Brown and Caldwell
Consultants

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91 MAR -5 AM 11:04

February 25, 1991

Mr. Robert Wenning
Engineering Manager
James River Corporation
2101 Williams Street
San Leandro, California 94577

11-5081-02/3

Subject: Fourth Quarter Groundwater Monitoring Report,
James River Corporation, Flexible Packaging Plant,
2101 Williams Street, San Leandro, California

Dear Mr. Wenning:

This letter report presents the methods and results of the fourth quarterly groundwater sampling conducted on December 27, 1990 at the subject facility. This work was performed under the terms and conditions of our engineering services agreement dated December 8, 1988, and your Purchase Order No. SL02826-EE dated February 6, 1990.

Background

A brief discussion of the site history is presented in "First Quarterly Groundwater Monitoring Report, James River Corporation Flexible Packaging Plant", dated July 10, 1990.

New well W10 was installed by Brown and Caldwell on November 13, 1990. The well was located immediately down-gradient of an area on the site known to contain ink-stained soils. A work plan describing the installation was submitted to Alameda County on April 6, 1990. This well was included in the fourth quarterly monitoring event.

Field Methods

Eleven groundwater monitoring wells have been installed at the site, in the locations shown on Figure 1. Groundwater samples were collected from ten of the eleven existing monitoring wells. A groundwater sample could not be collected from well W2 because the well casing is blocked, preventing the pump suction line from reaching groundwater.

Prior to sample collection, 3 to 5 well volumes of water were purged from each well using a gasoline powered centrifugal

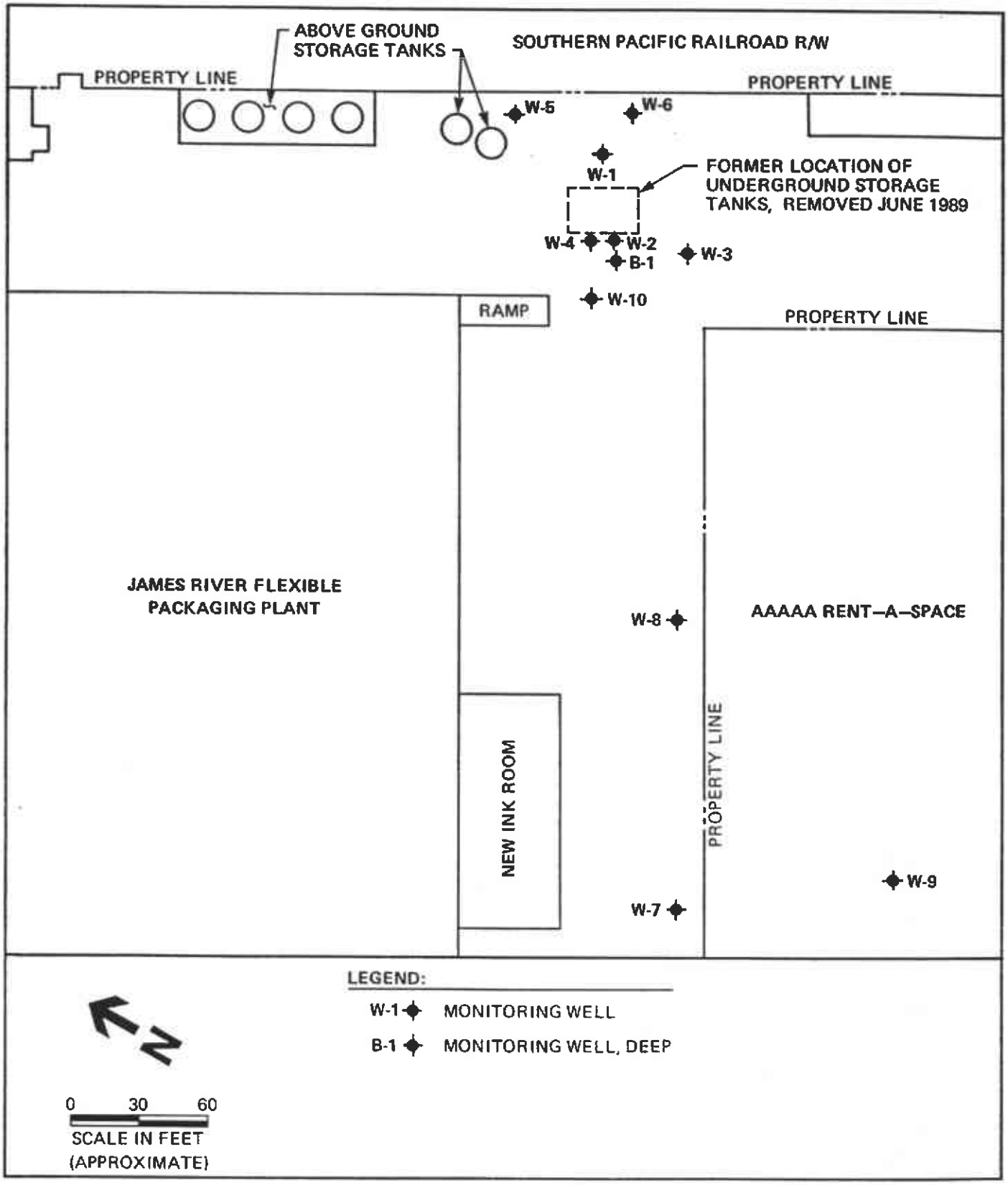

Figure 1 Site Map

pump. As each well was purged, the specific conductance, pH, and temperature of the groundwater were measured. The purpose of monitoring these parameters was to ensure that all stagnant water present in the well casing was removed prior to sample collection. Samples were collected after these parameters had stabilized. Field data sheets presenting these measurements are included as Attachment A. Water produced during purging of monitoring wells was stored on-site in sealed 55-gallon drums for proper disposal or treatment by James River following receipt of laboratory analyses.

Samples were collected with a Teflon bailer equipped with a bottom emptying device and placed into 40 milliliter, glass sample vials equipped with a Teflon septum. The vials were provided by Brown and Caldwell Analytical (BCA). The vials were filled so that no head space was present in the sample container. Samples were stored in a chilled ice chest until delivery to BCA. Standard chain-of-custody procedures were followed during sample handling.

The bailer and suction line of the pump were washed with laboratory-grade detergent and rinsed with tap water between sample locations. A new length of rope was attached to the bailer prior to sampling each well to prevent cross-contamination of samples.

Analytical Methods

Groundwater samples were submitted for analysis to BCA on December 27, 1990. The samples were analyzed for purgeable priority pollutant organic chemicals using EPA test method 8240. This test method uses gas chromatography/mass spectrometry methods. The analytical method is described in detail in the EPA Publication SW-846, "Test Methods for Evaluating Solid Waste", November 1986.

Groundwater Quality Results

Analytical results for the fourth quarter samples are summarized in Table 1 in the columns identified as December 1990. Only constituents present above method detection limits are included. Analytical results for samples collected in the first, second, and third quarterly sampling events (March, June and September 1990) are included for comparison purposes. The chain-of-custody form and laboratory analytical reports for the fourth quarter samples are included as Attachment B. The following paragraphs summarize significant findings.

Alcohol, Acetates, and Acetone. Isopropanol was identified in new well W10 by semi-quantified methods at a concentration of 100,000 micrograms per liter (ug/l). Alcohols have been identified in wells W4, W3 and W8 at varying concentrations during the previous quarterly monitoring events. In general,

Table 1. Analytical Results - Quarterly Groundwater Monitoring

Well Identification	W 1				W 3				W 4			
Sampling Date	Mar-90	Jun-90	Sep-90	Dec-90	Mar-90	Jun-90	Sep-90	Dec-90	Mar-90	Jun-90	Sep-90	Dec-90
PARAMETER												
Purgeable Organic Compounds, ug/l												
1,1,1-Trichloroethane	<500	<2000	<1	<500	<5	<2	<1	<1	<500	<200	<1	<5000
1,1-Dichloroethane	<500	<2000	<1	<500	<5	2	3	1	<500	<200	<1	<500
1,1-Dichloroethene	<500	<2000	<1	<500	<5	<2	<1	<1	<500	<200	<1	<500
1,2-Dichloroethene	<500	<2000	-	-	<5	2	-	-	<500	<200	-	-
cis-1,2-Dichloroethene	<500	<2000	320	<500	400	140	130	<1	<500	350	120	<500
2-Hexanone	<500	<2000	35	<500	<5	<2	<1	<1	<500	<200	900	<500
Acetone	290,000	180,000	<10	81,000	<50	<20	<10	40	400,000	60,000	17	110,000
Ethylbenzene	<500	<2000	<1	<500	<5	<2	<1	<1	<500	<200	13	<500
Methyl Ethyl Ketone	<10000	<40000	990	<10000	<100	<40	<20	<20	<10000	<4000	1,000	<10000
Tetrachloroethene	<500	<2000	330	<500	29	340	190	88	<500	390	40	<500
Toluene	<500	<2000	7	<500	<5	<2	<1	<1	1,200	400	450	840
Total Xylene Isomers	<500	<2000	2	<500	<5	<2	2	3	<500	<200	99	<500
Trichloroethene	<500	<2000	58	<500	130	200	140	69	<500	<200	14	<500
Vinyl Chloride	<500	<2000	100	<500	24	<2	14	11	<500	<200	41	<500
Semi-Quantified Results												
C5H1002 Ester	-	-	-	-	-	-	-	-	-	-	200	-
C6H12O Ketone	-	-	-	-	-	-	-	-	-	-	20	-
C6 Hydrocarbon	-	-	10	-	-	-	-	-	-	-	-	-
C7H1403 Ester	-	-	-	-	-	-	-	-	-	-	7	-
C9H18O Ketone	-	-	-	-	-	-	-	-	-	-	7	-
Diisopropyl Ether	-	-	-	-	30	40	-	-	-	-	-	-
Di-N-Propyl Ether	-	-	-	-	-	-	5	-	-	-	-	-
Isopropanol	-	-	-	-	-	-	-	-	-	-	1,000	-
Methylethanol	-	-	-	-	-	-	-	-	-	-	-	-
Methylethylacetate	-	-	-	-	-	-	-	-	10,000	-	-	-
N-Butylether	-	-	-	-	-	-	-	-	-	-	20	-
Thiobismethane	-	-	-	-	-	-	-	-	-	-	500	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
1. ug/l = micrograms per liter
2. * denotes duplicate sample
3. Well W2 is damaged and is no longer sampled.
4. - indicates not reported
5. Semi-quantified results based upon comparison of total ion count of the compound with that of the nearest internal standard.

Table 1. Analytical Results - Quarterly Groundwater Monitoring (continued)

Well Identification	W 5				W 6				W 7			
Sampling Date	Mar-90	Jun-90	Sep-90	Dec-90	Mar-90	Jun-90	Sep-90	Dec-90	Mar-90	Jun-90	Sep-90	Dec-90
PARAMETER												
Purgeable Organic Compounds, ug/l												
1,1,1-Trichloroethane	<20	<50	<20	<5	<20	<5	<5	<5	<5	<5	<5	19
1,1-Dichloroethane	<20	<50	<20	<5	<20	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	<20	<50	<20	<5	<20	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethene	<20	<50	-	-	<20	<5	-	-	<5	<5	-	-
cis-1,2-Dichloroethene	1,900	4,200	2,900	480	<20	<5	7	6	72	81	65	32
2-Hexanone	<20	<50	<20	<5	<20	<5	<5	<5	<5	<5	<5	<5
Acetone	<20	<500	<200	<50	<200	<50	74	<50	<50	<50	<50	<50
Ethylbenzene	<20	<50	<20	<5	<20	<5	<5	<5	<5	<5	<5	<5
Methyl Ethyl Ketone	<400	<1000	<400	<100	<400	<100	<100	<100	<100	<100	<100	<100
Tetrachloroethene	5,600	2,100	670	130	1,700	940	980	540	740	590	680	480
Toluene	<20	<50	<20	13	<20	<5	<5	<5	<5	<5	<5	<5
Total Xylene Isomers	<20	<50	<20	<5	<20	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	460	340	170	63	280	230	280	210	240	210	270	170
Vinyl Chloride	190	300	220	99	<20	<5	<5	<5	<5	<5	<5	<5
Semi-Quantified Results												
C5H1002 Ester	-	-	-	-	-	-	-	-	-	-	-	-
C6H12O Ketone	-	-	-	-	-	-	-	-	-	-	-	-
C6 Hydrocarbon	-	-	-	-	-	-	-	-	-	-	-	-
C7H1403 Ester	-	-	-	-	-	-	-	-	-	-	-	-
C9H18O Ketone	-	-	-	-	-	-	-	-	-	-	-	-
Diisopropyl Ether	-	-	-	-	-	-	-	-	-	-	-	-
Di-N-Propyl Ether	-	-	-	-	-	-	-	-	-	-	-	-
Isopropanol	-	-	100	-	-	-	-	-	-	-	-	-
Methylethanol	-	-	-	-	-	-		-	-	-	-	-
Methylethylacetate	-	-	-	-	-	-	-	-	-	-	-	-
N-Butylether	-	-	-	-	-	-	-	-	-	-	-	-
Thiobismethane	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
1. ug/l = micrograms per liter
2. * denotes duplicate sample
3. Well W2 is damaged and is no longer sampled.
4. - indicates not reported
5. Semi-quantified results based upon comparison of total ion count of the compound with that of the nearest internal standard.

Table 1. Analytical Results - Quarterly Groundwater Monitoring (continued)

Well Identification	W 8				W 9				W10	B 1			
Sampling Date	Mar-90	Jun-90	Sep-90	Dec-90	Mar-90	Jun-90	Sep-90	Dec-90	Dec-90	Mar-90	Jun-90	Sep-90	Dec-90
PARAMETER													
Purgeable Organic Compounds, ug/l													
1,1,1-Trichloroethane	<1000	<1000	<1	<500	<1	<1	5	8	<5000	<1	<1	<1	<1
1,1-Dichloroethane	<1000	<1000	<1	<500	<1	<1	1	<2	<5000	<1	<1	<1	<1
1,1-Dichloroethene	<1000	<1000	<1	<500	<1	<1	4	3	<5000	<1	<1	<1	<1
1,2-Dichloroethene	<1000	<1000	-	-	<1	<1	-	-	<5000	<1	<1	-	-
cis-1,2-Dichloroethene	<1000	<1000	31	<500	<1	<1	<1	<2	<5000	2	1	2	1
2-Hexanone	<1000	<1000	4,100	<500	<1	<1	<1	<2	150,000	<1	<1	<1	<1
Acetone	870,000	390,000	330,000	110,000	<10	<10	<10	390	790,000	<10	<10	<10	<10
Ethylbenzene	<1000	<1000	<1	<500	<1	<1	<1	<2	<5000	<1	<1	<1	<1
Methyl Ethyl Ketone	<20000	<20000	3,200	<10000	<20	<20	<20	<40	<100000	<20	<20	<20	<20
Tetrachloroethene	<1000	<1000	1	<500	13	23	20	19	<5000	2	2	3	2
Toluene	<1000	<1000	87	<500	<1	<1	<1	4	31,000	<1	<1	<1	<1
Total Xylene Isomers	<1000	<1000	7	<500	<1	<1	<1	<2	<5000	<1	<1	<1	<1
Trichloroethene	<1000	<1000	3	<500	21	28	26	26	<5000	<1	<1	<1	<1
Vinyl Chloride	<1000	<1000	5	<500	<1	<1	<1	<2	<5000	<1	<1	<1	<1
Semi-Quantified Results													
C5H1002 Ester	-	-	-	-	-	-	-	-	-	-	-	-	-
C6H12O Ketone	-	-	-	-	-	-	-	-	-	-	-	-	-
C6 Hydrocarbon	-	-	-	-	-	-	-	-	-	-	-	-	-
C7H1403 Ester	-	-	-	-	-	-	-	-	-	-	-	-	-
C9H18O Ketone	-	-	8	-	-	-	-	-	-	-	-	-	-
Diisopropyl Ether	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-N-Propyl Ether	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropanol	-	-	-	-	-	-	-	-	100,000	-	-	-	-
Methylethanol	-	-	90	-	-	-	-	-	-	-	-	-	-
Methylethylacetate	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Butylether	-	-	-	-	-	-	-	-	-	-	-	-	-
Thiobismethane	-	-	500	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	60,000	-	-	-	-

Notes:
1. ug/l = micrograms per liter
2. * denotes duplicate sample
3. Well W2 is damaged and is no longer sampled.
4. - indicates not reported
5. Semi-quantified results based upon comparison of total ion count of the compound with that of the nearest internal standard.

concentrations of alcohols have been decreasing with time in all wells.

No acetate was identified in fourth quarter samples. Acetate levels have declined from several thousand milligrams per liter (mg/l) in 1984 (Harding-Lawson Associates) to the present non-detectable levels.

Acetone was identified in wells W1, W3, W4, W8, W9, and W10 at concentrations ranging from 40 to 790,000 micrograms per liter (ug/l). Acetone had not been previously identified in wells W3 and W9. Concentrations of acetone in well W8 have decreased from levels identified in previous quarterly sampling events. Acetone concentrations reported for wells W1 and W4 in the fourth quarter sampling event are greater than concentrations identified in the third quarter. However, fourth quarter acetone concentrations are comparable to those identified in the first and second quarterly sampling events. The source of acetone in the groundwater has not been determined.

Purgeable Organic Chemicals. The hydrocarbons toluene, tetrachloroethylene or perchloroethene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), 2-Hexanone, xylenes, and vinyl chloride were identified in shallow groundwater samples collected this quarter. Due to changes in detection limits between samples collected this quarter and those previously collected, comparisons between sampling events cannot be made for all constituents. However, where comparisons are possible, the data indicate that, in general, concentrations of organic compounds in the shallow groundwater are decreasing. Plots illustrating concentrations of organic compounds over time in wells where detections limits allow comparisons are presented in Figures 2 through 7.

Exceptions to the decreasing trend are of organic compounds PCE and TCE in wells W6 and W7, which increased slightly. MEK and 2-Hexanone were previously reported as semi-quantified compounds, thus direct comparisons between third quarter and earlier samples are not possible.

Groundwater Flow

Water levels were measured with an electric water level sounder in each monitoring well on December 27, 1990. Groundwater elevations were calculated using top-of-casing elevations as reported in an April 10, 1986 Harding-Lawson Associates report. Groundwater elevation data are summarized in Table 2. Data collected in previous quarterly sampling events are included for comparison purposes.

Groundwater levels have increased in all wells when compared to the September data. Increases average 0.46 feet. The increase

Table 2 Groundwater Elevation, feet above mean sea level

Monitoring Well	Top of Casing Elevation	Date			
		5-Mar-90	6-Jun-90	6-Sep-90	27-Dec-90
W-1	20.67	8.73	8.67	7.52	8.00
W-2	20.02	7.58	7.22	6.20	NA
W-3	20.80	8.59	8.48	7.43	7.91
W-4	21.00	8.80	8.78	7.50	7.93
W-5	21.64	8.42	8.37	7.42	8.02
W-6	21.05	8.73	8.58	7.52	8.01
W-7	20.41	8.03	7.77	6.94	7.33
W-8	20.50	8.66	8.55	7.52	7.92
W-9	20.16	8.24	8.11	7.16	7.60
B-1	20.59	8.66	8.43	7.47	7.91

Top of casing elevation data from Harding-Lawson Associates, 1986.
Well B-1 monitors a deeper groundwater zone.
Well W2 is damaged. Water level data questionable.
NA - Not available

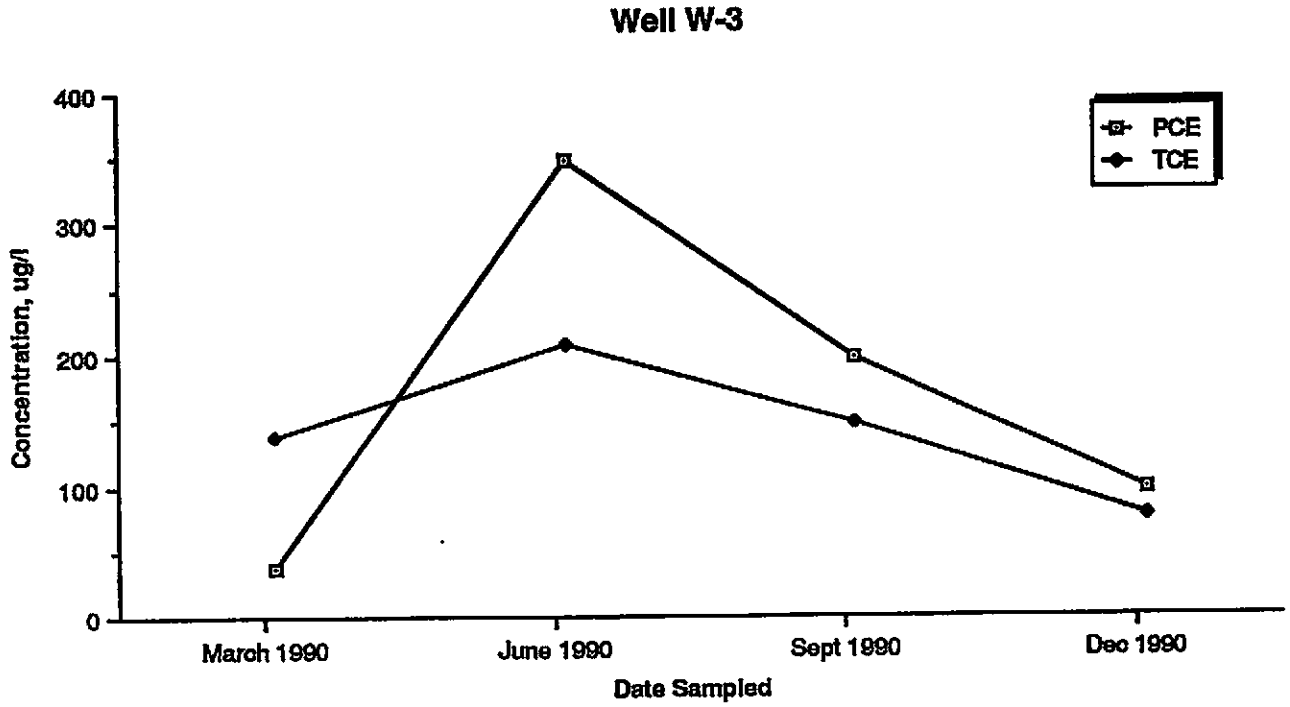

Figure 2. Concentration of Organics Over Time, Well W-3

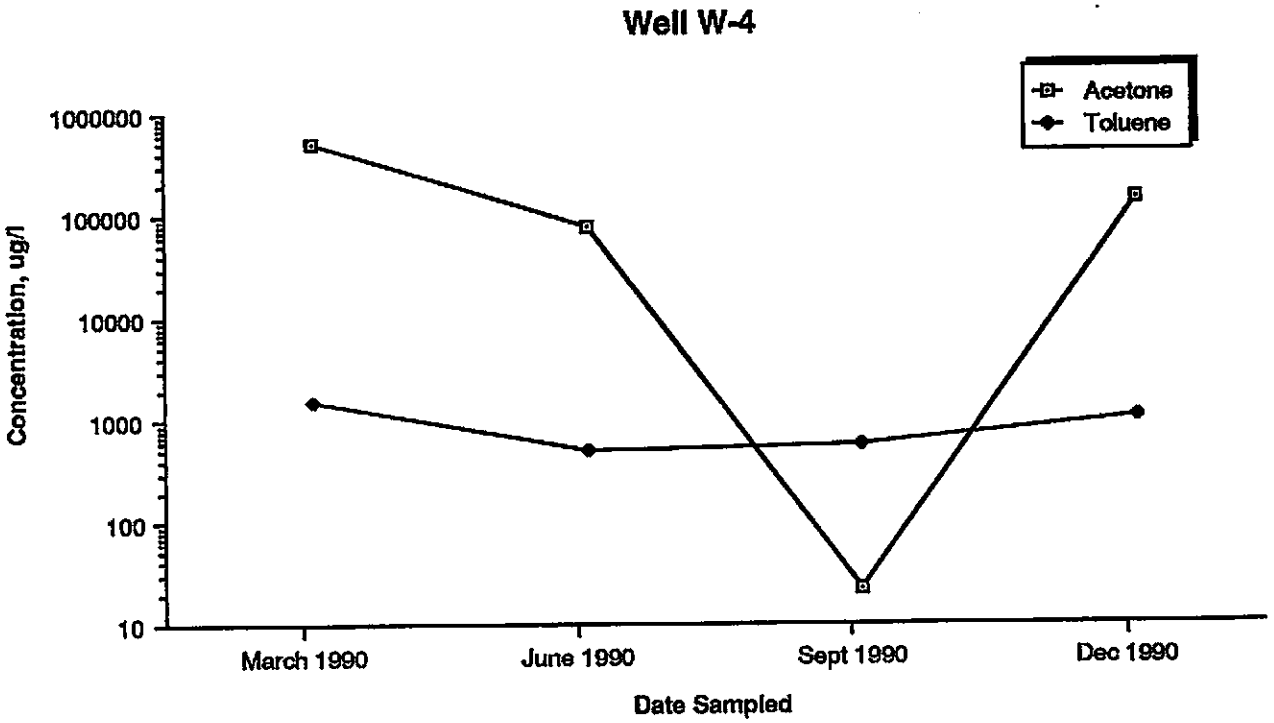

Figure 3. Concentration of Organics Over Time, Well W-4

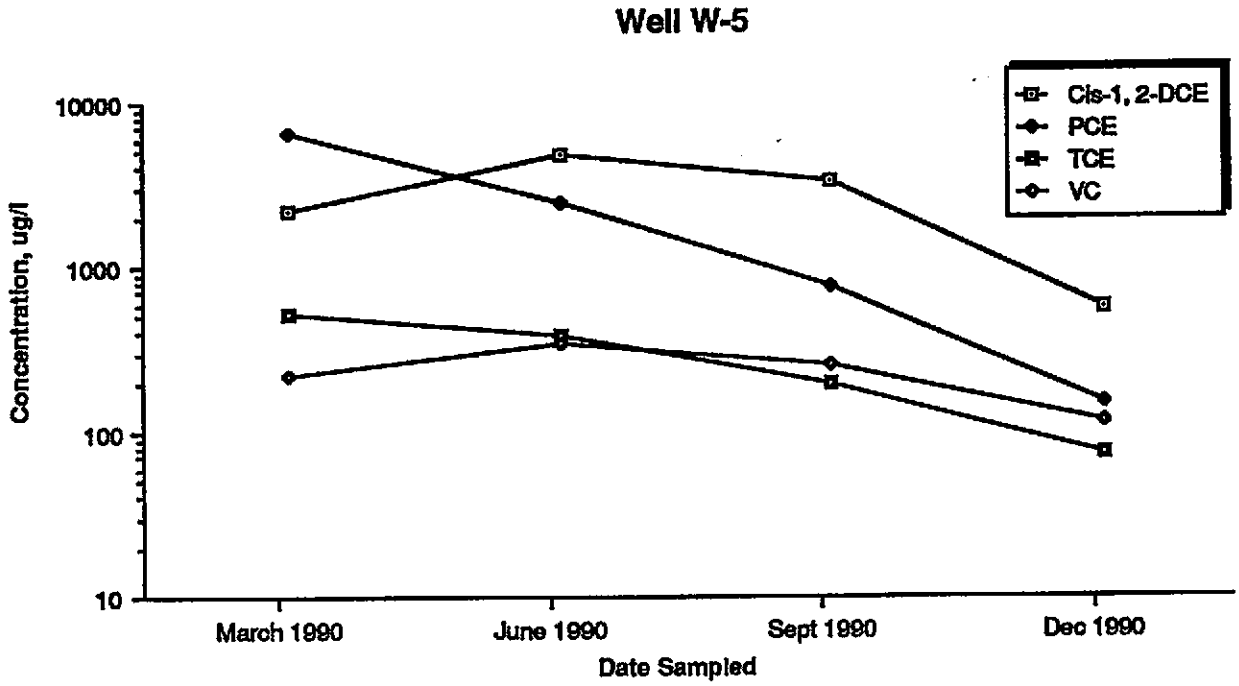

Figure 4. Concentration of Organics Over Time, Well W-5

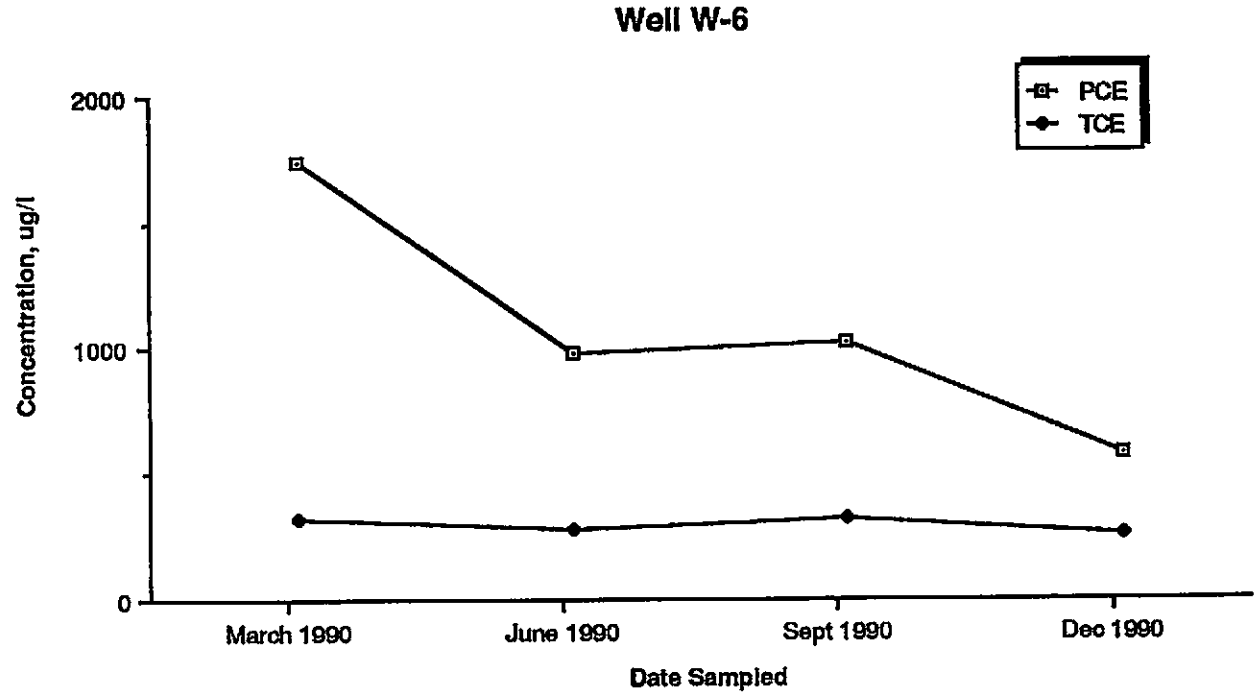

Figure 5. Concentration of Organics Over Time, Well W-6

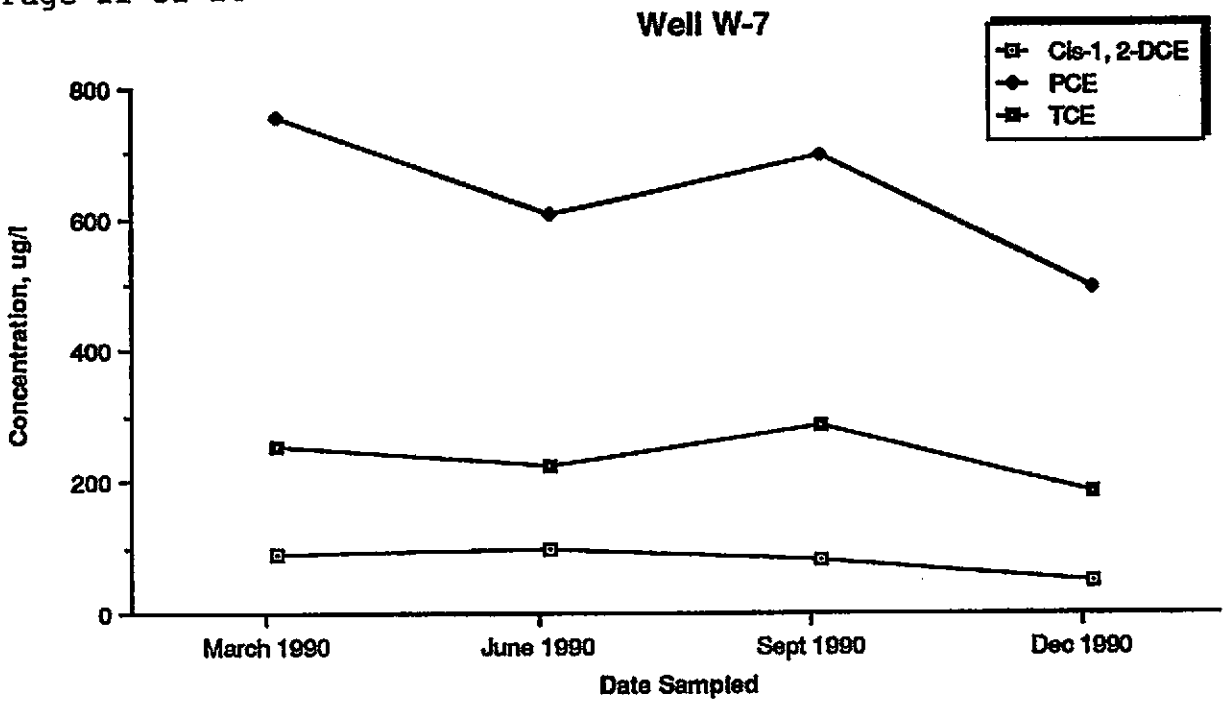

Figure 6. Concentration of Organics Over Time, Well W-7

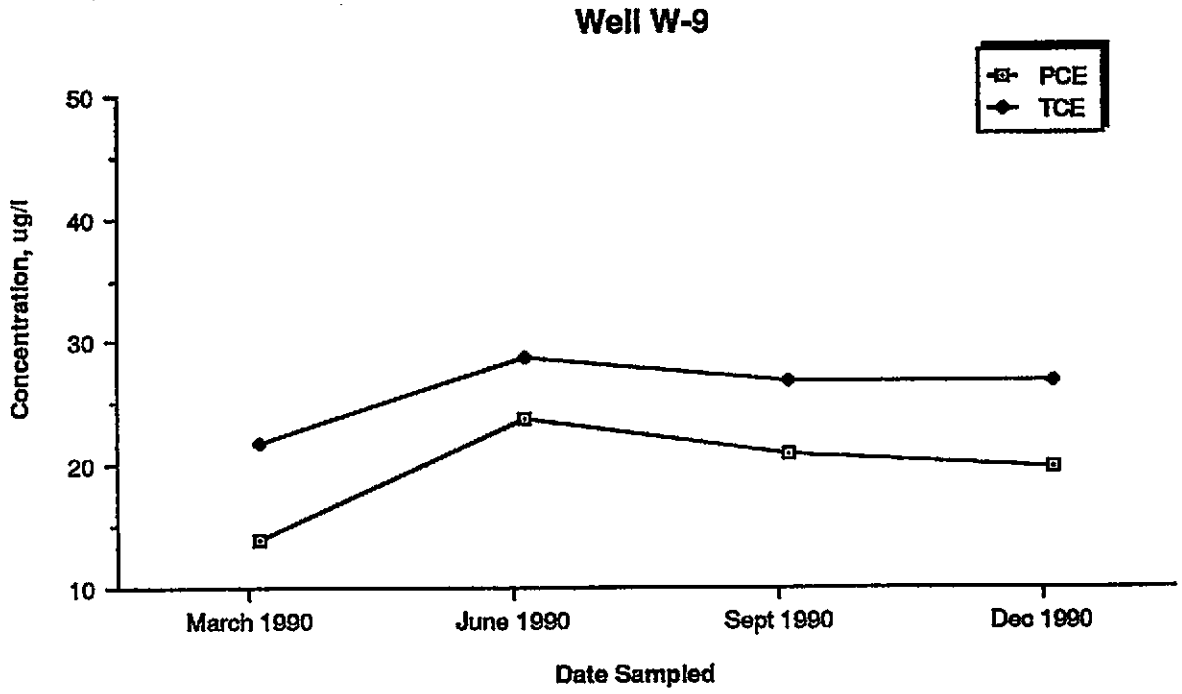

Figure 7. Concentration of Organics Over Time, Well W-9

in groundwater elevation is probably a seasonal variation related to precipitation.

Figure 8 illustrates the configuration of the shallow groundwater in the southern portion of the site based on the December 27, 1990 measurements Groundwater flows west, toward San Francisco Bay, under a hydraulic gradient of approximately 0.005 feet per foot. This gradient is slightly higher than that calculated from the September 1990 data. San Francisco Bay is located approximately one-half mile west-southwest of the site.

Summary

Acetates were not identified in the groundwater samples collected this quarter. Alcohols were identified by semi-quantified methods in wells W4, W5, and W8. Acetone was identified in wells W4, W6, and W8. Acetone levels have declined in wells W1 and W4 when compared with previously collected data. With the exception of PCE and TCE in well W6 and W7, concentrations of purgeable organic constituents have generally decreased when compared to previous analytical results.

Groundwater levels have increased in all wells when compared to data collected in September 1990. The increase probably reflects seasonal variations related to precipitation. Groundwater in the vicinity of the James River Corporation site flows southwest, toward San Francisco Bay.

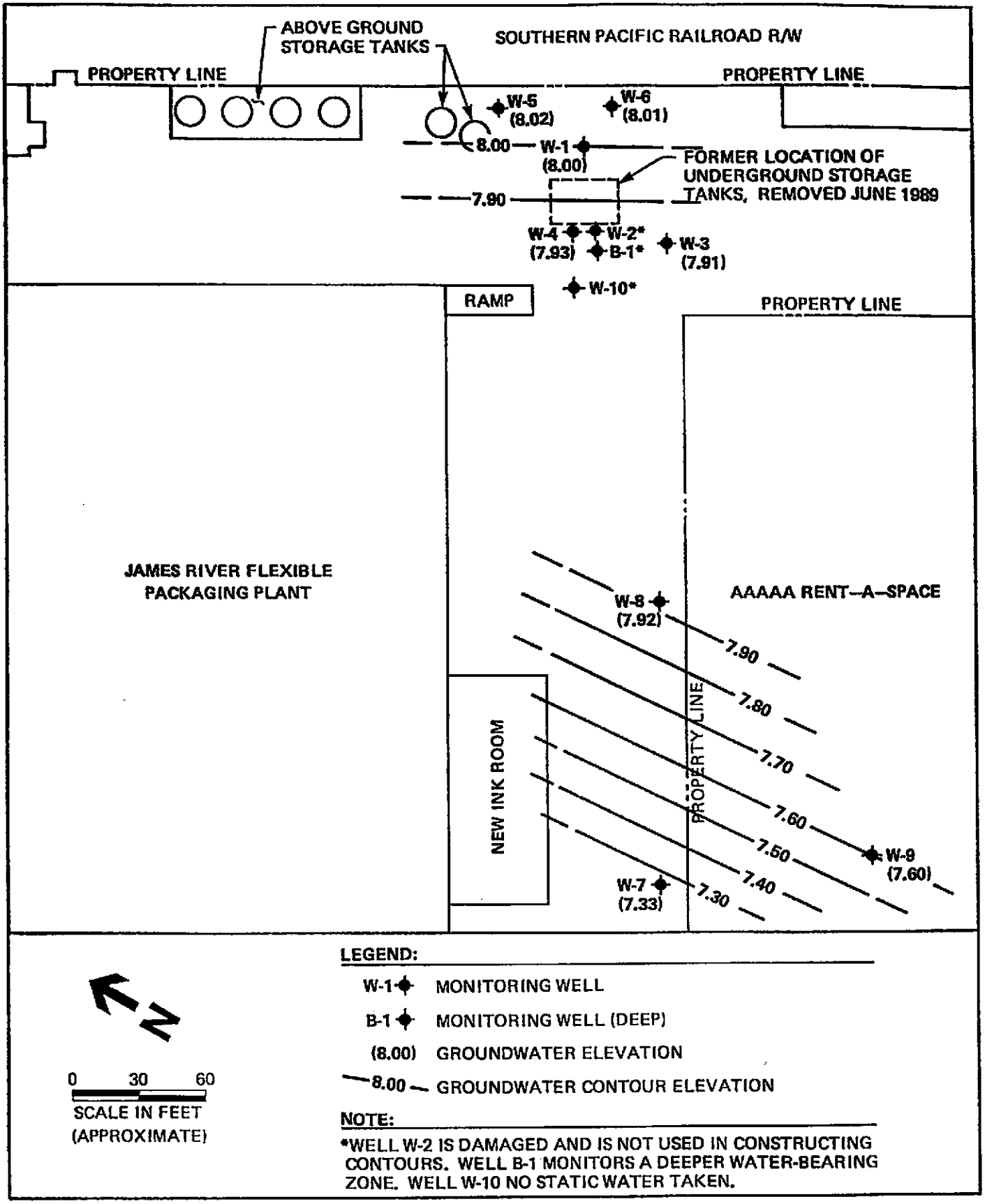

Figure 8 Shallow Groundwater Configuration, December 27, 1990

We appreciate this opportunity to be of service to you. Please contact me if you have any questions or comments regarding this report.

Very truly yours,

BROWN AND CALDWELL

Donna Courington

Donna L. Courington
Project Manager

DLC:dc

Enclosures

cc: Mr. Larry Seto, Alameda County Health Agency
Mr. Lester Feldman, San Francisco Regional Water Quality Control Board

ATTACHMENT B

CHAIN OF CUSTODY FORM/
LABORATORY ANALYTICAL REPORTS

SAMPLE FOR BOAT
SAMPLE 7,8,9 FIRST
SAMPLE 4-5 LAST

Brown and Caldwell Consultants

FIELD DATA

JOB NAME: JAMES RIVER
LOCATION: SAN LEANDRO, DOOLITTLE + WILLIAMS
JOB NO: 5081-02
DATE: 12/28/28-90
PROJ. MGR: D. COURINGTON
FIELD PERSONNEL: MCILWENNA

CLIENT: JAMES RIVER
CONTACT: BOB WENNING
PHONE: 895-4396
SECONDARY:
PHONE:

SAFETY OFFICER: HARTMAN H&S PLAN ONSITE? (YES)/(NO) WEATHER:
pH INSTRUMENT: ORION SER. NO: pH 4.0 = 4.0 pH 7.0 = 7.2 pH 10.0 = 10.0
CONDUCTIVITY INSTRUMENT: SER. NO: INTERNAL CALIBRATION PERFORMED (YES)/(NO)
OTHER INSTRUMENTATION:

1) 0655 - LEAVE FOR SITE
2) 0800 - ARRIVE SITE, MEET W/ BOB WENNING, HE IS GOING TO CHECK ON DRUMS
3) 0820 - B. WENNING CAME OUT BACK, HAD DRUMS DELIVERED
4) 0832 - BEGIN TAKING SWLS
W-1 = 12.67' W-4 = 13.07' W-7 = 13.08' NW-1 = 13.22'
W-2 = N/A W-5 = 13.66' W-8 = 12.58' TD = 16.85'
W-3 = 12.89' W-6 = 13.04' B-1 = 12.68'
5) 0920 - COMPLETE TAKING SWLS
6) 1010 - BEGIN PURGING W-7
7) 1045 - SAMPLE W-7
8) 1111 - BEGIN PURGING W-8
9) 1204 - SAMPLE W-8
10) 1212 - BEGIN PURGING W-6
11) 1237 - SAMPLE W-6
12) 1251 - BEGIN PURGING W-1
13) 1331 - SAMPLE W-1
14) 1345 - BEGIN PURGING W-3
15) 1349 - NW-1 IS NEW WELL LOCATION JUST DISCOVERED
16) 1416 - SAMPLE W-3
17) 1456 - SAMPLE B-1
18) 1511 - BEGIN PURGING W-4
19) 1545 - SAMPLE W-4
20) 1603 - BEGIN PURGING W-5
21) 1633 - SAMPLE W-5
22) CONT.

JOB NUMBER		SUBJECT	DATE	SHEET NO.

(CONT.)

23) 1646 - BEGIN PURGING NW-1
24) 1704 - SAMPLE NW-1
25) 1720 - BEGIN TO PURGE W-9
26) 1800 - SAMPLE W-9
27) 1816 - HAD TO PUMP W-9 DRUM OUT OF TRUCK TO DRUM @ J&R SITE
28) 1830 - LEFT SITE

JOB NUMBER	BY	SUBJECT	DATE	SHEET NO.

Brown and Caldwell Consultants

Well No. B-1

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5091-02 Date: 12-27-90

Location: SAN LEANDRO CA

Samplers Name: MCILVENNA

Weather Conditions: CLEAR, COLD, 39°F

1. WATER LEVEL DATA: (from ToC)

a. Depth to water (ft) 12.68'

b. Total Well Depth 48.23'

c. Length of Water Column 35.55 - 20.55' = 15' SCREEN (b-a)

d. Well Volume 9.75 / 10.23 = 19.98

[c. x (gal/ft casing + gal/ft hole) = d.]

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4" x 8"

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH - FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 59.96 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GALS	1422	18.9	7.64	552		CLEAR
20	1431	18.5	7.45	728		" "
40	1440	18.6	7.47	707		" "
60	1450	18.5	7.53	716		" "
61	1456					SAMPLED

3. Sample Collection: Method STAINLESS BAILER

Container Type	Perservation	Analysis Required
2-40 mL VOA	—	8240

Brown and Caldwell Consultants

Well No. MW-1

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5081-02 Date: 12-27-90

Location: SAN LEANDRO, CA

Samplers Name: MCILVENNA

Weather Conditions: CLEAR, COOL, 50°F

1. WATER LEVEL DATA: (from ToC)

a. Depth to water (ft) 13.22'

b. Total Well Depth 16.85'

c. Length of Water Column 3.63' (b-a)

d. Well Volume 3.37 / 5.47 = 4.82

[c. x (gal/ft casing + gal/ft hole) = d.]

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4" x 8"

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH / FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 14.48 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
3	1646	21.1	5.03	5,040		GRAY-CLOUDY, TURBID, SILTY
12	1651	21.6	5.21	5,170		VERY SOUR, ACIDIC ODOR
14	1655	21.7	5.41	5,320		SAME
15	1704	21.7	5.35	5,470		SAME
	1711					SAMPLE

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40ml VOA	—	8240

Brown and Caldwell
Consultants

Well No. W-1

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5081-02 Date: 12-27-90

Location: SAN LEANDRO, CA

Samplers Name: MCLUENNA

Weather Conditions: CLEAR, COLD, 39°F

1. WATER LEVEL DATA: (from ToC)

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4" x 8"

a. Depth to water (ft) 12.67'

b. Total Well Depth 38.90'

c. Length of Water Column 26.23' - 11.23' (b-a) = 15' SCREEN

d. Well Volume 9.65 / 10.23 = 19.78

[c. x (gal/ft casing + gal/ft hole) = d.]

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH, FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 59.36 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GALS	1253	18.4	6.77	778		BLUE-GRAY, TURBID, SILT FINE SANDS, H2S, ODO
20	1302	18.5	6.90	729		MOSTLY CLEAN, CLEAR
40	1311	19.3	6.86	719		CLEAR
60	1320	19.4	6.84	768		SAME
61	1331					SAMPLED

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40ml VOA	✓	8240

Brown and Caldwell
Consultants

Well No. W-6

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5081-02 Date: 12-27-90

Location: SAN LEANDRO

Samplers Name: MCILWENNA

Weather Conditions: CLEAR, COLD

1. WATER LEVEL DATA: (from ToC)

a. Depth to water (ft) 13.04'

b. Total Well Depth 36.55'

c. Length of Water Column 23.51' (b-a)

d. Well Volume 5.76 / 12.67 = 16.43

[c. x (gal/ft casing + gal/ft hole) = d.]

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 2" x 6.5"

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH, FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 49.29 = 50 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GAL	1214	10.9	6.99	700		GRAY W/RED T. INT, 'LANDFILL' ODOR, SILTY, TURBID
17	1220	18.5	7.04	694		MUCH CLEANER, CLEARER, STILL SLIGHTLY CLOUDY, SILTY
34	1226	18.5	7.16	694		CLEARER
50	1232	17.9	7.11	722		SAME
53	1237					SAMPLED

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40 mL VOA	✓	8240

Brown and Caldwell Consultants

Well No. W-7

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5091-02 Date: 12-27-90

Location: SAN LEANDRO

Samplers Name: MCILVENNA

Weather Conditions: CLEAR, COLD, 42°F

1. WATER LEVEL DATA: (from ToC)

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4" x 8"

a. Depth to water (ft) 13.08'

b. Total Well Depth 36.34'

c. Length of Water Column 23.26' - 6.24' (b-a) 1=15' SCREEN

d. Well Volume 19.78 GALS

[c. x (gal/ft casing + gal/ft hole) = d.]

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH, FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 59.96 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GALS	1020	18.0	7.10	749		CLOUDED, FINE SILTS TURBID, CHEMICAL ODOR
20	1024	18.9	7.10	717		LIGHTER, STILL, SLIGHT CLOUDED
40	1031	18.8	7.19	708		CLEAR, CLEAR
60	1036	18.6	7.10	726		SAME
61	1045					SAMPLED

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40ml VOA	—	8240

BC Brown and Caldwell Consultants

Well No. W-8

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5081-02 Date: 12-27-90

Location: SAN LEANDRO, CA

Samplers Name: MCILVENNA

Weather Conditions: CLEAR, COLD, 41°F

1. WATER LEVEL DATA: (from ToC)

a. Depth to water (ft) 12.58'

b. Total Well Depth 34.68'

c. Length of Water Column 22.10' (b-a)

d. Well Volume 19.79

[c. x (gal/ft casing + gal/ft hole) = d.]

ToC Elevation (from LS)

Water Table Elev.

Tape Corr. (TC)

Well Dia. 4" x 8"

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH, FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 59.96 GALS

c. Field Testing; Equipment Used

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GALS	1113	18.9	6.90	1,202		MOSTLY CLEAR, SOME SILTS, CLOUDING, SLIGHT ODOR
20	1126	17.7	6.52	1,123		CLEANER, CLEARER, VERY FINE SILTS
40	1140	18.6	6.05	1,084		CLEARER
60	1153	18.5	6.03	1,085		SAME
61	1204					SAMPLED

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40 ml VOA	—	8240

Brown and Caldwell
Consultants

Well No. W-3

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5081-02 Date: 12-27-90

Location: SAN LEANDRO CA

Samplers Name: K. McILVENNA

Weather Conditions: CLEAR, COLD, 39°

1. WATER LEVEL DATA: (from ToC)

a. Depth to water (ft) 12.89'

b. Total Well Depth 37.10'

c. Length of Water Column 24.21'-9.21' (b-a) = 15' SCREEN

d. Well Volume 19.78

[c. x (gal/ft casing + gal/ft hole) = d.]

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4" X 8"

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH W/FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 59.36 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GALS	1347	19.1	6.70	1,090		SLIGHTLY CLOUDY, GRAY, TURBID, SILTY
20	1356	18.4	6.93	820		CLEAR
40	1404	18.8	7.06	779		SAME
60	1412	18.8	7.11	797		SAME
61	1416					SAMPLED

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40 ML VOA	✓	8240

Brown and Caldwell
Consultants

Well No. W-4

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5081-02 Date: 12-27-90

Location: SAN LEANDRO, CA

Samplers Name: MCILVENNA

Weather Conditions: CLEAR, COLD, 42°F

1. WATER LEVEL DATA: (from ToC)

a. Depth to water (ft) 13.07'

b. Total Well Depth 37.50'

c. Length of Water Column 24.43' (b-a)

d. Well Volume 19.7 gals

[c. x (gal/ft casing + gal/ft hole) = d.]

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4"x8"

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH- FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 59.36 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GALS	1513	18.5	6.63	1,412		CLOUDED-GRAY, EFFERVESCENT, FINE SILTS
20	1519	19.3	6.35	1,249		SAME
40	1526	19.3	6.80	1,236		SAME
60	1536	19.0	6.26	1,221		SAME
61	1545					SAMPLED

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40 mL VOA	—	8240

BC Brown and Caldwell Consultants

Well No. IN-5

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5081-02 Date: 12-27-90

Location: SAN LEANDRO, CA

Samplers Name: MCILVENNA

Weather Conditions: CLEAR, COLD, 40°F

1. WATER LEVEL DATA: (from ToC)

a. Depth to water (ft) 13.62'

b. Total Well Depth 33.75'

c. Length of Water Column 20.13' (b-a)

d. Well Volume 3.22 × 10.875 = 14.07

[c. x (gal/ft casing + gal/ft hole) = d.]

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 2" x 6.5"

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH W/ FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 42.21 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GALS	1555	19.6	6.90	817		GRAY-GREEN, SILTY, TURBID
15	1600	18.8	7.17	721		CLEARER, STILL CLOUDY, SILTY, TURBID
30	1612	18.9	7.17	719		SAME
45	1624	19.0	7.17	724		SAME
46	1633					SAMPLED

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40 ml VOA	—	8240

BC Brown and Caldwell Consultants

Well No. W-9

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: JAMES RIVER Job No. 5081-02 Date: 12-27-90

Location: SAN LEANDRO, CA

Samplers Name: McILWENNA

Weather Conditions: CLEAR, COOL, 49°F

1. WATER LEVEL DATA: (from ToC)

a. Depth to water (ft) 12.56'

b. Total Well Depth 31.39'

c. Length of Water Column 18.83' (b-a)

d. Well Volume 19.78

[c. x (gal/ft casing + gal/ft hole) = d.]

ToC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4"x8"

2-inch casing	=	0.16 gal/ft
4-inch casing	=	0.65 gal/ft
10-inch hole filter pack	=	1.21 gal/ft
12-inch hole filter pack	=	1.80 gal/ft
6-inch casing	=	1.47 gal/ft

2. WELL PURGING DATA:

a. Purge Method TRASH, FOOT VALVE

b. Required Purge Volume (@ 3 well volumes) 59.36 GALS

c. Field Testing; Equipment Used _____

Volume Removed	Time	T°	PH	Spec. Conductivity	Turbidity	Color
5 GAL	1722	18.3	7.53	729		RED-RUST-GRAY, SLTY, TURBID
20	1729	18.7	7.71	709		SLIGHTLY CLEANER
40	1739	18.7	7.46	722		SAME
60	1748	19.0	7.41	717		SAME
61	1800					SAMPLED

3. Sample Collection: Method BAILER

Container Type	Perservation	Analysis Required
2-40 mL VOA	—	8240

ATTACHMENT B

CHAIN OF CUSTODY FORM/
LABORATORY ANALYTICAL REPORTS

Analytical Report

LOG NO: E90-12-585

Received: 28 DEC 90
Mailed : 19 FEB 91

REVISED 2-19-91

Ms. Donna Courington
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 5081-02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
12-585-1	W-7	27 DEC 90
12-585-2	W-8	27 DEC 90
12-585-3	W-5	27 DEC 90
12-585-4	W-1	27 DEC 90
12-585-5	W-3	27 DEC 90

PARAMETER	12-585-1	12-585-2	12-585-3	12-585-4	12-585-5
Volatile Organics (EPA 8240)					
Date Analyzed	01.10.91	01.10.91	01.10.91	01.10.91	01.10.91
Date Extracted	01.10.91	01.10.91	01.10.91	01.10.91	01.10.91
Dilution Factor, Times	5	500	5	500	1
1,1,1-Trichloroethane, ug/L	19	<500	<5	<500	<1
1,1,2,2-Tetrachloroethane, ug/L	<5	<500	<5	<500	<1
1,1,2-Trichloroethane, ug/L	<5	<500	<5	<500	<1
1,1-Dichloroethane, ug/L	<5	<500	<5	<500	1
1,1-Dichloroethene, ug/L	<5	<500	<5	<500	<1
1,2-Dichloroethane, ug/L	<5	<500	<5	<500	<1
1,2-Dichlorobenzene, ug/L	<5	<500	<5	<500	<1
1,2-Dichloropropane, ug/L	<5	<500	<5	<500	<1
1,3-Dichlorobenzene, ug/L	<5	<500	<5	<500	<1
1,4-Dichlorobenzene, ug/L	<5	<500	<5	<500	<1
2-Chloroethylvinylether, ug/L	<5	<500	<5	<500	<1
2-Hexanone, ug/L	<5	<500	<5	<500	<1
4-Methyl-2-Pentanone, ug/L	<5	<500	<5	<500	<1
Acetone, ug/L	<50	110000	<50	81000	40
Acrolein, ug/L	<50	<5000	<50	<5000	<10
Acrylonitrile, ug/L	<50	<5000	<50	<5000	<10
Bromodichloromethane, ug/L	<5	<500	<5	<500	<1
Bromomethane, ug/L	<5	<500	<5	<500	<5
Benzene, ug/L	<5	<500	<5	<500	<1

Brown and Caldwell
Analytical

1255 Powell Street
Emeryville CA 94608
415-428-2300
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Analytical Report

LOG NO: E90-12-585

Received: 28 DEC 90
Mailed : 19 FEB 91

Ms. Donna Courington
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 5081-02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
12-585-1	W-7	27 DEC 90
12-585-2	W-8	27 DEC 90
12-585-3	W-5	27 DEC 90
12-585-4	W-1	27 DEC 90
12-585-5	W-3	27 DEC 90

PARAMETER	12-585-1	12-585-2	12-585-3	12-585-4	12-585-5
Bromoform, ug/L	<5	<500	<5	<500	<1
Chlorobenzene, ug/L	<5	<500	<5	<500	<1
Carbon Tetrachloride, ug/L	<5	<500	<5	<500	<1
Chloroethane, ug/L	<5	<500	<5	<500	<1
Chloroform, ug/L	<5	<500	<5	<500	<1
Chloromethane, ug/L	<5	<500	<5	<500	<5
Carbon Disulfide, ug/L	<5	<500	<5	<500	<1
Dibromochloromethane, ug/L	<5	<500	<5	<500	<1
Ethylbenzene, ug/L	<5	<500	<5	<500	<1
Freon 113, ug/L	<5	<500	<5	<500	<1
Methyl ethyl ketone, ug/L	<100	<10000	<100	<10000	<20
Methylene chloride, ug/L	<20	<2000	<20	<2000	<5
Styrene, ug/L	<5	<500	<5	<500	<1
Trichloroethene, ug/L	170	<500	63	<500	69
Trichlorofluoromethane, ug/L	<5	<500	<5	<500	<1
Toluene, ug/L	<5	<500	13	<500	<1
Tetrachloroethene, ug/L	480	<500	130	<500	88
Vinyl acetate, ug/L	<5	<500	<5	<500	<1
Vinyl chloride, ug/L	<5	<500	99	<500	11
Total Xylene Isomers, ug/L	<5	<500	<5	<500	3
cis-1,2-Dichloroethene, ug/L	32	<500	480	<500	<1
cis-1,3-Dichloropropene, ug/L	<5	<500	<5	<500	<1
trans-1,2-Dichloroethene, ug/L	<5	<500	<5	<500	<1

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Pleasant Hill, California 94523

Project: 5081-02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
12-585-1	W-7	27 DEC 90
12-585-2	W-8	27 DEC 90
12-585-3	W-5	27 DEC 90
12-585-4	W-1	27 DEC 90
12-585-5	W-3	27 DEC 90

PARAMETER	12-585-1	12-585-2	12-585-3	12-585-4	12-585-5
trans-1,3-Dichloropropene, ug/L	<5	<500	<5	<500	<1

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LOG NO: E90-12-585

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Ms. Donna Courington
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 5081-02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
12-585-6	B-1	27 DEC 90
12-585-7	W-4	27 DEC 90
12-585-8	W-6	27 DEC 90
12-585-9	NW-1	27 DEC 90
12-585-10	W-9	27 DEC 90

PARAMETER	12-585-6	12-585-7	12-585-8	12-585-9	12-585-10
Volatile Organics (EPA 8240)					
Date Analyzed	01.10.91	01.10.91	01.10.91	01.10.91	01.10.91
Date Extracted	01.10.91	01.10.91	01.10.91	01.10.91	01.10.91
Dilution Factor, Times	1	500	5	5000	2
1,1,1-Trichloroethane, ug/L	<1	<5000	<5	<5000	8
1,1,2,2-Tetrachloroethane, ug/L	<1	<500	<5	<5000	<2
1,1,2-Trichloroethane, ug/L	<1	<500	<5	<5000	<2
1,1-Dichloroethane, ug/L	<1	<500	<5	<5000	<2
1,1-Dichloroethene, ug/L	<1	<500	<5	<5000	3
1,2-Dichloroethane, ug/L	<1	<500	<5	<5000	<2
1,2-Dichlorobenzene, ug/L	<1	<500	<5	<5000	<2
1,2-Dichloropropane, ug/L	<1	<500	<5	<5000	<2
1,3-Dichlorobenzene, ug/L	<1	<500	<5	<5000	<2
1,4-Dichlorobenzene, ug/L	<1	<500	<5	<5000	<2
2-Chloroethylvinylether, ug/L	<1	<500	<5	<5000	<2
2-Hexanone, ug/L	<1	<500	<5	150000	<2
4-Methyl-2-Pentanone, ug/L	<1	<500	<5	<5000	<2
Acetone, ug/L	<10	110000	<50	790000	390
Acrolein, ug/L	<10	<5000	<50	<50000	<20
Acrylonitrile, ug/L	<10	<5000	<50	<50000	<20
Bromodichloromethane, ug/L	<1	<500	<5	<5000	<2
Bromomethane, ug/L	<1	<500	<5	<5000	<2
Benzene, ug/L	<1	<500	<5	<5000	<2

Brown and Caldwell
Analytical

1255 Powell Street
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Analytical Report

LOG NO: E90-12-585

Received: 28 DEC 90
Mailed : 19 FEB 91

Ms. Donna Courington
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 5081-02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
12-585-6	B-1	27 DEC 90
12-585-7	W-4	27 DEC 90
12-585-8	W-6	27 DEC 90
12-585-9	NW-1	27 DEC 90
12-585-10	W-9	27 DEC 90

PARAMETER	12-585-6	12-585-7	12-585-8	12-585-9	12-585-10
Bromoform, ug/L	<1	<500	<5	<5000	<2
Chlorobenzene, ug/L	<1	<500	<5	<5000	<2
Carbon Tetrachloride, ug/L	<1	<5000	<5	<5000	<2
Chloroethane, ug/L	<1	<500	<5	<5000	<2
Chloroform, ug/L	<1	<500	<5	<5000	<2
Chloromethane, ug/L	<1	<500	<5	<5000	<2
Carbon Disulfide, ug/L	<10	<500	<5	<5000	<2
Dibromochloromethane, ug/L	<1	<500	<5	<5000	<2
Ethylbenzene, ug/L	<1	<500	<5	<5000	<2
Freon 113, ug/L	<1	<500	<5	<5000	<2
Methyl ethyl ketone, ug/L	<20	<10000	<100	<100000	<40
Methylene chloride, ug/L	<5	<2000	<20	<20000	<10
Styrene, ug/L	<1	<500	<5	<5000	<2
Trichloroethene, ug/L	<1	<500	210	<5000	26
Trichlorofluoromethane, ug/L	<1	<500	<5	<5000	<2
Toluene, ug/L	<1	840	<5	31000	4
Tetrachloroethene, ug/L	2	<500	540	<5000	19
Vinyl acetate, ug/L	<1	<500	<5	<5000	<2
Vinyl chloride, ug/L	<1	<500	<5	<5000	<2
Total Xylene Isomers, ug/L	<1	<500	<5	<5000	<2
cis-1,2-Dichloroethene, ug/L	1	<500	6	<5000	<2
cis-1,3-Dichloropropene, ug/L	<1	<500	<5	<5000	<2
trans-1,2-Dichloroethene, ug/L	<1	<500	<5	<5000	<2

Analytical Report

LOG NO: E90-12-585

Received: 28 DEC 90
Mailed : 19 FEB 91

Ms. Donna Courington
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3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 5081-02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
12-585-6	B-1	27 DEC 90
12-585-7	W-4	27 DEC 90
12-585-8	W-6	27 DEC 90
12-585-9	NW-1	27 DEC 90
12-585-10	W-9	27 DEC 90

PARAMETER	12-585-6	12-585-7	12-585-8	12-585-9	12-585-10
trans-1,3-Dichloropropene, ug/L	<1	<500	<5	<5000	<2
Semi-Quantified Results **					
Isopropanol, ug/L	---	---	---	100000	---
Unidentified, ug/L	---	---	---	60000	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

This report was revised to correct a typographical error in sample identification for sample E90-12-585-8. C. Ho

Sim D. Lessley, Ph.D., Laboratory Director

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