CAPSULE®
ENVIRONMENTAL ENGINEERING, INC

June 5, 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 April 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 April 1996 was prepared to summarize the monitoring and corrective action activities for the period from January 1996 to April 1996.

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

Sincerely,

John McDermott
Hydrogeologist
Capsule Environmental Engineering, Inc.

Gerald E. Stuth, P.E.
Senior Project Manager
Braun Intertec Corporation

JJM:mmf
cc/enc. K. Graves/Regional Water Quality Control Board, Oakland, CA
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# Quarterly Report
# April 1996

## Prepared For:

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

June 5, 1996

# QUARTERLY REPORT
# APRIL 1996

Prepared For:

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

June 5, 1996

Prepared By:

CAPSULE
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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 April 1996 (April 1996 Report) provides the data and summary from the quarterly ground water monitoring event that was conducted in January 1996. Additionally, the April 1996 Report provides a brief summary of the continued operation of the redesigned soil vapor extraction system (SVE), which was placed in service in early October 1995.

## 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.

Comprehensive ground water sampling of monitoring wells was performed in November 1989, June and October of 1994, and January, April, June, and October 1995. 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 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-4, VW-5, VW-9, and three carbon vessels, described the new system.

The redesigned SVE system became operational during October 1995.

The facility received a December 8, 1995, letter from the State Water Resources Control Board, regarding the October 1995 Lawrence Livermore National Laboratory report on leaking USTs.

## 2.0 GROUND WATER DATA SUMMARY

The January 1996 ground water sampling event (January 1996 event) included monitoring wells MW-3, MW-4, and vent well VW-8. The January 1996 event was performed on January 30, 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 chains of custody, 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 January 1996 event. The field measurements are recorded in the stabilization tests found in Appendix A. A summary of all water level data from wells and measuring point elevations is provided in Table 1.

During the January 1996 event, water level elevations beneath the facility ranged between 12.13 to 13.96 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 up 1.37 to 2.23 feet from the October 1996 measurements. Water levels reversed a year long decline that began after January 1995 water table elevations that were period of record 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 October 1995 rainfall was 0.04 inches. November, December, and January rainfall was 0.00, 4.37 and 4.61 inches respectively.

### 2.1.1 Ground Water Gradient

The shallow ground water in the area of the facility appears to respond 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 January 1996 event are shown in Figure 4. From the October 1995 to the January 1996 event a flexure developed in the contours. The flexure is a trough-like feature in the contours, trending generally northeast to southwest. This feature was also noted in the water level data in January 1995 (see Figure 6, Quarterly Report, April 1995.) 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 year.

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) | 0.007 | Capsule, Quarterly Monitoring Report, April 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 0.21 feet per day, or 77 feet per year was calculated from these estimates. This velocity is considered low. Appendix B presents the velocity calculations. For comparison purposes the estimate from the June 1995 measurements was 0.15 feet per day or 55 feet per year.

## 2.2 GROUND WATER ANALYTICAL DATA

The January 1996 event water samples were analyzed using the 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 January 1996 event. MW-3 concentrations were generally higher or lower than October 1995 event. MW-4 concentrations were generally in the same range as previous sampling events. The sample collected from VW-8 detected similar gasoline constituents in lower concentrations than detected during the prior two quarterly 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 for EPA methods 8020 and 8260. The laboratory reported considerably different results for VW-8 between the two methods. The laboratory noted that the VW-8 samples were "heterogeneous." The laboratory results from EPA methods 8260 and 8020 vary by an order of magnitude. After verifying the results with analysis of second vials and getting comparable results, the laboratory concluded that the samples themselves were heterogeneous. This is the second occurrence of this phenomenon in VW-8. There is no information in either the well construction procedures or well stabilization records to clarify the situation. During the April 1996 sampling, additional measures will be performed that may help clarify the heterogeneity.

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.

### 2.2.1 Chlorinated Organics

Chlorinated VOC detections have been found in monitoring wells.

#### 2.2.1.1 Trichloroethene (TCE)

Throughout the period of record, MW-1 and MW-2, which are on the upgradient part of the facility, have consistently shown TCE detections ranging from 5 to 29 micrograms/liter ($\mu$g/l).

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

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

Analytical results from MW-4 did not detect TCE at the detection limit.

TCE was not detected in the October 1995 event. Prior to this, TCE concentrations in MW-4 ranged from nondetection to 27 microgram/liter (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

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.

Over the period of record, trans-1,2-dichloroethene has been detected in MW-4 and OB-1. For the past three 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

In previous sampling events, chlorobenzene results in MW-3 ranged from nondetect to 19 μg/l. During the January 1996 event, chlorobenzene was detected at 14 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 0.030 mg/l or 30 μg/l.

#### 2.2.1.4 Dichlorobenzene Isomers

The three isomers of dichlorobenzene were detected in MW-3 in concentrations similar to slightly lower than 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 January 1996 event, 1,4-dichlorobenzene was detected at 11 μg/l in MW-3. Previous detections ranged from 11 to 18 μg/l. Isomer 1,3-dichlorobenzene was detected at 5 μg/l in MW-3. Previous detections ranged from 6.6 to 9 μg/l. Isomer 1,2-dichlorobenzene was detected at 42 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 proposed California MCL, which is 0.6 mg/l or 600 μg/l. There is no California MCL for 1,3-dichlorobenzene.

#### 2.2.1.5 1,2 Dichloroethane

During the January 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.

No 1,2 dichloroethane was detected in MW-3. Earlier reports mistakenly stated that the 1,2 dichloroethane detections were in MW-3. Typical uses for the compound include use as a solvent and as a lead scavenger in anti-knock gasoline.

During the January 1996 event, 1,2 dichloroethane was not detected in VW-8. The June 1995 event indicated 6 μg/l.

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

### 2.2.2 Aromatic Organics

During the January 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 January 1996 event, benzene was detected in MW-3 at 290 μg/l. Previous benzene concentrations ranged from 9 μg/l in October 1994 to 1,200 μg/l in April 1995. This concentration compares to 21μg/l detected in October 1995. An increase in MW-3 occurred in late 1994 when benzene went from 9.8 to 970 μg/l between October 1994 and January 1995 sampling events. The increase during late 1995 was significantly lower.

Overall, the increases are attributed to a higher late winter water table and the accompanying flushing of residual gasoline in soils in the area of MW-3, which is near the former gasoline UST site.

Benzene was detected in MW-4 at 180 μg/l. This is the lowest benzene value recorded for MW-4. Previous concentrations ranged from 260 to 600 μg/l. A sample from late 1990 reported 1,500 μg/l.

Benzene was detected in VW-8 at 18 μg/l. While this value is significantly lower than previous concentrations, the laboratory has raised questions about the "homogeneity" of the samples. This question is 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 January 1996 event, concentrations ranged from 7.2 to 490 μg/l.

The ethylbenzene concentration detected in MW-3 was 160 μg/l. Historically, MW-3 ethylbenzene concentrations ranged from 20 to 720 μg/l.

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

Ethylbenzene was also detected in VW-8 at a concentration of 7.2 μg/l. There is a "sample homogeneity" question with this sample and analysis. It is discussed in Section 2.2.

The California MCL for ethylbenzene is 0.680 mg/l or 680 μg/l.

### 2.2.2.3 Toluene

Toluene detections in MW-3, MW-4, and VW-8 were 48, 12, and 1.5 μg/l, respectively.

Previous detections in MW-3 have ranged from 4 to 1,700 μg/l. The January 1996 concentration of 48 μg/l is up from the period of record low observed during the October 1995 event. This January 1996 result is an order of magnitude lower than the January 1995 result of 410 μg/l. The seasonal fluctuations in toluene concentrations are similar to fluctuations for benzene and xylene concentrations.

MW-4 toluene concentrations range from 6 to 110 μg/l. The 12 μg/l detected during the January 1996 event was the similar to that recorded for the lowest recorded for the period of record.

The VW-8 toluene concentration was 1.5 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 January 1996 event.

O-xylene was detected at 590 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 740 μg/l in MW-3. Previous MW-3 concentrations of p and m-xylenes ranged from 41 to 2,100 μg/l. The higher xylene concentrations appear to be the result of flushing of residual gasoline from the soil in the MW-3 area.

In MW-4 o-xylene was detected 110 μg/l. Previous MW-4 concentrations ranged from 24 to 320 μg/l for o-xylene. P and m-xylenes were detected at 380 μg/l. Previous MW-4 concentrations ranged from 270 to 730 μg/l. The o-xylene concentration was an order of magnitude higher than detected during the October 1995 event. The p and m-xylene concentration for the October 1995 event was 250 μg/l.

Xylene isomers were also detected in VW-8. O-xylene was detected in VW-8 at 2.6 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 69 μg/l. During the June 1995 event, 210 μg/l was detected.

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 January 1996 event, naphthalene was detected in MW-3 and MW-4.

Naphthalene was detected at 85 μg/l in MW-3. Previous MW-3 concentrations ranged from 14 to 150 μg/l. The October 1995 concentration was 14 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 85 μg/l. Previous MW-4 concentrations range from 46 to 120 μg/l.

Naphthalene was not detected in VW-8. Previous detections were 32 and 46μg/l for the sampling period which began in June 1995.

### 2.2.2.6 Trimethylbenzene

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

The compound 1,2,4 trimethylbenzene was detected at 390 μg/l in MW-3 during the January 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 January 1996 event, 1,2,4 trimethylbenzene was detected at 500 μg/l in MW-4. Previous MW-4 concentrations range from 300 to 600 μg/l. In MW-4, 1,3,5 trimethylbenzene was detected at 120 μg/l. Previous MW-4 concentrations range from 100 to 130 μg/l.

During the January 1996 event, 1,2,4 trimethylbenzene was not detected in VW-8. The two previous concentrations were 170 and 270 μg/l. 1,3,5 trimethylbenzene was not detected. The two previous concentrations were 21 and 61 μg/l.

### 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 January 1996 event, these VOCs were detected in concentrations similar to those of previous sampling. Individual concentrations were generally less than 50 μg/l. The exception was the MW-4 n-propylbenzene concentration of 89 μg/l.

2.2.2.8 Total Petroleum Hydrocarbons (TPH) as Gasoline

TPH, as gasoline, was detected at 6,400 μg/l in MW-3 during the January 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 5,900 μg/l. For the period of record, MW-4 concentrations ranged from 5,900 to 9,700 μg/l. The highest concentration occurred in the January 1995 result.

The VW-8 concentration was 50 μg/l. As previously discussed in Section 2.2, there are sampling and analytical questions with VW-8. The two previous concentrations were 500 and 5,300 μg/l.

## 3.0 SOIL VAPOR EXTRACTION SYSTEM (SVE) ACTIVITY SUMMARY

This portion of the January 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 contaminants 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.

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 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 on operation. Additionally, high water levels in vents caused occasional operating interruptions.

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. As the operating records indicate, water was more prevalent in the system than in the previous quarter. This was due to the higher rainfall for the January through March quarter.

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 have been very low since mid-February. These low levels likely result from higher winter water levels that submerge residual gasoline in soil pore spaces.

## 4.0 CONCLUSIONS

The conclusions combine observations, data, and evaluation for the January 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 data for the initial quarter of SVE system operation.

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 five 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 rose from October 1995 to January 1996. The rise was not as great as in January 1995.

The shallow ground water flows through a sequence of saturated sands, silts, and clays. During the January 1996 event, the ground water gradient was 0.007. The water table elevation varied from 12.1 to 13.96 feet above sea level and its velocity is estimated at 55 feet per year. Flow is to the southwest.

The January 1996 ground water elevations in facility monitoring wells reversed yearlong declines.

Seasonally, ground water levels in facility monitoring wells respond fairly uniformly. Ground water flow is to the southwest.

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

BETX constituents from the monitoring well MW-3, near the former UST, increased during the January 1996 event. The increases are likely the result of the rising water levels into sediments containing residual gasoline.

Gasoline constituents were detected in four 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.

## 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.

# 6.0 RECOMMENDATIONS

## 6.1 RECOMMENDATION 1

The SVE system should continue to operate to maximize the removal of remaining gasoline constituents in 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

In order to estimate the total hydrocarbon mass removed by the redesigned SVE system, sampling of the blower discharge and analysis of the samples for BETX and THC as gasoline is recommended.

## 6.3 RECOMMENDATION 3

Quarterly sampling should be continued quarterly through the June 1996 event. At that time, an evaluation of the sampling program should be performed and appropriate modifications, if any, offered in a letter type report to the regulatory agencies.

## 7.0 REFERENCES


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Clayton
ENVIRONMENTAL
CONSULTANTS

February 23, 1996

Mr. Jay S. Mattsfield
CAPSULE ENVIRONMENTAL ENGINEERING, INC.
1970 Oakcrest Avenue, Suite 213
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Clayton Project No. 67552.00

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 January 30, 1996 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Upon arrival at the site on January 30, 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,

Dariush Dastmalchi
Geologist

DD/dd
Enclosures

# APPENDIX A

# FIELD SURVEY FORMS

## CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

## WATER SAMPLING FIELD SURVEY FORM

**Project #:** 6755200 **Site:** INGERSOLL-RAND **Date:** JAN. 30, 1996

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

**Sampling Method:** DISPOSABLE BAILER

**Field Conditions:** CLOUDY, COOL, WINDY

**Describe Equipment D-Con Before Sampling This Well:**

**Total Depth of Well:** 20.24 feet **Time:** 1023 **Depth to Water Before Pumping:** 14.81 feet

**Height of Water Column:** 5.43 feet * **Diameter** 2-inch .16 / 4-inch (.65) = **Volume** 3.53 gal * **Purge Factor** 4 = **Volume To Purge** 14.12 gal

**Depth Purging From:** 20 feet **Time Purging Begins:** 1230

**Notes on Initial Discharge:** GRAYISH, SILTY, SLIGHT ODOR

| Time | Volume Purged | pH | Conductivity | T | Notes |
|---|---|---|---|---|---|
| 1232 | 3-GAL | 7.0 | 712 | 19.4 | CLEAR |
| 1236 | 6-GAL | 7.0 | 710 | 19.5 | CLEAR |
| 1239 | 9-GAL | 7.0 | 716 | 19.6 | CLEAR |
| 1242 | 12-GAL | 7.1 | 698 | 19.6 | CLEAR, PURGED DRY |
| 1252 | 15-GAL | 7.2 | 671 | 19.6 | CLEAR |

## CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

## WATER SAMPLING FIELD SURVEY FORM

**Project #:** 6755200 **Site:** INGERSOLL-RAND **Date:** JAN. 30, 1996

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

**Sampling Method:** _____

**Field Conditions:** _____

_____

**Describe Equipment D-Con Before Sampling This Well:** _____

_____

_____

**Total Depth of Well:** _____ feet **Time:** 1020 **Depth to Water Before Pumping:** 12.49 feet

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

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

**Notes on Initial Discharge:** _____

| Time | Volume Purged | pH | Conductivity | T | Notes |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
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## CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

## WATER SAMPLING FIELD SURVEY FORM

**Project #:** 67552.00 **Site:** INGERSOLL-RAND **Date:** JAN. 30, 1996

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

**Sampling Method:** _____

**Field Conditions:** _____

_____

***Describe Equipment D-Con Before Sampling This Well:*** _____

_____

_____

**Total Depth of Well:** _____ **feet** **Time:** 1016 **Depth to Water Before Pumping:** 10.99 **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 |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
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## CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

## WATER SAMPLING FIELD SURVEY FORM

**Project #:** 67552.00 **Site:** INGERSOLL-RAND **Date:** JAN. 30 1996

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

**Sampling Method:** DISPOSABLE BAILER

**Field Conditions:** CLOUDY, COOL, WINDY

**Describe Equipment D-Con Before Sampling This Well:**

**Total Depth of Well:** 25.32 feet **Time:** 1032 **Depth to Water Before Pumping:** 21.38 feet

| Height of Water Column | | Diameter 2-inch | Diameter 4-inch | | Volume | | Purge Factor | | Volume To Purge |
|---|---|---|---|---|---|---|---|---|---|
| 3.93 feet | * | .16 | (.65) | = | 2.64 gal | * | 4 | = | 10.56 gal |

**Depth Purging From:** 25 feet **Time Purging Begins:** 1149

**Notes on Initial Discharge:** GRAYISH SILTY, NO ODOR

| Time | Volume Purged | pH | Conductivity | T | Notes |
|---|---|---|---|---|---|
| 1155 | 2-GAL | 7.0 | 205 | 18.9 | CLEAR |
| 1153 | 4-GAL | 7.0 | 238 | 18.9 | CLEAR |
| 1156 | 6-GAL | 7.0 | 272 | 18.9 | CLEAR PURGED DRY |
| 1210 | 8-GAL | 6.8 | 267 | 19.0 | CLEAR |
| 1212 | 10-GAL | 6.9 | 302 | 19.1 | CLEAR PURGED DRY |

## CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

## WATER SAMPLING FIELD SURVEY FORM

Project #: 6755200 Site: INGERSOLL-RAND Date: JAN. 30, 1996

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

Sampling Method: _____

Field Conditions: _____

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: _____ feet Time: 1029 Depth to Water Before Pumping: 19.79 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

**Project #:** 67552.00 **Site:** INGERSOLL-RAND **Date:** JAN. 30, 1996

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

**Sampling Method:** DISPOSABLE BAILER

**Field Conditions:** CLOUDY, COOL, SLIGHT BREEZE

**Describe Equipment D-Con Before Sampling This Well:**

**Total Depth of Well:** 27.90 feet **Time:** 1020 **Depth to Water Before Pumping:** 16.67 feet

| Height of Water Column: | | Diameter 2-inch | Diameter 4-inch | | Volume | | Purge Factor | | Volume To Purge |
|---|---|---|---|---|---|---|---|---|---|
| 11.23 feet | * | .16 | (.65) | = | 7.30 gal | * | 4 | = | 29.20 gal |

**Depth Purging From:** 27 feet **Time Purging Begins:** 1048

**Notes on Initial Discharge:** GRAYISH, SILTY SLIGHT ODOR

| Time | Volume Purged | pH | Conductivity | T | Notes |
|---|---|---|---|---|---|
| 1056 | 10-GAL | 6.9 | 563 | 18.9 | CLEAR |
| 1106 | 15-GAL | 6.9 | 584 | 19.0 | CLEAR PURGED DRY |
| 1111 | 20-GAL | 6.9 | 708 | 18.9 | CLEAR |
| 1115 | 25-GAL | 6.9 | 673 | 18.9 | CLEAR |
| 1120 | 30-GAL | 6.9 | 681 | 18.9 | CLEAR |

# APPENDIX B

# ANALYTICAL REPORTS

**Western Operations**

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

Clayton
ENVIRONMENTAL
CONSULTANTS

February 12, 1996

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

Client Ref.: 67552.00
Clayton Project No.: 96013.07

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on January 30, 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 March 13, 1996, unless you have requested otherwise.

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

Sincerely,

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

HAH/tjb

Attachments

QUALITY CONTROL NARRATIVE
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.00
Clayton Project No. 96013.07

**Sample Information/Problems:**

There were no problems with sample receipt.

**Analytical Problems:**

A discrepancy was noted in results for sample VW-8. Fraction A showed positive results for Gas and BTEX by EPA Method 8020 while fraction C did not by EPA Method 8260. Analysis of sample duplicates was performed. Fraction D showed the same results as fraction C by EPA Method 8260. Fraction B showed result for Gas/BTEX almost ten times higher than the original analysis of fraction A by EPA Method 8020. Results for fraction B were also confirmed by EPA Method 8260. The sample appears to be heterogeneous. Results from the original analyses are included in this report. No other 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, and all results were acceptable.
- 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | MW-3 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-01C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| Volatile Organic Compounds | | | |
| Acetone | 67-64-1 | ND | 20 |
| Benzene | 71-43-2 | 260 | 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 | 20 | 5 |
| Carbon disulfide | 75-15-0 | ND | 5 |
| Carbon tetrachloride | 56-23-5 | ND | 5 |
| Chlorobenzene | 108-90-7 | 14 | 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 | 42 | 5 |
| 1,3-Dichlorobenzene | 541-73-1 | 5 | 5 |
| 1,4-Dichlorobenzene | 106-46-7 | 11 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | MW-3 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-01C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 | 160 | 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 | 17 | 5 |
| p-Isopropyltoluene | 99-87-6 | ND | 5 |
| Methylene chloride | 75-09-2 | ND | 5 |
| 4-Methyl-2-pentanone | 108-10-1 | ND | 20 |
| Naphthalene | 91-20-3 | 85 | 5 |
| n-Propylbenzene | 103-65-1 | 57 | 5 |
| sec-Butylbenzene | 135-98-8 | 5 | 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 | 46 | 5 |
| 1,2,3-Trichlorobenzene | 87-61-6 | ND | 5 |
| 1,2,4-Trichlorobenzene | 120-82-1 | ND | 5 |
| 1,1,1-Trichloroethane | 71-55-6 | ND | 5 |
| 1,1,2-Trichloroethane | 79-00-5 | ND | 5 |
| Trichloroethene | 79-01-6 | ND | 5 |
| Trichlorofluoromethane | 75-69-4 | ND | 5 |

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | MW-3 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-01C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| **Volatile Organic Compounds (Continued)** | | | |
| 1,2,3-Trichloropropane | 96-18-4 | ND | 5 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 390 | 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 | 570 | 5 |
| p,m-Xylenes | -- | 630 | 5 |
| **Surrogates** | | **Recovery (%)** | **QC Limits (%)** |
| 4-Bromofluorobenzene | 460-00-4 | 103 | 86 - 115 |
| Dibromofluoromethane | 1868-53-7 | 103 | 86 - 118 |
| 1,2-Dichloroethane-d4 | 17060-07-0 | 101 | 76 - 114 |
| Toluene-d8 | 2037-26-5 | 102 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | MW-4 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-02C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| Volatile Organic Compounds | | | |
| Acetone | 67-64-1 | ND | 20 |
| Benzene | 71-43-2 | 180 | 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 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | MW-4 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-02C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 | 280 | 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 | 34 | 5 |
| p-Isopropyltoluene | 99-87-6 | ND | 5 |
| Methylene chloride | 75-09-2 | ND | 5 |
| 4-Methyl-2-pentanone | 108-10-1 | ND | 20 |
| Naphthalene | 91-20-3 | 85 | 5 |
| n-Propylbenzene | 103-65-1 | 89 | 5 |
| sec-Butylbenzene | 135-98-8 | 10 | 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 | 12 | 5 |
| 1,2,3-Trichlorobenzene | 87-61-6 | ND | 5 |
| 1,2,4-Trichlorobenzene | 120-82-1 | ND | 5 |
| 1,1,1-Trichloroethane | 71-55-6 | ND | 5 |
| 1,1,2-Trichloroethane | 79-00-5 | ND | 5 |
| Trichloroethene | 79-01-6 | ND | 5 |
| Trichlorofluoromethane | 75-69-4 | ND | 5 |

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | MW-4 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-02C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| Volatile Organic Compounds (Continued) | | | |
| 1,2,3-Trichloropropane | 96-18-4 | ND | 5 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 500 | 5 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 5 |
| Vinyl acetate | 108-05-4 | ND | 10 |
| Vinyl chloride | 75-01-4 | ND | 5 |
| o-Xylene | 95-47-6 | 110 | 5 |
| p,m-Xylenes | -- | 330 | 5 |
| Surrogates | | Recovery (%) | QC Limits (%) |
| 4-Bromofluorobenzene | 460-00-4 | 101 | 86 - 115 |
| Dibromofluoromethane | 1868-53-7 | 99 | 86 - 118 |
| 1,2-Dichloroethane-d4 | 17060-07-0 | 96 | 76 - 114 |
| Toluene-d8 | 2037-26-5 | 101 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | VW-8 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-03C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | VW-8 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-03C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 |
| Naphthalene | 91-20-3 | ND | 5 |
| n-Propylbenzene | 103-65-1 | ND | 5 |
| sec-Butylbenzene | 135-98-8 | ND | 5 |
| Styrene | 100-42-5 | ND | 5 |
| tert-Butylbenzene | 98-06-6 | ND | 5 |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | ND | 5 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | ND | 5 |
| Tetrachloroethene | 127-18-4 | ND | 5 |
| Toluene | 108-88-3 | ND | 5 |
| 1,2,3-Trichlorobenzene | 87-61-6 | ND | 5 |
| 1,2,4-Trichlorobenzene | 120-82-1 | ND | 5 |
| 1,1,1-Trichloroethane | 71-55-6 | ND | 5 |
| 1,1,2-Trichloroethane | 79-00-5 | ND | 5 |
| Trichloroethene | 79-01-6 | ND | 5 |
| Trichlorofluoromethane | 75-69-4 | ND | 5 |

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | VW-8 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-03C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| **Volatile Organic Compounds (Continued)** | | | |
| 1,2,3-Trichloropropane | 96-18-4 | ND | 5 |
| 1,2,4-Trimethylbenzene | 95-63-6 | ND | 5 |
| 1,3,5-Trimethylbenzene | 108-67-8 | ND | 5 |
| Vinyl acetate | 108-05-4 | ND | 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 | 99 | 86 - 115 |
| Dibromofluoromethane | 1868-53-7 | 97 | 86 - 118 |
| 1,2-Dichloroethane-d4 | 17060-07-0 | 99 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | FIELD BLANK | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-04C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | FIELD BLANK | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-04C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 |
| Naphthalene | 91-20-3 | ND | 5 |
| n-Propylbenzene | 103-65-1 | ND | 5 |
| sec-Butylbenzene | 135-98-8 | ND | 5 |
| Styrene | 100-42-5 | ND | 5 |
| tert-Butylbenzene | 98-06-6 | ND | 5 |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | ND | 5 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | ND | 5 |
| Tetrachloroethene | 127-18-4 | ND | 5 |
| Toluene | 108-88-3 | ND | 5 |
| 1,2,3-Trichlorobenzene | 87-61-6 | ND | 5 |
| 1,2,4-Trichlorobenzene | 120-82-1 | ND | 5 |
| 1,1,1-Trichloroethane | 71-55-6 | ND | 5 |
| 1,1,2-Trichloroethane | 79-00-5 | ND | 5 |
| Trichloroethene | 79-01-6 | ND | 5 |
| Trichlorofluoromethane | 75-69-4 | ND | 5 |

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | FIELD BLANK | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-04C | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| Volatile Organic Compounds (Continued) | | | |
| 1,2,3-Trichloropropane | 96-18-4 | ND | 5 |
| 1,2,4-Trimethylbenzene | 95-63-6 | ND | 5 |
| 1,3,5-Trimethylbenzene | 108-67-8 | ND | 5 |
| Vinyl acetate | 108-05-4 | ND | 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 | 99 | 86 - 115 |
| Dibromofluoromethane | 1868-53-7 | 98 | 86 - 118 |
| 1,2-Dichloroethane-d4 | 17060-07-0 | 99 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | TRIP BLANK (HCL) #0121495 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-05B | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | TRIP BLANK (HCL) #0121495 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-05B | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 |
| Naphthalene | 91-20-3 | ND | 5 |
| n-Propylbenzene | 103-65-1 | ND | 5 |
| sec-Butylbenzene | 135-98-8 | ND | 5 |
| Styrene | 100-42-5 | ND | 5 |
| tert-Butylbenzene | 98-06-6 | ND | 5 |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | ND | 5 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | ND | 5 |
| Tetrachloroethene | 127-18-4 | ND | 5 |
| Toluene | 108-88-3 | ND | 5 |
| 1,2,3-Trichlorobenzene | 87-61-6 | ND | 5 |
| 1,2,4-Trichlorobenzene | 120-82-1 | ND | 5 |
| 1,1,1-Trichloroethane | 71-55-6 | ND | 5 |
| 1,1,2-Trichloroethane | 79-00-5 | ND | 5 |
| Trichloroethene | 79-01-6 | ND | 5 |
| Trichlorofluoromethane | 75-69-4 | ND | 5 |

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | TRIP BLANK (HCL) #0121495 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-05B | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| Volatile Organic Compounds (Continued) | | | |
| 1,2,3-Trichloropropane | 96-18-4 | ND | 5 |
| 1,2,4-Trimethylbenzene | 95-63-6 | ND | 5 |
| 1,3,5-Trimethylbenzene | 108-67-8 | ND | 5 |
| Vinyl acetate | 108-05-4 | ND | 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 | 96 | 86 - 118 |
| 1,2-Dichloroethane-d4 | 17060-07-0 | 98 | 76 - 114 |
| Toluene-d8 | 2037-26-5 | 102 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | METHOD BLANK | Date Sampled: | -- |
| Lab Number: | 9601307-06A | Date Received: | -- |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | METHOD BLANK | Date Sampled: | -- |
| Lab Number: | 9601307-06A | Date Received: | -- |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 |
| Naphthalene | 91-20-3 | ND | 5 |
| n-Propylbenzene | 103-65-1 | ND | 5 |
| sec-Butylbenzene | 135-98-8 | ND | 5 |
| Styrene | 100-42-5 | ND | 5 |
| tert-Butylbenzene | 98-06-6 | ND | 5 |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | ND | 5 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | ND | 5 |
| Tetrachloroethene | 127-18-4 | ND | 5 |
| Toluene | 108-88-3 | ND | 5 |
| 1,2,3-Trichlorobenzene | 87-61-6 | ND | 5 |
| 1,2,4-Trichlorobenzene | 120-82-1 | ND | 5 |
| 1,1,1-Trichloroethane | 71-55-6 | ND | 5 |
| 1,1,2-Trichloroethane | 79-00-5 | ND | 5 |
| Trichloroethene | 79-01-6 | ND | 5 |
| Trichlorofluoromethane | 75-69-4 | ND | 5 |

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | METHOD BLANK | Date Sampled: | -- |
| Lab Number: | 9601307-06A | Date Received: | -- |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/01/96 |
| Preparation Method: | EPA 5030A | Date Analyzed: | 02/01/96 |
| Method Reference: | EPA 8260A | Analyst: | JP |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| Volatile Organic Compounds (Continued) | | | |
| 1,2,3-Trichloropropane | 96-18-4 | ND | 5 |
| 1,2,4-Trimethylbenzene | 95-63-6 | ND | 5 |
| 1,3,5-Trimethylbenzene | 108-67-8 | ND | 5 |
| Vinyl acetate | 108-05-4 | ND | 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 | 102 | 86 - 115 |
| Dibromofluoromethane | 1868-53-7 | 100 | 86 - 118 |
| 1,2-Dichloroethane-d4 | 17060-07-0 | 101 | 76 - 114 |
| Toluene-d8 | 2037-26-5 | 103 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | MW-3 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-01A | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/02/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 02/02/96 |
| Method Reference: | EPA 8015/8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| BTEX/Gasoline | | | |
| Benzene | 71-43-2 | 290 | 0.4 |
| Ethylbenzene | 100-41-4 | 150 | 0.3 |
| Toluene | 108-88-3 | 48 | 0.3 |
| o-Xylene | 95-47-6 | 590 | 0.4 |
| p,m-Xylenes | -- | 740 | 0.4 |
| Gasoline | -- | 6400 | 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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | MW-4 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-02A | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/02/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 02/02/96 |
| Method Reference: | EPA 8015/8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| BTEX/Gasoline | | | |
| Benzene | 71-43-2 | 170 | 0.4 |
| Ethylbenzene | 100-41-4 | 310 | 0.3 |
| Toluene | 108-88-3 | 12 | 0.3 |
| o-Xylene | 95-47-6 | 110 | 0.4 |
| p,m-Xylenes | -- | 380 | 0.4 |
| Gasoline | -- | 5900 | 50 |
| Surrogates | | Recovery (%) | QC Limits (%) |
| a,a,a-Trifluorotoluene | 98-08-8 | 92 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | VW-8 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-03A | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/02/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 02/02/96 |
| Method Reference: | EPA 8015/8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| BTEX/Gasoline | | | |
| Benzene | 71-43-2 | 18 | 0.4 |
| Ethylbenzene | 100-41-4 | 7.2 | 0.3 |
| Toluene | 108-88-3 | 1.5 | 0.3 |
| o-Xylene | 95-47-6 | 2.6 | 0.4 |
| p,m-Xylenes | -- | 2.9 | 0.4 |
| Gasoline | -- | 150 | 50 |
| Surrogates | | Recovery (%) | QC Limits (%) |
| a,a,a-Trifluorotoluene | 98-08-8 | 88 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | FIELD BLANK | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-04A | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/02/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 02/02/96 |
| Method Reference: | EPA 8015/8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 | 91 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | TRIP BLANK (HCL) #0121495 | Date Sampled: | 01/30/96 |
| Lab Number: | 9601307-05A | Date Received: | 01/30/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/02/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 02/02/96 |
| Method Reference: | EPA 8015/8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 | 92 | 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: 67552.00
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Sample Identification: | METHOD BLANK | Date Sampled: | -- |
| Lab Number: | 9601307-06A | Date Received: | -- |
| Sample Matrix/Media: | WATER | Date Prepared: | 02/02/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 02/02/96 |
| Method Reference: | EPA 8015/8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (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 | 88 | 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. 96013.07

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 96013.07

| | | | |
|---|---|---|---|
| Clayton Lab Number: | 9601267-LCS | Analytical Method: | EPA 8260 |
| Ext./Prep. Method: | EPA5030 | Instrument ID: | 02842 |
| Date: | 01/31/96 | Date: | 01/31/96 |
| Analyst: | JP | Time: | 15:12 |
| Std. Source: | V960130-01W | Analyst: | JP |
| Sample Matrix/Media: | WATER | Units: | UG/L |
| | | QC Batch No: | 960131F1 |

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | ND | 50.0 | 46.8 | 94 | 45.2 | 90 | 92 | 80 | 120 | 3.5 | 20 |
| BENZENE | ND | 50.0 | 46.7 | 93 | 45.8 | 92 | 93 | 80 | 120 | 1.9 | 20 |
| CHLOROBENZENE | ND | 50.0 | 46.7 | 93 | 45.3 | 91 | 92 | 80 | 120 | 3.0 | 20 |
| TOLUENE | ND | 50.0 | 47.2 | 94 | 45.3 | 91 | 93 | 80 | 120 | 4.1 | 20 |
| TRICHLOROETHENE | ND | 50.0 | 46.1 | 92 | 44.6 | 89 | 91 | 80 | 120 | 3.3 | 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. 96013.07

| | | | |
|---|---|---|---|
| Clayton Lab Number: | 9601302-01A | Analytical Method: | EPA 8015/8020 |
| Ext./Prep. Method: | EPA 5030 | Instrument ID: | 05587 |
| Date: | 02/01/96 | Date: | 02/02/96 |
| Analyst: | DTL | Time: | 13:10 |
| Std. Source: | V951109-02W | Analyst: | DTL |
| Sample Matrix/Media: | WATER | Units: | ug/L |
| | | QC Batch No: | 960202A1 |

| 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) | ND | 4.95 | 5.93 | 120 | 5.22 | 106 | 113 | 79 | 125 | 13 | 20 |
| ETHYLBENZENE | (PID) | ND | 5.53 | 6.53 | 118 | 5.85 | 106 | 112 | 85 | 123 | 11 | 20 |
| GASOLINE | (FID) | ND | 500 | 554 | 111 | 520 | 104 | 107 | 80 | 120 | 6.3 | 25 |
| SURR a,a,a-Trifluorotoluene | | ND | 100 | 96.0 | 96 | 95.0 | 95 | 96 | 50 | 150 | 1.0 | 20 |
| TOLUENE | (PID) | ND | 24.6 | 25.9 | 105 | 25.2 | 102 | 104 | 84 | 118 | 2.6 | 20 |
| TOTAL XYLENE | (PID) | ND | 34.8 | 38.9 | 112 | 36.5 | 105 | 108 | 85 | 115 | 6.4 | 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

**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
**9601307**

**REPORT RESULTS TO**
Name: DARIUSH DASTMALCHI
Company: CLAYTON
Mailing Address:
City, State, Zip:
Telephone No.: FAX No.:
Client Job No: 67552.00
Dept.:

**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 | EPA 8015/8020 FOR GAS/BTEX | EPA 8240 | FOR LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|
| MW-3 | 1-30-96 | | $H_2O$ | 40 mls | 2 | Xp | | 01A,B |
| MW-3 | ↓ | | ↓ | 40mls | 2 | | Xp | ↓ C,D |
| MW-4 | | | | 40mls | 2 | Xp | | 02A,B |
| MW-4 | | | | 40mls | 2 | | Xp | ↓ C,D |
| VW-8 | | | | 40mls | 2 | Xp | | 03A,B |
| VW-8 | | | | 40mls | 2 | | Xp | ↓ C,D |
| FIELD BLANKS | | | | 40mls | 2 | Xp | | 04A,B |
| FIELD BLANKS | | | | 40mls | 2 | | Xp | ↓ C,D |
| TRIP BLANK #012495 | ↓ | | ↓ | 40mls | 2 | Xp | Xp | 05A,B |

**CHAIN OF CUSTODY**
Collected by: RICHARD SILVA (print)
Collector's Signature: Richard Silva
Relinquished by: Richard Silva — Date/Time: 1-30-96 4:23 pm
Received by: — Date/Time:
Relinquished by: — Date/Time:
Received by: — Date/Time:
Method of Shipment:
Received at Lab by: — Date/Time: 1/30/96 4:23
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

11/95 20K

CAPSULE
ENVIRONMENTAL ENGINEERING INC.

# PROJECT CALCULATION SHEET

Project Name: San Leandro
Project Number: 001-547
Task Number: 460 (Qtr. Report 1196)
Re: GW Velocity Calculation

By: John M
Date: 4/28/96
Page: 1 of 2
cc:

Calculate the gw flow velocity for the San Leandro site.

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

where

V = gw velocity
K = hydraulic conductivity
i = hydraulic gradient
n = porosity

K estimate

from IT Corp Data Summary Report, Dec 1990,
Tables prepared by IT Corp.
we find an estimate for MW-4 from a pump test.

K = 48 - 67 gallon/day/ft²

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

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

Checked by: _____
Date: _____

CAPSULE
ENVIRONMENTAL ENGINEERING INC.

# PROJECT CALCULATION SHEET

Project Name: San Leandro
Project Number: 091-351
Task Number: 460 (Qtr RPT 1/96)
Re: Groundwater Velocity Calculation

By: John M
Date: 4/12/96
Page: 2 of 2
cc:

i (hydraulic gradient) estimate

from January 1996 Groundwater Contour map

$$i = \frac{(113.25 - 112.50)\ ft}{110\ ft} = .0068 \approx .007$$

n (porosity) estimate

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

$$V = \frac{(9.0\ ft/day)(.007)}{.30} \qquad \frac{.0063}{.30}\ ft/day$$

$$= .21\ ft/day$$

$$= .21\ ft/day \times \frac{365\ day}{yr} = 76.6$$

Estimate of gw flow velocity

**.21 ft/day or 77 ft/yr**

Checked by: _____
Date:

Record of D Monitoring
Soil Vapor Extraction System

Ingersoll-Rand Equipment Sales
San Leandro, California

| Date | Personnel Initials | Vacuum (inches of water) | | Gallons of Liquid Emptied from Moisture Tank | PID Readings (ppm) from Ports Located Between: | | | | Comments (Please use reverse side for additional comments) |
|---|---|---|---|---|---|---|---|---|---|
| | | Pre-filter | Post-filter | | Blower/ Vessel #1 | Vessel #1/ Vessel #2 | Vessel #2/ Vessel #3 | Vessel #3 Exhaust | |
| 1/9/96 | afn | | | | 58.1 | 0.8 | 0.1 | 0.0 | |
| 1/10/96 | afn | | | | 56.8 | 0.6 | 0.1 | 0.0 | |
| 1/11/96 | afn | | | | 55.9 | 0.5 | 0.1 | 0.0 | |
| 1/12/96 | afn | | | | 55.2 | 0.5 | 0.1 | 0.0 | |
| 1/15/96 | afn | | | | 52.5 | 0.3 | 0.0 | 0.0 | |
| 1/22/96 | afn | | | | 51.6 | 0.3 | 0.0 | 0.0 | |
| 1/23/96 | afn | | | | 50.1 | 0.3 | 0.0 | 0.0 | |
| 1/24/96 | afn | | | | 49.2 | 0.2 | 0.0 | 0.0 | |
| 1/25/96 | afn | | | | 49.0 | 0.3 | 0.0 | 0.0 | |
| 1/26/96 | afn | | | | 48.7 | 0.3 | 0.0 | 0.0 | |
| 1/29/96 | afn | | | | 48.6 | 0.2 | 0.0 | 0.0 | |
| 1/30/96 | afn | | | | 47.9 | 0.2 | 0.0 | 0.0 | |

Pl

Record of D Monitoring
Soil Vapor Extraction System

Ingersoll-Rand Equipment Sales
San Leandro, California

| Date | Personnel Initials | Vacuum (inches of water) | | Gallons of Liquid Emptied from Moisture Tank | PID Readings (ppm) from Ports Located Between: | | | | Comments (Please use reverse side for additional comments) |
|---|---|---|---|---|---|---|---|---|---|
| | | Pre-filter | Post-filter | | Blower/ Vessel #1 | Vessel #1/ Vessel #2 | Vessel #2/ Vessel #3 | Vessel #3 Exhaust | |
| 1/31/96 | ak | | | | | | | | UNIT SHUT OFF FOR quarterly sampling |
| 2/1/96 | ak | | | | 48.2 | 0.2 | 0.0 | 0.0 | |
| 2/2/96 | ak | | | | 48.7 | 0.2 | 0.0 | 0.0 | |
| 2/5/96 | ak | | | | 49.1 | 0.2 | 0.0 | 0.0 | |
| 2/6/96 | ak | | | | 48.7 | 0.2 | 0.0 | 0.0 | |
| 2/9/96 | B.K. | NOT Reading | | | | | | | |
| 2/20/96 | B.K. | drained water out of | | tank before blower | | | ≈ 1/3 of Tank | | ≈ 18 gallons |
| 2/21/96 | B.K. | water being exited out | | of exhaust running | | | it to get water out | | talked to Capsule to O.K., John McDermot |
| 2/21/96 | B.K. | | | | 3.0 | 0 | 0 | 0 | |
| 2/22/96 | B.K. | | | | 3.0 | 0 | 0 | 0 | |
| 2/23/96 | B.K. | | | | 2.8 | 0 | 0 | 0 | |
| 2/24/96 | B.K. | | | | 2.6 | 0 | 0 | 0 | |

Record of Da Monitoring
Soil Vapor Extraction System

Ingersoll-Rand Equipment Sales
San Leandro, California

| Date | Personnel Initials | Vacuum (inches of water) | | Gallons of Liquid Emptied from Moisture Tank | PID Readings (ppm) from Ports Located Between: | | | | Comments (Please use reverse side for additional comments) |
|---|---|---|---|---|---|---|---|---|---|
| | | Pre-filter | Post-filter | | Blower/ Vessel #1 | Vessel #1/ Vessel #2 | Vessel #2/ Vessel #3 | Vessel #3 Exhaust | |
| 2/26/96 | B.K. | | | | 2.7 | 0 | 0 | 0 | low Readings |
| 2/27/96 | B.K. | | | | 2.9 | .2 | 0 | 0 | Again low Readings |
| 2/28/96 | B.K. | | | | 2.6 | 0 | 0 | 0 | low Readings |
| 2/29/96 | B.K. | | | | ~~2.1~~ | ~~0~~ | 0 | 0 | Drained water from tank ½ Full |
| 3/1/96 | B.K. | | | | 2.4 | 0 | 0 | 0 | |
| 3/4/96 | B.K. | | | | 1.9 | 0 | 0 | 0 | |
| 3/5/96 | B.K. | | | | 2.0 | 0 | 0 | 0 | |
| 3/6/96 | B.K. | | | | 1.8 | 0 | 0 | 0 | |
| 3/7/96 | B.K. | | | | ~~1.8~~ | 0 | 0 | | Drained water from tank ½ Full. |
| 3/20/96 | B.K. | | | | 0 | 0 | 0 | 0 | |
| 3/21/96 | B.K. | | | | NO | READING | (TURNED | OFF) | Drained water ½ Full. |
| 3/22/96 | B.K. | | | | 1.5 | 0 | 0 | 0 | Drained water ½ Full |

Record of D: Monitoring
Soil Vapor Extraction System

Ingersoll-Rand Equipment Sales
San Leandro, California

| Date | Personnel Initials | Vacuum (inches of water) | | Gallons of Liquid Emptied from Moisture Tank | PID Readings (ppm) from Ports Located Between: | | | | Comments (Please use reverse side for additional comments) |
|---|---|---|---|---|---|---|---|---|---|
| | | Pre-filter | Post-filter | | Blower/ Vessel #1 | Vessel #1/ Vessel #2 | Vessel #2/ Vessel #3 | Vessel #3 Exhaust | |
| 3/26/96 | B.K. | | | | 1.6 | 0 | 0 | 0 | |
| 3/27/96 | B.K. | | | | 1.7 | 0 | 0 | 0 | |
| 4/3/96 | B.K. | | | | 1.2 | 0 | 0 | 0 | |
| 4/4/96 | | | | | 1.4 | 0 | 0 | 0 | |
| 4/5/96 | | | | | [illegible] | [illegible] | [illegible] | [illegible] | Good Friday off |
| 4/8/96 | | | | | [illegible] 1.6 | 0 | 0 | 0 | |
| 4/9/96 | | | | | 2.8 | 0 | 0 | 0 | |
| 4/10/96 | | | | | 2.6 | 0 | 0 | 0 | |
| 4/11/96 | | | | | 2.9 | 0 | 0 | 0 | |
| 4/12/96 | | | | | 2.7 | 0 | 0 | 0 | |
| 4/15/96 | System off | | No | Readings | | | | | |
| 4/16/96 | " | | | | | | | | |

Record of Da Monitoring
Soil Vapor Extraction System

Ingersoll-Rand Equipment Sales
San Leandro, California

| Date | Personnel Initials | Vacuum (inches of water) | | Gallons of Liquid Emptied from Moisture Tank | PID Readings (ppm) from Ports Located Between: | | | | Comments (Please use reverse side for additional comments) |
|---|---|---|---|---|---|---|---|---|---|
| | | Pre-filter | Post-filter | | Blower/ Vessel #1 | Vessel #1/ Vessel #2 | Vessel #2/ Vessel #3 | Vessel #3 Exhaust | |
| 4/17/96 | | | 1 | | | | | | |
| 4/18/96 | | System off No Readings | | | | | | | |
| 4/19/96 | [illegible] | | | | 6.9 | 0 | 0 | 0 | |
| 4/22/96 | B.K. | | | | 7.6 | 0 | 0 | 0 | |
| 4/23/96 | B.K. | | | | 8.4 | 0 | 0 | 0 | |
| 4/24/96 | B.K. | | | | 8.2 | 0 | 0 | 0 | |
| 4/25/96 | B.K. | | | | 7.6 | 0 | 0 | 0 | |
| 4/26/96 | B.K. | | | | 7.1 | 0 | 0 | 0 | Drained 1/3 tank of water |
| 4/29/96 | B.K. | | | | 9.1 | 0 | 0 | 0 | |
| 4/30/96 | B.K. | | | | 9.1 | 0 | 0 | 0 | |
| 5/1/96 | B.K. | | | | 9.8 | 0 | 0 | 0 | |
| 5/2/96 | B.K. | | | | 9.6 | 0 | 0 | 0 | |

## Table 1
## Water Level Summary Table

Project: Ingersoll-Rand Company, San Leandro, CA water level data
Date prepared: April 15, 1995
Latest update, February 27, 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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**

| 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) | 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-diesel (ug/l) | TPH EPA 8015 gasoline (ug/l) | TPH-diesel (ug/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 17-Nov-89 | IT | PAL | 8010/8020 | | | 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 | <1.0 | <1.0 | >1.0 & <5.0 | <1.0 | <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 | | | | | | |
| | 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 | 20 | <5 | <5 | <5 | <5 | <10 | <5 | | <5 | <5 | | <50 | |
| | 21-Jun-94 | CEC | CEC | 8015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 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 | <0.3 | <5 | <5 | <5 | <5 | 11 | <5 | <5 | <5 | <5 | <10 | <5 | | <5 | <5 | | <50 | |
| | 20-Oct-94 | CEC | CEC | 8015/8020 | | | <0.3 | | | | | | | | | | | | | | | | <0.3 | | | | | | | | | | | | | | <0.4 | <0.4 | | | | |
| | 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 | 16 | <5 | <5 | <5 | <5 | <10 | <5 | | <5 | <5 | | <50 | |
| | 25-Jan-95 | CEC | CEC | 8015/8020 | | | <0.3 | | | | | | | | | | | | | | | | <0.3 | | | | | | | | | | | | | | <0.4 | <0.4 | | | | |
| MW-2 | 17-Nov-89 | IT | PAL | 8010/8020 | | | ND | | | | | | | | | | | | | | | | NC | | | | | | 10 | | | | | | ND | | | | NC | | |
| | 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 | >1.0 & <5.0 | <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 | <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 | <10 | <5 | | <5 | <5 | | <50 | |
| | 21-Jun-94 | CEC | CEC | 8015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 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 | <5 | 6 | <5 | <5 | <5 | <5 | <10 | <5 | | <5 | <5 | | <50 | |
| | 20-Oct-94 | CEC | CEC | 8015/8020 | | | <0.3 | | | | | | | | | | | | | | | | <0.3 | | | | | | | | | | | | | | <0.4 | <0.4 | | | | |
| | 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 | <5 | <10 | <5 | | <5 | <5 | | <50 | |
| | 25-Jan-95 | CEC | CEC | 8015/8020 | | | <0.3 | | | | | | | | | | | | | | | | <0.3 | | | | | | | | | | | | | | <0.4 | <0.4 | | | | |
| 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 | <1.0 | 63 | | <1.0 | | 31 | 100 | | | |
| | 21-Jun-94 | CEC | ARC | 8015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 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 | 2700 | | 2900 |
| | 21-Jun-94 | CEC | CEC | 8015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20-Oct-94 | CEC | CEC | 8260 | <5 | <5 | 90 | <5 | <5 | <20 | 20 | <5 | <5 | <5 | 29 | 43 | 6 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 150 | 46 | <10 | <5 | | 68 | 140 | | | |
| | 20-Oct-94 | CEC | CEC | 8015/8020 | | | 96 | | | | | | | | | | | | | | | | 44 | | | | | | | | | | | | | | 69 | 160 | 2600 | | |
| | 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 | | 820 | 1000 | | | |
| | 25-Jan-95 | CEC | CEC | 8015/8020 | | | 86 | | | | | | | | | | | | | | | | 340 | | | | | | | | | | | | | | 760 | 1100 | | | |
| | 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 | | 900 | 2100 | 7100 | | |
| | 26-Apr-95 | CEC | CEC | 8015/8020 | | | 720 | | | | | | | | | | | | | | | | 1700 | | | | | | | | | | | | | | 940 | 1500 | | | |
| | 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 | | 26 | 41 | 14000 | | |
| | 30-Jun-95 | CEC | CEC | 8015/8020 | | | 20 | | | | | | | | | | | | | | | | 17 | | | | | | | | | | | | | | 33 | 99 | 1600 | | |
| | 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 | | 23 | 77 | | | |
| | 18-Oct-95 | CEC | CEC | 8015/8020 | | | 46 | | | | | | | | | | | | | | | | 15 | | | | | | | | | | | | | | 24 | 83 | 2000 | | |
| | 30-Jan-96 | CEC | CEC | 8260 | <5 | <5 | 160 | <5 | <5 | <20 | 17 | <5 | <5 | <20 | 85 | 57 | 5 | <5 | <5 | <5 | <5 | <5 | 46 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 390 | 110 | <10 | <5 | | 570 | 630 | | | |
| | 30-Jan-96 | CEC | CEC | 8015/8020 | | | 150 | | | | | | | | | | | | | | | | 48 | | | | | | | | | | | | | | 590 | 740 | 5400 | | |
| MW-4 | 16-Nov-90 | IT | MCL | 5030 | | | 720 | | | | | | | | | | | | | | | | 2000 | | | | | | | | | | | | 27000 | | | | 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 | | 44 | 270 | | | |
| | 21-Jun-94 | CEC | ARC | 8015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 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 | 8000 | | |
| | 21-Jun-94 | CEC | CEC | 8015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 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 | <5 | 27 | <5 | <5 | 300 | 100 | <10 | <5 | | 110 | 330 | 7600 | | |
| | 20-Oct-94 | CEC | CEC | 8015/8020 | | | 270 | | | | | | | | | | | | | | | | 33 | | | | | | | | | | | | | | 120 | 520 | | | |
| | 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 | | 310 | 550 | 7800 | | |
| | 25-Jan-95 | CEC | CEC | 8015/8020 | | | 520 | | | | | | | | | | | | | | | | 110 | | | | | | | | | | | | | | 320 | 730 | 8700 | | |
| | 26-Apr-95 | CEC | CEC | 8260 | <5 | <5 | 390 | <5 | <5 | <20 | 51 | <5 | <5 | <20 | 54 | 61 | 6 | <5 | <5 | <5 | <5 | <5 | 17 | <5 | <5 | <5 | <5 | <5 | 14 | <5 | <5 | 490 | 81 | <10 | <5 | | 60 | 430 | | | |
| | 26-Apr-95 | CEC | CEC | 8015/8020 | | | 250 | | | | | | | | | | | | | | | | 11 | | | | | | | | | | | | | | 24 | 210 | 6100 | | |
| | 30-Jun-95 | CEC | CEC | 8260 | <5 | <5 | 570 | <5 | <5 | <5 | 60 | <5 | <5 | <20 | 96 | 110 | 10 | <5 | <5 | <5 | <5 | <5 | 19 | <5 | <5 | <5 | <5 | <5 | 8 | <5 | <5 | 690 | 130 | <10 | <5 | | 74 | 520 | | | |
| | 30-Jun-95 | CEC | CEC | 8015/8020 | | | 380 | | | | | | | | | | | | | | | | 18 | | | | | | | | | | | | | | 53 | 400 | 7800 | | |
| | 18-Oct-95 | CEC | CEC | 8260 | <5 | <5 | 490 | <5 | <5 | <5 | 53 | <5 | <5 | <20 | 65 | 110 | 13 | <5 | <5 | <5 | <5 | <5 | 6 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 530 | 91 | <10 | <5 | | 17 | 250 | | | |
| | 18-Oct-95 | CEC | CEC | 8015/8020 | | | 330 | | | | | | | | | | | | | | | | 5.4 | | | | | | | | | | | | | | 10 | 190 | 5900 | | |
| | 30-Jan-96 | CEC | CEC | 8260 | <5 | <5 | 250 | <5 | <5 | <5 | 34 | <5 | <5 | <20 | 85 | 89 | 10 | <5 | <5 | <5 | <5 | <5 | 12 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 500 | 120 | <10 | <5 | | 110 | 330 | | | |
| | 30-Jan-96 | CEC | CEC | 8015/8020 | | | 310 | | | | | | | | | | | | | | | | 12 | | | | | | | | | | | | | | 110 | 380 | 5900 | | |
| 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 | <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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 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 | <5 | 42 | <5 | <5 | <5 | <5 | <10 | <5 | | <5 | 7 | 2900 | | |
| | 21-Jun-94 | CEC | CEC | 8015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 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 | <5 | 66 | <5 | <5 | <5 | <5 | <10 | <5 | | <5 | <5 | 1600 | | |
| | 20-Oct-94 | CEC | CEC | 8015/8020 | | | 5.2 | | | | | | | | | | | | | | | | 33 | | | | | | | | | | | | | | 0.9 | 5 | | | |
| | 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 | <5 | 27 | <5 | <5 | <5 | <5 | <10 | <5 | | 21 | 45 | 2600 | | |
| | 25-Jan-95 | CEC | CEC | 8015/8020 | | | 24 | | | | | | | | | | | | | | | | 29 | | | | | | | | | | | | | | 15 | 35 | | | |
| | 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 | <5 | 57 | <5 | <5 | 5 | <5 | <10 | <5 | | <5 | 8 | 3900 | | |
| | 26-Apr-95 | CEC | CEC | 8015/8020 | | | 7.4 | | | | | | | | | | | | | | | | 3.4 | | | | | | | | | | | | | | 2 | 6.2 | | | |
| | 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 | <5 | 55 | <5 | <5 | 8 | <5 | <10 | <5 | | 15 | | 2400 | | |
| | 30-Jun-95 | CEC | CEC | 8015/8020 | | | 15 | | | | | | | | | | | | | | | | 7 | | | | | | | | | | | | | | 3.1 | 13 | | | |
| 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 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <10 | <5 | | <5 | <5 | | | |
| | 30-Jun-95 | CEC | CEC | 8015/8020 | | | <0.3 | | | | | | | | | | | | | | | | <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 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <10 | <5 | | <5 | <5 | | | |
| | 30-Jun-95 | CEC | CEC | 8015/8020 | | | <0.3 | | | | | | | | | | | | | | | | <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 | 69 | | | |
| | 18-Oct-95 | CEC | CEC | 8015/8020 | | | 0.6 | | | | | | | | | | | | | | | | 0.3 | | | | | | | | | | | | | | | | | | |
| | 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 | <10 | <5 | | <0.4 | <0.4 | 500 | | |
| | 30-Jan-96 | CEC | CEC | 8015/8020 | | | 7.2 | | | | | | | | | | | | | | | | 1.5 | | | | | | | | | | | | | | 2.6 | 2.6 | 50 | | |
| VW-9 | 28-Jul-95 | CEC | CEC | 8260 | <5 | <5 | 970 | <5 | <5 | <20 | 45 | <5 | <5 | <20 | 240 | 120 | 9 | <5 | <5 | <5 | <5 | <5 | 2600 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 850 | 190 | <10 | <5 | | 100 | 1900 | | | |
| | 28-Jul-95 | CEC | CEC | 8015/8020 | | | 110 | | | | | | | | | | | | | | | | 3500 | | | | | | | | | | | | | | 550 | 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\SL\WATNEW.WB1
prepared by JLW 1/96
updated 1/22/96

**Table 2: San Leandro Groundwater Analytical Data Summary**

| 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-ethene (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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | <1.0 | | | | | | | | | <1.0 |
| | 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 |
| | 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 |
| | 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 |
| | 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 | |
| | 21-Jun-94 | CEC | ARC | 8015 | | | | | | | | | | | | | | | | | | | | | | | | | <1.0 | | | | | | | | | <1.0 |
| | 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 |
| | 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 |
| | 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 |
| | 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 |
| | 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 | 64 | 9 | 18 | <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 | <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 |
| | 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 |
| | 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 |
| | 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 |
| | 30-Jan-96 | CEC | CEC | 8015/8020 | | 290 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW-4 | 16-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 |
| | 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 | 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 |
| | 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 | 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 | 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 |
| | 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 |
| | 30-Jan-96 | CEC | CEC | 8015/8020 | | 170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 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 | 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 | 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 | 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 | 12 | 15 | <5 | <5 | <5 | <5 |
| | 30-Jun-95 | CEC | CEC | 8015/8020 | | 140 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 25-Jul-95 | CEC | CEC | 8260 | <20 | 260 | <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 | 8 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | 25-Jul-95 | CEC | CEC | 8015/8020 | | 280 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 18-Oct-95 | CEC | CEC | 8260 | <20 | 290 | <5 | <5 | <5 | <5 | <5 | <20 | 16 | <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 | <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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VW-9 | 25-Jul-95 | CEC | CEC | 8260 | <20 | 8600 | <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 | 8 | <5 | <5 | <5 | <5 | <5 |
| | 25-Jul-95 | CEC | CEC | 8015/8020 | | 7500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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



F:\E_H\QUATTRO\SLWATNEW.WB
prepared by: JJH 1/96
updated: 1/22/96

Table 3

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

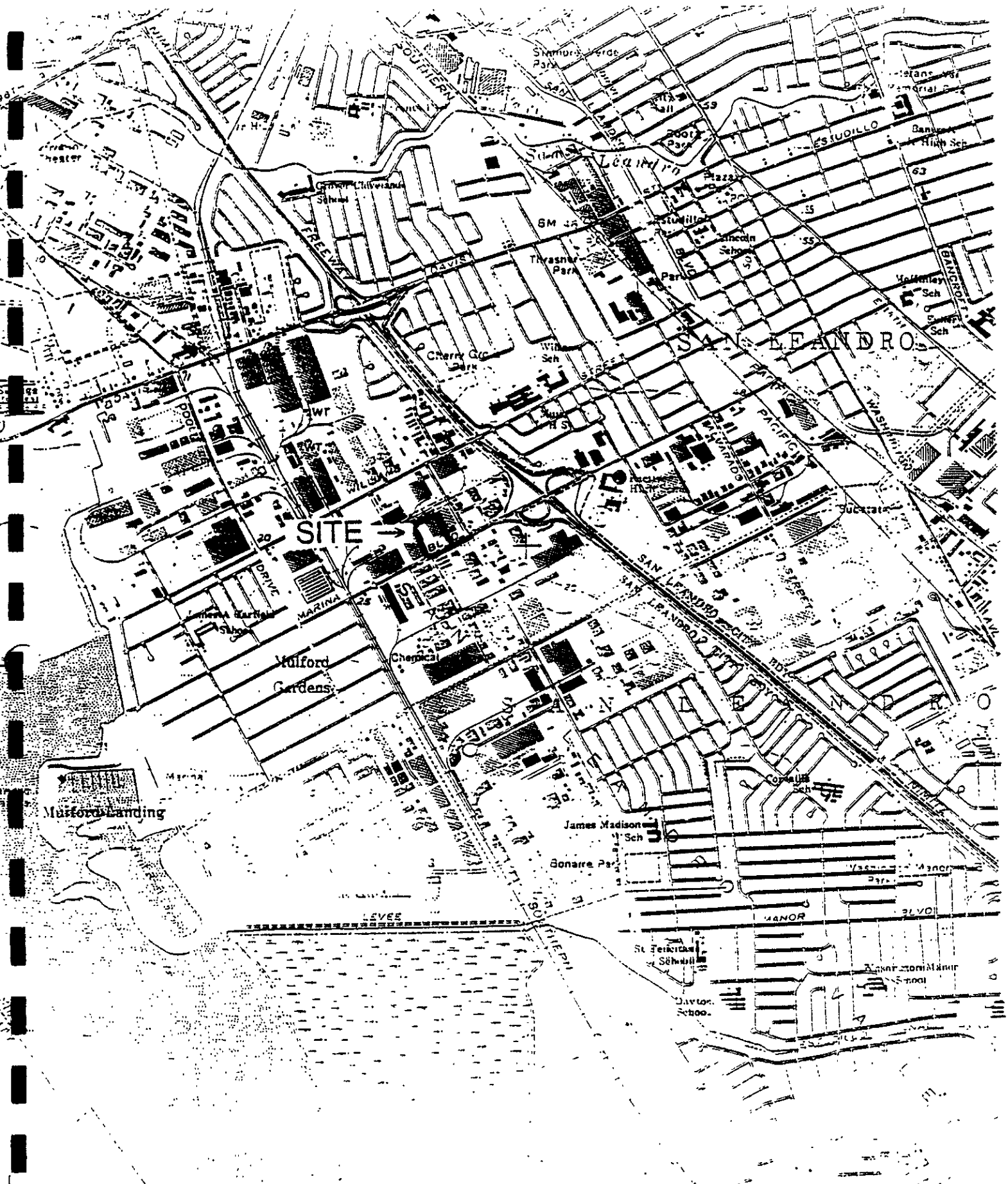
Photoionization detection (PID) readings, in ppm, using OVM 580M

| 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 |
| 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 | |
| 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 | |
| | | | | | | |

prepared by: Lisa Melander, Feb. 1996
updated by: John McDermott Apr 1996

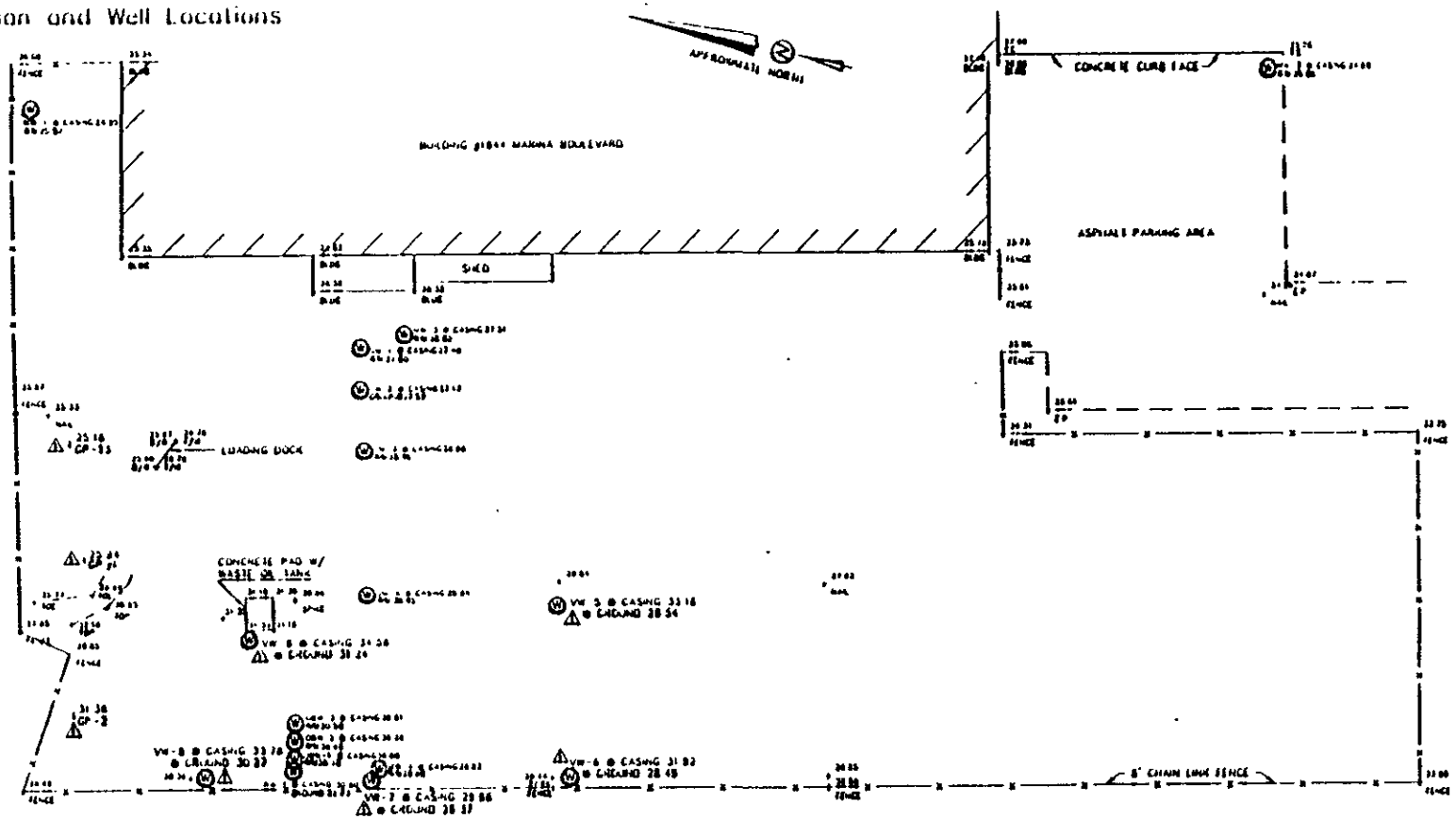
H:\SANLEAND\EXCEL\SVEMON XLS




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

Figure 1 - Site Location Map
San Leandro, California

FIGURE 2
Site Plan and Well Locations




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

GRAPHIC SCALE
25 0 25 50

BASIS OF ELEVATIONS: CITY OF SAN LEANDRO BENCHMARK
CINCH NAIL ON TOP OF CURB AT STORM MANHOLE SOUTHEAST
CORNER OF THE INTERSECTION OF MARINA BOULEVARD AND
MERCED STREET. ELEVATION = 22.96'

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

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

JUNE 1994

**WELL LOCATION SURVEY**
INGERSOLL-RAND EQUIPMENT CORPORATION
LOCATED AT 1644 MARINA BOULEVARD
CITY OF SAN LEANDRO, COUNTY OF ALAMEDA, CALIFORNIA

MORAN ENGINEERING

CAPSULE
ENVIRONMENTAL ENGINEERING, INC.

TITLE: WELL LOCATION SITE PLAN
INGERSOLL-RAND CORPORATION
SAN LEANDRO, CALIFORNIA

| SCALE | DRAWN BY | CHECKED BY | DATE | PROJECT NO. | DRAWING NO. |
|---|---|---|---|---|---|
| 1"=50' | SJW | | 10/20/93 | 001-142 | 1 |

| NUMBER | DATE | DESCRIPTION |
|---|---|---|

# Water Level Elevations
## San Leandro, California

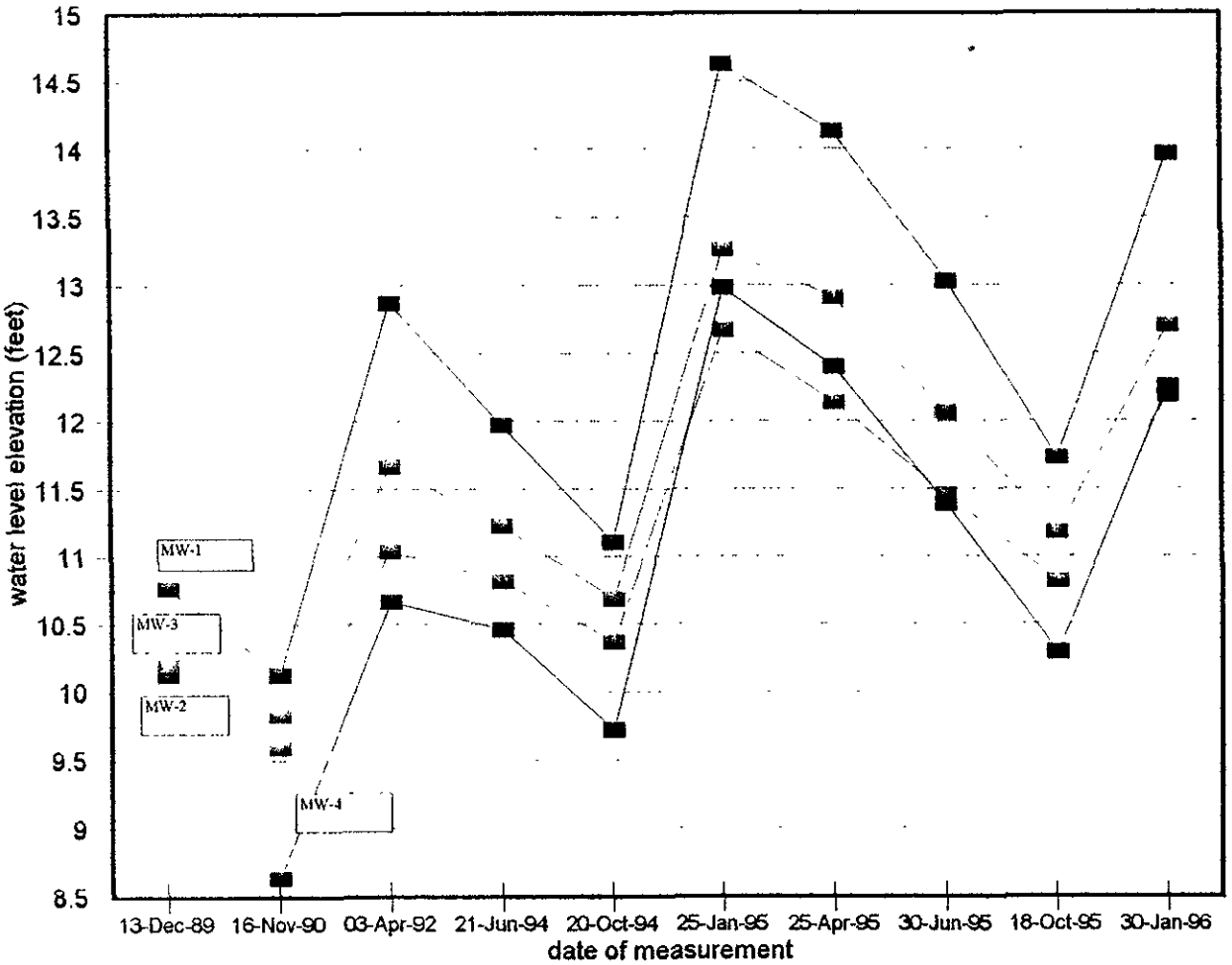
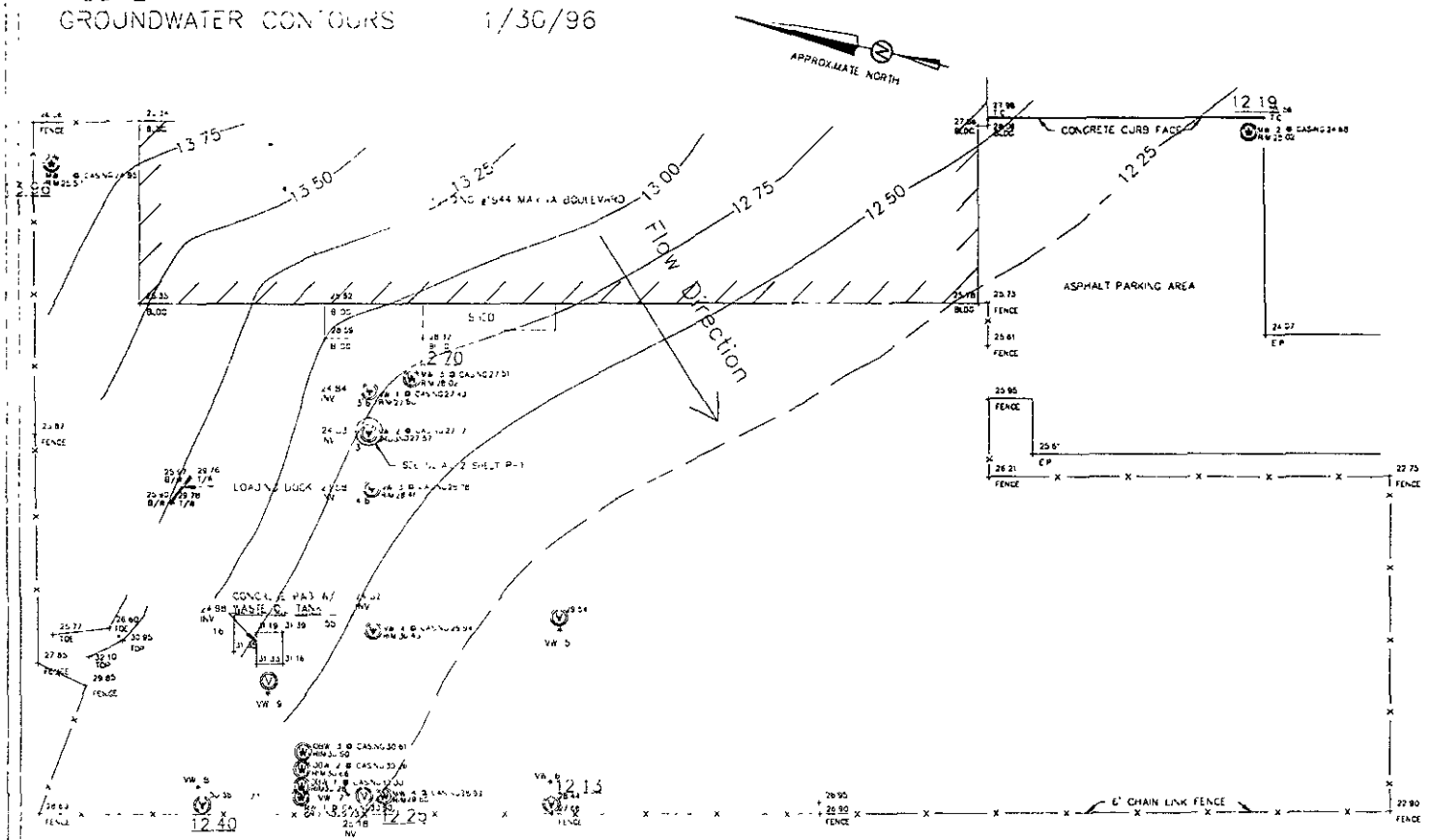



Figure 3

File B:\QUATTRO-SLWATT\EVWBI Graph1

FIGURE 4
GROUNDWATER CONTOURS 1/30/96




MARINA BOULEVARD

| LEGEND | |
|---|---|
| T/C | TOP OF CURB |
| B/C | BUILDING LINE |
| T/W | TOP OF WALL |
| B/W | BASE OF WALL |
| FENCE | FENCE LINE |
| MW | WELL EXISTING |
| VW | SOIL VAPOR VENT |
| E.P. | EDGE OF PAVEMENT |
| TOP | TOP OF BANK |
| TOE | TOE OF SLOPE |

BASIS OF ELEVATIONS: CITY OF SAN LEANDRO BENCHMARK DINCH NAIL ON TOP OF CURB AT STORM WATER INLET SOUTHEAST CORNER OF THE INTERSECTION OF MARINA BOULEVARD AND MERCED STREET ELEVATION = 22.96'

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

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

* 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
CIVIL ENGINEERS & LAND SURVEYORS
463 KENTUCKY AVENUE
BERKELEY, CALIFORNIA
94707
(510) 527-3744

CAPSULE
ENVIRONMENTAL ENGINEERING INC
1970 OAKCREST AVE., SUITE 210
ST. PAUL, MINNESOTA 55113
(612) 638-2044


TITLE GROUNDWATER CONTOUR MAP 1/30/96
INGERSOLL RAND CORPORATION
SAN LEANDRO, CALIFORNIA

SCALE AS SHOWN | DRAWN BY CHECKED BY | DATE 4/26/96 | JOB NO. 327

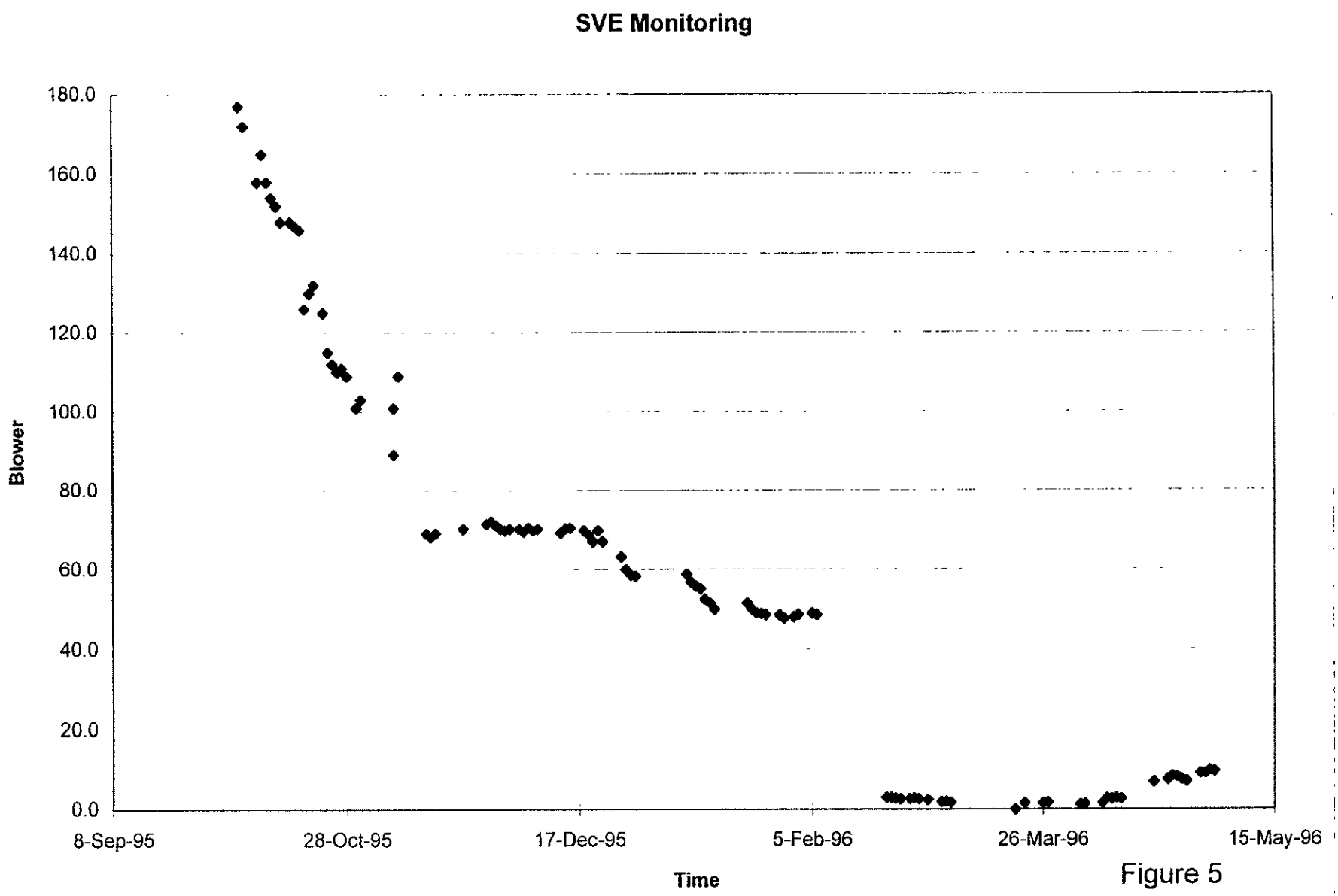

SVE Monitoring
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Blower
8-Sep-95
28-Oct-95
17-Dec-95
5-Feb-96
26-Mar-96
15-May-96
Time

Figure 5