled:	04/26/96
Lab Number:	9604471-06A	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
Trichlorofluoromethane	75-69-4	ND	5
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	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	97	86 - 115
Dibromofluoromethane	1868-53-7	96	86 - 118
1,2-Dichloroethane-d4	17060-07-0	95	76 - 114
Toluene-d8	2037-26-5	97	88 - 110

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9604471-07A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9604471-07A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
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	30
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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9604471-07A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	04/29/96
Preparation Method:	EPA 5030A	Date Analyzed:	04/29/96
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Continued)			
Trichlorofluoromethane	75-69-4	ND	5
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	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	100	86 - 115
Dibromofluoromethane	1868-53-7	102	86 - 118
1,2-Dichloroethane-d4	17060-07-0	109	76 - 114
Toluene-d8	2037-26-5	100	88 - 110

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.01
Clayton Project No. 96044.71

Sample Identification:	MW-3	Date Sampled:	04/26/96
Lab Number:	9604471-01A	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	05/09/96
Preparation Method:	EPA 5030	Date Analyzed:	05/09/96
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	210	0.4
Ethylbenzene	100-41-4	170	0.3
Toluene	108-88-3	100	0.3
o-Xylene	95-47-6	320	0.4
p,m-Xylenes	--	640	0.4
Gasoline	--	5200	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	103	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: 67552.01
Clayton Project No. 96044.71

Sample Identification:	MW-4	Date Sampled:	04/26/96
Lab Number:	9604471-02A	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	05/09/96
Preparation Method:	EPA 5030	Date Analyzed:	05/09/96
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	190	0.4
Ethylbenzene	100-41-4	230	0.3
Toluene	108-88-3	3.6	0.3
o-Xylene	95-47-6	17	0.4
p,m-Xylenes	--	170	0.4
Gasoline	--	5400	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	107	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: 67552.01
Clayton Project No. 96044.71

Sample Identification:	VW-8	Date Sampled:	04/26/96
Lab Number:	9604471-03A	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	05/09/96
Preparation Method:	EPA 5030	Date Analyzed:	05/09/96
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	34	0.4
Ethylbenzene	100-41-4	58	0.3
Toluene	108-88-3	31	0.3
o-Xylene	95-47-6	35	0.4
p,m-Xylenes	--	80	0.4
Gasoline	--	1400	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	100	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: 67552.01
Clayton Project No. 96044.71

Sample Identification:	FIELD BLANKS	Date Sampled:	04/26/96
Lab Number:	9604471-04A	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	05/09/96
Preparation Method:	EPA 5030	Date Analyzed:	05/09/96
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	103	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: 67552.01
Clayton Project No. 96044.71

Sample Identification:	TRIP BLANKS(HCL)#0042995	Date Sampled:	04/26/96
Lab Number:	9604471-05A	Date Received:	04/26/96
Sample Matrix/Media:	WATER	Date Prepared:	05/09/96
Preparation Method:	EPA 5030	Date Analyzed:	05/09/96
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	105	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: 67552.01
Clayton Project No. 96044.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9604471-07A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	05/09/96
Preparation Method:	EPA 5030	Date Analyzed:	05/09/96
Method Reference:	EPA 8015/8020	Analyst:	ASC

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

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

Clayton
ENVIRONMENTAL
CONSULTANTS

Quality Assurance Results Summary

Matrix Spike/Matrix Spike Duplicate Results

for

Clayton Project No. 96044.71

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 96044.71

Clayton Lab Number:	9604493-LCS	Analytical Method:	EPA 624/8260
Ext./Prep. Method:	EPA 5030	Instrument ID:	05831
Date:	04/29/96	Date:	04/29/96
Analyst:	JP	Time:	20:25
Std. Source:	V960426-01W	Analyst:	JP
Sample Matrix/Media:	WATER	Units:	UG/L
		QC Batch No:	960429F1

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
(A) 1,1-Dichloroethene	ND	50.0	41.3	83	41.1	82	82	80	120	0.5	20
(B) Benzene	ND	50.0	46.2	92	45.3	91	92	80	120	2.0	20
(C) Chlorobenzene	ND	50.0	51.8	104	50.1	100	102	80	120	3.3	20
(D) Toluene	ND	50.0	51.7	103	50.6	101	102	80	120	2.2	20
(E) Trichloroethene	ND	50.0	52.8	106	51.9	104	105	80	120	1.7	20
SURR 1,2-Dichloroethane-d4	ND	100	101	101	103	103	102	76	114	2.0	20
SURR Bromofluorobenzene	ND	100	99.0	99	100	100	100	86	115	1.0	20
SURR Dibromofluoromethane	ND	100	98.0	98	100	100	99	86	118	2.0	20
SURR Toluene-d8	ND	100	98.0	98	99.0	99	99	88	110	1.0	20

ND = Not detected at or above limit of detection
SOR = Spike out of range due to high sample concentration.
LCL = Lower Control Limit
UCL = Upper Control Limit

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 96044.71

Clayton Lab Number:	9604471-03A	Analytical Method:	EPA 8015/8020
Ext./Prep. Method:	EPA 5030	Instrument ID:	02911
Date:	05/09/96	Date:	05/09/96
Analyst:	NAN	Time:	13:37
Std. Source:	V951109-02W	Analyst:	NAN
Sample Matrix/Media:	WATER	Units:	UG/L
		QC Batch No:	960509W1

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	34.0	6.80	32.0	SOR	31.0	SOR	SOR	79	125	3.2	20
ETHYLBENZENE	(PID)	58.0	8.53	48.0	SOR	46.0	SOR	SOR	85	123	4.3	20
GASOLINE	(FID)	1,410	500	1,940	105	1,940	105	105	80	120	0.1	25
SURR a,a,a-Trifluorotoluene		100	100	83.0	-17*	83.0	-17*	-17*	50	150	0.0	20
TOLUENE	(PID)	31.0	35.7	40.0	25*	39.0	22*	24*	84	118	2.5	20
TOTAL XYLENE	(PID)	115	45.6	111	-9*	107	-18*	-13*	85	115	3.5	20

* Result is outside of control limits.

ND = Not detected at or above limit of detection
SOR = Spike out of range due to high sample concentration.
LCL = Lower Control Limit
UCL = Upper Control Limit

Quality Assurance Results Summary - Laboratory Control Samples (LCS)
for
Clayton Project No. 96044.71

Clayton Lab Number:	9604471-LCS	Analytical Method:	EPA 8015/8020
Ext./Prep. Method:	EPA 5030	Instrument ID:	02911
Date:	05/09/96	Date:	05/09/96
Analyst:	MJL	Time:	11:18
Std. Source:	V951109-02W	Analyst:	NAN
Sample Matrix/Media:	WATER	Units:	ug/L
		QC Batch no:	960509V1

Analyte	Blank Result	Spike Level	LCS Result	LCS Recovery (%)	LCL (% R)	UCL (% R)
Benzene	ND	4.26	5.18	122	79	125
Ethylbenzene	ND	5.86	6.45	110	85	123
Gasoline	ND	500	517	103	80	120
SURR a,a,a-Trifluorotoluene	ND	100	98.0	98	50	150
Toluene	ND	26.5	26.1	98	84	118
Total Xylenes	ND	38.1	38.3	101	85	115

ND = Not detected at or above limit of detection LCL = Lower Control Limit UCL = Upper Control Limit

Clayton ENVIRONMENTAL CONSULTANTS

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.
9604471

REPORT RESULTS TO
Name RICHARD SILVA | Client Job No. 67552.01
Company CLAYTON | Dept.
Mailing Address
City, State, Zip
Telephone No. | FAX No.

SEND INVOICE TO
Purchase Order No.
Name
Company INGERSOLL RAND | Dept.
Address
City, State, Zip

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

* Explanation of Preservative: P=HCl

Samples are: (check if applicable)
☐ Drinking Water
☒ Groundwater
☐ Wastewater

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

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH-GAS-BTEX	EPA 8260	FOR LAB USE ONLY
MW-3	4-26-96		H2O	40 mls	2	XP		01A,B
MW-3	↓		↓	↓	2		XP	↓ C,D
MW-4					2	XP		02A,B
MW-4					2		XP	↓ C,D
VW-8					2	XP		03A,B
VW-8					2		XP	↓ C,D
FIELD BLANKS					2	XP		04A,B
FIELD BLANKS					2		XP	↓ C,D
TRIP BLANKS: #0042995					2	XP		05A,B
TRIP BLANKS: #0021295	↓		↓	↓	2		XP	↓ C,D

CHAIN OF CUSTODY

Collected by: RICHARD SILVA (print) | Collector's Signature: Richard Silva
Relinquished by: Richard Silva | Date/Time 4-26-96 5:10 pm | Received by: | Date/Time
Relinquished by: | Date/Time | Received by: | Date/Time
Method of Shipment: | Received at Lab by: | Date/Time 4/26/96 5:10
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____
(Client Signature **MUST** Accompany Request)

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

Detroit Regional Lab
22345 Roethel Drive
Novi, MI 48375
(800) 806-5887
(810) 344-1770
FAX (810) 344-2655

Atlanta Regional Lab
400 Chastain Center Blvd., N.W., Suite 490
Kennesaw, GA 30144
(800) 252-9919
(770) 499-7500
FAX (770) 423-4990

San Francisco Regional Lab
1252 Quarry Lane
Pleasanton, CA 94566
(800) 294-1755
(510) 426-2657
FAX (510) 426-0106

Seattle Regional Lab
4636 E. Marginal Way S., Suite 215
Seattle, WA 98134
(800) 568-7755
(206) 763-7364
FAX (206) 763-4189

DISTRIBUTION:
White = Clayton Laboratory
Yellow = Clayton Accounting
Pink = Client Copy

San Francisco Regional Office

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

Clayton
ENVIRONMENTAL
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June 20, 1996

Mr. Jay S. Mattsfield
CAPSULE ENVIRONMENTAL ENGINEERING, INC.
1970 Oakcrest Avenue, Suite 213
St. Paul, Minnesota 55113-2624

Clayton Project No. 67552.01

Subject: Addendum Report for Groundwater Monitoring at the Ingersoll-Rand Facility in San Leandro, California

Dear Mr. Mattsfield:

Clayton Environmental Consultants, Inc. is pleased to transmit this addendum report concerning the groundwater monitoring event collected on April 26, 1996 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Upon arrival at the site on April 26, 1996, Clayton measured the depth to groundwater in monitoring wells MW-1 through MW-4 and 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.

After Mr. Rick Day, Clayton's Supervisor, inquired about discrepancies about the water level recordings, I checked our water level meter and discovered a major problem. Apparently the water level meter readings started at 5 feet instead of zero feet due to repair process of the meter.

I want to apologize for not catching this decrepancy. I will not make the same mistake in the future.

Detail of the revised groundwater monitoring and sampling event is provided in the water sampling field survey forms (Appendix A).

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

Sincerely,

Richard J. Silva, R.E.A.
Geologist

RJS/rs
Enclosures

APPENDIX A

FIELD SURVEY FORMS

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 6755.01 **Site:** INGERSOLL RAND **Date:** APRIL 26 1996

Well #: MW-1 **Sampling Team:** R. SILVA

Sampling Method: NOT APPLICABLE

Field Conditions: _____

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: _____ feet **Time:** 1050 **Depth to Water Before Pumping:** 11.18 ~~16.18~~ feet

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

Depth Purging From: _____ feet **Time Purging Begins:** _____

Notes on Initial Discharge: _____

Time	Volume Purged	pH	Conductivity	T	Notes

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: _____

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

Pre-sample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: _____

Total Gallons Purged: _____

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552.01 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1996

Well #: MW-2 **Sampling Team:** R. SILVA

Sampling Method: NOT APPLICABLE

Field Conditions: _____

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: _____ feet **Time:** 1035 **Depth to Water Before Pumping:** 12.76 ~~17.76~~ feet

Height of Water Column: ____ feet * Diameter: 2-inch .16, 4-inch (.65) = Volume _____ gal * Purge Factor _____ = Volume To Purge _____ gal

Depth Purging From: _____ feet **Time Purging Begins:** _____

Notes on Initial Discharge: _____

Time	Volume Purged	pH	Conductivity	T	Notes

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: _____

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

Pre-sample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: _____

Total Gallons Purged: _____

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 6755201 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1996

Well #: MW-3 **Sampling Team:** R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE, ~75°F

Describe Equipment D-Con Before Sampling This Well: N/A

Total Depth of Well: 25.32 feet **Time:** 1055 **Depth to Water Before Pumping:** ~~14.90~~ 19.90 feet

Height of Water Column:	Diameter 2-inch	Diameter 4-inch	= Volume	Purge Factor	= Volume To Purge
5.42 feet	.16	(.65)	3.52 gal	4	14.08 gal

Depth Purging From: 25 feet **Time Purging Begins:** 1315

Notes on Initial Discharge: CLEAR

Time	Volume Purged	pH	Conductivity	T	Notes
1318	3-GAL	6.4	860	19.1	CLEAR
1320	6-GAL	6.2	864	19.0	CLEAR
1322	9-GAL	5.9	846	19.0	CLEAR
1324	12-GAL	6.0	937	19.0	CLEAR, PURGED DRY
1330	14-GAL	6.1	888	19.2	CLEAR

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1335

	Rep #1	Rep #2	Rep #3	Rep #4
pH	6.2	6.2	6.2	6.1
Conductivity	874	869	882	871
T°C	19.2	19.2	19.2	19.1

Pre-sample Collection Gallons Purged: 15
Time Sample Collection Begins: 1340
Time Sample Collection Ends: 1345
Total Gallons Purged: 16

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552.01 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1996

Well #: MW-4 **Sampling Team:** R - SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE, ~75°F

Describe Equipment D-Con Before Sampling This Well: N/A

Total Depth of Well: 32.92 feet **Time:** 1100 **Depth to Water Before Pumping:** ~~21.79~~ 16.79 feet

Height of Water Column:	Diameter 2-inch	Diameter 4-inch		Volume		Purge Factor		Volume To Purge
11.13 feet	.16	(.65)	=	7.23 gal	*	4	=	28.92 gal

Depth Purging From: 32 feet **Time Purging Begins:** 1130

Notes on Initial Discharge: LIGHT GRAY, CLOUDY, SLIGHT ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
1135	10-GAL	5.4	921	19.2	CLEAR, SLIGHT ODOR
1140	20-GAL	5.7	1023	19.1	CLEAR, SLIGHT ODOR
1143	25-GAL	5.7	1054	19.1	CLEAR, SLIGHT ODOR
1146	30-GAL	5.7	1082	19.1	CLEAR, SLIGHT ODOR

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1155

	Rep #1	Rep #2	Rep #3	Rep #4
pH	5.8	5.7	5.7	5.7
Conductivity	981	1019	1041	1073
T°C	19.0	18.9	18.9	18.8

Pre-sample Collection Gallons Purged: 30
Time Sample Collection Begins: 1200
Time Sample Collection Ends: 1205
Total Gallons Purged: 31

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552.01 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1996

Well #: VW-6 **Sampling Team:** R. SILVA

Sampling Method: NOT APPLICABLE

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE, ~75°F

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: _____ feet **Time:** 1110 **Depth to Water Before Pumping:** 19.98 ~~24.98~~ feet

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

Depth Purging From: _____ feet **Time Purging Begins:** _____

Notes on Initial Discharge: _____

Time	Volume Purged	pH	Conductivity	T	Notes

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: _____

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

Pre-sample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: _____

Total Gallons Purged: _____

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 67552.01 **Site:** INGERSOLL RAND **Date:** APRIL 26, 1995

Well #: VW-8 **Sampling Team:** R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE, ~75°F

Describe Equipment D-Con Before Sampling This Well: N/A

Total Depth of Well: 30.38 feet **Time:** 1105 **Depth to Water Before Pumping:** 21.53 ~~26.53~~ feet

Height of Water Column:		Diameter 2-inch	Diameter 4-inch		Volume		Purge Factor		Volume To Purge
3.85 feet	*	.16	(.65)	=	2.50 gal	*	4	=	10.01 gal

Depth Purging From: 30 feet **Time Purging Begins:** 1220

Notes on Initial Discharge: LIGHT BROWN, CLOUDY, SLOW RECOVERY, SLIGHT ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
1222	2-GAL	6.6	619	19.0	CLEAR, SLIGHT ODOR
1224	4-GAL	6.6	442	18.8	CLEAR, SLIGHT ODOR
1226	6-GAL	6.4	616	18.7	CLEAR, PURGED DRY
1239	8-GAL	6.5	443	18.9	CLEAR, SLIGHT ODOR
1241	10-GAL	6.4	436	18.8	CLEAR, SLIGHT ODOR

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1250

	Rep #1	Rep #2	Rep #3	Rep #4
pH	6.1	6.1	6.1	6.1
Conductivity	448	447	446	444
T°C	18.9	18.8	18.8	18.7

Pre-sample Collection Gallons Purged: 10

Time Sample Collection Begins: 1255

Time Sample Collection Ends: 1300

Total Gallons Purged: 11

Comments:

CAPSULE
ENVIRONMENTAL ENGINEERING INC.

PROJECT CALCULATION SHEET

Project Name: San Leandro Qtrly Report
Project Number: 001-327
Task Number: 4.8.0
Re: GW Velocity Calculation

By: John M
Date: 8/5/96
Page: 1 of 2
cc:

Determine the groundwater flow velocity for the San Leandro facility, using

$$V = (K) \times (i)/n$$

V = velocity (ft/day)
K = hydraulic conductivity (ft/day)
i = hydraulic gradient (ft/ft)
n = porosity (unitless)

K - hydraulic conductivity estimate

from IR Corp. Data Summary Report, Dec 1990, Table 3, prepared by IT Corp. we find an estimate for MW-4 from a pumping test

K = 48 to 67 gal/day/ft², converting K

$$\frac{48\ \text{gal}}{\text{day}\cdot\text{ft}^2} \times \frac{1\ \text{ft}^3}{7.48\ \text{gal}} = 6.4\ \text{ft/day}$$

$$\frac{67\ \text{gal}}{\text{day}\cdot\text{ft}^2} \times \frac{1\ \text{ft}^3}{7.48\ \text{gal}} = 9.0\ \text{ft/day}$$

Checked by: _____
Date: _____

CAPSULE
ENVIRONMENTAL ENGINEERING INC.

PROJECT CALCULATION SHEET

Project Name: San Leandro
Project Number: 091-727
Task Number: 4.8.2
Re: Qtrly Rpt

By: John M.
Date: 9/5/96
Page: 2 of 2
cc:

i - hydraulic gradient estimate

from April 1996 Groundwater Contour map in the Qtrly Report

$$i = \frac{(13.50 - 12.75)\,ft}{100\,ft} = .0075\ ft/ft$$

n - porosity estimate

n = 30% from USGS Water Supply Paper 2220 & Freeze & Cherry, 1979

$$V = \frac{(20\ ft/day)(.0075)}{.30} = \frac{(.0675)}{.3}\ ft/day$$

$$= 0.22\ ft/day$$

$$= .22\ ft/day \times \frac{365\ day}{yr} = 82\ ft/yr.$$

Checked by: _____
Date: _____

Table 1
Water Level Summary Table

Project: Ingersoll-Rand Company, San Leandro, CA water level data
Date prepared: April 15, 1995
Latest update: July 30, 1996
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
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
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
	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
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
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
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
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, 6/94
elev source for vent wells: Moran Engineering map,7/95
OB-1 measurements discontinued following June 30, 1995 measurement

FILE: H:\SLWATLEV WB1

Table 2: San Leandro Groundwater Analytical Data Summary

1,2-DCA

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-chionde (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)	1 2-dibromo 3-chloro-propane (ug/l)	1,2 di-bromo methane (ug/l)	dibromo-methane (ug/l)	1,2-di-chloro-benzene (ug/l)	1,3-di-chloro-benzene (ug/l)	1,4-di-chloro-benzene (ug/l)	dichloro-difluoro-methane (ug/l)	1 1-di-chloro-ethane (ug/l)	1,2-di-chloro-ethane (ug/l)	1 1-di-chloro-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-propene (ug/l)	2,2-dichloro-propane (ug/l)	1 1-dichloro-propene (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		<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	
	21-Jun-94	CEC	ARC	8015																																			
	21-Jun-94	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1 0	<5	<5	<5	<5	<5	<5	<5	<5	<1 0
	21-Jun-94	CEC	CEC	8015																																		
	20-Oct-94	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<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		<0 4																																
	25-Jan-95	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<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 4																																
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		<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0
	21-Jun-94	CEC	ARC	8015																																		
	21-Jun-94	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<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	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<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		<0 4																																
	25-Jan-95	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<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 4																																
MW-3	17-Nov-89	IT	PAL																																			
	21-Jun-94	CEC	ARC	8260		27	<1 0	<1 0	<1 0	<1 0	<1 0		<1 0		<1.0	17	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	<1 0	42	6.6	13	<1 0	<1.0	<1 0	<1 0	>1.0 & <5 0	<1 0	<1 0	<1 0	<1 0	<1 0
	21-Jun-94	CEC	ARC	8015																																		
	21-Jun-94	CEC	CEC	8260	<20	34	<5	<5	<5	<5	<5	<20	7	<5	<5	19	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	45	7	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	21-Jun-94	CEC	CEC	8015																																		
	20-Oct-94	CEC	CEC	8260	50	9	<5	<5	<5	<5	<5	<20	13	<5	<5	19	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	84	9	18	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8015/8020		8 9																																
	25-Jan-95	CEC	CEC	8260	<100	970	<30	<30	<30	<30	<30	<100	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30		<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
	25-Jan-95	CEC	CEC	8015/8020		950																																
	26-Apr-95	CEC	CEC	8260	<20	1100	<5	<5	<5	<5	<5	<20	<5	<5	<5	15	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	43	6	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	26-Apr-95	CEC	CEC	8015/8020		1200																																
	30-Jun-95	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	58	9	17	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	30-Jun-95	CEC	CEC	8015/8020		16																																
	18-Oct-95	CEC	CEC	8260	<20	11	<5	<5	<5	<5	<5	<20	<5	<5	<5	15	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	64	9	16	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	18-Oct-95	CEC	CEC	8015/8020		12																																
	30-Jan-96	CEC	CEC	8260	<20	260	<5	<5	<5	<5	<5	<20	20	<5	<5	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	42	5	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	30-Jan-96	CEC	CEC	8015/8020		290																																
	26-Apr-96	CEC	CEC	8260	<20	330	<5	<5	<5	<5	<5	<20	22	<5	<5	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	57	7	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	26-Apr-96	CEC	CEC	8015/8020		210																																
MW-4	18-Nov-90	IT	MCL	5030		1500																																
	21-Jun-94	CEC	ARC	8260		370	<1 0	<1 0	<1 0	<1 0	<1 0		19		<1 0	>1 0 & <5 0	<1 0	<1.0	<1 0	<1 0	<1.0	<1 0	<1 0	<1.0	<1.0	<1 0	>1 0 & <5 0	<1 0	<1 0	<1 0	<1 0	11	<1 0	>1.0 & <5.0	16	<1.0	<1.0	>1.0 & <5.0	<1 0
	21-Jun-94	CEC	ARC	8015																																		
	21-Jun-94	CEC	CEC	8260	<100	470	<30	<30	<30	<30	<30	<100	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
	21-Jun-94	CEC	CEC	8015																																		
	20-Oct-94	CEC	CEC	8260	160	260	<5	<5	<5	<5	<5	<20	17	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5	<5	<5	12	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8015/8020		360																																
	25-Jan-95	CEC	CEC	8260	<100	400	<30	<30	<30	<30	<30	<100	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
	25-Jan-95	CEC	CEC	8015/8020		470																																
	26-Apr-95	CEC	CEC	8260	<20	470	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	8	<5	<5	<5	<5
	26-Apr-95	CEC	CEC	8015/8020		500																																
	30-Jun-95	CEC	CEC	8260	<20	600	<5	<5	<5	<5	<5	<20	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5
	30-Jun-95	CEC	CEC	8015/8020		390																																
	18-Oct-95	CEC	CEC	8260	<20	400	<5	<5	<5	<5	<5	<20	12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	18-Oct-95	CEC	CEC	8015/8020		280																																
	30-Jan-96	CEC	CEC	8260	<20	180	<5	<5	<5	<5	<5	<20	22	<5	<5	<5	<5	<5	<5	<5	<5	<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		170																																
	26-Apr-96	CEC	CEC	8260	<20	160	<5	<5	<5	<5	<5	<20	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	26-Apr-96	CEC	CEC	8015/8020		190																																
OB-1	21-Jun-94	CEC	ARC	8260		83	<1 0	<1 0	<1 0	<1 0	<1 0		>1 0 & <5 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 & < 5 0	<1 0	<1 0	<1 0	>1 0 & <5.0	<1 0	<1 0	6.7	12	<1 0	<1.0	<1 0	<1 0
	21-Jun-94	CEC	ARC	8015																																		
	21-Jun-94	CEC	CEC	8260	<20	130	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	9	14	<5	<5	<5	<5
	21-Jun-94	CEC	CEC	8015																																		
	20-Oct-94	CEC	CEC	8260	120	48	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	9	10	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8015/8020		48																																
	25-Jan-95	CEC	CEC	8260	<20	180	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	8	10	<5	<5	<5	<5
	25-Jan-95	CEC	CEC	8015/8020		280																																
	26-Apr-95	CEC	CEC	8260	<20	190	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7	15	<5	<5	<5	<5
	26-Apr-95	CEC	CEC	8015/8020		200																																
	30-Jun-95	CEC	CEC	8260	<20	160	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	12	15	<5	<5	<5	<5
	30-Jun-95	CEC	CEC	8015/8020		140																																

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

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

FILE: H:\QUATTRO\SLWATNEW\WB1
prepared by JJM, 1/95
updated 7/25/96

Table 2: San Leandro Groundwater Analytical Data Summary

TCE

Well	Date Collected	Sample collection by	Lab	EPA Method	cis-1,3-dichloropropene (ug/l)	trans-1,3-dichloropropene (ug/l)	ethylbenzene (ug/l)	freon 113 (ug/l)	hexachlorobutadiene (ug/l)	2-hexanone (ug/l)	isopropylbenzene (ug/l)	p-isopropyltoluene (ug/l)	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)	1,1,1,2-tetrachloroethane (ug/l)	1,1,2,2-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)	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)
MW-1	17-Nov-89	IT	PAL	8010/8020			ND																	ND											ND			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 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0	29												
	21-Jun-94	CEC	ARC	8015																									18	<1.0	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0		<50
	21-Jun-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	20	<5	<5	<5	<5	<10	<5		<5	<5		
	21-Jun-94	CEC	CEC	8015																																				<50
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<10	<5		<5	<5		
	20-Oct-94	CEC	CEC	8015/8020			<0.3																	<0.3															<50
	25-Jan-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	16	<5	<5	<5	<5	<10	<5		<5	<5		
	25-Jan-95	CEC	CEC	8015/8020			<0.3																	<0.3															<50
MW-2	17-Nov-89	IT	PAL	8010/8020			ND																	ND					10										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 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0		
	21-Jun-94	CEC	ARC	8015																																				<50
	21-Jun-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<10	<5		<5	<5		
	21-Jun-94	CEC	CEC	8015																																				<50
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<10	<5		<5	<5		
	20-Oct-94	CEC	CEC	8015/8020			<0.3																	<0.3															<50
	25-Jan-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5		<5	<5		
	25-Jan-95	CEC	CEC	8015/8020			<0.3																	<0.3															<50
MW-3	17-Nov-89																																							
	21-Jun-94	CEC	ARC	8260	<1.0	<1.0	120		<1.0		13	>1.0 & <5.0	<1.0			18	33	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	63		<1.0		31	100		
	21-Jun-94	CEC	ARC	8015																																				2700
	21-Jun-94	CEC	CEC	8260	<5	<5	170	<5	<5	<20	17	<5	<5	<5		<5	43	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	120	22	<10	<5		40	150		
	21-Jun-94	CEC	CEC	8015																																				2900
	20-Oct-94	CEC	CEC	8260	<5	<5	90	<5	<5	<20	20	<5	<5	<5		29	43	9	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	150	46	<10	<5		58	140		
	20-Oct-94	CEC	CEC	8015/8020			96																	4.4															2900
	25-Jan-95	CEC	CEC	8260	<30	<30	80	<30	<30	<100	<30	<30	<30	<100		100	<30	<30	<30	<30	<30	<30	<30	410	<30	<30	<30	<30	<30	<30	<30	<30	350	80	<30	<30		59	160		
	25-Jan-95	CEC	CEC	8015/8020			86																	340															2800
	26-Apr-95	CEC	CEC	8260	<5	<5	640	<5	<5	<20	29	<5	<5	<20		150	83	5	<5	62	<5	<5	<5	1600	<5	<5	<5	<5	<5	<5	<5	<5	650	160	<10	<5		820	1000		
	26-Apr-95	CEC	CEC	8015/8020			720																	1700															7100
	30-Jun-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5		14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	54	40	<10	<5		760	1100		
	30-Jun-95	CEC	CEC	8015/8020			20																	1.7															14000
	18-Oct-95	CEC	CEC	8260	<5	<5	46	<5	<5	<20	9	<5	<5	<5		14	23	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	110	28	<10	<5		940	1500		
	18-Oct-95	CEC	CEC	8015/8020			46																	1.5															1600
	30-Jan-96	CEC	CEC	8260	<5	<5	160	<5	<5	<20	17	<5	<5	<20		85	57	5	<5	<5	<5	<5	<5	48	<5	<5	<5	<5	<5	<5	<5	<5	390	110	<10	<5		570	630		
	30-Jan-96	CEC	CEC	8015/8020			150																	48															2000
	26-Apr-96	CEC	CEC	8260	<5	<5	270	<5	<5	<20	19	<5	<5	<20	<5	89	65	7	<5	<5	<5	<5	<5	140	<5	<5	<5	<5	<5	<5	<5	<5	440	110	<10	<5		590	740		
	26-Apr-96	CEC	CEC	8015/8020			170																	100															6400
																																							5200
MW-4	16-Nov-90	IT	MCL	5030			720																	2000															32000
	21-Jun-94	CEC	ARC	8260	<1.0	<1.0	230		<1.0		43	>1.0 & <5.0	<1.0			46	54	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0	19	<1.0	<1.0	<1.0	<1.0	<1.0	15	<1.0	<1.0	<1.0	110		>1.0 & <5.0	27000	44	270		
	21-Jun-94	CEC	ARC	8015																																				8000
	21-Jun-94	CEC	CEC	8260	<30	<30	360	<30	<30	<100	50	<30	<30	<100		<30	60	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	530	110	<50	<30		50	530		
	21-Jun-94	CEC	CEC	8015																																				7600
	20-Oct-94	CEC	CEC	8260	<5	<5	240	<5	<5	<5	66	<5	<5	<20		96	78	8	<5	<5	<5	<5	<5	34	<5	<5	<5	<5	27	<5	<5	300	100	<10	<5		110	330		
	20-Oct-94	CEC	CEC	8015/8020			270																	33															7800
	25-Jan-95	CEC	CEC	8260	<30	<30	420	<30	<30	<30	<100	40	<30	<30		120	100	<30	<30	<30	<30	<30	<30	90	<30	<30	<30	<30	<30	<30	<30	<30	600	120	<50	<30		120	520		
	25-Jan-95	CEC	CEC	8015/8020			520																	110															9700
	26-Apr-95	CEC	CEC	8260	<5	<5	390	<5	<5	<20	51	<5	<5	<20		54	51	6	<5	<5	<5	<5	<5	17	<5	<5	<5	<5	14	<5	<5	490	81	<10	<5		310	550		
	26-Apr-95	CEC	CEC	8015/8020			250																	11															6100
	30-Jun-95	CEC	CEC	8260	<5	<5	570	<5	<5	<5	60	<5	<5	<20		98	110	10	<5	<5	<5	<5	<5	19	<5	<5	<5	<5	8	<5	<5	690	130	<10	<5		320	730		
	30-Jun-95	CEC	CEC	8015/8020			380																	18															9700
	18-Oct-95	CEC	CEC	8260	<5	<5	480	<5	<5	<5	53	<5	<5	<20		65	110	13	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	530	91	<10	<5		241	400		
	18-Oct-95	CEC	CEC	8015/8020			330																	5.4															7800
	30-Jan-96	CEC	CEC	8260	<5	<5	280	<5	<5	<5	34		<5	<20		85	89	10	<5	<5	<5	<5	<5	12	<5	<5	<5	<5	<5	<5	<5	500	120	<10	<5		101	190		
	30-Jan-96	CEC	CEC	8015/8020			310																	12															5900
	26-Apr-96	CEC	CEC	8260	<5	<5	240	<5	<5	<5	56	<5	<5	<20	<5	45	91	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	15	<5	<5	270	89	<10	<5		110	330		
	26-Apr-96	CEC	CEC	8015/8020			230																	3.6															5900
																																							160
																																						5400
OB-1	21-Jun-94	CEC	ARC	8260	<1.0	<1.0	10		<1.0		28	<1.0	<1.0			>1.0 & <5.0	5.4	<1.0 & >5.0	<1.0	<1.0	<1.0	<1.0	<1.0	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0	31	<1.0	<1.0	>1.0 & <5.0	<1.0		<1.0		>1.0 & <5.0	6.6		
	21-Jun-94	CEC	ARC	8015																																				2800
	21-Jun-94	CEC	CEC	8260	<5	<5	10	<5	<5	<20	39	<5	<5	<20		<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	42	<5	<5	<5	<5	<10	<5		<5	7		
	21-Jun-94	CEC	CEC	8015																																				1600
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	30	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	66	<5	<5	<5	<5	<10	<5		<5	<5		
	20-Oct-94	CEC	CEC	8015/8020			5.2																	3.3															2800
	25-Jan-95	CEC	CEC	8260	<5	<5	32	<5	<5	<20	30	44	<5	<20		<5	11	<5	<5	<5	<5	<5	<5	39	<5	23	<5	<5	27	<5	<5	<5	<5	<10	<5		0.9	5		
	25-Jan-95	CEC	CEC	8015/8020			24																	29															3900
	26-Apr-95	CEC	CEC	8260	<5	<5	10	<5	<5	<20	38	<5	<5	<20		<5	8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	57	<5	<5	51	<5	<10	<5		21	45		
	26-Apr-95	CEC	CEC	8015/8020			7.4																	3.4															
	30-Jun-95	CEC	CEC	8260	<5	<5	17	<5	<5	<20	48	<5	<5	<20		<5	11	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	55	<5	<5	8	<5	<10	<5		15	35		
	30-Jun-95	CEC	CEC	8015/8020			15																	7															2400
																																							2600

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

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prepared by JJM, 1/95
updated 7/25/96

Table 2: San Leandro Groundwater Analytical Data Summary

1,2-DCA

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)	1 2-dibromo 3-chloro-propane (ug/l)	1,2 di-bromo methane (ug/l)	dibromo-methane (ug/l)	1,2-di-chloro-benzene (ug/l)	1,3-di-chloro-benzene (ug/l)	1,4-di-chloro-benzene (ug/l)	dichloro-difluoro-methane (ug/l)	1,1-di-chloro-ethane (ug/l)	1,2-di-chloro-ethane (ug/l)	1,1-di-chloro-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)
VW-5	30-Jun-95	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<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 4																																	
VW-6	30-Jun-95	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<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 4																																	
VW-8	28-Jul-95	CEC	CEC	8260	<20	260	<5	<5	<5	<5	<5	<5	<20	9	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5
	28-Jul-95	CEC	CEC	8015/8020		280																																	
	18-Oct-95	CEC	CEC	8260	<20	290	<5	<5	<5	<5	<5	<5	<20	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	18-Oct-95	CEC	CEC	8015/8020		15																																	
	30-Jan-96	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<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		18																																	
	26-Apr-96	CEC	CEC	8260	<20	41	<5	<5	<5	<5	<5	<5	<20	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	26-Apr-96	CEC	CEC	8015/8020		34																																	
VW-9	28-Jul-95	CEC	CEC	8260	<20	6600	<5	<5	<5	<5	<5	<20	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	33	<5	6	<5	<5	<5	<5	<5	<5
	28-Jul-95	CEC	CEC	8015/8020		7500																																	

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PAL - Precision Analytical Laboratory, Inc

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prepared by: JJM, 1/95
updated 7/25/96

Table 2: San Leandro Groundwater Analytical Data Summary

Well	Date Collected	Sample collection by	Lab	EPA Method	cis-1,3-dichloropropene (ug/l)	trans-1,3-dichloropropene (ug/l)	ethylbenzene (ug/l)	freon 113 (ug/l)	hexachlorobutadiene (ug/l)	2-hexanone (ug/l)	isopropylbenzene (ug/l)	p-isopropyltoluene (ug/l)	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)	1,1,1,2-tetrachloroethane (ug/l)	1,1,2,2-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)	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)
VW-5	30-Jun-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<0.3	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5		<5	<5		
	30-Jun-95	CEC	CEC	8015/8020			<0.3																														<0.4	<0.4		<50
VW-6	30-Jun-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<5	<5	<5	<5	<5	<0.3	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5		<5	<5		
	30-Jun-95	CEC	CEC	8015/8020			<0.3																														<0.4	<0.4		<50
VW-8	28-Jul-95	CEC	CEC	8260	<5	<5	210	<5	<5	<20	21	<5	<5	<20		46	57	6	<5	<5	<5	<5	<5	44	<5	<5	<5	<5	<5	<5	<5	<5	270	61	<10	<5		130	210		
	28-Jul-95	CEC	CEC	8015/8020			230																	570														89	180		5300
	18-Oct-95	CEC	CEC	8260	<5	<5	200	<5	<5	<20	17	<5	<5	<20		32	45	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5	<5	<5	170	21	<10	<5		31	89		
	18-Oct-95	CEC	CEC	8015/8020			0.6																	0.3														<0.4	<0.4		500
	30-Jan-96	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20		<5	<5	<5	<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			7.2																	1.5														2.6	2.9		50
	25-Apr-96	CEC	CEC	8260	<5	<5	91	<5	<5	<20	9	<5	<5	<20	<30	18	25	<5	<5	<5	<5	<5	<5	41	<5	<5	<5	<5	<5	<5	<5	<5	91	93	<10	<5		49	120		
	25-Apr-96	CEC	CEC	8015/8020			58																	31														35	80		1400
VW-9	28-Jul-95	CEC	CEC	8260	<5	<5	970	<5	<5	<20	48	<5	<5	<20		240	120	9	<5	<5	<5	<5	<5	2600	<5	<5	<5	<5	<5	<5	<5	<5	650	190	<10	<5		1100	1900		
	28-Jul-95	CEC	CEC	8015/8020			1100																	3500														1200	2400		32000

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

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

FILE: H:\QUATTRO\SLWATNEW.WB1
prepared by: JJM, 1/95
updated 7/25/96

Table 3

Record of Daily Monitoring
Soil Vapor Extraction System
Ingersoll-Rand Equipment Sales
San Leandro, California

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

Date	Time	Blower/ Vessel #1	Vessel #1/ Vessel #2	Vessel #2/ Vessel #3	Vessel #3/ Exhaust	Comments
10/5/95	4:00 PM	177.0	1.1	0.3	0.0	
10/6/95	3:30 PM	172.0	1.1	0.0	0.0	
10/9/95	3:00 PM	158.0	1.9	0.3	0.0	
10/10/95	6:00 AM	165.0	1.9	0.3	0.0	
10/11/95	8:00 AM	158.0	1.9	0.3	0.0	
10/12/95	5:00 PM	154.0	1.1	0.3	0.0	
10/13/95	4:45 PM	152.0	1.9	0.3	0.0	
10/14/95	11:00 AM	148.0	1.9	0.3	0.0	
10/16/95	12:00 PM	148.0	1.9	0.3	0.0	
10/17/95	1:25 PM	147.0	1.3	0.3	0.0	
10/18/95	12:00 PM	146.0	1.2	0.3	0.0	
10/19/95	5:00 PM	126.0	1.9	0.3	0.0	
10/20/95	5:00 PM	130.0	1.9	0.4	0.0	
10/21/95	7:39 AM	132.0	1.5	0.4	0.0	
10/22/95						Sunday off
10/23/95	8:25 AM	125.0	2.3	0.3	0.0	
10/24/95	12:00 PM	115.0	1.9	0.2	0.0	
10/25/95	5:00 PM	112.0	2.3	0.1	0.0	
10/26/95	12:00 PM	110.0	2.4	2.2	1.2	
10/27/95	12:00 PM	111.0	2.3	2.2	1.2	
10/28/95	3:30 PM	109.0	2.7	2.2	1.7	
10/30/95	5:00 PM	101.0	2.6	3.1	3.0	
10/31/95	1:00 PM	103.0	2.6	3.5	2.6	
11/1/95						
11/7/95		89.0	2.0	0.2	0.0	with Toxi RAE
11/7/95		101.0	2.7	2.6	1.0	with Toxi RAE
11/8/95		109.0	2.8	0.5	3.0	with Toxi RAE
11/9/95						Shut down 11-9 to 11-14 to test meter
11/14/95		69.0	0.8	0.2	0.2	with Mini RAE
11/15/95		68.2	0.6	0.4	0.2	with Mini RAE
11/16/95		69.1	0.8	0.4	0.2	outside = 12.0
11/17/95						shut down 11-17 to 11-22 to test meters
11/22/95		70.2	0.7	0.4	0.2	outside = 2.0
11/23/95						shut off 11-23 to 11-27 for holiday
11/27/95	3:00 PM	71.5	0.8	0.6	0.3	outside = 2.1
11/28/95	5:00 PM	72.0	0.7	0.4	0.2	outside = 2.0
11/29/95	8:25 AM	71.1	0.8	0.4	0.2	outside = 2.1
11/30/95	4:15 PM	70.2	0.8	0.5	0.1	outside = 2.0
12/1/95	5:25 PM	69.8	0.6	0.4	0.2	outside = 2.1
12/2/95	1:52 PM	70.2	0.8	0.4	0.1	outside = 2.0

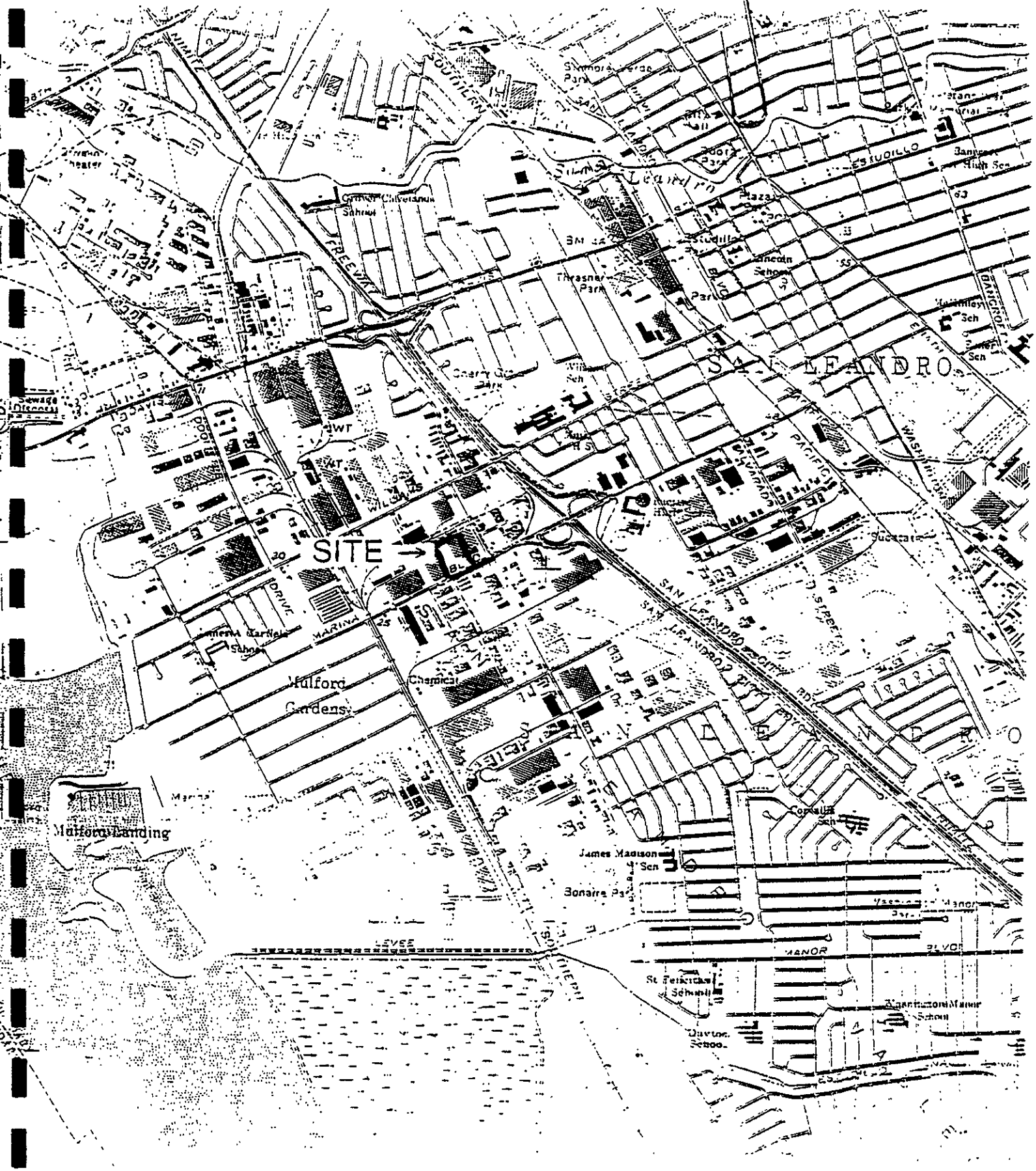
Date	Time	Blower/ Vessel #1	Vessel #1/ Vessel #2	Vessel #2/ Vessel #3	Vessel #3/ Exhaust	Comments
12/4/95	4:00 PM	70.2	0.9	0.5	0.2	outside = 2.5
12/5/95	5:00 PM	69.5	0.8	0.6	0.2	outside = 2.6
12/6/95	5:00 PM	70.5	0.7	0.4	0.2	outside = 2.4
12/7/95	12:50 PM	69.8	0.8	0.5	0.1	outside = 2.5
12/8/95	5:00 PM	70.2	0.7	0.4	0.2	outside = 2.4
12/13/95	12:25 PM	69.2	0.9	0.6	0.2	outside = 2.6
12/14/95	5:00 PM	70.3	0.8	0.4	0.2	outside = 2.5
12/15/95	5:00 PM	70.5	0.9	0.6	0.3	outside = 2.2
12/18/95	5:00 PM	69.8	1.7	0.3	0.0	
12/19/95	4:30 PM	68.8	1.6	0.2	0.0	
12/20/95	12:25 PM	67.0	1.3	0.5	0.0	
12/21/95	11:30 AM	69.8	1.7	0.7	0.1	
12/22/95	2:30 PM	67.0	2.3	0.2	0.0	
12/26/95	3:35 PM	63.2	1.3	0.1	0.0	
12/27/95	4:10 PM	59.9	0.8	0.1	0.0	
12/28/95	5:00 PM	58.7	0.6	0.0	0.0	
12/29/95	5:10 PM	58.3	0.4	0.0	0.0	
12/30/95						Shut down 12-30 to 1-9 no one to monitor
1/9/96		58.8	0.8	0.1	0.0	
1/10/96		56.8	0.6	0.1	0.0	
1/11/96		55.9	0.5	0.1	0.0	
1/12/96		55.2	0.5	0.1	0.0	
1/13/96		52.5	0.3	0.0	0.0	
1/14/96		51.6	0.3	0.0	0.0	
1/15/96		50.1	0.3	0.0	0.0	
1/22/96		51.6	0.3	0.0	0.0	
1/23/96		50.1	0.3	0.0	0.0	
1/24/96		49.2	0.3	0.0	0.0	
1/25/96		49.0	0.3	0.0	0.0	
1/26/96		48.7	0.2	0.0	0.0	
1/29/96		48.6	0.2	0.0	0.0	
1/30/96		47.9	0.2	0.0	0.0	
1/31/96						unit shut off for quarterly sampling
2/1/96		48.2	0.2	0.0	0.0	
2/2/96		48.7	0.2	0.0	0.0	
2/5/96		49.1	0.2	0.0	0.0	
2/6/96		48.7	0.2	0.0	0.0	
2/9/96						not reading
2/20/96						drained 18 gal.of water
2/21/96						water being exited out of exhaust
2/21/96		3.0	0.0	0.0	0.0	
2/22/96		3.0	0.0	0.0	0.0	
2/23/96		2.8	0.0	0.0	0.0	
2/24/96		2.6	0.0	0.0	0.0	
2/26/96		2.7	0.0	0.0	0.0	
2/27/96		2.9	0.0	0.0	0.0	
2/28/96		2.6	0.0	0.0	0.0	
2/29/96						drained water; tank 1/2 full.
3/1/96		2.4	0.0	0.0	0.0	
3/4/96		1.9	0.0	0.0	0.0	

Date	Time	Blower/ Vessel #1	Vessel #1/ Vessel #2	Vessel #2/ Vessel #3	Vessel #3/ Exhaust	Comments
3/5/96		2.0	0.0	0.0	0.0	
3/6/96		1.8	0.0	0.0	0.0	
3/7/96						drained water, tank 1/3 full
3/20/96		0.0	0.0	0.0	0.0	
3/21/96						no reading; drained water, 1/3 full
3/22/96		1.5	0.0	0.0	0.0	drained water
3/26/96		1.6	0.0	0.0	0.0	
3/27/96		1.7	0.0	0.0	0.0	
4/3/96		1.2	0.0	0.0	0.0	
4/4/96		1.4	0.0	0.0	0.0	
4/8/96		1.6	0.0	0.0	0.0	
4/9/96		2.8	0.0	0.0	0.0	
4/10/96		2.6	0.0	0.0	0.0	
4/11/96		2.9	0.0	0.0	0.0	
4/12/96		2.7	0.0	0.0	0.0	
4/15/96						system off; no readings
4/16/96						system off; no readings
4/17/96						system off; no readings
4/18/96						system off; no readings
4/19/96		6.9	0.0	0.0	0.0	
4/22/96		7.6	0.0	0.0	0.0	
4/23/96		8.4	0.0	0.0	0.0	
4/24/96		8.2	0.0	0.0	0.0	
4/25/96		7.6	0.0	0.0	0.0	drained water; 1/3 tank of water
4/26/96		7.1	0.0	0.0	0.0	
4/29/96		9.1	0.0	0.0	0.0	
4/30/96		9.1	0.0	0.0	0.0	
5/1/96		9.8	0.0	0.0	0.0	
5/2/96		9.6	0.0	0.0	0.0	
5/3/96		10.2	0.0	0.0	0.0	
5/6/96						system off, no readings
5/7/96		13.6	0.0	0.0		
5/8/96		14.4	0.0	0.0	0.0	
5/9/96		14.3	0.0	0.0	0.0	
5/10/96		14.4	0.0	0.0	0.0	
5/13/96						system off, no readings
5/14/96						system off, no readings
5/15/96		11.1	0.0	0.0	0.0	raining
5/16/96		10.4	0.0	0.0	0.0	raining
5/17/96						no readings
5/20/96						no readings
5/21/96						no readings
5/22/96						no readings
5/23/96						no readings
5/24/96						no readings
5/27/96						no readings
5/28/96						no readings
5/29/96						no readings
5/30/96						no readings
5/31/96						no readings

Date	Time	Blower/ Vessel #1	Vessel #1/ Vessel #2	Vessel #2/ Vessel #3	Vessel #3/ Exhaust	Comments
6/3/96		13.2	0.0	0.0	0.0	
6/4/96		13.6	0.0	0.0	0.0	
6/5/96		13.0	0.0	0.0	0.0	
6/6/96		13.5	0.0	0.0	0.0	
6/7/96		13.4	0.0	0.0	0.0	
6/10/96		15.5	0.0	0.0	0.0	
6/11/96		15.3	0.0	0.0	0.0	
6/12/96		16.0	0.0	0.0	0.0	
6/13/96		15.3	0.0	0.0	0.0	
6/14/96		15.1	0.0	0.0	0.0	
6/17/96		10.2	0.0	0.0	0.0	
6/18/96		12.5	0.0	0.0	0.0	
6/19/96		16.6	0.0	0.0	0.0	
6/20/96		17.2	0.0	0.0	0.0	
6/21/96		17.2	0.0	0.0	0.0	
6/24/96		19.1	0.0	0.0	0.0	
6/25/96		18.2	0.0	0.0	0.0	
6/26/96		17.2	0.0	0.0	0.0	
6/27/96		16.6	0.0	0.0	0.0	
6/28/96		16.1	0.0	0.0	0.0	

Prepared by: Lisa Melander, Feb. 1996
Updated by: John McDermott, Oct. 1996

[i:/staff/jmcderm/wpfiles/svemon.xls]

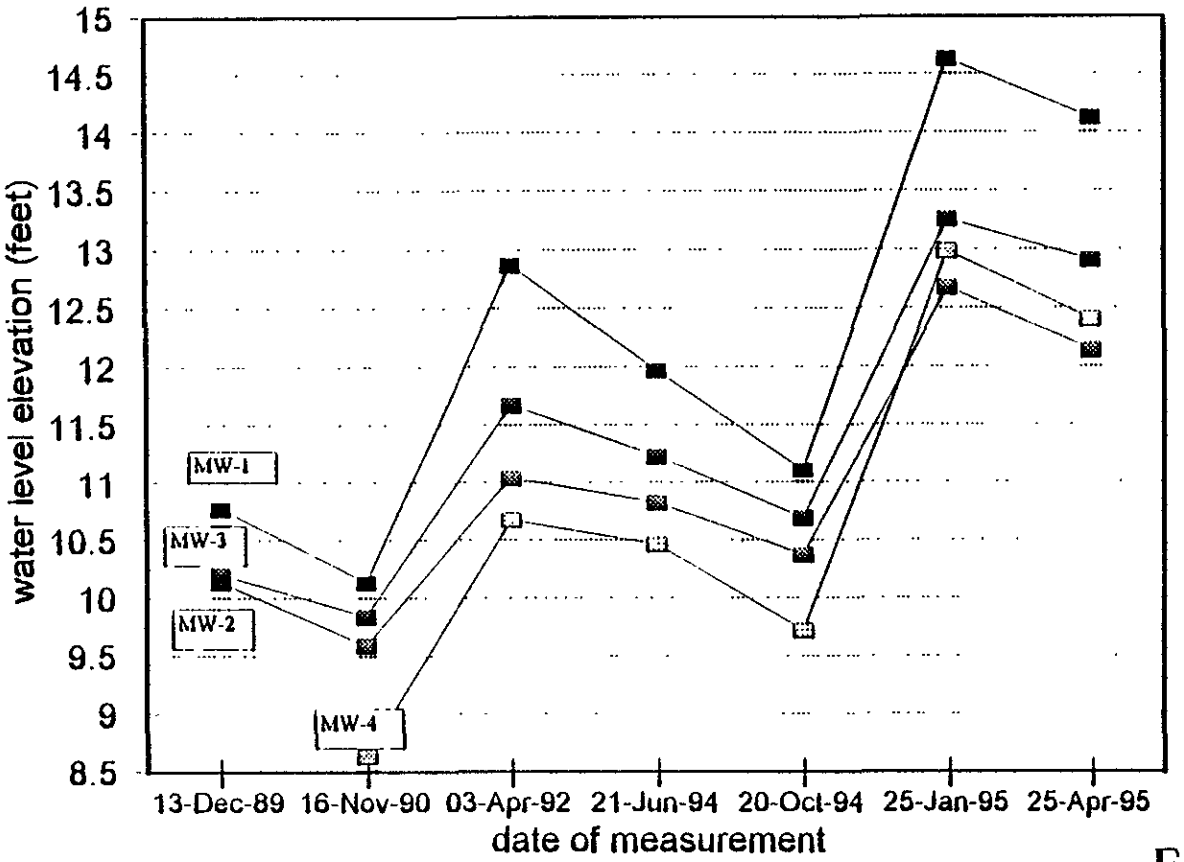


Source: San Leandro, California
7 ½ minute Quadrangle
U.S. Geological Survey
Photo revised 1980

Figure 1 - Site Location Map
San Leandro, California

Water Level Elevations

San Leandro, California



File H:\QUATTRO\SLWATLEV WBI.Graph1

Figure 2

Water Level Elevations
San Leandro, California

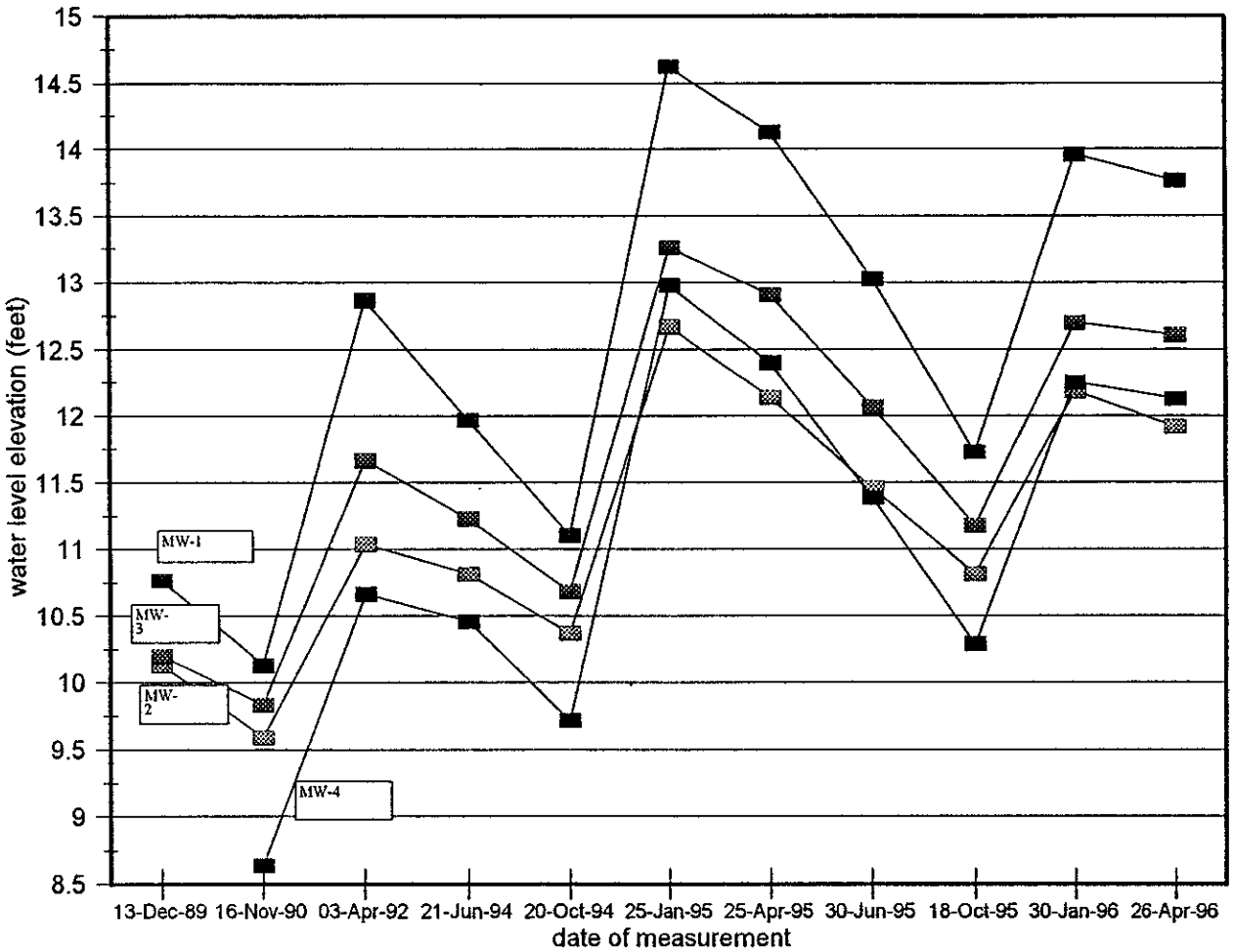
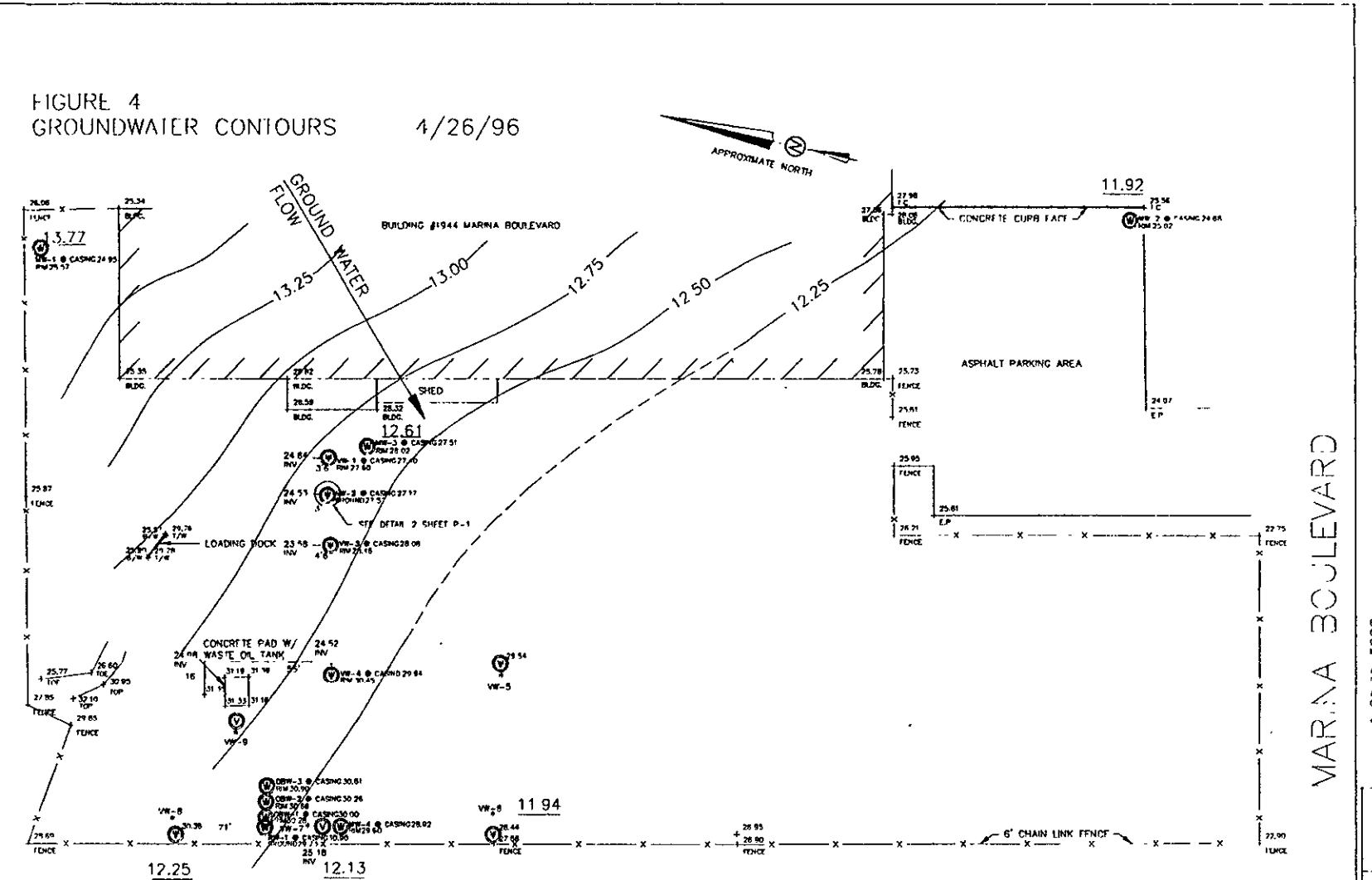


Figure 3

File H:\QUATTRO\SLWATLEV WB1 Graph1

FIGURE 4
GROUNDWATER CONTOURS 4/26/96



LEGEND	
T/C	TOP OF CURB
	BUILDING LINE
T/W	TOP OF WALL
B/W	BASE OF WALL
	FENCE LINE
	WELL LOCATION
	SOIL VAPOR WELL
E/P	EDGE OF PAVEMENT
TOP	TOP OF BANK
TOE	TOE OF SLOPE

11.96 GROUND WATER ELEVATION, (FEET ABOVE SEA LEVEL)

12.50 GROUND WATER CONTOUR (FEET ABOVE SEA LEVEL)

BASIS OF ELEVATIONS: CITY OF SAN LEANDRO BENCHMARK, CINCH NAIL ON TOP OF CURB AT STORM WATER INLET SOUTHEAST CORNER OF THE INTERSECTION OF MARINA BOULEVARD AND MERCED STREET, ELEVATION = 32.96'

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

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

* DENOTES APPROXIMATE LOCATION OF VW - 5 THRU 9

Approximate Scale: 1" = 85'

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

MORAN ENGINEERING
485 KENTUCKY AVENUE
94707
(510) 527-7744

CAPSULE
ENVIRONMENTAL ENGINEERING, INC
1970 OAKCREST AVE., SUITE 215
ST. PAUL, MINNESOTA 55113
(612) 636-2644

TITLE: GROUND WATER CONTOUR MAP 4/26/96
INGERSOLL-RAND CORPORATION
SAN LEANDRO, CALIFORNIA

REVISION	DATE	DESCRIPTION

SCALE	DRAWN BY	CHECKED BY	DATE	PROJECT NO.	DRAWING NO.	SHEET
NTS	MEC/JM		4/25/96	001-327		OF

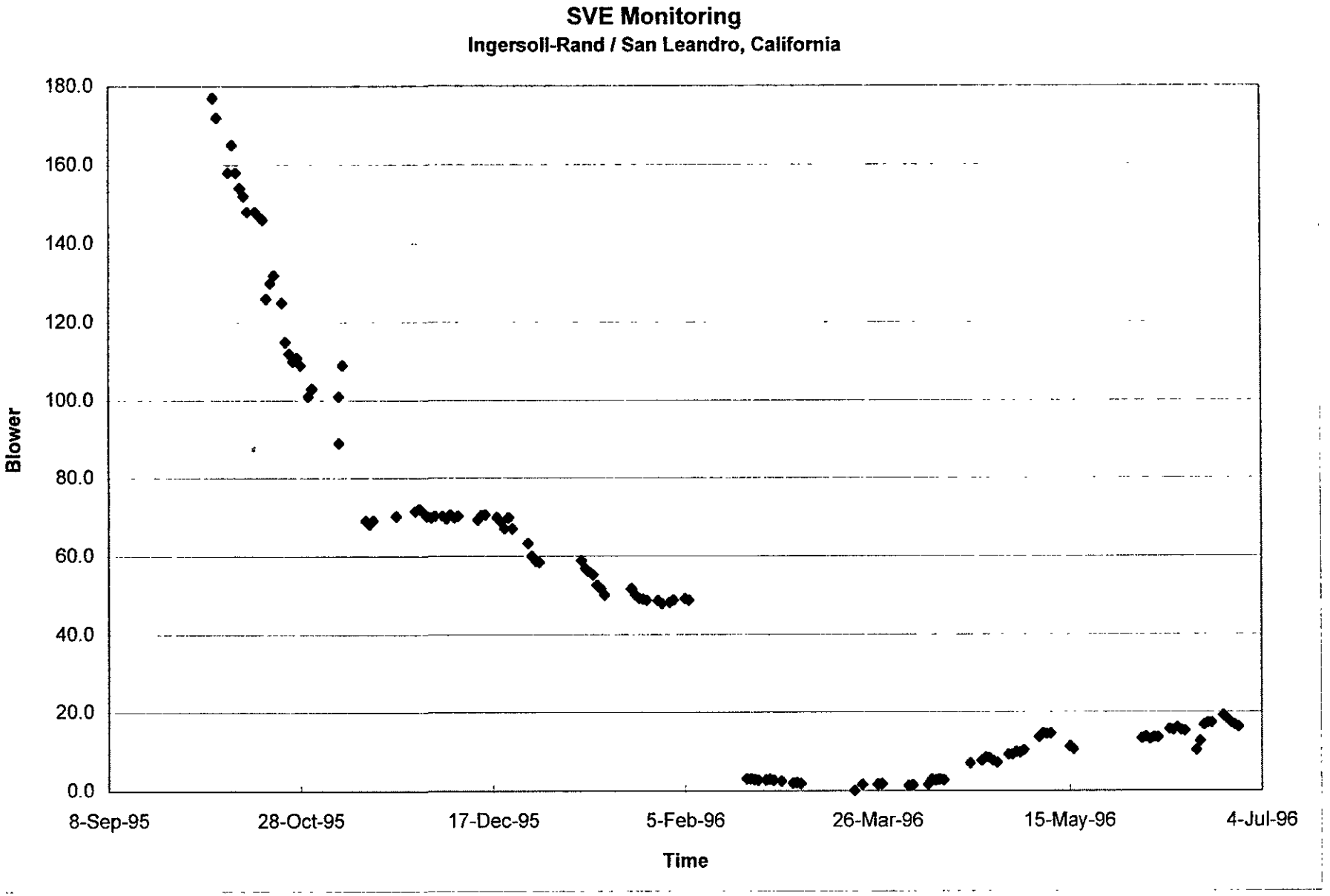

SVE Monitoring
Ingersoll-Rand / San Leandro, California
Blower
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
8-Sep-95
28-Oct-95
17-Dec-95
5-Feb-96
26-Mar-96
15-May-96
4-Jul-96
Time

Figure 5