

ALCO
HAZMAT
94 APR 18 AM 12:58



April 13, 1994

26560 1

Ms. Madhulla Logan
Alameda County Health Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

First Quarter 1994 Groundwater Monitoring Report

**James River Corporation
San Leandro, California**

Dear Ms. Logan:

This report presents the results of the first quarter of 1994 groundwater monitoring for the James River Corporation facility at 2101 Williams Street, San Leandro, California. This document was prepared for the sole use of the James River Corporation and the ACDEH, the only intended beneficiaries of our work. No other party may rely on the information contained in this report without prior written consent of HLA.

FIRST QUARTER GROUNDWATER MONITORING

Field Investigation

On March 1, 1994, groundwater samples were collected from 8 wells for chemical analysis (Plate 1). Monitoring Wells W-3, W-5, W-6, W-7, W-8, W-9, W-10, and B-1, which range in total depth from 17 to 48 feet, were sampled.

All sampling equipment was steam cleaned before sampling activities began. The equipment was then rinsed with deionized water and placed in clean containers to minimize the possibility of cross-contamination.

Before the eight wells were purged and sampled, water-level measurements were obtained using a steel survey tape graduated in hundredths of a foot. Water-level measurements were also obtained for two wells (W-1 and W-4) that were not scheduled to be sampled. The measurements were repeated twice, or until consecutive measurements differed by less than 0.01 foot. After each water level was recorded, an observation sample was collected from the well and its visual quality was evaluated.

Each well was purged of at least three well volumes of water using a dedicated purge hose for each well and a clean centrifugal pump. Temperature, specific conductance, pH, and turbidity were monitored during purging, and samples were collected after the readings had stabilized (Table 1). Copies of HLA's groundwater sampling forms are attached.

April 13, 1994
26560 1
Ms. Madhulla Logan
Alameda County Health Agency
Page 2

After purging, the groundwater sample was collected from each well using a clean stainless steel bailer. To minimize the potential for cross-contamination, a new dropline and a different bailer were used for each well. Samples collected for volatile organic analysis (VOA) were decanted into three 40-milliliter VOA bottles. In addition, two 1-liter amber glass bottles of groundwater were collected from Wells W-7 and W-8 for analysis of total petroleum hydrocarbon (TPH) as motor oil. Samples were assigned sequential numbers unrelated to the well of origin (to maintain sample anonymity during laboratory analysis), stored on ice, and delivered with a chain of custody record to Anametrix Laboratories (Anametrix), San Jose, California.

One VOA trip blank was submitted to the laboratory as a quality assurance (QA) check. The purpose of the trip blank was to identify the presence of artifact laboratory chemicals in the sample bottles. This sample was entered on the chain of custody form and delivered to the laboratory with the cooler containing the well samples. A copy of the chain of custody record is attached.

Groundwater Gradient and Flow Direction

Potentiometric surface elevations from past water-level surveys and the March 1994 water-level survey are presented in Table 2. The direction of groundwater flow is toward the southwest at gradient ranging between 0.0027 to 0.005 ft/ft (Plate 2). Groundwater flow direction and gradient data are consistent with data collected from previous monitoring periods.

Chemical Analyses

Samples collected on March 1, 1994, were submitted to Anametrix, which is state certified to perform EPA Test Method 8240. The additional samples collected from Wells W-7 and W-8 were analyzed for the presence of motor oil using EPA Test Method (Modified) 8015.

Table 3 compares November 1993 and March 1994 analytical data. Chemical concentrations reported in March 1994 were in most cases similar or slightly higher than the concentrations detected in November 1993. A substantial decrease in concentrations of the chemicals acetone and MIBK occurred in Well W-10 from the November 1993 and March 1994 sampling event; the concentrations of acetone and MIBK were 210,000 and 6,000 $\mu\text{g/l}$, respectively, in the November event and decreased to 99,000 and 3,600 $\mu\text{g/l}$ in the March event.

During the March 1, 1994 sampling event, HLA collected groundwater from Wells W-7 and W-8 to be analyzed for TPH as motor oil. The intent of this analysis was to monitor the hydrocarbon release from the abandoned cardboard bailer vault located inside the Flexible Packaging Plant. After the samples had been analyzed, it was noted that a laboratory contaminant was found in the Method Blank (see page 1 of Laboratory Results for TPHd). The samples were then analyzed a second time, but the analysis was performed outside the authorized holding time for this analytical method. HLA concludes that the data for Wells W-7 and W-8 for TPH as motor oil are invalid. During the next quarterly monitoring event, these wells will be sampled for TPH as motor oil.

A copy of the laboratory report is attached for all wells sampled.

April 13, 1994
26560 1
Ms. Madhulla Logan
Alameda County Health Agency
Page 3

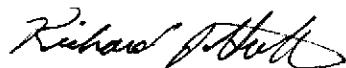
CONCLUSIONS AND RECOMMENDATIONS

Results of quarterly groundwater sampling and analysis performed during March 1994, indicate that chlorinated hydrocarbons continue to be present in the shallow groundwater beneath the James River facility in San Leandro. As stated in HLA's letter report to James River dated February 11, 1994, it is evident that the chlorinated hydrocarbons detected in the shallow groundwater at the James River San Leandro facility originated from an upgradient offsite source, possibly 1964 Williams Street. James River is committed to remediating soil and groundwater problems resulting from their activities; however, they should not be required to remediate groundwater containing chlorinated hydrocarbons that have migrated onto their facility from an offsite source.

The next groundwater monitoring event is scheduled to take place in June 1994. If you have any questions regarding this report, please contact either of the undersigned at (415) 883-0112.

Very truly yours,

HARDING LAWSON ASSOCIATES



Richard J. Hutton
Senior Hydrologist



R. Bruce Scheibach, R.G. 5062
Principal Hydrogeologist

cc: Mr. Mel Lawyer, James River Corporation

Attachments: Table 1: Field Parameter Measurements of Water Purged from Wells Before Sampling
Table 2: Water-Level Measurements
Table 3: Analytical Results for Groundwater Samples
Plate 1: Area Map
Plate 2: Groundwater Level and Contour Map
Plate 3: Groundwater Quality Analytical Results, March 1, 1994
Groundwater Sampling Forms
Chain of Custody Form
Anametrix Analytical Data

Table 1. Field Parameter Measurements of Water Purged from Wells Before Sampling

**James River Corporation
San Leandro, California
March 1, 1994**

Well No.	Gallons Purged	pH	Specific Conductance* ($\mu\text{mhos}/\text{cm}$)	Temperature ($^{\circ}\text{C}$)	Turbidity (NTU)
B-1	0	7.2	560	19.0	16
	25	7.3	560	19.0	8
	50	7.3	560	19.0	5
	73	7.3	560	19.0	4
W-3	0	6.5	848	22.0	29
	15	6.6	648	21.0	13
	30	6.7	594	21.0	10
	51	6.7	594	21.0	8
W-5	0	6.7	495	20.0	>100
	4	6.8	495	20.0	>100
	8	6.9	550	20.0	>100
	11	6.9	495	20.0	58
W-6	0	6.7	540	21.0	>100
	4	6.8	550	20.0	>100
	8	6.8	550	20.0	>100
	13	6.8	550	20.0	>100
W-7	0	6.8	580	17.0	23
	20	6.8	580	17.0	13
	40	6.8	570	18.0	8
	49	6.8	570	18.0	6
W-8	0	6.5	406	17.0	56
	15	6.6	456	18.0	23
	30	6.7	456	18.0	10
	46	6.7	456	18.0	8

* at 25° C

 $\mu\text{mhos}/\text{cm}$ Micromhos per centimeter

° C Degrees Celsius

Table 1. Field Parameter Measurements of Water Purged from Wells Before Sampling

James River Corporation
 San Leandro, California
 March 1, 1994
 (Continued)

Well No.	Gallons Purgued	pH	Specific Conductance* ($\mu\text{mhos/cm}$)	Temperature ($^{\circ}\text{C}$)	Turbidity (NTU)
W-9	0	7.0	560	19.0	>100
	15	7.0	616	19.0	88
	30	7.0	570	18.0	25
	40	7.0	560	19.0	13
W-10	0	6.4	684	18.0	24
	4	6.3	672	19.0	20
	8	6.3	672	19.0	14
	11	6.3	672	19.0	9

* at 25°C

$\mu\text{mhos/cm}$ Micromhos per centimeter

$^{\circ}\text{C}$ Degrees Celsius

Table 2. Water-Level Measurements

**James River Corporation
San Leandro, California**

Well Number	Date	Top of Well Casing Elevation (feet above MSL)	Depth to Water Below Top of Casing (feet)	Water Table Elevation (feet above MSL)
W-1	9-6-90	20.67	13.15	7.52
	12-27-90	20.67	12.67	8.00
	8-27-91	20.67	12.98	7.69
	11-19-91	20.67	13.03	7.64
	2-13-92	20.67	10.54	10.13
	5-22-92	20.67	11.94	8.73
	2-19-93	20.67	8.90	11.77
	11-22-93	20.67	12.31	8.36
	3-1-94	20.67	10.72	9.95
W-3	9-6-90	20.80	13.37	7.43
	12-27-90	20.80	12.89	7.91
	8-27-91	20.80	13.00	7.80
	11-19-91	20.80	13.25	7.55
	2-13-92	20.80	10.84	9.96
	5-22-92	20.80	12.22	8.58
	2-19-93	20.80	9.30	11.50
	11-22-93	20.80	12.47	8.33
	3-1-94	20.80	10.97	9.83
W-4	9-6-90	21.00	13.50	7.50
	12-27-90	21.00	13.07	7.93
	8-27-91	21.00	13.34	7.66
	11-19-91	21.00	13.35	7.65
	2-13-92	21.00	10.92	10.08
	5-22-92	21.00	12.33	8.67
	2-19-93	21.00	9.53	11.47
	11-22-93	21.00	12.64	8.36
	3-1-94	21.00	11.08	9.92
W-5	9-6-90	21.64	14.22	7.42
	12-27-90	21.64	13.62	8.02
	8-27-91	21.64	14.03	7.61
	11-19-91	21.64	14.04	7.60
	2-13-92	21.64	12.68	8.96
	5-22-92	21.64	12.98	8.66
	2-19-93	21.64	9.92	11.72
	11-22-93	21.64	13.30	8.34
	3-1-94	21.64	11.75	9.89

Table 2. Water-Level Measurements

**James River Corporation
San Leandro, California
(Continued)**

Well Number	Date	Top of Well Casing Elevation (feet above MSL)	Depth to Water Below Top of Casing (feet)	Water Table Elevation (feet above MSL)
W-6	9-6-90	21.05	13.53	7.52
	12-27-90	21.05	13.04	8.01
	8-27-91	21.05	13.34	7.71
	11-19-91	21.05	13.37	7.68
	2-13-92	21.05	10.88	10.17
	5-22-92	21.05	12.30	8.75
	2-19-93	21.05	9.26	11.79
	11-22-93	21.05	12.64	8.41
	3-1-94	21.05	11.14	9.91
W-7	9-6-90	20.41	13.47	6.94
	12-27-90	20.41	13.08	7.33
	8-27-91	20.41	13.32	7.09
	11-19-91	20.41	13.34	7.07
	2-13-92	20.41	11.28	9.13
	5-22-92	20.41	12.36	8.05
	2-19-93	20.41	9.98	10.43
	11-22-93	20.41	12.62	7.79
	3-1-94	20.41	11.20	9.21
W-8	9-6-90	20.50	12.98	7.52
	12-27-90	20.50	12.58	7.92
	8-27-91	20.50	12.78	7.72
	11-19-91	20.50	12.81	7.69
	2-13-92	20.50	10.60	9.90
	5-22-92	20.50	11.80	8.70
	2-19-93	20.50	9.12	11.38
	11-22-93	20.50	12.07	8.43
	3-1-94	20.50	10.63	9.87

Table 2. Water-Level Measurements

**James River Corporation
San Leandro, California
(Continued)**

Well Number	Date	Top of Well Casing Elevation (feet above MSL)	Depth to Water Below Top of Casing (feet)	Water Table Elevation (feet above MSL)
W-9	9-6-90	20.16	13.00	7.16
	12-27-90	20.16	12.56	7.60
	8-27-91	20.16	12.84	7.32
	11-19-91	20.16	12.84	7.32
	2-13-92	20.16	10.78	9.38
	5-22-92	20.16	11.90	8.26
	2-19-93	20.16	9.38	10.78
	11-22-93	20.16	12.11	8.05
	3-1-94	20.16	10.71	9.45
W-10	9-6-90	20.22	----	----
	12-27-90	20.22	----	----
	8-27-91	20.22	----	----
	11-19-91	20.22	13.58	6.64
	2-13-92	20.22	11.06	9.16
	5-22-92	20.22	12.58	7.64
	2-19-93	20.22	9.60	10.62
	11-22-93	20.22	12.87	7.35
	3-1-94	20.22	11.30	8.92
B-1	9-6-90	20.59	13.12	7.47
	12-27-90	20.59	12.68	7.91
	8-27-91	20.59	12.95	7.64
	11-19-91	20.59	12.95	7.64
	2-13-92	20.59	10.72	9.87
	5-22-92	20.59	11.91	8.68
	2-19-93	20.59	9.04	11.55
	11-22-93	20.59	12.22	8.37
	3-1-94	20.59	10.73	9.86

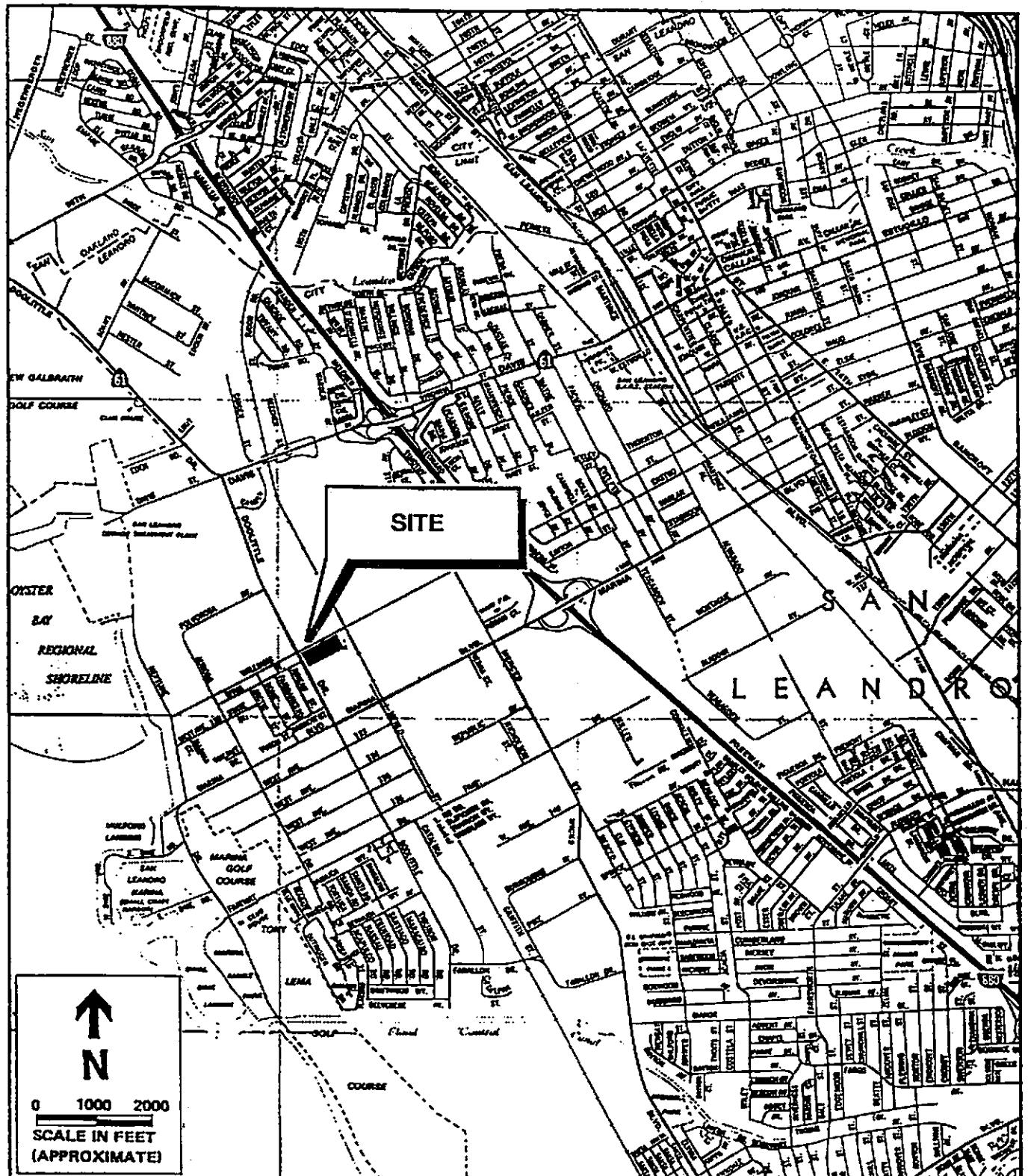
Data recorded after 11-22-93 were provided by Harding Lawson Associates, Novato, CA. Data recorded on all dates prior to 11-22-93 shown above were provided by Brown & Caldwell Consultants, Emeryville, CA.

Table 3: Analytical Results for Groundwater Samples

**James River Corporation
San Leandro, California
(Concentrations in ug/l)**

Well Name	Sample Date	Benzene	Ethylbenzene	Toluene	Xylenes	TCE	Vinyl Chloride	PCE	TCA	CIS-1,2 DCE	1,1 DCA	Acetone	MIBK
W-3	Nov-93	<5	<5	<5	<5	<5	26	<5	<5	14	<5	<20	<10
	Mar-94	<5	<5	<5	<5	<5	<10	<5	<5	25	<5	62	<10
W-5	Nov-93	<50	<50	<50	<50	500	160	2,100	<50	1,000	<50	<200	<100
	Mar-94	<50	<50	<50	<50	460	<100	2,600	<50	1,200	<50	<200	<100
W-6	Nov-93	<10	<10	<10	<10	170	<10	280	<10	<10	<10	23	<20
	Mar-94	<5	<5	<5	<5	160	<10	220	<5	56	<5	<20	<10
W-7	Nov-93	<10	<10	<10	<10	160	<20	190	<10	15	<10	<40	<20
	Mar-94	<5	<5	<5	<5	230	<10	220	<5	21	<5	<20	<10
W-8	Nov-93	<5	<5	<5	<5	3	130	<5	<5	150	3	NA	NA
	Mar-94	<5	<5	<5	<5	<5	180	<5	<5	250	<5	<20	<10
W-9	Nov-93	<5	<5	<5	<5	92	<5	11	5	<5*	3	<20	<10
	Mar-94	<5	<5	<5	<5	110	<10	13	<5	<5	<5	<20	<10
W-10	Nov-93	<5,000	<5,000	<5,000	<5,000	<5,000	<10,000	<5,000	<5,000	<5,000	<5,000	210,000	6,000
	Mar-94	<1,300	<1,300	<1,300	<1,300	<1,300	<2500	<1,300	<1,300	<1,300	<1,300	99,000	3,600
B-1	Nov-93	<5	<5	<5	<5	<5	<5	3	<5	<5	<5	<20	<10
	Mar-94	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<20	<10

* 4 ug/l of 1,1-DCE detected in W-9 on Nov-93



SOURCE: "Reproduced with permission granted by THOMAS BROS. MAPS. This map is copyrighted by THOMAS BROS. MAPS. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission."



Harding Lawson Associates

Engineering and Environmental Services

DRAWN

JOB NUMBER
26560 1

Area Map

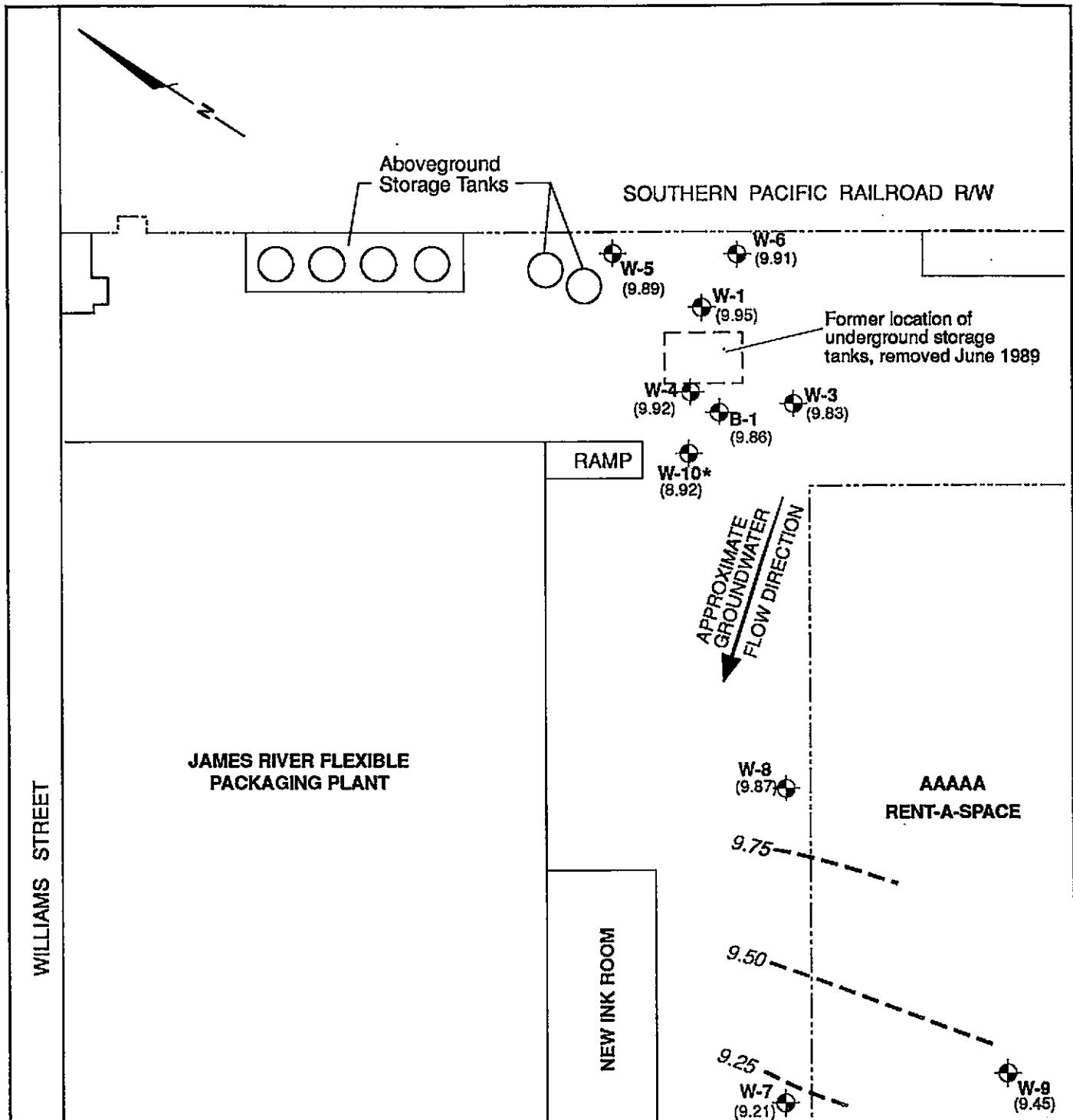
James River Corporation
2101 Williams Street
San Leandro, California

APPROVED
[Signature]

DATE
1/94

REVISED DATE

PLATE
1



EXPLANATION

W-7 (9.21) • Groundwater Elevation (in feet MSL) * Data Not Used in Contouring
Measured March 1, 1994

0 30 60
— Property Line

9.75 — Groundwater Potentiometric Contour (in feet MSL)

APPROXIMATE SCALE IN FEET

033184DJP



Harding Lawson Associates
Engineering and
Environmental Services

DRAWN
DJPc

JOB NUMBER
26560 1

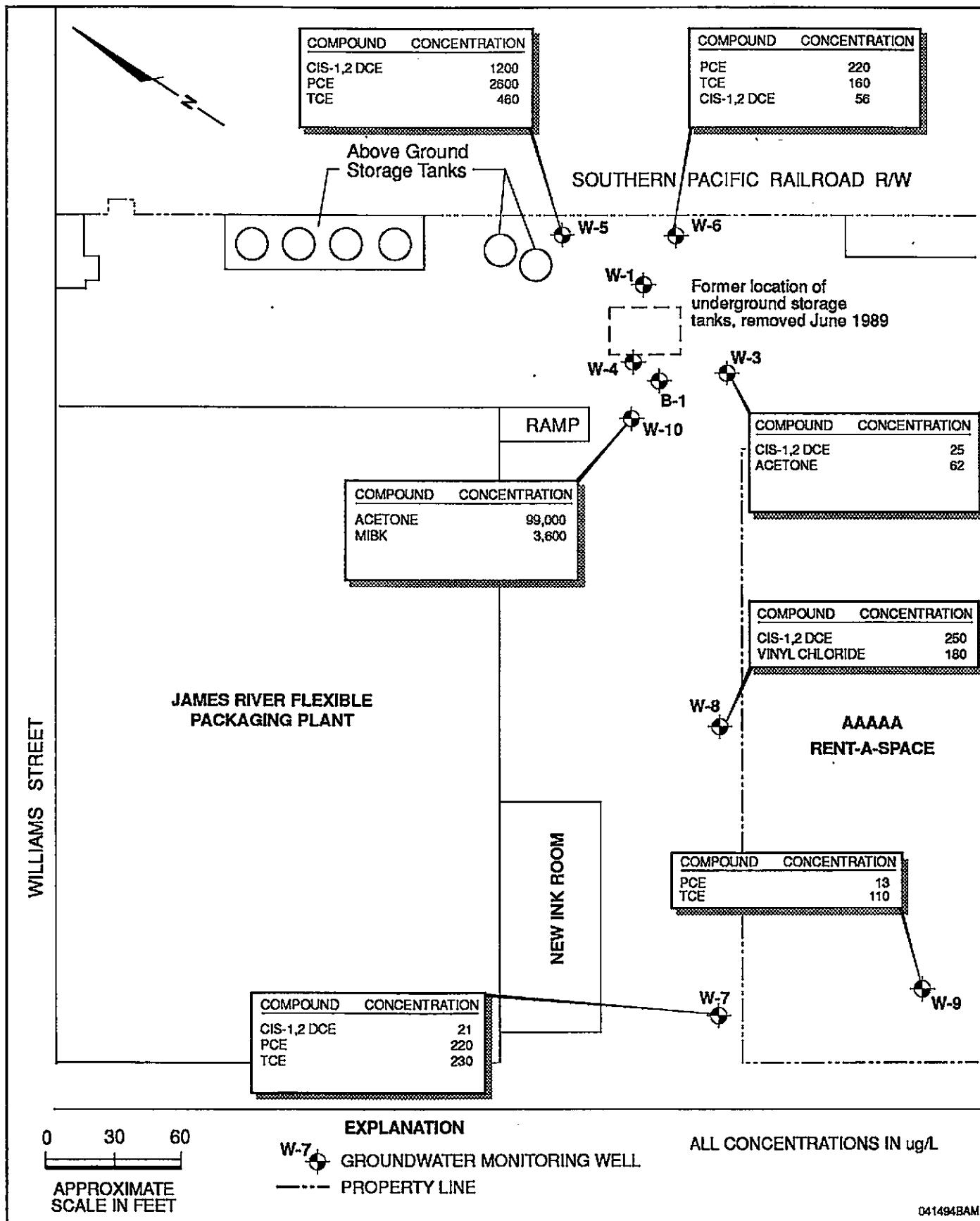
Groundwater Level and Contour Map
James River Corporation
2101 Williams Street
San Leandro, California

APPROVED
[Signature]

DATE
2/94

REVISED DATE
4/94

2



Harding Lawson Associates

Engineering and
Environmental Services



Groundwater Quality Analytical Results

March 1, 1994

James River Corporation
2101 Williams Street
San Leandro, California

PLATE

3

DRAWN

JOB NUMBER
26560 1

APPROVED

PM

DATE
4/94

REVISED DATE

GROUNDWATER SAMPLING FORMS



Harding Lawson Associates
Engineering and
Environmental Services

Job Name James River
Job Number 26560.1
Recorded by Steve Hoddy
(Signature)

GROUND-WATER SAMPLING FORM

Well No. B-1
Well Type: Monitor Extraction Other _____
Well Material: PVC St. Steel Other _____
Date 3-1-94 Time 1255
Sampled by SH SJK
(Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
 2-inch 4-inch 6-inch Other _____
Total Depth of Casing (TD in feet BTOC): 48.0
Water Level Depth (WL in feet BTOC): 10.73
Number of Well Volumes to be purged (# Vols):
 3 4 5 10 Other _____

PURGE VOLUME CALCULATION:

$$\left(\frac{48}{\text{TD (feet)}} - \frac{10.73}{\text{WL (feet)}} \right) \times \frac{4}{\text{D (Inches)}}^2 \times \frac{3}{\# \text{ Vols}} \times 0.0408 = \underline{\quad} .729 \text{ gallons}$$

Calculated Purge Volume

PURGE TIME

Start 1237 Stop 1249 Elapsed

PURGE RATE

Initial 6 gpm Final _____ gpm 73 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos/cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other
Initd	7.2	500	19.0	16
25	7.3	500	19.0	8
50	7.3	500	19.0	5
73	7.3	500	19.0	4

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos/cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other
Meter Nos.				

Observations During Purging (Well Condition, Turbidity, Color, Odor):

Clear No odor

Discharge Water Disposal: Sanitary Sewer Storm Sewer Other Drain

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: SS
 Submersible Centrifugal Bladder; Pump No.: _____

Same As Above

Grab - Type: _____

Other - Type: _____

SAMPLING DISTRIBUTION

Sample Series: 9403

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
JR05	3 vols	8240	HCL	Anametrix	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.



Harding Lawson Associates
Engineering and
Environmental Services

Job Name James River

Job Number 26560.1

Recorded by Steve Hoday
(Signature)

GROUND-WATER SAMPLING FORM

Well No. W-3

Well Type: Monitor Extraction Other _____

Well Material: PVC St. Steel Other _____

Date 3-1-94 Time 1345

Sampled by SJK

(initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):

2-inch 4-inch 6-inch Other _____

Total Depth of Casing (TD in feet BTOC): 37.0

Water Level Depth (WL in feet BTOC): 10.97

Number of Well Volumes to be purged (# Vols)

3 4 5 10 Other _____

PURGE VOLUME CALCULATION

$$\left(\frac{37.0}{\text{TD (feet)}} - \frac{10.97}{\text{WL (feet)}} \right) \times \frac{4}{\text{D (inches)}}^2 \times \frac{3}{\# \text{ Vols}} \times 0.0408 = 50.9 \text{ gallons}$$

PURGE TIME

1323 Start 1339 Stop 12 Elapsed

PURGE RATE

Initial 4 gpm Final _____ gpm 51 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other Turb.
Initial	6.5	800	22.0 72	29
15	6.6	600	21.0 70	13
30	6.7	550	21.0 70	10
51	6.7	550	21.0 70	8

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other
Meter Nos.				

Observations During Purging (Well Condition, Turbidity, Color, Odor): Clear

Discharge Water Disposal: Sanitary Sewer Storm Sewer Other Drum

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: S.S.

Submersible Centrifugal Bladder; Pump No. _____

Same As Above

Grab - Type:

Other - Type:

SAMPLING DISTRIBUTION

Sample Series: 9403

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
JR06	3VOA	8240	HCL	Anametrix	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	JR07

Other Samples

Type	Sample No.



Harding Lawson Associates
Engineering and
Environmental Services

Job Name James River
Job Number 26560,1
Recorded by Steve Kodacy
(Signature)

GROUND-WATER SAMPLING FORM

Well No. W-5

Well Type: Monitor Extraction Other _____
Well Material: PVC St. Steel Other _____
Date 3-1-94 Time 1455
Sampled by SJK (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
 2-inch 4-inch 6-inch Other _____
Total Depth of Casing (TD in feet BTOC): 33.0
Water Level Depth (WL in feet BTOC): 11.75
Number of Well Volumes to be purged (# Vols)
 3 4 5 10 Other _____

PURGE VOLUME CALCULATION

$$\left(\frac{33.0}{\text{TD (feet)}} - \frac{11.75}{\text{WL (feet)}} \right) \times \frac{2}{\text{D (inches)}}^2 \times \frac{3}{\text{# Vols}} \times 0.0408 = \frac{10.4}{\text{Calculated Purge Volume}}$$

PURGE TIME

1445 Start 1451 Stop 6 Elapsed

PURGE RATE

Initial 2 gpm Final _____ gpm 11 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other Turb
Initial	6.7	450	20.0	>100
4	6.8	450	20.0	>100
8	6.9	500	20.0	>100
11	6.9	450	20.0	58

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other
Meter Nos.				

Observations During Purging (Well Condition, Turbidity, Color, Odor):

Medium Brown Nodor Clearing

Discharge Water Disposal: Sanitary Sewer Storm Sewer Other Drum

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: S.S.

Submersible Centrifugal Bladder; Pump No.: _____

Same As Above

Grab - Type: _____

Other - Type: _____

SAMPLING DISTRIBUTION

Sample Series: 9403

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
JR09	3 vols	8240	HCL	Anametrix	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.



Harding Lawson Associates
Engineering and
Environmental Services

Job Name James River
Job Number 26560.1
Recorded by Steve Kobay
(Signature)

GROUND-WATER SAMPLING FORM

Well No. W-7

Well Type: Monitor Extraction Other _____

Well Material: PVC St. Steel Other _____

Date 3-1-94 Time 1100

Sampled by SJK (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):

2-inch 4-inch 6-inch Other _____

Total Depth of Casing (TD in feet BTOC): 36.0

Water Level Depth (WL in feet BTOC): 11.20

Number of Well Volumes to be purged (# Vols):

3 4 5 10 Other _____

PURGE VOLUME CALCULATION

$$\left(\frac{36.0}{\text{TD (feet)}} - \frac{11.20}{\text{WL (feet)}} \right) \times \frac{4}{\text{D (inches)}}^2 \times \frac{3}{\text{# Vols}} \times 0.0408 = \frac{48.5}{\text{Calculated Purge Volume}}$$

PURGE TIME

1042 Start 1052 Stop 10 Elapsed

PURGE RATE

Initial 5 gpm Final _____ gpm 49 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos/cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other
Initial	6.8	500	17.0	23
20	6.8	500	17.0	13
40	6.8	500	18.0	8
49	6.8	500	18.0	6

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos/cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other
Meter Nos.				

Observations During Purging (Well Condition, Turbidity, Color, Odor):

Clear no odor

Discharge Water Disposal: Sanitary Sewer Storm Sewer Other Drum

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: S.S.

Submersible Centrifugal Bladder; Pump No.: _____

Same As Above

Grab - Type: _____

Other - Type: _____

SAMPLING DISTRIBUTION

Sample Series: 9403

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
JR02	3 VOA's	8240	HCl	Anametrix	
	210ml gl.	8015 TPH MotorOil	NONE	Anametrix	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.



Harding Lawson Associates
Engineering and
Environmental Services

Job Name James River
Job Number 26560.1
Recorded by Steve Korday

GROUND-WATER SAMPLING FORM

Well No. W-8

Well Type: Monitor Extraction Other _____
 Well Material: PVC St. Steel Other _____
 Date 3-1-94 Time 1138
 Sampled by SJK (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
 2-inch 4-inch 6-inch Other _____
 Total Depth of Casing (TD in feet BTOC): 34.0
 Water Level Depth (WL in feet BTOC): 10.63
 Number of Well Volumes to be purged (# Vols):
 3 4 5 10 Other _____

PURGE VOLUME CALCULATION

$$\left(\frac{\text{TD (feet)}}{\text{WL (feet)}} - \frac{10.63}{34.0} \right) \times \frac{4}{D \text{ (inches)}}^2 \times \frac{3}{\# \text{ Vols}} \times 0.0408 = \frac{45.7}{\text{Calculated Purge Volume}}$$

PURGE TIME

Start 1121 Stop 1130 Elapsed _____ Initial 5 gpm Final _____ gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Other <u>Turb</u>
Initial	6.5	350	17.0	56
15	6.6	400	18.0	23
30	6.7	400	18.0	10
46	6.7	400	18.0	8

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	Other
Meter Nos.				

Observations During Purging (Well Condition, Turbidity, Color, Odor):

Clear no odor

Discharge Water Disposal: Sanitary Sewer Storm Sewer Other Drum

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: S.S.

Submersible Centrifugal Bladder; Pump No.: _____

Same As Above

Grab - Type: _____

Other - Type: _____

SAMPLING DISTRIBUTION

Sample Series: 9403

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
JR03	3 vct's	8246	HCL	Anametrix	
	210am.g1	8015TPH Motor Oil	NONE	Anametrix	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.



Harding Lawson Associates
Engineering and
Environmental Services

Job Name James River
Job Number 26560.1
Recorded by Steve Korbay
(Signature)

GROUND-WATER SAMPLING FORM

Well No. W-9

Well Type: Monitor Extraction Other _____
Well Material: PVC St. Steel Other _____
Date 3-1-94 Time 10:30
Sampled by SJK (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
 2-inch 4-inch 6-inch Other _____
Total Depth of Casing (TD in feet BTOC): 31.0
Water Level Depth (WL in feet BTOC): 10.71
Number of Well Volumes to be purged (# Vols)
 3 4 5 10 Other _____

PURGE VOLUME CALCULATION

$$\left(\frac{31.0}{\text{TD (feet)}} - \frac{10.71}{\text{WL (feet)}} \right) \times \frac{4}{\text{D (inches)}}^2 \times \frac{3}{\text{# Vols}} \times 0.0408 = \frac{39.7}{\text{Calculated Purge Volume}}$$

PURGE TIME

1000 Start 1011 Stop 11 Elapsed

PURGE RATE

Initial 3.5 gpm Final _____ gpm 40 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other/Turb
Initial	7.0	500	19.0	>100
15	7.0	550	19.0	88
30	7.0	500	19.0	25
40	7.0	500	19.0	13

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other
Meter Nos.				

Observations During Purging (Well Condition, Turbidity, Color, Odor): Light Brown - no odor - clearing

Discharge Water Disposal: Sanitary Sewer Storm Sewer Other Drum

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: S.S.
 Submersible Centrifugal Bladder; Pump No.: _____

Same As Above

Grab - Type: _____

Other - Type: _____

SAMPLING DISTRIBUTION

Sample Series: 9403

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
JR01	3VOA's	8240	HCL	Anametrix	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.



Harding Lawson Associates
Engineering and
Environmental Services

Job Name James River
Job Number 26560,1
Recorded by Steve Horbay

GROUND-WATER SAMPLING FORM

Well No. W-10
Well Type: Monitor Extraction Other _____
Well Material: PVC St. Steel Other _____
Date 3-1-94 Time 1220
Sampled by SJK (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
 2-inch 4-inch 6-inch Other _____
Total Depth of Casing (TD in feet BTOC): 17.0
Water Level Depth (WL in feet BTOC): 11.30
Number of Well Volumes to be purged (# Vols)
 3 4 5 10 Other _____

PURGE VOLUME CALCULATION:

$$\left(\frac{17.0}{\text{TD (feet)}} - \frac{11.30}{\text{WL (feet)}} \right) \times \frac{4}{\text{D (inches)}}^2 \times \frac{3}{\text{# Vols}} \times 0.0408 = \underline{\underline{11}} \quad \text{gallons}$$

Calculated Purge Volume

PURGE TIME

1204 Start 1210 Stop 6 Elapsed Initial 2 gpm Final _____ gpm 11 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other <u>turb</u>
Initial	6.4	600	18.0	24
4	6.3	600	19.0	20
8	6.3	600	19.0	14
11	6.3	600	19.0	9

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$ $^{\circ}\text{F}$	Other
Meter Nos.				

Observations During Purging (Well Condition, Turbidity, Color, Odor): Clear

Discharge Water Disposal: Sanitary Sewer Storm Sewer Other Drum

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: S.S.

Submersible Centrifugal Bladder; Pump No.: _____

Same As Above

Grab - Type: _____

Other - Type: _____

SAMPLING DISTRIBUTION

Sample Series: 9403

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
JR04	3 VOA's	8240	HCL	Anametrix	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

ANAMETRIX ANALYTICAL DATA



Inchcape Testing Services

Anametrix Laboratories

1961 Concourse Drive
Suite E
San Jose, CA 95131
Tel: 408-452-8192
Fax: 408-452-8198

MR. RICK HUTTON
HARDING LAWSON ASSOCIATES - NOVATO
105 DIGITAL DRIVE
NOVATO, CA 94949

Workorder # : 9403034
Date Received : 03/02/94
Project ID : 26560.1
Purchase Order: N/A

The following samples were received at Anametrix for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9403034- 1	9403JR01
9403034- 2	9403JR02
9403034- 3	9403JR03
9403034- 4	9403JR04
9403034- 5	9403JR05
9403034- 6	9403JR06
9403034- 7	9403JR07
9403034- 8	9403JR08
9403034- 9	9403JR09

This report is organized in sections according to the specific Anametrix laboratory group which performed the analysis(es) and generated the data.

The results contained within this report relate to only the sample(s) tested. Additionally, these data should be considered in their entirety and Anametrix cannot be responsible for the detachment, separation, or otherwise partial use of this report.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234.

If you have any further questions or comments on this report, please call us as soon as possible. Thank you for using Anametrix.

Corinne Lham) for
Doug Robbins
Laboratory Director

03/21/94
Date

This report consists of 52 pages.



ANAMETRIX REPORT DESCRIPTION GCMS

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Tentatively Identified Compounds (TICs)

TIC forms contain tabulated results for non-target compounds detected in GC/MS analyses. TICs must be requested at the time samples are submitted at Anametrix. TIC forms immediately follow the OADS form for each sample. If TICs are requested but not found, then TIC forms will not be included with the report.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "**", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in its report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.
- A - Indicates that the tentatively identified compound is a suspected aldol condensation product. This is common in EPA Method 8270 soil analyses.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i.e., not corrected for method blank contamination.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. RICK HUTTON
HARDING LAWSON ASSOCIATES - NOVATO
105 DIGITAL DRIVE
NOVATO, CA 94949

Workorder # : 9403034
Date Received : 03/02/94
Project ID : 26560.1
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9403034- 1	9403JR01	WATER	03/01/94	8240
9403034- 2	9403JR02	WATER	03/01/94	8240
9403034- 3	9403JR03	WATER	03/01/94	8240
9403034- 4	9403JR04	WATER	03/01/94	8240
9403034- 5	9403JR05	WATER	03/01/94	8240
9403034- 6	9403JR06	WATER	03/01/94	8240
9403034- 7	9403JR07	WATER	03/01/94	8240
9403034- 8	9403JR08	WATER	03/01/94	8240
9403034- 9	9403JR09	WATER	03/01/94	8240

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

MR. RICK HUTTON
HARDING LAWSON ASSOCIATES - NOVATO
105 DIGITAL DRIVE
NOVATO, CA 94949

Workorder # : 9403034
Date Received : 03/02/94
Project ID : 26560.1
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

QA/QC SUMMARY :

- No QA/QC problems.


Paul Yowen
Department Supervisor

3-15-94
Date


Denise Powell
Chemist

3-15-94
Date

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	:	26560.1	Anametrix ID	:	9403034-01
Sample ID	:	9403JR01	Analyst	:	M
Matrix	:	WATER	Supervisor	:	PG
Date Sampled	:	3/ 1/94	Dilution Factor	:	1.0
Date Analyzed	:	3/14/94	Conc. Units	:	ug/L
Instrument ID	:	MSD1			

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.		110.
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.		13.
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	: 26560.1	Anametrix ID	: 9403034-02
Sample ID	: 9403JR02	Analyst	: MP
Matrix	: WATER	Supervisor	: PG
Date Sampled	: 3/ 1/94	Dilution Factor	: 1.0
Date Analyzed	: 3/14/94	Conc. Units	: ug/L
Instrument ID	: MSD1		

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	21.	
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	230.	
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	220.	
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	:	26560.1	Anametrix ID	:	9403034-03
Sample ID	:	9403JR03	Analyst	:	DR
Matrix	:	WATER	Supervisor	:	PG
Date Sampled	:	3/ 1/94	Dilution Factor :		1.0
Date Analyzed	:	3/14/94	Conc. Units	:	ug/L
Instrument ID	:	MSD1			

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	180.	
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	250.	
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	: 26560.1	Anametrix ID	: 9403034-04
Sample ID	: 9403JR04	Analyst	: BP
Matrix	: WATER	Supervisor	: PG
Date Sampled	: 3/ 1/94	Dilution Factor	: 250.0
Date Analyzed	: 3/14/94	Conc. Units	: ug/L
Instrument ID	: MSD1		

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	2500.	ND	U
75-01-4	Vinyl chloride	2500.	ND	U
74-83-9	Bromomethane	2500.	ND	U
75-00-3	Chloroethane	2500.	ND	U
75-69-4	Trichlorofluoromethane	1300.	ND	U
75-35-4	1,1-Dichloroethene	1300.	ND	U
76-13-1	Trichlorotrifluoroethane	1300.	ND	U
67-64-1	Acetone	5000.	99000.	
75-15-0	Carbon disulfide	1300.	ND	U
75-09-2	Methylene chloride	1300.	ND	U
156-60-5	Trans-1,2-dichloroethene	1300.	ND	U
75-34-3	1,1-Dichloroethane	1300.	ND	U
156-59-2	Cis-1,2-dichloroethene	1300.	ND	U
78-93-3	2-Butanone	5000.	ND	U
67-66-3	Chloroform	1300.	ND	U
71-55-6	1,1,1-Trichloroethane	1300.	ND	U
56-23-5	Carbon tetrachloride	1300.	ND	U
108-05-4	Vinyl acetate	2500.	ND	U
71-43-2	Benzene	1300.	ND	U
107-06-2	1,2-Dichloroethane	1300.	ND	U
79-01-6	Trichloroethene	1300.	ND	U
78-87-5	1,2-Dichloropropane	1300.	ND	U
75-27-4	Bromodichloromethane	1300.	ND	U
10061-01-5	Cis-1,3-dichloropropene	1300.	ND	U
108-10-1	4-Methyl-2-pentanone	2500.	3600.	
108-88-3	Toluene	1300.	ND	U
10061-02-6	Trans-1,3-dichloropropene	1300.	ND	U
79-00-5	1,1,2-Trichloroethane	1300.	ND	U
127-18-4	Tetrachloroethene	1300.	ND	U
591-78-6	2-Hexanone	2500.	ND	U
124-48-1	Dibromochloromethane	1300.	ND	U
108-90-7	Chlorobenzene	1300.	ND	U
100-41-4	Ethylbenzene	1300.	ND	U
1330-20-7	Xylene (Total)	1300.	ND	U
100-42-5	Styrene	1300.	ND	U
75-25-2	Bromoform	1300.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	1300.	ND	U
541-73-1	1,3-Dichlorobenzene	1300.	ND	U
106-46-7	1,4-Dichlorobenzene	1300.	ND	U
95-50-1	1,2-Dichlorobenzene	1300.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	:	26560.1	Anametrix ID	:	9403034-05
Sample ID	:	9403JR05	Analyst	:	M
Matrix	:	WATER	Supervisor	:	PG
Date Sampled	:	3/ 1/94	Dilution Factor	:	1.0
Date Analyzed	:	3/14/94	Conc. Units	:	ug/L
Instrument ID	:	MSD1			

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	:	26560.1	Anametrix ID	:	9403034-06
Sample ID	:	9403JR06	Analyst	:	MP
Matrix	:	WATER	Supervisor	:	PG
Date Sampled	:	3/ 1/94	Dilution Factor	:	1.0
Date Analyzed	:	3/14/94	Conc. Units	:	ug/L
Instrument ID	:	MSD1			

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	62.	
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	25.	
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	: 26560.1	Anametrix ID	: 9403034-07
Sample ID	: 9403JR07	Analyst	: MP
Matrix	: WATER	Supervisor	: PG
Date Sampled	: 3/ 1/94	Dilution Factor	: 1.0
Date Analyzed	: 3/14/94	Conc. Units	: ug/L
Instrument ID	: MSD1		

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	:	26560.1	Anametrix ID	:	9403034-08
Sample ID	:	9403JR08	Analyst	:	DR
Matrix	:	WATER	Supervisor	:	PG
Date Sampled	:	3/ 1/94	Dilution Factor :		1.0
Date Analyzed	:	3/14/94	Conc. Units	:	ug/L
Instrument ID	:	MSD1			

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	56.	
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	160.	
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	220.	
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	: 26560.1	Anametrix ID	: 9403034-09
Sample ID	: 9403JR09	Analyst	: <i>DP</i>
Matrix	: WATER	Supervisor	: <i>IG</i>
Date Sampled	: 3/ 1/94	Dilution Factor	: 10.0
Date Analyzed	: 3/14/94	Conc. Units	: ug/L
Instrument ID	: MSD1		

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	100.	ND	U
75-01-4	Vinyl chloride	100.	ND	U
74-83-9	Bromomethane	100.	ND	U
75-00-3	Chloroethane	100.	ND	U
75-69-4	Trichlorofluoromethane	50.	ND	U
75-35-4	1,1-Dichloroethene	50.	ND	U
76-13-1	Trichlorotrifluoroethane	50.	ND	U
67-64-1	Acetone	200.	ND	U
75-15-0	Carbon disulfide	50.	ND	U
75-09-2	Methylene chloride	50.	ND	U
156-60-5	Trans-1,2-dichloroethene	50.	ND	U
75-34-3	1,1-Dichloroethane	50.	ND	U
156-59-2	Cis-1,2-dichloroethene	50.	1200.	
78-93-3	2-Butanone	200.	ND	U
67-66-3	Chloroform	50.	ND	U
71-55-6	1,1,1-Trichloroethane	50.	ND	U
56-23-5	Carbon tetrachloride	50.	ND	U
108-05-4	Vinyl acetate	100.	ND	U
71-43-2	Benzene	50.	ND	U
107-06-2	1,2-Dichloroethane	50.	ND	U
79-01-6	Trichloroethene	50.	460.	
78-87-5	1,2-Dichloropropane	50.	ND	U
75-27-4	Bromodichloromethane	50.	ND	U
10061-01-5	Cis-1,3-dichloropropene	50.	ND	U
108-10-1	4-Methyl-2-pentanone	100.	ND	U
108-88-3	Toluene	50.	ND	U
10061-02-6	Trans-1,3-dichloropropene	50.	ND	U
79-00-5	1,1,2-Trichloroethane	50.	ND	U
127-18-4	Tetrachloroethene	50.	2600.	
591-78-6	2-Hexanone	100.	ND	U
124-48-1	Dibromochloromethane	50.	ND	U
108-90-7	Chlorobenzene	50.	ND	U
100-41-4	Ethylbenzene	50.	ND	U
1330-20-7	Xylene (Total)	50.	ND	U
100-42-5	Styrene	50.	ND	U
75-25-2	Bromoform	50.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	50.	ND	U
541-73-1	1,3-Dichlorobenzene	50.	ND	U
106-46-7	1,4-Dichlorobenzene	50.	ND	U
95-50-1	1,2-Dichlorobenzene	50.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID	:	Anametrix ID	: BM1402A2
Sample ID	:	Analyst	: DP
Matrix	:	Supervisor	: PG
Date Sampled	:	Dilution Factor :	1.0
Date Analyzed	:	Conc. Units	: ug/L
Instrument ID	:		

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8240
ANAMETRIX, INC. (408) 432-8192

Project ID : 26560.1
Matrix : LIQUID

Anametrix ID : 9403034
Analyst : M
Supervisor : PG

	SAMPLE ID	SU1	SU2	SU3
1	VBLKFO	94	100	99
2	VLCSB1	94	100	101
3	9403JR09	92	100	100
4	9403JR04	94	101	101
5	9403JR06	93	98	101
6	9403JR03	94	98	101
7	9403JR02	95	99	100
8	9403JR08	93	98	101
9	9403JR05	94	99	98
10	9403JR07	94	100	98
11	9403JR01	93	99	99
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

QC LIMITS

SU1 = 1,2-Dichloroethane-d4 (75-113)
SU2 = Toluene-d8 (83-110)
SU3 = 1,4-Bromofluorobenzene (82-114)

* Values outside of Anametrix QC limits

LABORATORY CONTROL SPIKE RECOVERY FORM --- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project/Case : Anametrix ID : MM1401A2
Matrix : WATER Analyst : *DP*
Date Sampled : 0/ 0/ 0 Supervisor : *PG*
Date Analyzed : 3/14/94 SDG/Batch :
Instrument ID : MSD1 Sample ID : VLCSB1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	%REC LIMITS
1,1-Dichloroethene	50	0	39	78	72-145
Benzene	50	0	51	102	83-125
Trichloroethene	50	0	51	102	61-140
Toluene	50	0	53	106	82-123
Chlorobenzene	50	0	55	110	82-125

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

MR. RICK HUTTON
HARDING LAWSON ASSOCIATES - NOVATO
105 DIGITAL DRIVE
NOVATO, CA 94949

Workorder # : 9403034
Date Received : 03/02/94
Project ID : 26560.1
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9403034- 2	9403JR02	WATER	03/01/94	TPHd
9403034- 3	9403JR03	WATER	03/01/94	TPHd

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. RICK HUTTON
HARDING LAWSON ASSOCIATES - NOVATO
105 DIGITAL DRIVE
NOVATO, CA 94949

Workorder # : 9403034
Date Received : 03/02/94
Project ID : 26560.1
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- These samples were reextracted for diesel outside of hold time due to contamination present in the method blank for the original extraction.

Cheryl Baumer

Cheryl Baumer
Department Supervisor

3/1/94

Date

Erin R. Staub

Erin R. Staub
Chemist

03/12/94

Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9403034
Matrix : WATER
Date Sampled : 03/01/94
Date Extracted: 03/08/94

Project Number : 26560.1
Date Released : 03/21/94
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)	Surrogate %Rec
9403034-02	9403JR02 (W-7)	03/10/94	100	310	99%
9403034-03	9403JR03 (W-8)	03/10/94	100	220	103%
BM0811F9	METHOD BLANK	03/10/94	100	180	47%

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.

The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.

TPHd - Total Petroleum Hydrocarbons as motor oil is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

JRB/Reid
Analyst

03/21/94.
Date

Cheryl Baumer 3/21/94
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9403034
Matrix : WATER
Date Sampled : 03/01/94
Date Extracted: 03/16/94

Project Number : 26560.1
Date Released : 03/21/94
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)	Surrogate %Rec
9403034-02	9403JR02 (W-7)	03/18/94	100	ND	70%
9403034-03	9403JR03 (W-8)	03/18/94	100	170	70%
BM1611F9	METHOD BLANK	03/18/94	100	ND	70%

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.

The surrogate recovery limits for O-terphenyl are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.

TPHd - Total Petroleum Hydrocarbons as motor oil is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Cheryl Baumer

Analyst

03/21/94

Date

Cheryl Baumer

3/21/94

Supervisor

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Extracted: 03/16/94
Date Analyzed : 03/18/94

Anametrix I.D. : MM1611F9
Analyst : AP
Supervisor : OS
Date Released : 03/21/94
Instrument I.D.: HP9

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	980	78%	1000	80%	2%	47-130
SURROGATE			83%		85%		30-130

* Quality control limits established by Anametrix, Inc.

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Extracted: 03/08/94
Date Analyzed : 03/09/94

Anametrix I.D. : MM0811F9
Analyst : AF
Supervisor : JS
Date Released : 03/21/94
Instrument I.D.: HP19

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	980	78%	950	76%	-3%	47-130
SURROGATE			33%		39%		30-130

* Quality control limits established by Anametrix, Inc.

CHAIN OF CUSTODY FORM



Harding Lawson Associates
105 Digital Drive
Novato, CA 94949
P.O. Box 6107
Novato, CA 94948
(415) 883-0112 • (415) 883-3300 FAX

440303

5

10/3

三

CHAIN OF CUSTODY FORM

Samplers: SJK

Project Number: 26560,1

Name/Location: James River / San Leandro

Project Manager: Bruce Scheibach

Recorder: *Steve Korlay*
(Signature Required)

SOURCE CODE	MATRIX				#CONTAINERS & PRESERV.				SAMPLE NUMBER OR LAB NUMBER			DATE			
	Water	Sediment	Soil	Oil	Unpress.	H ₂ SO ₄	HNO ₃	HCl	Yr	Wk	Seq	Yr	Mo	Dy	Time
20	X							3	9403JR01	9403011015					
20	X				2			3	9403JR02	9403011100					
20	X				2			3	9403JR03	9403011138					
20	X							3	9403JR04	9403011220					
20	X							3	9403JR05	9403011255					
20	X							3	9403JR06	9403011345					
20	X							3	9403JR07	9403011400					
20	X							3	9403JR08	9403011425					
20	X							3	9403JR09	9403011455					

**STATION DESCRIPTION/
NOTES**

LAB NUMBER			DEPTH IN FEET	COL MTD	QA CODE	MISCELLANEOUS	CHAIN OF CUSTODY RECORD			
Yr	Wk	Seq					RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
							<i>Steve Today</i>	<i>R. H. H.</i>	3/1/94 1730	
							<i>Burt Davis</i>	<i>Benny J. Carrasco</i>	3/2/94 1030	
							<i>Benny J. Carrasco</i>	<i>R. H. H.</i>	3/2/94 1350	
							RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
							<i>Benny J. Carrasco</i>	<i>R. H. H.</i>	3/2/94 1350	
							DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
							<i>R. H. H.</i>		<i>R. H. H.</i>	3/2/94 13:50
						METHOD OF SHIPMENT				