CAPSULE®
ENVIRONMENTAL ENGINEERING, INC

February 22, 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 January 1996. This report is part of Ingersoll Rand Equipment Sales' corrective action activities to address the underground storage tank leak at 1944 Marina Boulevard, San Leandro.

The Quarterly Report January 1996 was prepared to summarize the monitoring and corrective action activities for the period from October 1995 through January 1996.

If you have any questions, comments or need additional information, 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
R. Heindl/Ingersoll-Rand Equipment Sales, Bethlehem, PA
A. Aguirre/Ingersoll Rand Equipment Sales, San Leandro, CA
M. Bakaldin/San Leandro Fire Department, San Leandro, CA

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

Quarterly Report
January 1996

Prepared For:

Ingersoll-Rand
Equipment Sales
San Leandro, California

February 14, 1996

QUARTERLY REPORT
JANUARY 1996

Prepared For:

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

February 14, 1996

Prepared By:

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

TABLE OF CONTENTS

TABLE OF CONTENTS

APPENDICES

TABLES

FIGURES

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

1.1 SITE DESCRIPTION

The I-R Company 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 UNDERGROUND STORAGE TANKS (USTs) 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, and June 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.

2.0 GROUND WATER DATA SUMMARY

The October 1995 ground water sampling event (October 1995 event) included monitoring wells MW-3, MW-4, and vent well VW-8. The October 1995 event was performed on October 18, 1995, and marked the second sampling of VW-8. This sampling point replaces OB-1, which was discontinued after the June 1995 event. 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 to provide additional data for downgradient conditions.

2.1 GROUND WATER LEVEL DATA

Depth-to-water measurements were collected as part of the October 1995 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 October 1995 event, water level elevations beneath the facility ranged between 10.29 to 11.73 feet above sea level. Water level elevation hydrographs for the four monitoring wells are presented in Figure 3. Overall, the water level elevations across the facility were down 0.64 to 1.30 feet from the June 1995 measurements. Water levels continued their decline from January 1995, when water table elevations were at record highs.

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 1989-1990 water year to a high of 19.33 inches during the 1994-1995 water year (Alameda County, 1995). No rainfall was recorded for July, August, and September 1995. The October 1995 rainfall was 0.04 inches. July and August are typically very dry months in the San Leandro area. September is variable, ranging from 0.00 to 1.65 inches. October precipitation was below normal.

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 continue to respond fairly uniformly. This uniform fluctuation results in generally consistent hydraulic gradients and ground water flow direction with time.

One exception to this trend is in MW-2 and MW-4. The MW-2 and MW-4 hydrographs "crossed" during the June 1995 event. MW-4 had the lowest water level elevation during

the October 1995 event. The "crossing" was also seen between October 1994 and the January 1995 interval.

The general ground water flow direction remains to the southwest. Ground water contours for the October 1995 event are shown in Figure 4. The southwesterly direction remains consistent with past findings. The direction is also areally consistent with that reported in the Hydrogeology of Central San Leandro (WCC, 1993).

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)	0.004	Capsule, Quarterly Monitoring Report, January 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 0.12 feet per day, or 44 feet per year was calculated from these estimates. This velocity is considered low. Appendix B presents the velocity calculations. 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 October 1995 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 October 1995 event. MW-3 concentrations were generally the same or lower than previous sampling events. MW-4 concentrations were generally lower or in the same range as previous sampling events. The sample collected from VW-8 detected similar gasoline constituents to those detected during the initial VW-8 sampling conducted in June 1995. 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 suggests that the sample may have been nonhomogenous in individual vials. For report discussion purposes, the greater of the two values is used. Future sampling will provide additional information that may assist in determining if the nonhomogeneity was an isolated occurrence.

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 (μg/l).

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

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

Analytical results from MW-4 did not detect TCE at the detection limit. Previous results from the well ranged from nondetection to 27 μg/l. OB-1 was not sampled during the October 1995 event. Previous OB-1 results ranged from 27 to 66 μg/l. MW-4 and OB-1 are on the downgradient side of the facility. The TCE detections have at least two possible source areas: 1) the continuation of the TCE-impacted ground water observed in the upgradient wells, MW-1 and MW-2, and 2) a localized, undocumented release. While the facility formerly used a TCE parts cleaner, there are no soil sampling observations or analytical results to suggest an undocumented release on the property.

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. During the October 1995 event, the MW-4 sample was non detect. Previous MW-4 concentrations range from nondetect to 16 μg/l. Previous 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 October 1995 event, chlorobenzene was detected at 15 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 ranging from 9 to 64 μg/l. Previous detections ranged from 7 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, and 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 October 1995 event, 1,4-dichlorobenzene was detected at 16 μg/l in MW-3. Previous detections ranged from 11 to 18 μg/l. Isomer 1,3-dichlorobenzene was detected at 9 μg/l in MW-3. Previous detections ranged from 6.6 to 9 μg/l. Isomer 1,2-dichlorobenzene was detected at 64 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 October 1995 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. Early 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 October 1995 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 October 1995 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 below.

2.2.2.1 *Benzene*

During the October 1995 event, benzene was detected in MW-3 at 12 μg/l. Previous benzene concentrations ranged from 9 μg/l in October 1994 to 1,200 μg/l in April 1995. This fluctuation, by two orders of magnitude, may be due to the higher water table earlier in 1995

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 400 μg/l. MW-4 concentrations have been fairly steady throughout 1994 and early 1995, ranging from 260 to 600 μg/l. A sample from late 1990 reported 1,500 μg/l.

Benzene was detected in VW-8 at 290 μg/l.

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 October 1995 event, concentrations ranged from 20 to 490 μg/l.

The ethylbenzene concentration detected in MW-3 was 46 μg/l. Historically, MW-3 ethylbenzene concentrations ranged from 20 to 720 μg/l.

During the October 1995 event, the ethylbenzene concentration in MW-4 was 490 μg/l. Previous detections ranged from 230 to 720 μg/l.

Ethylbenzene was also detected in VW-8 at a concentration of 200 μg/l.

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 1.5, 6, and 11 μg/l, respectively.

Previous detections in MW-3 have ranged from 4 to 1,700 μg/l. The October 1995 concentration of 1.7 μg/l is the lowest detected during the period of record and is very similar to the 1.5 μg/l detected in June 1995. This follows the January and April 1995 results of 410 and 1,700 μg/l, which were the highest for the period of record. The four quarterly events are similar to increasing and decreasing benzene and xylene concentrations, and support the concept of flushing of residual gasoline in unsaturated soils during the late 1994 to early 1995 period of high rainfall.

MW-4 toluene concentrations range from 11 to 110 μg/l. The 6 μg/l detected during the October 1995 event was the lowest recorded for the period of record.

The VW-8 toluene concentration was 11 μg/l. The initial sample taken during the June 1995 event was 570 μg/l. As a note, the two toluene results for the two methods varied from 44 and 570 μg/l for EPA methods 8260 and 8020, respectively, for the June 1995 event sampling.

The California MCL for toluene is 0.001 mg/l or 100 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 October 1995 event.

O-xylene was detected at 24 μg/l in MW-3. Previous MW-3 concentrations of o-xylene ranged from 31 to 940 μg/l with the highest value occurring during the April 1995 sampling event. P and m-xylenes were detected at 83 μg/l in MW-3. Previous MW-3 concentrations of p and m-xylenes ranged from 100 to 2,100 μg/l with the highest value also occurring during April 1995. The higher xylene concentrations appear to be the result of flushing of residual gasoline from the soil in the MW-3 area.

Xylene isomer concentrations were slightly lower in MW-4 compared with previous events.. O-xylene was detected 17 μg/l. Previous MW-4 concentrations ranged from 24 to 320 μg/l for o-xylene. P and m-xylenes were detected at 250 μg/l. Previous MW-4 concentrations ranged from 270 to 730 μg/l.

Xylene isomers were also detected in VW-8. O-xylene was detected in VW-8 at 31 μg/l. During the June 1995 event, 130 μg/l was detected. 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

This gasoline component has been detected in MW-3, MW-4, and VW-8.

During the October 1995 event, napthalene was detected at 14 μg/l in MW-3. Previous MW-3 concentrations ranged from 14 to 150 μg/l. The April 1995 event sample detected 150 μg/l. As with the BETX compounds, the decreased napthalene concentration appears associated with flushing of residual gasoline in the MW-3 area.

The MW-4 concentration was 65 μg/l. Previous MW-4 concentrations range from 46 to 120 μg/l.

Napthalene was also detected in VW-8 at 32 μg/l. It was detected during the June 1995 event at 46 μg/l.

2.2.2.6 Trimethylbenzene

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

The chemical 1,2,4 trimethylbenzene was detected at 110 μg/l in MW-3 during the October 1995 event. Previous MW-3 concentrations range from 54 to 650 μg/l. 1,3,5 trimethylbenzene was detected at 28 μg/l in MW-3. Previous MW-3 concentrations range from 22 to 160 μg/l. As with the BETX compounds, the decreased trimethylbenzene concentrations appear to be the response to flushing of soil near the MW-3 area.

During the October 1995 event 1,2,4 trimethylbenzene was detected at 530 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 91 μg/l. Previous MW-4 concentrations range from 100 to 120 μg/l.

During the October 1995 event, 1,2,4 trimethylbenzene was detected in VW-8 at 170 μg/l. 1,3,5 trimethylbenzene was detected in VW-8 at 21 μg/l. Previous concentrations were 270 and 61 μg/l, respectively.

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 October 1995 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 110 μg/l.

2.2.2.8 Total Petroleum Hydrocarbons (TPH) as Gasoline

TPH, as gasoline, was detected at 2,000 μg/l in MW-3 during the October 1995 event. Previous detections ranged from 1,600 to 14,000 μg/l. The 14,000 μg/l was detected during the April 1995 event.

TPH concentrations in MW-4 and VW-8 were 5,900 and 500 μg/l, respectively. As previously discussed, the VW-8 concentration is questionable.

For the period of record, MW-4 concentrations ranged from 7,600 to 9,700 μg/l. The highest concentration occurred in the January 1995 result. The previous concentration for VW-8 was 5,300 μg/l.

3.0 SOIL VAPOR EXTRACTION SYSTEM ACTIVITY SUMMARY

This portion of the January 1996 Report summarizes the activities and status of the SVE system operation. Construction of the redesigned SVE system was completed in late September 1995. The construction consisted of the piping and hookup of vent wells VW-1, VW-4, VW-5, and VW-9 to the existing system's blower and carbon vessels, plus related concrete and fencing work.

The SVE system has three carbon vessels in series to capture SVE system discharge. As part of startup activities, the activated carbon in vessels two and three of the sequence was replaced. The system startup activities were conducted during the week of October 2.

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. The laboratory reported is attached as Appendix C. 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.

Daily readings are taken from the system with a photoionization detection meter (PID). In late October and early November, an exchange of meters was made from a OVM 580B (Thermo Environmental Instruments Inc.) to a Toxirae PID (Rae Systems). After three weeks of erratic readings with the Toxirae at low concentrations, monitoring was resumed with the OVM 580B.

Table 3 provides a summary of the daily PID readings from the SVE system. Figure 5 shows the time series of OVM readings. As Figure 5 indicates, readings have begun to decline in a characteristic asymptotic manner.

4.0 CONCLUSIONS

The conclusions combine observations, data, and evaluation for the October 1995 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.

The shallow ground water flows through a sequence of saturated sands, silts, and clays. During the October 1995 event, the ground water gradient was 0.004. The water table elevation is 10.3 to 11.7 feet above sea level and its velocity is estimated at 44 feet per year. Flow is to the southwest.

As of mid-October 1995, ground water elevations in facility monitoring wells have declined 1.8 to 2.9 feet from the period of record highs that occurred in January 1995. October 1995 water levels are approximately 0.5 higher than those measured in October 1994.

Seasonally, ground water levels in facility monitoring wells respond fairly uniformly. This supports the conclusion of a fairly consistent flow direction 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, which decreased in June 1995 by an order of magnitude from January and April levels, continued to show lower concentrations. The earlier increases and the subsequent decrease are likely due to infiltrating precipitation flushing residual gasoline and rising water levels into sediments with 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.

Corrective action planning has begun. The planning will consider the recent correspondence from the State Water Resources Control Board regarding the Lawrence Livermore National Laboratory report on leaking UST cleanups.

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. Additionally, in order to assess the enhanced level of in-situ biodegradation that may be occurring as the result of the SVE system operation, measurements of oxygen and carbon dioxide concentrations should be obtained from soil vapor samples from each vent well and the system blower.

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

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

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

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

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

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

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

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

November 7, 1995

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

Clayton Project No. 60899.04

Subject: Analytical results of monitoring wells at the Ingersoll-Rand facility in San Leandro, California

Dear Mr. Mattsfield:

Clayton Environmental Consultants, Inc. is pleased to transmit the attached analytical results for the groundwater sampling conducted on October 18, 1995 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Groundwater samples were collected from monitoring wells MW-3, MW-4, and VW-8. Prior to sampling the static water depths were measured and 4 to 5 casing volumes of water were purged according to standard Clayton Sampling Protocol. In addition, depth to water measurements were collected from wells MW-1, MW-2, and VW-6. One Department of Transportation (DOT) approved 55-gallon drum was left onsite to store the purge water.

Groundwater samples from monitoring wells MW-3, MW-4, and VW-8 were analyzed using Environmental Protection Agency (EPA) Methods 8260 for volatile organic compounds (VOCs), EPA Method 8015 modified for gasoline, and EPA 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX).

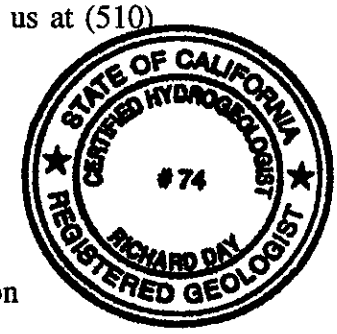
Attachment 1 includes laboratory reports detailing the analyses conducted for water samples collected from monitoring wells MW-3, MW-4, and VW-8. Attachment 2 includes well field sampling forms describing the sampling of the wells with depth to water measurements. The sampling protocols used for sample collection are included in Attachment 3.

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

Sincerely,

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

Richard W. Day, R.G., CEG, CHG
Supervisor, Geosciences/Remediation
San Francisco Regional Office



RJS/rjs
Enclosures

ATTACHMENT 1

ANALYTICAL RESULTS

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

November 1, 1995

Mr. Richard Day
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 60899.04
Clayton Project No.: 95101.79

Dear Mr. Day:

Attached is our analytical laboratory report for the samples received on October 18, 1995. Please note that results for sample VW-8 vary considerably between EPA Methods 8020 and 8260A for several compounds. Results for each method have been confirmed by analysis of sample duplicates. This suggests the sample may be non-homogenous. 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 November 29, 1995, 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,

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

HAH/tjb

Attachments

12/5 Talked w/ Suzanne Haus Non-homogenous means that the laboratory did their check on duplicates, found similar differences, and so the attributes it to inhomogeneity in amounts of contents in the different vials.
All we can do is confirm with next sampling. John

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	MW-3	Date Sampled:	10/18/95
Lab Number:	9510179-01C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
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	11	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	15	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	64	5
1,3-Dichlorobenzene	541-73-1	9	5
1,4-Dichlorobenzene	106-46-7	16	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	MW-3	Date Sampled:	10/18/95
Lab Number:	9510179-01C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
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	46	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	9	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	14	5
n-Propylbenzene	103-65-1	23	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
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	MW-3	Date Sampled:	10/18/95
Lab Number:	9510179-01C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
1,2,4-Trimethylbenzene	95-63-6	110	5
1,3,5-Trimethylbenzene	108-67-8	28	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	23	5
p,m-Xylenes	--	77	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	103	86 - 115
Dibromofluoromethane	1868-53-7	99	86 - 118
1,2-Dichloroethane-d4	17060-07-0	110	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	MW-4	Date Sampled:	10/18/95
Lab Number:	9510179-02C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
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	400	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	12	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	MW-4	Date Sampled:	10/18/95
Lab Number:	9510179-02C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
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	490	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	53	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	65	5
n-Propylbenzene	103-65-1	110	5
sec-Butylbenzene	135-98-8	13	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	6	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
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	MW-4	Date Sampled:	10/18/95
Lab Number:	9510179-02C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
1,2,4-Trimethylbenzene	95-63-6	530	5
1,3,5-Trimethylbenzene	108-67-8	91	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	17	5
p,m-Xylenes	--	250	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	109	86 - 115
Dibromofluoromethane	1868-53-7	104	86 - 118
1,2-Dichloroethane-d4	17060-07-0	106	76 - 114
Toluene-d8	2037-26-5	107	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	VW-8	Date Sampled:	10/18/95
Lab Number:	9510179-03C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
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	290	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	6	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	VW-8	Date Sampled:	10/18/95
Lab Number:	9510179-03C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	200	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	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	32	5
n-Propylbenzene	103-65-1	45	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	11	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
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	VW-8	Date Sampled:	10/18/95
Lab Number:	9510179-03C	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
1,2,4-Trimethylbenzene	95-63-6	170	5
1,3,5-Trimethylbenzene	108-67-8	21	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	31	5
p,m-Xylenes	--	69	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	107	86 - 115
Dibromofluoromethane	1868-53-7	107	86 - 118
1,2-Dichloroethane-d4	17060-07-0	110	76 - 114
Toluene-d8	2037-26-5	104	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	TRIP BLANK (HCL) 0081095	Date Sampled:	--
Lab Number:	9510179-04B	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
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
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	TRIP BLANK (HCL) 0081095	Date Sampled:	--
Lab Number:	9510179-04B	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
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
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	TRIP BLANK (HCL) 0081095	Date Sampled:	--
Lab Number:	9510179-04B	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
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	105	86 - 118
1,2-Dichloroethane-d4	17060-07-0	112	76 - 114
Toluene-d8	2037-26-5	99	88 - 110

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	FIELD BLANK	Date Sampled:	10/18/95
Lab Number:	9510179-05B	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
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
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	FIELD BLANK	Date Sampled:	10/18/95
Lab Number:	9510179-05B	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
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
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	FIELD BLANK	Date Sampled:	10/18/95
Lab Number:	9510179-05B	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
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	96	86 - 115
Dibromofluoromethane	1868-53-7	105	86 - 118
1,2-Dichloroethane-d4	17060-07-0	113	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9510179-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
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
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9510179-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
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
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9510179-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030A	Date Analyzed:	10/25/95
Method Reference:	EPA 8260A	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Volatile Organic Compounds (Continued)			
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	101	86 - 115
Dibromofluoromethane	1868-53-7	101	86 - 118
1,2-Dichloroethane-d4	17060-07-0	111	76 - 114
Toluene-d8	2037-26-5	99	88 - 110

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 60899.04
Clayton Project No. 95101.79

Sample Identification:	MW-3	Date Sampled:	10/18/95
Lab Number:	9510179-01A	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030	Date Analyzed:	10/25/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	12	0.4
Ethylbenzene	100-41-4	46	0.3
Toluene	108-88-3	1.5	0.3
o-Xylene	95-47-6	24	0.4
p,m-Xylenes	--	83	0.4
Gasoline	--	2000	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	81	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	MW-4	Date Sampled:	10/18/95
Lab Number:	9510179-02A	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030	Date Analyzed:	10/25/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	280	0.4
Ethylbenzene	100-41-4	330	0.3
Toluene	108-88-3	5.4	0.3
o-Xylene	95-47-6	10	0.4
p,m-Xylenes	--	190	0.4
Gasoline	--	5900	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	84	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	VW-8	Date Sampled:	10/18/95
Lab Number:	9510179-03A	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030	Date Analyzed:	10/25/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	15	0.4
Ethylbenzene	100-41-4	0.6	0.3
Toluene	108-88-3	0.3	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	880	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	80	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	TRIP BLANK (HCL) 0081095	Date Sampled:	--
Lab Number:	9510179-04A	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030	Date Analyzed:	10/25/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

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	80	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	FIELD BLANK	Date Sampled:	10/18/95
Lab Number:	9510179-05A	Date Received:	10/18/95
Sample Matrix/Media:	WATER	Date Prepared:	10/25/95
Preparation Method:	EPA 5030	Date Analyzed:	10/25/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

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	78	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: 60899.04
Clayton Project No. 95101.79

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9510179-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/24/95
Preparation Method:	EPA 5030	Date Analyzed:	10/24/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

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	84	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. 95101.79

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 95101.79

Clayton Lab Number: 9510170-03D
Ext./Prep. Method: EPA5030
Date: 10/18/95
Analyst: JP
Std. Source: V951016-02W
Sample Matrix/Media: WATER

Analytical Method: EPA 8260
Instrument ID: 02831
Date: 10/18/95
Time: 22:46
Analyst: JP
Units: UG/L
QC Batch No: 951018V1

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	53.1	106	54.2	108	107	80	120	2.1	20
BENZENE	ND	50.0	45.7	91	48.6	97	94	80	120	6.2	20
CHLOROBENZENE	ND	50.0	49.4	99	48.9	98	98	80	120	1.0	20
TOLUENE	ND	50.0	48.7	97	48.4	97	97	80	120	0.6	20
TRICHLOROETHENE	ND	50.0	50.6	101	51.5	103	102	80	120	1.8	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. 95101.79

Clayton Lab Number:	9510204-01A	Analytical Method:	EPA 8260
Ext./Prep. Method:	EPA5030	Instrument ID:	02831
Date:	10/25/95	Date:	10/25/95
Analyst:	JP	Time:	12:30
Std. Source:	V951023-04W	Analyst:	JP
Sample Matrix/Media:	WATER	Units:	UG/L
		QC Batch No:	951024V1

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	56.1	112	51.7	103	108	80	120	8.2	20
BENZENE	ND	50.0	48.3	97	46.6	93	95	80	120	3.6	20
CHLOROBENZENE	ND	50.0	49.9	100	47.1	94	97	80	120	5.8	20
TOLUENE	ND	50.0	49.1	98	48.0	96	97	80	120	2.3	20
TRICHLOROETHENE	ND	50.0	51.4	103	51.8	104	103	80	120	0.8	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. 95101.79

Clayton Lab Number:	9510179-LCS	Analytical Method:	EPA 8015/8020
Ext./Prep. Method:	EPA 5030	Instrument ID:	05587
Date:	10/19/95	Date:	10/20/95
Analyst:	FAK	Time:	00:46
Std. Source:	V950630-01W	Analyst:	FAK
Sample Matrix/Media:	WATER	Units:	ug/L
		QC Batch No:	951019A1

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	3.95	4.32	109	3.83	97	103	79	125	12	20
ETHYLBENZENE	(PID)	ND	6.11	6.45	106	5.96	98	102	91	123	7.9	20
GASOLINE	(FID)	ND	500	477	95	428	86	91	80	120	11	25
TOLUENE	(PID)	ND	24.3	26.7	110	23.7	98	104	84	118	12	20
TOTAL XYLENE	(PID)	ND	29.6	32.7	110	28.9	98	104	85	115	12	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. 95101.79

Clayton Lab Number:	9510227-01A	Analytical Method:	EPA 8015/8020
Ext./Prep. Method:	EPA 5030	Instrument ID:	05587
Date:	10/24/95	Date:	10/24/95
Analyst:	NAN	Time:	18:52
Std. Source:	V950630-01W	Analyst:	NAN
Sample Matrix/Media:	WATER	Units:	ug/L
		QC Batch No:	951024A2

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	6.49	6.35	98	6.53	101	99	79	125	2.8	20
ETHYLBENZENE	(PID)	ND	7.58	7.26	96	7.69	101	99	91	123	5.8	20
GASOLINE	(FID)	ND	500	453	91	447	89	90	80	120	1.3	25
TOLUENE	(PID)	ND	37.2	36.5	98	37.6	101	100	84	118	3.0	20
TOTAL XYLENE	(PID)	ND	43.0	41.0	95	43.5	101	98	85	115	5.9	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

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	9510179
Ind. Code	W.P.
Date Logged In 10/18	By CH

REPORT RESULTS TO

Name: RICHARD DAY | Title:
Company: CLAYTON | Dept.:
Mailing Address:
City, State, Zip:
Telephone No.: | Telefax No.:

SEND INVOICE TO

Purchase Order No.: | Client Job No.: 60899.04
Name:
Company: INGERSOLL-RAND | Dept.:
Address:
City, State, Zip:

Date Results Req.: STANDARD TAT | Rush Charges Authorized? ☐ Yes ☒ No | Phone / Fax Results ☐ ☐

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

* Explanation of Preservative: P = HCl

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

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED: TPH-GAS/BTEX	ANALYSIS REQUESTED: EPA 8240	FOR LAB USE ONLY
MW-3	10-18-95	H2O	40 MLS	2	XP		01 A,B
MW-3			40 MLS	2		XP	↓ C,D
MW-4			40 MLS	2	XP		02 A,B
MW-4			40 MLS	2		XP	↓ C,D
VW-8			40 MLS	2	XP		03 A,B
VW-8			40 MLS	2		XP	↓ C,D
TRIP BLANKS			40 MLS	2	XP	XP	04 A,B
FIELD BLANKS	↓	↓	40 MLS	6	XP	XP	05 A-F

CHAIN OF CUSTODY

Collected by: RICHARD SILVA (print) | Collector's Signature: Richard Silva
Relinquished by: Richard Silva | Date/Time 10-18-95 5:10pm | Received by: | Date/Time
Relinquished by: | Date/Time | Received at Lab by: Carol Kammerer | Date/Time 10/18/95 5:10pm
Method of Shipment: | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

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

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

22345 Roethel Drive, Novi, MI 48375, (810) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

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

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 6C899.04 Site: INGERSOLL-RAND Date: OCT. 18, 1995

Well # MW-3 Sampling Team: R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well:

Total Depth of Well: 20.10 feet Time: 1128 Depth to Water Before Pumping: 16.33 feet

Volume Height of Water Column:		Diameter 2-inch	Diameter 4-inch	Volume		Purge Factor		To Purge
3.77	feet *	.16	(.65)	= 2.45 gal	*	4	=	9.80

Depth Purging From: 20 feet Time Surging Begins: 1350

Notes on Initial Discharge: BLACKISH, SILTY

Time	Volume Purged	pH	Conductivity	T	Notes
1352	2-GAL	7.3	1316	20.2	TURBID
1354	4-GAL	7.2	1298	20.1	TURBID
1356	6-GAL	7.2	1332	19.9	CLEAR
1358	8-GAL	7.2	1330	19.8	CLEAR, PURGED DRY
1410	10-GAL	7.3	1296	19.9	CLEAR, PURGED DRY

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1415

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.2	7.2	7.2	7.3
Conductivity	1305	1289	1291	1294
T°C	19.8	19.6	19.9	19.8

Pre-Sample Collection Gallons Purged: 10

Time Sample Collection Begins: 1420

Time Sample Collection Ends: 1425

Total Gallons Purged: 11

Comments:

EWATER.TBL (11/21/88)

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 6099.04 Site: INGERSOLL-RAND

Well # MW4 Sampling Team: R. SILVA Date: OCT. 18, 1995

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well:

Total Depth of Well: 27.75 feet Time: 1131 Depth to Water Before Pumping: 18.63 feet

Volume Height of Water Column:		Diameter 2-inch	Diameter 4-inch	Volume		Purge Factor		To Purge
9.12	feet *	.16	(.85)	= 5.93 gal *		4	=	23.72

Depth Purging From: 27 feet Time Surging Begins: 1300

Notes on Initial Discharge: GRAYISH, SLIGHTLY TURBID

Time	Volume Purged	pH	Conductivity	T	Notes
1305	5-GAL	7.0	1555	19.3	CLEAR, PURGED DRY
1315	10-GAL	7.0	1788	19.3	CLEAR, PURGED DRY

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1320

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.0	7.0	7.0	7.0
Conductivity	1700	1674	1653	1621
T°C	19.3	19.3	19.2	19.2

Pre-Sample Collection Gallons Purged: 10

Time Sample Collection Begins: 1325

Time Sample Collection Ends: 1330

Total Gallons Purged: 11

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 60899.04 Site: INGERSOLL-RAND Date: OCT 18, 1995

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

Sampling Method: N/A

Field Conditions: _____

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: _____ feet Time: 1133 Depth to Water Before Pumping: 21.61 feet

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

Depth Purging From: _____ feet Time Purging Begins: _____

Notes on Initial Discharge: _____

Time	Volume Purged	pH	Conductivity	T	Notes

wtr-smp.bp

Revised: 08/30/95

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 6066.9.04 Site: INGERSOLL-RAND Date: OCT. 18, 1995

Well # VW-8 Sampling Team: R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 25.20 feet Time: 1136 Depth to Water Before Pumping: 23.45 feet

Volume Height of Water Column:		Diameter 2-inch	Diameter 4-inch	Volume		Purge Factor		To Purge
1.75	feet *	.16	(.65)	= 1.14	gal *	5	=	5.70

Depth Purging From: 25 feet Time Surging Begins: 1215

Notes on Initial Discharge: CLEAR

Time	Volume Purged	pH	Conductivity	T	Notes
1216	2-GAL	7.2	1293	19.4	CLEAR
1217	3-GAL	7.1	1309	19.7	CLEAR, PURGED DRY
230	4-GAL	7.1	1342	20.0	CLEAR
1231	5-GAL	7.1	1349	20.1	CLEAR
1232	6-GAL	7.6	1361	20.1	CLEAR, PURGED T.D.

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1240

	Rep #1	Rep #2	Rep #3	Rep #4
pH	7.1	7.0	7.0	7.0
Conductivity	1243	1251	1255	1260
T°C	19.9	19.9	19.8	19.9

Pre-Sample Collection Gallons Purged: 6

Time Sample Collection Begins: 1245

Time Sample Collection Ends: 1250

Total Gallons Purged: 7

Comments:

ATTACHMENT 3

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

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

BOREHOLE INSTALLATION

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

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

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

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

SOIL SAMPLING

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

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

Soil samples selected for laboratory analysis are left in the brass liners, sealed with aluminum foil and plastic caps, taped for air tightness, labeled, and immediately placed into a pre-cooled ice

chest chilled to less than 4°C. Labels contain the following information: site name, date and time sampled, borehole number and depth, and the sampler's initials. The samples are transported under chain-of-custody to a state-certified laboratory. The laboratory analyzes soil samples within the prescribed holding time, storing them at temperatures below 4°C at all times.

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

WELL CONSTRUCTION

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

Wells extend at least 10 feet into the upper saturated zone, but do not extend through any clay layers greater than 5 feet that are below the shallow water table. The standard practice for wells installed at hydrocarbon contamination sites is to construct a well with a 20-foot long perforated interval extending 15 feet below and 5 feet above the water table in an unconfined aquifer. The top of the well is solid casing. The annular space of the borehole is backfilled with washed, kiln-dried sand to a point at least 1 foot above the slotted screen. A seal above the filter pack is formed by placing a 1- to 2-foot layer of bentonite pellets on top of the sand. The bentonite pellets are moistened by pouring clean tap water down the hole so that they can expand and seal the annulus. A neat cement grout is placed above the bentonite seal and brought to the ground surface.

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

WELL DEVELOPMENT

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

All monitoring wells are initially developed to clean the well and stabilize sand, gravel, and disturbed aquifer materials around the screened internal perforations. Wells are developed by pumping (or bailing) and surging until water turbidity and specific conductance stabilize. In some cases, where wells are installed in low permeability formations and the wells purge dry, the well

is allowed to recover and is purged dry three times. Clean tap water is introduced into the well if it does not recover rapidly enough.

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

GROUNDWATER SAMPLING

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

Field sampling logs maintained for each well include:

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

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

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

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

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

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

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

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

REFERENCES

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

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

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

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

CAPSULE
ENVIRONMENTAL ENGINEERING INC.

PROJECT CALCULATION SHEET

Project Name: San Leandro
Project Number: 001-327
Task Number: 450
Re: Groundwater Flow Velocity

By: JJM
Date: 1/31/96
Page: 1 of 2
cc:

Calculate a groundwater flow velocity for the San Leandro site,

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

where

V = groundwater velocity

K = hydraulic conductivity

n = porosity

K (hydraulic conductivity) estimate

- from Ingersoll Rand Corp. Data Summary Report Dec. 1990, Table 3, prepared by IT Corp.

The estimate of K for MW-4, from a pump test is

$K = 48 - 67$ gal/day/ft^2

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

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

Checked by:
Date:

CAPSULE
ENVIRONMENTAL ENGINEERING INC.

PROJECT CALCULATION SHEET

Project Name: San Leandro
Project Number: 001-327
Task Number: 450
Re: Groundwater Flow Velocity

By: JJM
Date: 1/31/96
Page: 2 of 2
cc:

i (hydraulic gradient) estimate

from October 18, 1995 groundwater contour map, Figure 3

$$i = \frac{(11.73 - 10.29)}{320 \text{ ft}} = \frac{1.44}{320} = .0045 \approx .004$$

n (porosity) estimate

n = 30% from USGS water supply P-p 2220 & Freeze and Cherry, 1979

$$V = \frac{(9.0 \text{ ft/day})(.004)}{.3} = \frac{.036}{.3} \text{ ft/day}$$

$= .12$ ft/day

$= .12 \text{ ft/day} \times \frac{365 \text{ day}}{\text{yr}} = 44$ ft/yr

Estimate of gw flow velocity

0.12 ft/day or 44 ft/yr.

Checked by:
Date:

BRAUN INTERTEC

Braun Intertec Corporation
6875 Washington Avenue South
P.O. Box 39108
Minneapolis, Minnesota 55439-0108
612-941-5600 Fax: 942-4844

Engineers and Scientists Serving the Built and Natural Environments

October 19, 1995

Project CMXX-95-0157
Report 95-3176

Mr. Chris McElligott/MH
Braun Intertec Corporation

Re: IRES

San Leandro, CA

Braun Intertec Corporation received your analytical request on October 6, 1995. Analytical results are summarized on the following laboratory report.

Routine Braun Intertec Corporation QA/QC was followed. Quality control data have been reviewed. No anomalies were encountered in the analysis of this sample.

We appreciate the opportunity to meet your analytical needs. If you have any questions or need additional information, please call Linda Thiery at 612-942-4813.

Sincerely,

Linda J. Thiery

Linda J. Thiery
Project Manager

Attachments
Chain of Custody
Laboratory Results

Client:	IRES	Laboratory:	Braun Intertec Corporation	Date Sampled:	10/03/95
Log-in:	95-3176	Lab Contact/Phone:	L. Thiery/612-942-4813	Date Received:	10/06/95
Project Number:	CMXX-95-0157	Sampler:	Braun Intertec	Date Reported:	10/19/95
Matrix:	Air Tube	% Moisture:	Not Applicable		
Lab Sample ID:	95-3176-01	MDL:	Method Detection Limit		
		RL:	Reporting Limit		

Client Sample ID/Description: AS-1

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Air Analysis									
Benzene	-	-	NIOSH	10/17/95	1	250	250	8500	ug/m3
Ethyl Benzene	-	-	NIOSH	10/17/95	1	250	250	11000	ug/m3
Toluene	-	-	NIOSH	10/17/95	1	250	250	88000	ug/m3
Total Hydrocarbons as Gasoline	-	-	NIOSH	10/17/95	1	6200	6200	880000	ug/m3
Xylenes, Total	-	-	NIOSH	10/17/95	1	1200	1200	100000	ug/m3

(End of Report)

BRAUNSM
INTERTEC

Chain Of Custody - ECS

Log-in Report # 95-3176
Page 1 of 1
Rush #
Exception Rate

Site Identification
I.RES
SAN LEANDRO, CA

Client Identification

a = soil c = solid e = lube or filter
b = water d = liquid f = sludge
g = other

Project Manager CHRIS MCELLIGOTT
Sampled By: TIM BUDNES
Temperature Upon Receipt ☐ Received on Ice °C
Condition Upon Receipt ☐ Good ☐ Other

Evidence Tape Intact ☐ Yes ☐ No ☐ NA
WI LUST Project ☐ Yes ☐ No
Are samples in compliance with soil movement regulations ☐ Yes ☐ No ☐ NA

Project #: CMXX950157
Task #:

Sample No. (Lab Use Only)	Sample Identification	Collection Date	Collection Time	Sample Matrix Code	Bottle type and number: VOA 40ml. 60 ml.	Metals (Filtered)	Metals (Unfiltered)	General	Nutrient	IL HCl	IL Generals	Tubes/OVM	Other	Analysis/Remarks
95-3176-01	AS-1	10/3	1400	e								1		BEX, THC as GASOLINE 4 LITERS

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
[signature]	10/6/95	0900					
Relinquished By:	Date	Time	Received for Laboratory By:	Date	Time	Comments:	
			[signature]	10/6/95			

FEB 9 1996 3:00PM BRAUN INTERTEC 2222 NO. 1995 P. 4/5

Table 1
Water Level Summary Table

Project Ingersoll-Rand Company, San Leandro, CA water level data
Date prepared April 15, 1995
Latest update December 27, 1995
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
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
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
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
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
VW-8	30-Jun-95	33.78	22.32	11.46
	18-Oct-95	33.78	23.45	10.33
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	acetone (ug/l)	benzene (ug/l)	bromo-benzene (ug/l)	bromo-chloro methane (ug/l)	bromo dichloro-methane (ug/l)	bromo-form (ug/l)	bromo-methane (ug/l)	2-buta-none (ug/l)	n-butyl-benzene (ug/l)	carbon disulfide (ug/l)	carbon tetra-chloride (ug/l)	chloro-benzene (ug/l)	chloro-ethane (ug/l)	chloro-form (ug/l)	chloro-methane (ug/l)	2-chloro-toluene (ug/l)	4-chloro-toluene (ug/l)	dibromo-chloro-methane (ug/l)	1,2-dibromo 3-chloro-propane (ug/l)	1,2 di-bromo methane (ug/l)	dibromo-methane (ug/l)	1,2-di-chloro-benzene (ug/l)	1,3-di-chloro-benzene (ug/l)	1,4-di-chloro-benzene (ug/l)	dichloro-difluoro-methane (ug/l)	1,1-di-chloro-ethane (ug/l)	1,2-di-chloro-ethane (ug/l)	1,1-di-chloro-ethene (ug/l)	cis-1,2-dichloro-ethene (ug/l)	trans-1,2-dichloro-ethene (ug/l)	1,2-dichloro-propane (ug/l)	1,3-dichloro-propane (ug/l)	2,2-dichloro-propane (ug/l)	1,1-dichloro-propene (ug/l)
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	<1.0	
	21-Jun-94	CEC	ARC	8015																																			<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	<5
	21-Jun-94	CEC	CEC	8015																																			
	20-Oct-94	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8015/8020		0.4																																	
	25-Jan-95	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	25-Jan-95	CEC	CEC	8015/8020		0.4																																	
MW-2	17-Nov-89	IT	PAL	8010/8020		ND																																	
	21-Jun-94	CEC	ARC	8260		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	21-Jun-94	CEC	ARC	8015																																			
	21-Jun-94	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	21-Jun-94	CEC	CEC	8015																																			
	20-Oct-94	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8015/8020		0.4																																	
	25-Jan-95	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	25-Jan-95	CEC	CEC	8015/8020		0.4																																	
MW-3	17-Nov-89	IT	PAL																																				
	21-Jun-94	CEC	ARC	8260		27	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0		<1.0	17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	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	45	7	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	21-Jun-94	CEC	CEC	8015																																			
	20-Oct-94	CEC	CEC	8260	50	9	<5	<5	<5	<5	<5	<20	13	<5	<5	19	<5	<5	<5	<5	<5	<5	<5	<5	<5	64	9	18	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8015/8020		8.9																																	
	25-Jan-95	CEC	CEC	8260	<100	970	<30	<30	<30	<30	<30	<100	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<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	43	6	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	26-Apr-95	CEC	CEC	8015/8020		1200																																	
	30-Jun-95	CEC	CEC	8260	<20	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	56	9	17	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	30-Jun-95	CEC	CEC	8015/8020		16																																	
	18-Oct-95	CEC	CEC	8260	<20	11	<5	<5	<5	<5	<5	<20	<5	<5	<5	15	<5	<5	<5	<5	<5	<5	<5	<5	<5	64	9	16	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	18-Oct-95	CEC	CEC	8015/8020		12																																	
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 & <5.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	>1.0 & <5.0	16	<1.0	<1.0	>1.0 & <5.0	<1.0	
	21-Jun-94	CEC	ARC	8015																																			
	21-Jun-94	CEC	CEC	8260	<100	470	<30	<30	<30	<30	<30	<100	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
	21-Jun-94	CEC	CEC	8015																																			
	20-Oct-94	CEC	CEC	8260	160	260	<5	<5	<5	<5	<5	<20	17	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5	<5	<5	12	<5	<5	<5	<5	<5
	20-Oct-94	CEC	CEC	8015/8020		360																																	
	25-Jan-95	CEC	CEC	8260	<100	400	<30	<30	<30	<30	<30	<100	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
	25-Jan-95	CEC	CEC	8015/8020		470																																	
	26-Apr-95	CEC	CEC	8260	<20	470	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	8	<5	<5	<5	<5	<5
	26-Apr-95	CEC	CEC	8015/8020		500																																	
	30-Jun-95	CEC	CEC	8260	<20	800	<5	<5	<5	<5	<5	<20	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5	<5	<5	<5
	30-Jun-95	CEC	CEC	8015/8020		390																																	
	18-Oct-95	CEC	CEC	8260	<20	400	<5	<5	<5	<5	<5	<20	12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	18-Oct-95	CEC	CEC	8015/8020		280																																	
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 & <5.0	<1.0	<1.0	<1.0	>1.0 & <5.0	<1.0	<1.0	67	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		290																																	
	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	28-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	6	<5	<5	<5	<5	<5	<5	<5	<5
	28-Jul-95	CEC	CEC	8015/8020		280																																	
	18-Oct-95	CEC	CEC	8260	<20	290	<5	<5	<5	<5	<5	<20	8	<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																																	
VW-9	28-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	33	<5	<5	6	<5	<5	<5	<5	<5
	28-Jul-95	CEC	CEC	8015/8020		500																																	

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

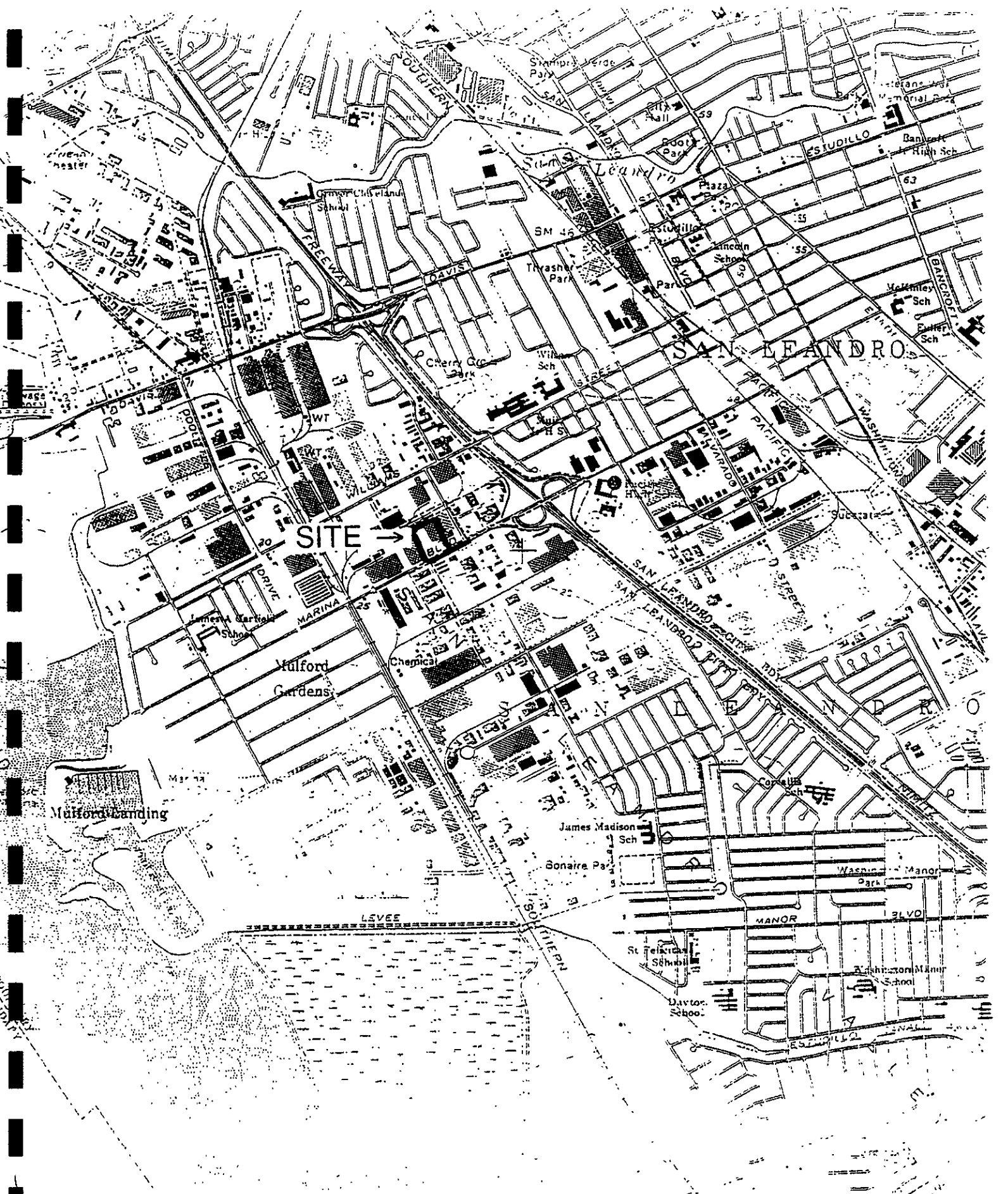
FILE: H:\QUATTRO\SLW\ATNEW\WB1
prepared by JJM 1/95
updated 1/22/96

Table 2: San Leandro Groundwater Analytical Data Summary

Well	Date Collected	Sample collection by	Lab	EPA Method	cis-1,3-dichloropropene (ug/l)	trans-1,3-dichloropropene (ug/l)	ethylbenzene (ug/l)	freon 113 (ug/l)	hexachlorobutadiene (ug/l)	2-hexanone (ug/l)	isopropylbenzene (ug/l)	p-isopropyltoluene (ug/l)	methylene chloride (ug/l)	4-methyl-2-pentanone (ug/l)	naphthalene (ug/l)	n-propylbenzene (ug/l)	sec-butylbenzene (ug/l)	styrene (ug/l)	tert-butylbenzene (ug/l)	1,1,1,2-tetrachloroethane (ug/l)	1,1,2,2-tetrachloroethane (ug/l)	tetrachloroethene (ug/l)	toluene (ug/l)	1,2,3-trichlorobenzene (ug/l)	1,2,4-trichlorobenzene (ug/l)	1,1,1-trichloroethane (ug/l)	1,1,2-trichloroethane (ug/l)	trichloroethene (ug/l)	trichlorofluoromethane (ug/l)	1,2,3-trichloropropane (ug/l)	1,2,4-trimethylbenzene (ug/l)	1,3,5-trimethylbenzene (ug/l)	vinyl acetate (ug/l)	vinyl chloride (ug/l)	xylenes (ug/l)	o-xylene (ug/l)	p,m xylenes (ug/l)	TPH gasoline (ug/l)	TPH EPA 8015 gasoline (ug/l)
MW-1	17-Nov-89	IT	PAL	8010/8020			ND																ND					29							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	18	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0		
	21-Jun-94	CEC	ARC	8015																																			<50
	21-Jun-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	20	<5	<5	<5	<5	<5	<10	<5		<5	<5			
	21-Jun-94	CEC	CEC	8015																																			<50
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<10	<5		<5	<5			
	20-Oct-94	CEC	CEC	8015/8020			<0.3																<0.3												0.4	<0.4		<50
	25-Jan-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	16	<5	<5	<5	<5	<5	<10	<5		<5	<5			
	25-Jan-95	CEC	CEC	8015/8020			<0.3																<0.3												0.4	<0.4		<50
MW-2	17-Nov-89	IT	PAL	8010/8020			ND																ND					10							ND		
	21-Jun-94	CEC	ARC	8260	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0		
	21-Jun-94	CEC	ARC	8015																																			<50
	21-Jun-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<10	<5		<5	<5			
	21-Jun-94	CEC	CEC	8015																																			<50
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<10	<5		<5	<5			
	20-Oct-94	CEC	CEC	8015/8020			<0.3																<0.3												0.4	<0.4		<50
	25-Jan-95	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	<5	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5		<5	<5			
	25-Jan-95	CEC	CEC	8015/8020			<0.3																<0.3												0.4	<0.4		<50
MW-3	17-Nov-89																																						
	21-Jun-94	CEC	ARC	8260	<1.0	<1.0	120		<1.0		13	>1.0 & <5.0	<1.0		18	33	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0	>1.0 & <5.0	<1.0	<1.0	<1.0	<1.0	<1.0	63	<1.0	<1.0	<1.0	<1.0		<1.0	31	100		
	21-Jun-94	CEC	ARC	8015																																			2700
	21-Jun-94	CEC	CEC	8260	<5	<5	170	<5	<5	<20	17	<5	<5	<5	<5	43	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	120	22	<10	<5		40	150			
	21-Jun-94	CEC	CEC	8015																																			2900
	20-Oct-94	CEC	CEC	8260	<5	<5	90	<5	<5	<20	20	<5	<5	<5	<5	43	6	<5	<5	<5	<5	<5	<5	4.4	<5	<5	<5	<5	<5	150	46	<10	<5		68	140			
	20-Oct-94	CEC	CEC	8015/8020			96																	440												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	<30	410	<30	<30	<30	<30	<30	350	80	<30	<30		820	1000			
	25-Jan-95	CEC	CEC	8015/8020			86																	340												780	1100		7100
	26-Apr-95	CEC	CEC	8260	<5	<5	640	<5	<5	<20	29	<5	<5	<20	150	83	5	<5	82	<5	<5	<5	<5	1600	<5	<5	<5	<5	<5	650	160	<10	<5		900	2100			
	26-Apr-95	CEC	CEC	8015/8020			720																	1700												940	1500		14000
	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	54	40	<10	<5		25	41			
	30-Jun-95	CEC	CEC	8015/8020			20																	17												33	98		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	110	28	<10	<5		23	77			
	18-Oct-95	CEC	CEC	8015/8020			46																	1.5												24	63		2000
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	<1.0	>1.0 & <5.0		44	270		
	21-Jun-94	CEC	ARC	8015																																			5000
	21-Jun-94	CEC	CEC	8260	<30	<30	360	<30	<30	<100	50	<30	<30	<100	<30	66	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	530	110	<50	<30		50	530			
	21-Jun-94	CEC	CEC	8015																																			7600
	20-Oct-94	CEC	CEC	8260	<5	<5	240	<5	<5	<5	66	<5	<5	<20	96	78	8	<5	<5	<5	<5	<5	<5	34	<5	<5	<5	<5	<5	300	100	<10	<5		110	330			
	20-Oct-94	CEC	CEC	8015/8020			270																	33												120	520		7800
	25-Jan-95	CEC	CEC	8260	<30	<30	420	<30	<30	<30	<100	40	<30	<30	120	100	<30	<30	<30	<30	<30	<30	<30	90	<30	<30	<30	<30	<30	<30	<30	600	120	<50	<30		310	550		
	25-Jan-95	CEC	CEC	8015/8020			520																	110												320	730		9700
	26-Apr-95	CEC	CEC	8260	<5	<5	390	<5	<5	<20	51	<5	<5	<20	54	61	6	<5	<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	98	110	10	<5	<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	85	110	13	<5	<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		5800
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																																			2800
	21-Jun-94	CEC	CEC	8260	<5	<5	10	<5	<5	<20	39	<5	<5	<20	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	42	<5	<10	<5		<5	7			
	21-Jun-94	CEC	CEC	8015																																			1600
	20-Oct-94	CEC	CEC	8260	<5	<5	<5	<5	<5	<20	30	<5	<5	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	58	<5	<10	<5		<5	<5			
	20-Oct-94	CEC	CEC	8015/8020			5.2																	3.3												0.9	5		2800
	25-Jan-95	CEC	CEC	8260	<5	<5	32	<5	<5	<20	30	44	<5	<20	<5	11	<5	<5	<5	<5	<5	<5	<5	39	<5	23	<5	<5	27	<5	<5	<5	<5	<10	<5		21	45		
	25-Jan-95	CEC	CEC	8015/8020			24																	29												15	35		3900
	26-Apr-95	CEC	CEC	8260	<5	<5	10	<5	<5	<20	36	<5	<5	<20	<5	8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	57	<5	<5	5	<5	<10	<5		<5	8		
	26-Apr-95	CEC	CEC	8015/8020			7.4																	3.4												2	6.2		2400
	30-Jun-95	CEC	CEC	8260	<5	<5	17	<5	<5	<20	48	<5	<5	<20	<5	11	<5	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5	55	<5	<5	8	<5	<10	<5			15		
	30-Jun-95	CEC	CEC	8015/8020			15																	7												3.1	13		2600
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	<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	<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	<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	<5	11	<5	<5	<5	<5	<5	<5	<5	<5	170	21	<10	<5		31	98		
	18-Oct-95	CEC	CEC	8015/8020			0.6																	0.3												0.4	<0.4		500
VW-9	28-Jul-95	CEC	CEC	8260	<5	<5	970	<5	<5	<20	48	<5	<5	<20	240	120	9	<5	<5	<5	<5	<5	<5	2600	<5	<5	<5	<5	<5	<5	<5	<5	650	190	<10	<5		1100	1900		
	28-Jul-95	CEC	CEC	8015/8020			1100																	3500												200	2400		12000

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\SLW\ATTNEW.WB1
prepared by: JJM 1/95
updated 1/22/96



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

Figure 1 - Site Location Map
San Leandro, California

Water Level Elevations

· San Leandro, California

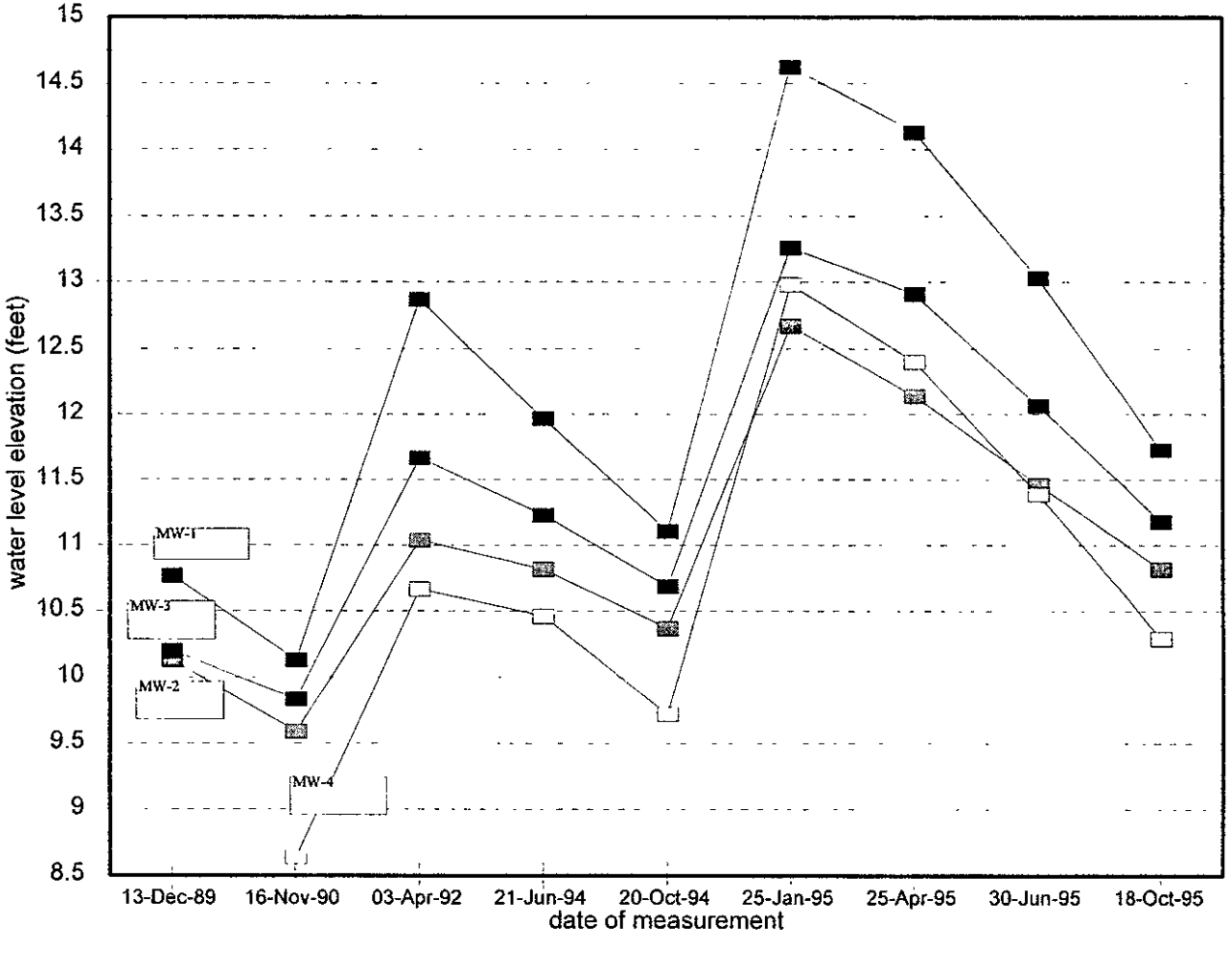
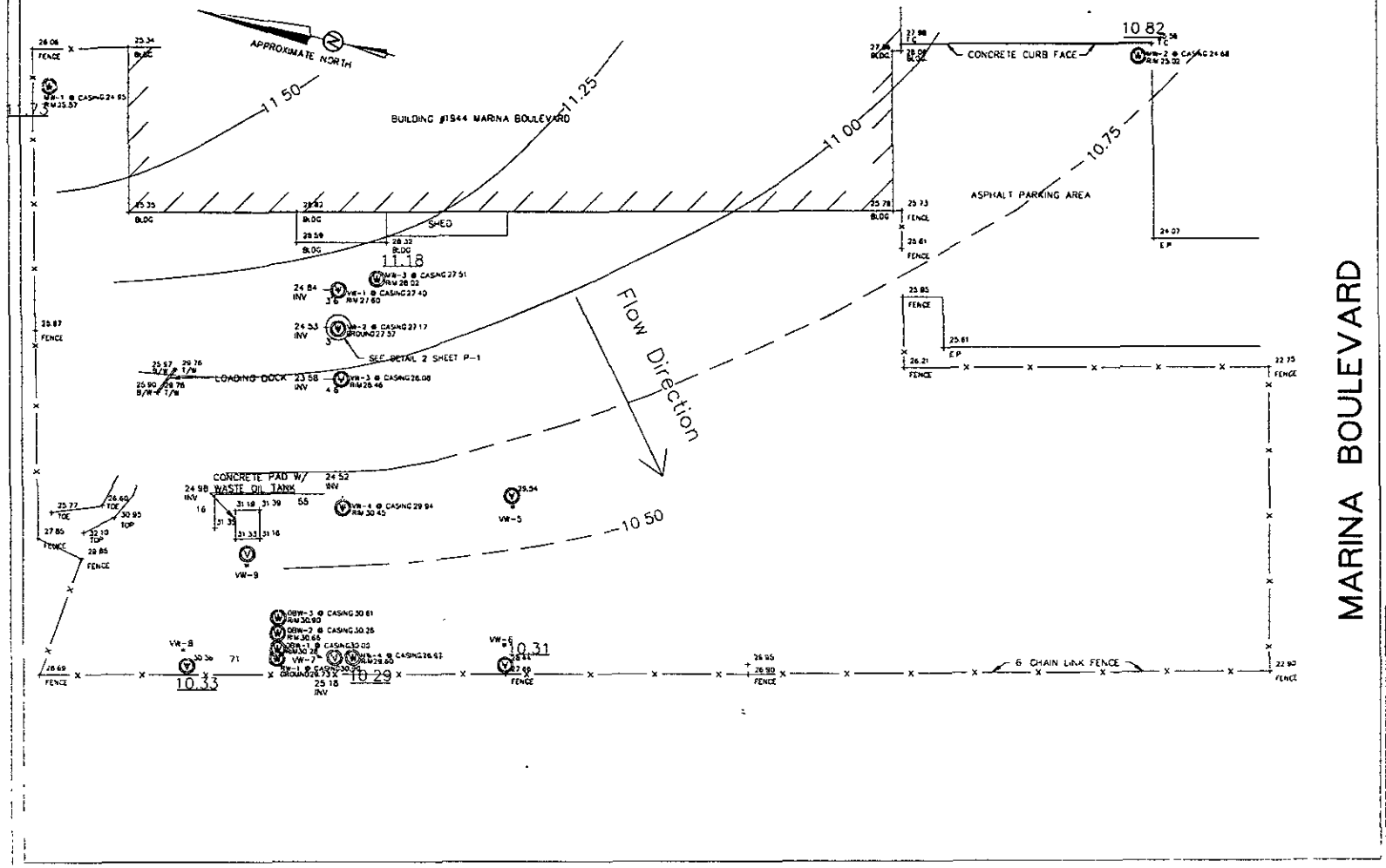


Figure 3

File H:\QUATTRO\SLWATLEV WB1 Graph1

FIGURE 4
GROUNDWATER CONTOURS 10/18/95



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

BASIS OF ELEVATIONS: CITY OF SAN LEANDRO BENCHMARK, ONCH 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) 527-7744

CAPSULE
ENVIRONMENTAL ENGINEERING, INC
1920 OAKCREST AVE SUITE 210
ST PAUL, MINNESOTA 55113
(612) 636-2044

TITLE: GROUNDWATER CONTOUR MAP 10/18/95
INGERSOLL-RAND CORPORATION
SAN LEANDRO, CALIFORNIA

SCALE: AS NOTED | DRAWN BY: DCC/CH | CHECKED BY: | DATE: 2/7/96 | PROJECT NO: 352

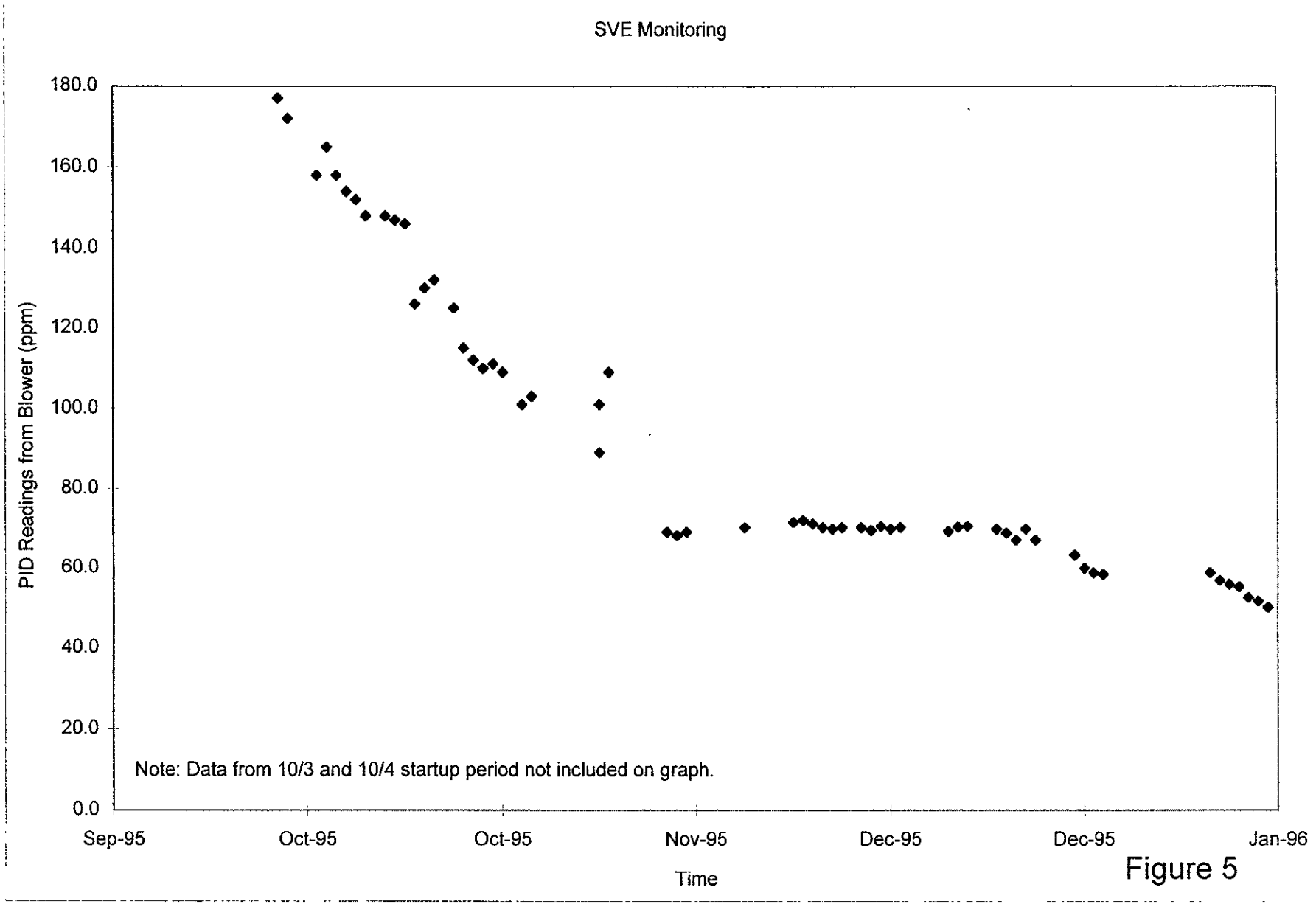

SVE Monitoring
PID Readings from Blower (ppm)
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Note: Data from 10/3 and 10/4 startup period not included on graph.
Sep-95
Oct-95
Oct-95
Nov-95
Dec-95
Dec-95
Jan-96
Time

Figure 5