

**FEBRUARY 1993
QUARTERLY GROUNDWATER
MONITORING REPORT
JAMES RIVER CORPORATION
FLEXIBLE PACKAGING DIVISION
SAN LEANDRO, CALIFORNIA**

**Brown and Caldwell
April 29, 1993**

PROFESSIONAL CERTIFICATION

**JAMES RIVER CORPORATION, FLEXIBLE PACKAGING DIVISION
SAN LEANDRO, CALIFORNIA**

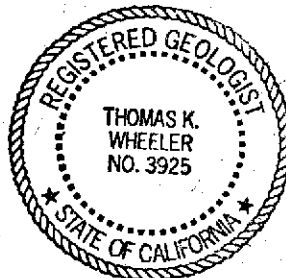
APRIL 29, 1993

This report has been prepared by the staff of Brown and Caldwell, under the professional supervision of the registered geologist whose seal and signature appears below.

The findings, recommendations, specifications, and professional opinions presented herein, have been prepared within the limits prescribed by the client, after being prepared in accordance with generally-accepted professional engineering and geologic practices and all appropriate and pertinent county regulations. There is no other warranty, either expressed or implied.

Thomas K. Wheeler

Thomas K. Wheeler
Chief Geologist
Registered Geologist No. 3925



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April 29, 1993

Mr. Walter Gonzalez
Government Regulations Coordinator
James River Corporation
Flexible Packaging Division
2101 Williams Street
San Leandro, California 94577

11-7175-05/1

Subject: February 1993 Quarterly Groundwater Monitoring Report
James River Corporation, Flexible Packaging Division
San Leandro, California

Dear Mr. Gonzalez:

This report presents the depth-to-water measurements and groundwater quality analytical results of the quarterly groundwater monitoring activities performed by Brown and Caldwell (BC) on February 19, 1993, at the James River Corporation (JRC) Flexible Packaging Facility, located at 2101 Williams Street in San Leandro, California. The location of the JRC facility is shown on Figure 1. All work completed during the February 1993 sampling event was performed in accordance with the terms and conditions of the April 16, 1992, Task Order Agreement between BC and JRC. All groundwater samples were collected following the work plan included in the February 10, 1993, letter from BC to JRC, and incorporates those recommendations made by Alameda County, Department of Environmental Health (ACDEH), as outlined in their December 14, 1992, letter (Attachment A). The following describes the techniques used to collect groundwater samples for laboratory analysis, the results of those analyses, and BC's conclusions and recommendations based on those results.

Field Activities

On February 19, 1993, depth-to-water measurements were collected from all ten on-site groundwater monitoring wells (Figure 2). Static water levels were collected using an electronic water level meter and were measured to the nearest ± 0.01 foot.

Following the measurement of the static water levels groundwater samples were collected from Monitoring Wells W-3, W-5, W-6, W-7, W-8, W-9, W-10, and B-1. Prior to collecting

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groundwater samples from the eight monitoring wells, each well was purged using a centrifugal pump connected to polyethylene tubing. The polyethylene tubing used to purge and sample each well has been dedicated to each well to avoid the possibility of cross-contamination during sampling. Purging procedures were continued until the purged water had stabilized (three consecutive reading of the temperature, pH, and specific conductance not varying by more than 10 percent) and a minimum of three standing volumes had been purged from each well. Immediately following the purging of each well, a groundwater sample was collected from the polyethylene tubing, transferred to the appropriate sample containers and placed in a cooler containing ice.

In order to assist JRC in maintaining reasonable operating expenditures by reducing the cost incurred for quarterly groundwater monitoring, the ACDEH concluded that groundwater samples no longer need to be collected from Monitoring Wells W-1 and W-4. However, static water levels are to be collected from these two wells on a quarterly basis. The new quarterly groundwater monitoring program promulgated by the ACDEH will help implement a scientifically and financially responsible quarterly groundwater monitoring program which would still address the environmental concerns of the ACDEH and State.

Purged groundwater remaining on site as a result of quarterly monitoring activities is the responsibility of JRC. Groundwater sample collection records are included in Attachment B.

Laboratory Analysis

The eight groundwater samples were submitted under appropriate chain-of-custody procedures to BC Analytical laboratory (BCA) in Emeryville, California, a State of California, Department of Toxic Substance Control, certified laboratory, by the BC field sampling personnel. The groundwater samples collected from Monitoring Wells W-5, W-6, W-7, W-8, and W-9 were analyzed for the presence of volatile organic compounds (VOCs) following EPA Methods 8010 and 8020, in accordance with the groundwater monitoring program plan issued by the ACDEH in their December 14, 1992, letter.

The groundwater samples collected from Monitoring Wells W-3, W-10, and B-1 were analyzed for the presence of VOCs following EPA Methods 8240 and 8015. These three groundwater samples were analyzed following these methods because: (1) these methods could identify those compounds which were known to have been stored in the underground storage tanks formerly existing on site near the location of these three wells (Figure 2), and (2) the chemical constituents identified following EPA Methods 8010 and 8020 are also identified following EPA Method 8240.

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Chain-of-custody forms and analytical laboratory data sheets are included in Attachment B.

Results and Discussion

Local Hydrogeology. Depth to groundwater ranged from approximately 9 feet to 10 feet below the top of the well casing. Groundwater surface elevations relative to mean sea level (MSL) ranged from approximately 10.4 to 11.8 feet above MSL. Groundwater elevations increased in all 10 monitoring wells compared to the elevations measured during the previous investigation, conducted on May 22, 1992. This rise in groundwater elevation is likely due to the substantial rainfall experienced in the area during the past several months.

Current depth-to-water measurements and groundwater surface elevations, as well as historical groundwater surface elevations, are summarized in Table 1. A groundwater surface contour map is presented on Figure 3. These contours are based upon the observed groundwater elevations in only those wells perforated from approximately 0 feet to 15 feet below MSL. This interval (the "B Zone") is comprised of poorly sorted sand and sandy gravel separated from a shallow water-bearing unit (the "A Zone") and a deeper water-bearing unit (the "C Zone") by approximately 4 to 10 feet of silts and clays. Consequently, the shallow monitoring well, W-10, completed in the A Zone, and the deep monitoring well, B-1, completed in the C Zone, were not used to construct the contours presented on Figure 3.

Figure 3 shows that the gradient of the groundwater table beneath the JRC facility is nearly flat. The direction of groundwater flow in the B Zone was calculated to be to the west with an average vertical gradient of approximately 0.004 feet per foot between Monitoring Wells W-6 and W-7. The flow direction and gradient calculated for the February 1993 sampling event coincides with historical data, even with the significant rise in water levels since the last monitoring period.

Groundwater Sample Analysis. A total of 14 VOCs were identified in the eight groundwater samples collected during the February quarterly monitoring. The most common VOCs identified include trichloroethene (TCE), tetrachloroethene (PCE), and cis-1,2-dichloroethene (DCE). The reported concentrations of these compounds ranged from 7.6 micrograms per liter ($\mu\text{g/L}$) to 740 $\mu\text{g/L}$ of TCE, 3.4 $\mu\text{g/L}$ to 3,600 $\mu\text{g/L}$ of PCE, and 1.8 $\mu\text{g/L}$ to 2,500 $\mu\text{g/L}$ of DCE.

Vinyl chloride, a breakdown product of both TCE and PCE, was identified in the groundwater samples collected from Monitoring Wells W-3, W-5, and W-8 at concentrations ranging from 19 $\mu\text{g/L}$ to 190 $\mu\text{g/L}$, and for the first time in the groundwater sample collected from Monitoring Well W-7 at a concentration of 51 $\mu\text{g/L}$. 1,1-Dichloroethene was identified in the

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groundwater sample collected from Monitoring Well W-9 at a concentration of 11 µg/L, and for the first time in the groundwater sample collected from Monitoring Well W-3 at a concentration of 1.2 µg/L. Chloroform, a common laboratory contaminant, was identified in the sample collected from Monitoring Well W-9 at a concentration of 0.6 µg/L.

The higher analytical method reporting limit for groundwater samples collected from Monitoring Wells W-5, W-6, W-7, W-8, and W-10 is due to the increase in concentration of constituents identified in those samples (an increase in concentration which required additional dilution of the sample for analysis causes an increase in the reporting limit equivalent to the product of the dilution factor and the reporting limit). The increase in the analytical method reporting limit from <0.5 µg/L to <1 µg/L for the groundwater samples collected from Monitoring Wells W-3 and B-1 is due to changing the analytical method used to analyze the sample from EPA Method 8020 to EPA Method 8240.

Significant Changes. Diisopropyl ether was identified for the first time in the groundwater sample collected from Monitoring Well W-3 at a concentration of 20 µg/L. Isopropyl alcohol, acetone, methyl isobutyl ketone (MIBK), and methyl ethyl ketone (MEK) were identified for the first time in the sample collected from Monitoring Well W-10 at concentrations of 750,000 µg/L, 420,000 µg/L, 18,000 µg/L, and 2,300 µg/L, respectively. These five compounds have been identified for the first time because they are not included on the list of chemicals identified under EPA Methods 8010 or 8020, and this is the first time EPA Methods 8240 and 8015 have been used for the analysis of groundwater samples at this facility.

Current and historical groundwater quality analytical results are summarized in Table 2 and the distribution of VOCs identified in the eight samples collected during the February 1993 sampling event is presented on Figure 4.

Conclusions and Recommendations

In general, VOC concentrations identified in the groundwater samples obtained during the February 1993 sampling event are consistent with historical analytical results, even though there has been a significant rise in the local groundwater elevation since the last monitoring period. The maximum concentration of organic solvents (TCE, PCE, and DCE) were identified in Monitoring Well W-5. The reported concentration of VOCs in this well and the historic hydraulic gradient suggest that these compounds originated off-site, northwest of the JRC facility.

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Acetone, MEK, MIBK, and isopropyl alcohol in Monitoring Well W-10, and diisopropyl ether in Monitoring Well W-3 were identified for the first time because analysis for these compounds were not requested by ACDEH and were not conducted previously. These constituents, commonly associated with the ink printing industry, were identified in monitoring wells which are downgradient of, and crossgradient to, the former underground storage tank location, and downgradient of the location where subsurface soils were identified to be stained with ink residue.

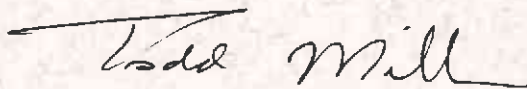
Based on the analytical results from the groundwater samples collected during the February 1993 groundwater sampling event, BC recommends that the groundwater monitoring program currently being mandated by the ACDEH be modified as follows:

- Monitoring Wells W-3, W-9, W-10, and B-1 be omitted from the current program. These wells are adjacent to, or near, Monitoring Wells W-5, W-6, W-7, W-8, and W-10 which will be monitored on a quarterly basis. Also, groundwater samples collected from these wells currently identify chemical constituents which are believed to be emanating from an unknown off-site location.
- Laboratory analysis of groundwater samples be changed from EPA Methods 8010 and 8020 to EPA Methods 8240 and 8015 to monitor for the presence of those chemicals which have been used on site in addition to those currently being mandated by ACDEH.

These proposed changes to the current groundwater monitoring program will reduce the overall costs incurred by JRC for groundwater monitoring while addressing ACDEH's concerns and remaining responsive to applicable environmental requirements by monitoring groundwater for those constituents which may have impacted the local groundwater basin as a direct result of on-site activities.

Very truly yours,

BROWN AND CALDWELL



Todd Miller
Project Manager

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**Table 1. Summary of Groundwater Surface Elevations, James River Corporation,
Flexible Packaging Facility, San Leandro, California**

Well Designation	Top-of-Casing Elevation (MSL)	Depth to Water 2-19-93 (Feet)	Groundwater Surface Elevations (MSL)						
			2-19-93	5-22-92	2-13-92	11-19-91	8-27-91	12-27-90	9-6-90
W-1	20.67	8.90	11.77	8.73	10.13	7.64	7.69	8.00	7.52
W-3	20.80	9.30	11.50	8.58	9.96	7.55	7.80	7.91	7.43
W-4	21.00	9.53	11.47	8.67	10.08	7.65	7.66	7.93	7.50
W-5	21.64	9.92	11.72	8.66	8.96	7.60	7.61	8.02	7.42
W-6	21.05	9.26	11.79	8.75	10.17	7.68	7.71	8.01	7.52
W-7	20.41	9.98	10.43	8.05	9.13	7.07	7.09	7.33	6.94
W-8	20.50	9.12	11.38	8.70	9.90	7.69	7.72	7.92	7.52
W-9	20.16	9.38	10.78	8.26	9.38	7.32	7.32	7.60	7.16
W-10	20.22	9.60	10.62	7.64	9.16	6.64	-	-	-
B-1	20.59	9.04	11.55	8.68	9.87	7.64	7.64	7.91	7.47

- = Not measured

Table 2. Summary of Groundwater Analytical Results, James River Corporation, Flexible Packaging Facility, San Leandro, California

Well Designation	Sample Date	Concentrations (µg/L)									
		Benzene	Ethyl-Benzene	Toluene	Xylenes	TCE	Vinyl Chloride	PCE	TCA	DCE	DCA
W-1	3/90	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
	6/90	<2000	<2000	<2000	<2000	<2000	<2000	<2000	<2000	<2000	<2000
	9/90	<1	<1	7	2	58	100	330	<1	320	<1
	12/90	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
	8/91	6.4	<0.5	3.3	4.5	2.9	3.2	4.9	<0.5	22	<2
	11/91	5.3	0.5	1.4	3.6	4.9	4.9	3.2	<0.5	13	<0.5
	2/92	<2	<2	<2	<2	140	39	330	5	330	<2
	5/92	3.2	<0.5	0.7	1.4	17	25	55	<0.5	42	<0.5
	2/93	-	-	-	-	-	-	-	-	-	-
W-3	3/90	<5	<5	<5	<5	130	24	29	<5	<5	<5
	6/90	<2	<2	<2	<2	200	<2	340	<2	<2	2
	9/90	<1	<1	<1	2	140	14	190	<1	<1	3
	12/90	<1	<1	<1	3	69	11	88	<1	<1	1
	8/91	<0.5	<0.5	0.8	4	48	14	75	1.9	39	0.6
	11/91	<0.5	<0.5	<0.5	1.8	46	1.9	<0.5	<0.5	73	<0.5
	2/92	<2	<2	<2	<2	290	20	340	6	76	<2
	5/92	<2	<2	2	<2	210	12	250	4	28	<2
	2/93	<1	<1	<1	<1	190	19	250	<1	24	<1
W-4	3/90	<500	<500	1200	<500	<500	<500	<500	<500	<500	<500
	6/90	<200	<200	400	<200	<200	<200	390	<200	350	<200
	9/90	<0.5	13	450	99	14	41	40	<1	120	<1
	12/90	<500	<500	840	<500	<500	<500	<500	<500	<500	<500
	8/91	10	12	430	100	15	<2	30	<2	52	<2
	11/91	6	8	120	55	7	8	9	<1	25	<1
	2/92	1	2	11	13	140	21	180	3	200	1
	5/92	<2	<2	<2	<2	150	32	300	3	140	<2
	2/93	-	-	-	-	-	-	-	-	-	-

Table 2. Summary of Groundwater Analytical Results, James River Corporation, Flexible Packaging Facility, San Leandro, California

Well Designation	Sample Date	Concentrations (µg/L)									
		Benzene	Ethyl-Benzene	Toluene	Xylenes	TCE	Vinyl Chloride	PCE	TCA	DCE	DCA
W-5	3/90	<500	<20	<20	<20	460	190	5600	<20	<20	<20
	6/90	<2000	<50	<50	<50	340	300	2100	<50	<50	<50
	9/90	<20	<20	<20	<20	170	220	670	<20	<20	<20
	12/90	<5	<5	13	<5	63	99	130	<5	480	<5
	8/91	<20	<20	40	90	440	80	1800	<20	3600	<20
	11/91	<20	<20	<20	20	670	90	2600	<20	4400	<20
	2/92	<20	<20	<20	<20	910	80	3500	<20	5500	<20
	5/92	<20	<20	<20	<20	740	120	3000	<20	2700	<20
	2/93	<30	<30	<30	<30	740	190	3600	<30	2500	<30
W-6	3/90	<20	<20	<20	<20	280	<20	1700	<20	<20	<20
	6/90	<5	<5	<5	<5	230	<5	940	<5	<5	<5
	9/90	<5	<5	<5	<5	280	<5	980	<5	7	<5
	12/90	<5	<0.5	<5	<5	210	<5	540	<5	6	<5
	8/91	<2	<2	<2	<2	220	<2	320	9	2	<2
	11/91	<2	<2	<2	<2	310	<5	430	5	<5	<5
	2/92	<2	<2	<2	<2	360	<2	430	7	<2	<2
	5/92	<2	<2	<2	<2	390	<2	520	9	<2	<2
	2/93	<5	<5	<5	<5	340	<5	520	5.1	<5	<5
W-7	3/90	<5	<5	<5	<5	240	<5	740	<5	72	<5
	6/90	<5	<5	<5	<5	210	<5	590	<5	81	<5
	9/90	<5	<5	<5	<5	270	<5	680	<5	65	<5
	12/90	<5	<5	<5	<5	170	<5	480	19	32	<5
	8/91	<2	<2	<2	<2	190	<2	390	6	39	<2
	11/91	<2	<2	<2	<2	220	<2	430	7	50	<2
	2/92	<2	<2	<2	<2	240	29	410	7	110	<2
	5/92	<2	<2	<2	<2	210	30	380	2	44	<2
	2/93	<5	<5	<5	<5	200	51	270	4.9	66	<5

Table 2. Summary of Groundwater Analytical Results, James River Corporation, Flexible Packaging Facility, San Leandro, California

Well Designation	Sample Date	Concentrations (µg/L)									
		Benzene	Ethyl-Benzene	Toluene	Xylenes	TCE	Vinyl Chloride	PCE	TCA	DCE	DCA
W-8	3/90	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
	6/90	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
	9/90	<1	<1	87	7	3	5	1	<1	31	<1
	12/90	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
	8/91	<2	<2	57	290	4	13	<2	<2	24	3
	11/91	<0.5	<0.5	<0.5	0.5	0.6	11	<0.5	<0.5	14	2.2
	2/92	<0.5	<0.5	<0.5	0.69	1.5	54	1.2	<0.5	72	5.1
	5/92	<0.5	<0.5	<0.5	0.6	3.0	62	<0.5	<0.5	51	3.9
	2/93	<1	<1	<1	<1	7.6	170	<1	<1	200	4.1
W-9	3/90	<1	<1	<1	<1	21	<1	13	<1	<1	<1
	6/90	<1	<1	<1	<1	28	<1	23	<1	<1	<1
	9/90	<1	<1	<1	<1	26	<1	20	5	<1	1
	12/90	<2	<2	4	<2	26	<2	19	8	<2	<2
	8/91	<0.5	<0.5	<0.5	<0.5	39	<0.5	22	18	0.8	1.2
	11/91	<0.5	<0.5	0.8	1.5	43	<0.5	23	19	1.1	1.1
	2/92	<0.5	<0.5	<0.5	<0.5	61	<0.5	27	30	3.0	3.1
	5/92	<0.5	<0.5	<0.5	<0.5	59	<0.5	19	22	1.3	2.5
	2/93	<0.5	<0.5	<0.5	<0.5	99	<0.5	22	16	1.8	3.3

Table 2. Summary of Groundwater Analytical Results, James River Corporation, Flexible Packaging Facility, San Leandro, California

Well Designation	Sample Date	Concentrations (µg/L)									
		Benzene	Ethyl-Benzene	Toluene	Xylenes	TCE	Vinyl Chloride	PCE	TCA	DCE	DCA
W-10	12/90	<5000	440	31000	<5000	<5000	<5000	<5000	<5000	<5000	<5000
	8/91	100	500	18000	2200	200	<100	500	<100	1600	<100
	11/91	<100	400	20000	1800	200	<100	400	<100	1600	<100
	2/92	<100	400	12000	1400	<100	<100	400	<100	1100	<100
	5/92	<50	220	8700	1100	<50	<50	210	<50	520	<50
	2/93	<300	<300	3400	<300	<300	<300	<300	<300	<300	<300
	B-1	3/90	<1	<1	<1	<1	<1	<1	2	<1	2
6/90		<1	<1	<1	<1	<1	<1	2	<1	1	<1
9/90		<1	<1	<1	<1	<1	<1	3	<1	2	<1
12/90		<1	<1	<1	<1	<1	<1	2	<1	1	<1
8/91		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.2	<0.5	<0.5	<0.5
11/91		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	<0.5
2/92		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.7	<0.5	<0.5	<0.5
5/92		<0.5	<0.5	<0.5	<0.5	1.6	<0.5	6.1	<0.5	<0.5	<0.5
2/93		<1	<1	<1	<1	<1	<1	3.4	<1	<1	<1

µg/L = micrograms per liter
 DCA = 1,1-Dichloroethane
 DCE = cis-1,2-Dichloroethene
 TCA = 1,1,1-Trichloroethane
 TCE = Trichloroethene
 PCE = Tetrachloroethene
 - = monitoring well not sampled

Notes for February 1993:

1,1-Dichloroethene was identified in the groundwater sample collected from Monitoring Wells W-8 and W-9 at concentrations of 1.2 µg/L and 11 µg/L, respectively.
 Chloroform was identified in the groundwater sample collected from Monitoring Well W-9 at a concentration of 0.6 µg/L.
 Diisopropyl ether was identified in the groundwater sample collected from Monitoring Well W-3 at a concentration of 20 µg/L.
 Acetone, methyl ethyl ketone, methyl isobutyl ketone, and isopropyl alcohol were identified in the groundwater sample collected from Monitoring Well W-10 at concentrations of 420,000 µg/L, 2300 µg/L, 18,000 µg/L, and 750 µg/L, respectively.

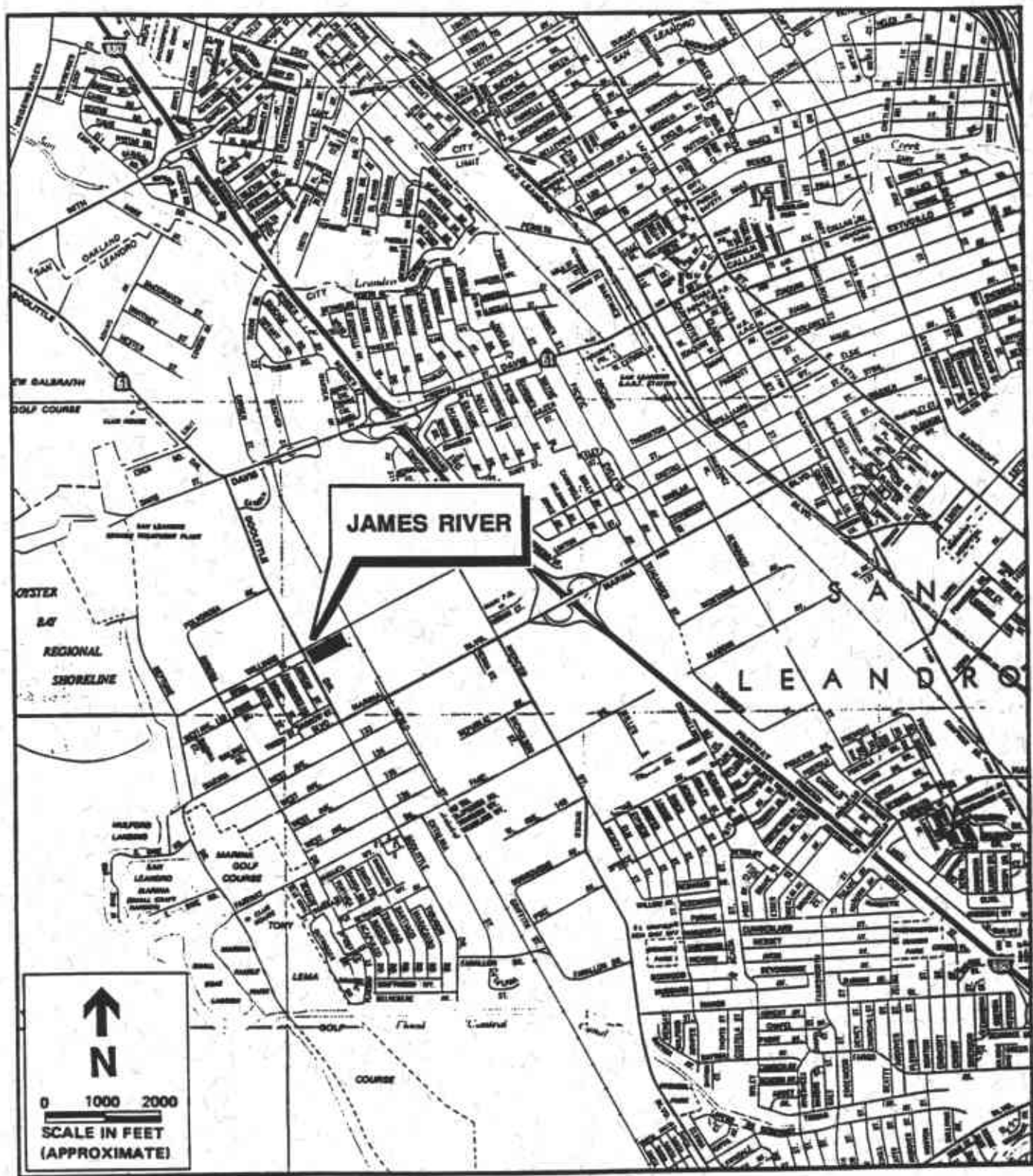


Figure 1 Facility Location Map

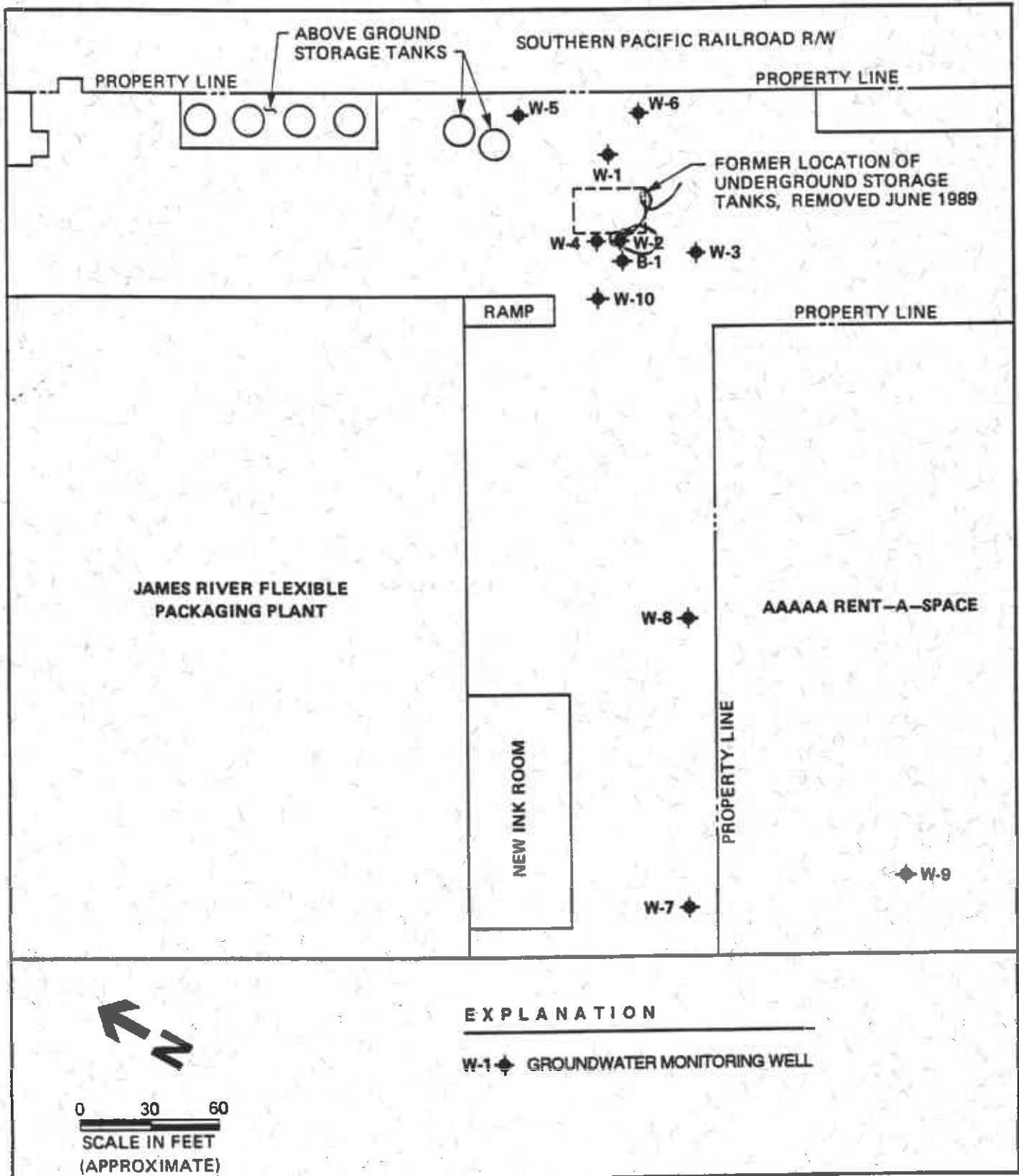


Figure 2 Site Map, James River Corporation, Flexible Packaging Division, San Leandro, California

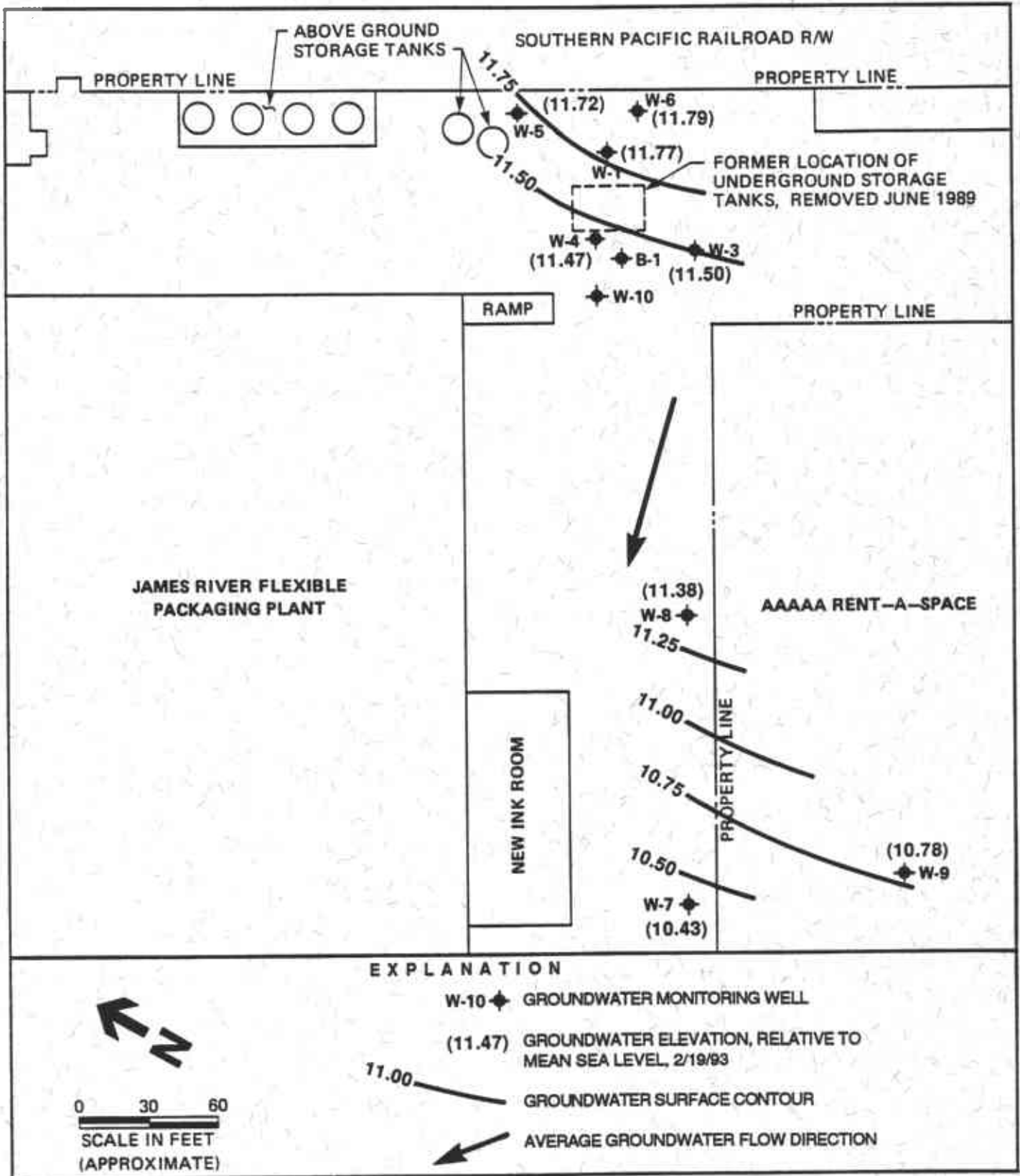


Figure 3 Groundwater Surface Elevation Contour Map, February 19, 1993, James River Corporation, Flexible Packaging Division, San Leandro, California

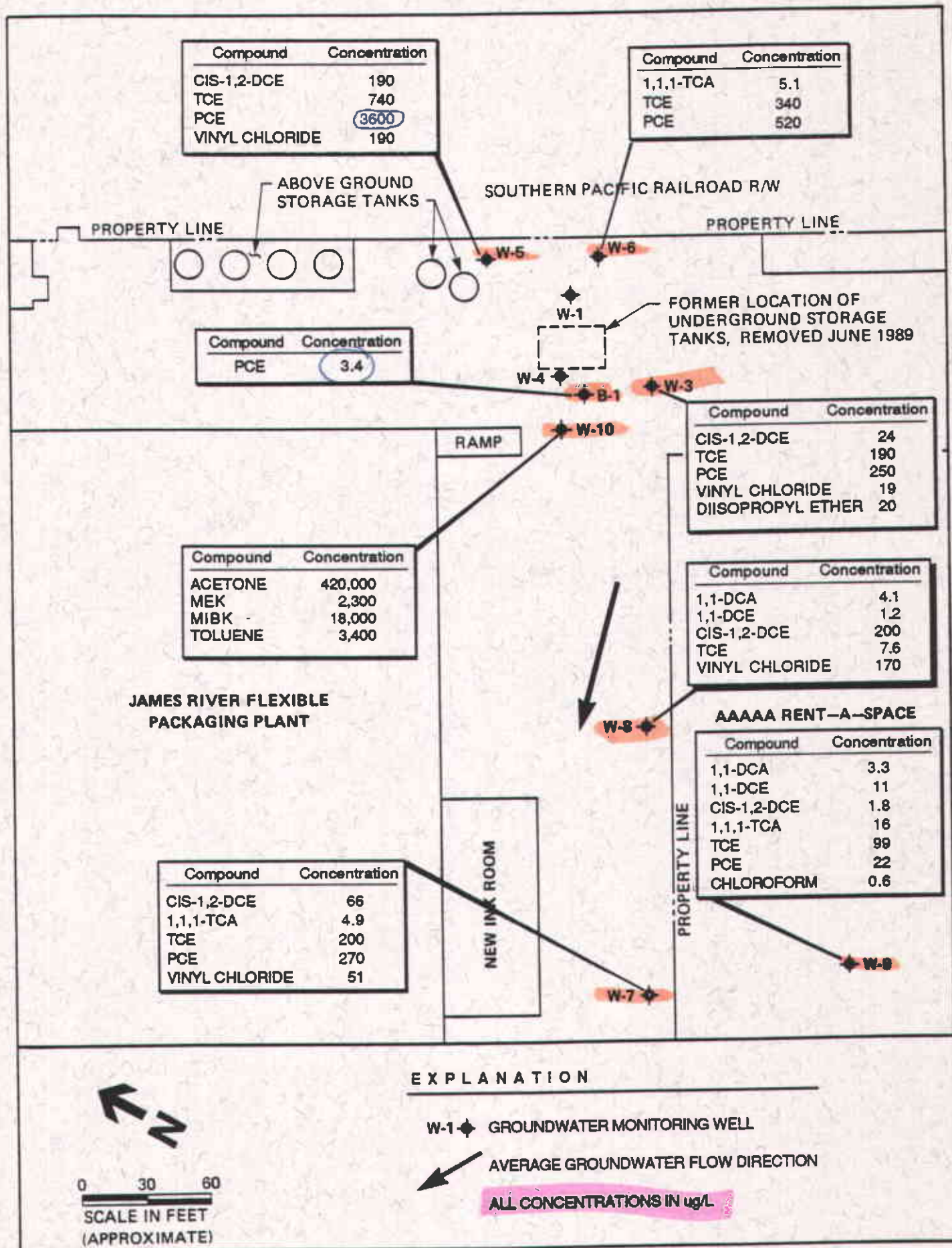


Figure 4. Groundwater Quality Analytical Results, February 19, 1993, James River Corporation, Flexible Packaging Division, San Leandro, California



ATTACHMENT A

**ALAMEDA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH
GROUNDWATER MONITORING PROGRAM LETTER**

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Assistant Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

December 14, 1992

Mr. Walter Gonzalez
James River Corporation
Flexible Packaging Group
2101 Williams Street
San Leandro, CA 94566-0552

Subject: Flexible Packaging Group
2101 Williams Street, San Leandro

Dear Mr. Gonzalez:

At our recent meeting to discuss your proposal for an amended ground water monitoring program at the subject site, several important issues were addressed. The subsurface investigation is based on ground water flow gradients calculated from a linear pattern of monitoring wells located east to west across the site. Data from these wells show a gradient moving across the property in a southwesterly direction. As we showed at the meeting, the gradient maps are drawn with only a small arc of definition. Most of the site gradient is extrapolated. Large data gaps exist in the reported gradient due to the relatively small number of sampling events, combined with the limitations of the sampling point locations. Additional well points outside of the current array will be needed to define the site specific gradient. Both the definition of the extent of contamination and interception of contaminate plumes will be enhanced by more sampling points and gradient definition.

In order to proceed with a technically sound investigation and at the same time reduce costs associated with sampling and analysis only the following monitoring wells will be sampled quarterly: W-5, W-6, W-3, B-1, W-7, W-8, W-9, W-10. It was agreed at the meeting that all monitoring wells would be used to gather ground water elevation data at the quarterly events. I suggest you consider gathering monthly elevation data. The water samples will continue to be run for halogenated volatile organics and aromatic volatile organics using EPA methods 8010 and 8020.

During the course of the meeting other issues related to the investigation were examined. The "Summary Report of Additional Site Investigation", dated July 11, 1991 prepared by Brown and Caldwell Consultants states on page 5-2, "monitoring well W-10, located downgradient of an area known to contain buried inks, contained cis-1,2-dichloroethene (cis-1,2-DCE), ethylbenzene, toluene, and xylenes at concentrations of 2,400, 440, 22,000, and 21,00 micrograms per liter, respectively." James River

James River Corporation
Flexible Packaging
December 14, 1992

Corporation will need to explain this finding in a future report. In the same Report, page 2-7, soil samples were found containing chlorinated VOCs at a depth of four feet in the ink room excavation. These samples are above ground water level and seem to confirm that chlorinated VOCs were used at the site. These two areas alone would constitute a potential source for the contaminants found in the ground water.

Further information is requested for the results from soil borings, rail spur soil samples, and samples taken from beneath the former underground storage tanks and tested using EPA method 8010. This information is necessary to attempt to locate the source of contamination.

The Department requires that responsible parties remit a deposit to cover costs associated with our oversight of site investigations and remediations, associated with underground storage tank sites. Such deposits are authorized by Section 3-141.6 of the Alameda County Ordinance Code, and placed into a site-specific account from which funds are drawn at the current rate of \$71 per hour as time is dedicated to the project. Funds remaining in the account upon completion of a project will be refunded. Conversely, should these funds be depleted before project completion, additional funds will be requested. Your deposit account established September 14, 1990 with the sum of \$558.00 is currently a negative balance of \$195.00.

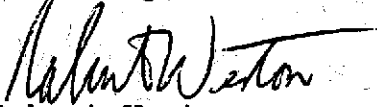
Please remit a deposit of \$491.00 so that the Department may continue oversight tasks associated with the investigation occurring at the Flexible Packaging site.

This Department is aware of the large amount of solvents and other hazardous wastes generated at the site. As I mentioned at our meeting we are ready to assist you with waste minimization training, audits and other technical resources to reduce costs associated with disposal and hazardous waste generation. These waste minimization consulting activities are offered at no cost to you.

I look forward to our continuing working relationship with a spirit of cooperation and communication. If you have questions concerning the site investigation or the deposit account please contact me at 271-4320.

James River Corporation
Flexible Packaging
December 14, 1992

Sincerely,



Robert Weston
Hazardous Materials Specialist

cc: Ed Howell, Chief-files
Scott Seery, Senior Hazardous Materials Specialist
Todd Miller, Brown & Caldwell
Mary Ortendahl, Alameda County Economic Development Office
John Jang, RWCQB

ATTACHMENT B

GROUNDWATER SAMPLE COLLECTION RECORDS

CHAIN-OF-CUSTORY FORM

ANALYTICAL LABORATORY DATA SHEETS

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: Jones River Job No.: 7175-03 Date: 2/19/93
 Location: San Leandro CA
 Samplers Name: John Nielsen
 Weather Conditions: Overcast, scattered showers

1. WATER LEVEL DATA: (from TOC)

TOC Elevation (from LS) _____

- a. Depth to water (ft) = 9.30'
- b. Total Well Depth = 37.10'
- c. Length of Water Column = 27.80' (b. - a.)
- d. Casing Volume = 18.07_g (c. x [gal/ft casing])
- e. Length of filter pack = 10'
- f. Filter pack volume = 8.54_g (e. x [gal/ft filter pack])
- g. TOTAL WELL VOLUME = 26.61_g (d. + f.)

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4" x 8"

2-in. casing	= 0.16 gal/ft
4-in. casing	= 0.65 gal/ft
10-in. hole filter pack	= 1.21 gal/ft
12-in. hole filter pack	= 1.8 gal/ft
6-in. casing	= 1.47 gal/ft

8" F₁ = 8.54 gal/ft

2. WELL PURGING DATA:

- a. Purge Method Trash Pump w/ dedicated water
- b. Required Purge Volume (@ 26.61 gallons per well volume) = 79.83 Gallons
- c. Field Testing; Equipment Used Beckman = pH & Temp / Amuse Sensors = Cond / Hach = Turb.

Volume Removed	Time	T	pH	Spec. Conductivity	Turbidity	Color/Description	SWL
18	1135	18.8°	6.69	800		Clear / No odor	-
37	1140	18.9°	6.68	760		Same	-
55	1148	19.2°	6.64	740		Same	-
80	1157	19.1°	6.66	740	19 mu	Same	-
Samples Taken @ 1205. Casing = W-3							

3. SAMPLE COLLECTION: Method Water Container VOXY Preservation BP40 = HCl
 Analysis 8240 / 8015

COMMENTS, REMARKS



GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: James River Job No.: 7175-03 Date: 8/19/93
 Location: San Leandro CA
 Samplers Name: John Nielsen
 Weather Conditions: Overcast, Cool, light Rain

1. WATER LEVEL DATA: (from TOC)

TOC Elevation (from LS) _____

- a. Depth to water (ft) = 9.92'
- b. Total Well Depth = 33.75'
- c. Length of Water Column = 23.83' (b. - a.)
- d. Casing Volume = 3.81g (c. x [gal/ft casing])
- e. Length of filter pack = 10'
- f. Filter pack volume = 8.54g (e. x [gal/ft filter pack])
- g. TOTAL WELL VOLUME = 12.35g (d. + f.)

Water Table Elev. _____
 Tape Corr. (TC) _____
 Well Dia. 8" x 8"

2-in. casing	= 0.16 gal/ft
4-in. casing	= 0.65 gal/ft
10-in. hole filter pack	= 1.21 gal/ft
12-in. hole filter pack	= 1.8 gal/ft
6-in. casing	= 1.47 gal/ft

2. WELL PURGING DATA:

- a. Purge Method Trash Pump w/ dedicated water
- b. Required Purge Volume (@ 12.35 gallons per well volume) = 37.05 Gallons
- c. Field Testing; Equipment Used Beckman = pH & Temp / Amber Seismic = Cond / Hach = Turb.

8" FP = 8.54 gal/ft

Volume Removed	Time	T	pH	Spec. Conductivity	Turbidity	Color/Description	SWL
9	0950	18.50	6.44	640		Clear / No Odor	-
16	0957	18.40	6.90	580		Some	-
23	1003	18.10	6.90	580		Some	-
37	1010	18.30	6.90	580	16mu	Some	-
Samples Taken @ 1015 - Label = W-5							

3. SAMPLE COLLECTION: Method Water Container 4-40ml VOA's Preservation HCL = 8080
 Analysis 8010/8080

COMMENTS, REMARKS

Water table is approx 8' too short - need thin steel
 bar to pull it to top of well

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: James River Job No.: 7175-03 Date: 8/19/93
 Location: San Leandro CA
 Samplers Name: John A. Nielsen
 Weather Conditions: Overcast, Cool, Scattered Showers

1. WATER LEVEL DATA: (from TOC)

TOC Elevation (from LS) _____

- a. Depth to water (ft) = 9.26'
- b. Total Well Depth = 36.55'
- c. Length of Water Column = 27.29 (b. - a.)
- d. Casing Volume = 4.365 (c. x [gal/ft casing])
- e. Length of filter pack = 10'
- f. Filter pack volume = 8.545 (e. x [gal/ft filter pack])
- g. TOTAL WELL VOLUME = 12.91 (d. + f.)

Water Table Elev. _____
 Tape Corr. (TC) _____
 Well Dia. 8" x 8"

2-in. casing	= 0.16 gal/ft
4-in. casing	= 0.65 gal/ft
10-in. hole filter pack	= 1.21 gal/ft
12-in. hole filter pack	= 1.8 gal/ft
6-in. casing	= 1.47 gal/ft

2. WELL PURGING DATA:

- a. Purge Method Flush Pump w/ dechlorinated water
- b. Required Purge Volume (@ _____ gallons per well volume) = 38.71 Gallons
- c. Field Testing; Equipment Used Beckman - pH & Temp / Amber Science - Conduct / Hach - Turb

8" FP = 8.54 gal/ft.

Volume Removed	Time	T	pH	Spec. Conductivity	Turbidity	Color/Description	SWL
8	1038	18.30	7.17	580		Grey Mucky	-
17	1046	18.70	6.99	540		Clear / No Odor	-
29	1054	18.40	6.94	540		Some	-
39	1101	19.30	6.95	540	15mu	Some	-
Samples taken @ 115 - Level W-5							

3. SAMPLE COLLECTION: Method Water Container VOAX 4 Preservation 8020 = HCl
 Analysis 8010 / 8020

COMMENTS, REMARKS

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: James River Packaging Job No.: 7175-03 Date: 2/19/93
 Location: San Leandro, CA
 Samplers Name: J. Laplante
 Weather Conditions: Overcast

1. WATER LEVEL DATA: (from TOC)

TOC Elevation (from LS) _____

- a. Depth to water (ft) = 9.98
- b. Total Well Depth = 36.34
- c. Length of Water Column = 26.36 (b. - a.)
- d. Casing Volume = 17.13 (c. x [gal/ft casing])
- e. Length of filter pack = 10
- f. Filter pack volume = 6.80 (e. x [gal/ft filter pack])
- g. TOTAL WELL VOLUME = 23.93 (d. + f.)

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 6" x 8"

2-in. casing	= 0.16 gal/ft
4-in. casing	= 0.65 gal/ft
10-in. hole filter pack	= 1.21 gal/ft
12-in. hole filter pack	= 1.8 gal/ft
6-in. casing	= 1.47 gal/ft

2. WELL PURGING DATA:

- a. Purge Method Trash Pump w/ Wettern
- b. Required Purge Volume (@ 239 gallons per well volume) = 71.7 gallons
- c. Field Testing; Equipment Used VSI 3500 pH, Temp & SC Hydro-Turbidimeter

Volume Removed	Time	T	pH	Spec. Conductivity	Turbidity	Color/Description	SWL
<u>15</u>	<u>12:45</u>						
<u>15</u>	<u>12:51</u>	<u>18.5</u>	<u>7.06</u>	<u>790</u>	<u>6.9</u>	<u>Clear</u>	<u>10.30'</u>
<u>35</u>	<u>12:53</u>	<u>18.4</u>	<u>7.16</u>	<u>785</u>	<u>3.7</u>	<u>Clear</u>	<u>10.20'</u>
<u>55</u>	<u>13:10</u>	<u>18.3</u>	<u>7.19</u>	<u>775</u>	<u>9.0</u>	<u>Clear</u>	<u>10.20'</u>
<u>75</u>	<u>13:20</u>	<u>18.4</u>	<u>7.24</u>	<u>780</u>	<u>3.3</u>	<u>Clear</u>	<u>10.30'</u>
<u>Sample</u>	<u>13:30</u>						

3. SAMPLE COLLECTION: Method Wettern Container 4 USA Preservation 800 no pres 800 H₂O
 Analysis 8010/9020

COMMENTS, REMARKS

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: James River Packaging Job No.: 7175-03 Date: 2/19/93
 Location: San Leandro, CA
 Samplers Name: J. Llaneta
 Weather Conditions: Overcast

TOC Elevation (from LS) _____

1. WATER LEVEL DATA: (from TOC)

- a. Depth to water (ft) = 9.12'
- b. Total Well Depth = 34.68'
- c. Length of Water Column = 25.56' (b. - a.)
- d. Casing Volume = 16.61 (c. x [gal/ft casing])
- e. Length of filter pack = 10'
- f. Filter pack volume = 680 (e. x [gal/ft filter pack])
- g. TOTAL WELL VOLUME = 23.4 (d. + f.)

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4" x 8"

2-in. casing	= 0.16 gal/ft
4-in. casing	= 0.65 gal/ft
10-in. hole filter pack	= 1.21 gal/ft
12-in. hole filter pack	= 1.8 gal/ft
6-in. casing	= 1.47 gal/ft

2. WELL PURGING DATA:

- a. Purge Method Trash Pump w/ Waterline Tubing
- b. Required Purge Volume (@ 23.4 gallons per well volume) = 70.2 gallons
- c. Field Testing; Equipment Used YSI 3500 pH, Temp + SC Hack - Turbid. meter

Volume Removed	Time	T	pH	Spec. Conductivity	Turbidity	Color/Description	SWL
<u>∅ Pump On</u>	<u>11:35</u>						
<u>10</u>	<u>11:45</u>	<u>18.7</u>	<u>6.95</u>	<u>680</u>	<u>27</u>	<u>Cloudy</u>	<u>9.30'</u>
<u>25</u>	<u>11:50</u>	<u>18.3</u>	<u>7.01</u>	<u>665</u>	<u>11</u>	<u>Clearing</u>	<u>9.60'</u>
<u>50</u>	<u>12:07</u>	<u>18.2</u>	<u>7.00</u>	<u>655</u>	<u>10</u>	<u>Clearing</u>	<u>9.60'</u>
<u>75</u>	<u>12:20</u>	<u>18.3</u>	<u>6.97</u>	<u>655</u>	<u>9.5</u>	<u>Clear</u>	<u>9.40'</u>
<u>Sample @</u>	<u>12:30</u>						

3. SAMPLE COLLECTION: Method ~~SWD~~ / Waters Container 4 WPA's Preservation 8010 no pres. 8020 HCL
 Analysis 8010/8020

COMMENTS, REMARKS

GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: James River Job No.: 7175-03 Date: 8/19/93
 Location: San Leandro CA
 Samplers Name: John Nikan
 Weather Conditions: Overcast, scattered showers

1. WATER LEVEL DATA: (from TOC)

TOC Elevation (from LS) _____

- a. Depth to water (ft) = 9.38'
- b. Total Well Depth = 31.39'
- c. Length of Water Column = 22.01' (b. - a.)
- d. Casing Volume = 14.30g (c. x [gal/ft casing])
- e. Length of filter pack = 10'
- f. Filter pack volume = 8.54 (c. x [gal/ft filter pack])
- g. TOTAL WELL VOLUME = 22.84g (d. + f.)

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 8" x 8"

2-in. casing	= 0.16 gal/ft
4-in. casing	= 0.65 gal/ft
10-in. hole filter pack	= 1.21 gal/ft
12-in. hole filter pack	= 1.8 gal/ft
6-in. casing	= 1.47 gal/ft

2. WELL PURGING DATA:

- a. Purge Method Trash Pump / dedicated water
- b. Required Purge Volume (@ 22.84 gallons per well volume) = 68.52 Gallons
- c. Field Testing; Equipment Used Beckman - pH & Temp / Aalar Sensors - Conduct / Hach - Turb

8" FT³ .854 gal/ft.

Volume Removed	Time	T	pH	Spec. Conductivity	Turbidity	Color/Description	SWL
1B	1239	19.40	7.24	700		Clear / No color	-
4R	1246	19.10	7.07	700		Same	-
5S	1249	17.50	7.16	700		Same	-
7S	1255	18.50	7.09	700	3.5 ntu	Same	-
Samples Taken @ 1300 - Label = W-9							

3. SAMPLE COLLECTION: Method water Container WAXY Preservation 8020 = HCl
 Analysis 3010/8020

COMMENTS, REMARKS

* Well located @ AAAA Post-A-space between bldg. H & bldg. G.



GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: James River Packaging Job No.: 7175-03 Date: 2/19/93
 Location: San Leandro, CA
 Samplers Name: J. LaPlante
 Weather Conditions: Overcast

1. WATER LEVEL DATA: (from TOC) TOC Elevation (from LS) _____
 a. Depth to water (ft) = 9.60' Water Table Elev. _____
 b. Total Well Depth = 16.89' Tape Corr. (TC) _____
 c. Length of Water Column = 7.28' (b. - a.) Well Dia. 4" x 3"
 d. Casing Volume = 4.73 (c. x [gal/ft casing])
 e. Length of filter pack = 5'
 f. Filter pack volume = 3.40 (e. x [gal/ft filter pack])
 g. TOTAL WELL VOLUME = 8.13 (d. + f.)

2-in. casing	= 0.16 gal/ft
4-in. casing	= 0.65 gal/ft
10-in. hole filter pack	= 1.21 gal/ft
12-in. hole filter pack	= 1.8 gal/ft
6-in. casing	= 1.47 gal/ft

2. WELL PURGING DATA:
 a. Purge Method Trash Pump w/ Water
 b. Required Purge Volume (@ 8.13 gallons per well volume) = 24.4 gallons
 c. Field Testing; Equipment Used YSI 3500 pH, Temp + SC Hach Turbidimeter

Volume Removed	Time	T	pH	Spec. Conductivity	Turbidity	Color/Description	SWL
<u>4 Pump On</u>	<u>10:32</u>						
<u>4</u>	<u>10:35</u>	<u>18.8</u>	<u>7.03</u>	<u>1360</u>	<u>13</u>	<u>Cloudy</u>	<u>12.5'</u>
<u>12</u>	<u>10:39</u>	<u>19.0</u>	<u>6.80</u>	<u>1650</u>	<u>27</u>	<u>Cloudy</u>	<u>13.3'</u>
<u>18</u>	<u>10:45</u>	<u>18.6</u>	<u>6.60</u>	<u>1970</u>	<u>19</u>	<u>Cloudy</u>	<u>12.9'</u>
<u>25</u>	<u>10:50</u>	<u>18.9</u>	<u>6.50</u>	<u>2050</u>	<u>13</u>	<u>Cloudy</u>	<u>12.6'</u>
<u>Sample</u>	<u>11:00</u>						

3. SAMPLE COLLECTION: Method ~~8240~~ Wtens Container 4 UBA's Preservation 8240 HCL
 Analysis 8240/2015 8215 w/pes

COMMENTS, REMARKS



GROUNDWATER SAMPLE COLLECTION RECORD

Project Name: James former Packaging Job No.: 7175-03 Date: 2/19/93
 Location: San Leandro, CA
 Samplers Name: J. LaPlante
 Weather Conditions: Overcast

1. WATER LEVEL DATA: (from TOC)

- a. Depth to water (ft) = 9.04'
- b. Total Well Depth = 48.23'
- c. Length of Water Column = 39.19' (b. - a.)
- d. Casing Volume = 25.47 (c. x [gal/ft casing])
- e. Length of filter pack = 10'
- f. Filter pack volume = 6.80 (e. x [gal/ft filter pack])
- g. TOTAL WELL VOLUME = 32.3 (d. + f.)

TOC Elevation (from LS) _____

Water Table Elev. _____

Tape Corr. (TC) _____

Well Dia. 4" x 8"

2-in. casing	= 0.16 gal/ft
4-in. casing	= 0.65 gal/ft
10-in. hole filter pack	= 1.21 gal/ft
12-in. hole filter pack	= 1.8 gal/ft
6-in. casing	= 1.47 gal/ft

2. WELL PURGING DATA:

- a. Purge Method Trash Pump w/ Wetona Tubing
- b. Required Purge Volume (@ 323 gallons per well volume) = 96.9 gallons
- c. Field Testing; Equipment Used YSI 3500 pH, Temp + SC Heck - Turb. d. meter

Volume Removed	Time	T	pH	Spec. Conductivity	Turbidity	Color/Description	SWL
<u>6 Pump On</u>	<u>09:28</u>						
<u>12</u>	<u>09:36</u>	<u>18.9</u>	<u>7.01</u>	<u>850</u>	<u>5.2</u>	<u>Clear</u>	<u>9.28'</u>
<u>30</u>	<u>09:45</u>	<u>18.2</u>	<u>7.14</u>	<u>730</u>	<u>3.8</u>	<u>Clear</u>	<u>9.30'</u>
<u>60</u>	<u>09:53</u>	<u>18.6</u>	<u>7.20</u>	<u>770</u>	<u>3.0</u>	<u>Clear</u>	<u>9.30'</u>
<u>80</u>	<u>09:59</u>	<u>18.3</u>	<u>7.24</u>	<u>780</u>	<u>2.8</u>	<u>Clear</u>	<u>9.35'</u>
<u>100</u>	<u>10:06</u>	<u>18.6</u>	<u>7.28</u>	<u>770</u>	<u>2.7</u>	<u>Clear</u>	<u>9.35'</u>
<u>Sample</u>	<u>10:10</u>						

3. SAMPLE COLLECTION: Method Wetona Container (4) VOA's Preservation 8240 w/ pres HCL
BLS HCL NO pres
 Analysis 8240 / 18015

COMMENTS, REMARKS

Analytical Report

ANALYTICAL REPORT

LOG NO: E93-02-447

Received: 19 FEB 93

Mailed: MAR - 5 1993

Mr. Todd Miller
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 7175-03

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
02-447-1	B-1	19 FEB 93
02-447-2	W-3	19 FEB 93
02-447-3	W-10	19 FEB 93

PARAMETER	02-447-1	02-447-2	02-447-3
Volatile Organics (EPA 8240)			
Date Analyzed	02/24/93	02/24/93	02/25/93
Dilution Factor, Times	1	1	250
1,1,1-Trichloroethane, ug/L	<1	<1	<300
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<300
1,1,2-Trichloroethane, ug/L	<1	<1	<300
1,1-Dichloroethane, ug/L	<1	<1	<300
1,1-Dichloroethene, ug/L	<1	<1	<300
1,2-Dichloroethane, ug/L	<1	<1	<300
1,2-Dichlorobenzene, ug/L	<1	<1	<300
1,2-Dichloropropane, ug/L	<1	<1	<300
1,3-Dichlorobenzene, ug/L	<1	<1	<300
1,4-Dichlorobenzene, ug/L	<1	<1	<300
2-Chloroethylvinylether, ug/L	<1	<1	<300
Acetone, ug/L	<10	<10	420000
Acrolein, ug/L	<50	<50	<20000
Acrylonitrile, ug/L	<50	<50	<20000
Bromodichloromethane, ug/L	<1	<1	<300
Bromomethane, ug/L	<1	<1	<300
Benzene, ug/L	<1	<1	<300
Bromoform, ug/L	<1	<1	<300
Chlorobenzene, ug/L	<1	<1	<300
Carbon Tetrachloride, ug/L	<1	<1	<300
Chloroethane, ug/L	<1	<1	<300
Chloroform, ug/L	<1	<1	<300
Chloromethane, ug/L	<1	<1	<300

Analytical Report

LOG NO: E93-02-447

Received: 19 FEB 93

Mr. Todd Miller
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 7175-03

REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
02-447-1	B-1	19 FEB 93
02-447-2	W-3	19 FEB 93
02-447-3	W-10	19 FEB 93

PARAMETER	02-447-1	02-447-2	02-447-3
Dibromochloromethane, ug/L	<1	<1	<300
Ethylbenzene, ug/L	<1	<1	<300
Methyl ethyl ketone, ug/L	<5	<5	2300
Methyl isobutyl ketone, ug/L	<5	<5	18000
Methylene chloride, ug/L	<1	<1	<300
Trichloroethene, ug/L	<1	190	<300
Trichlorofluoromethane, ug/L	<1	<1	<300
Toluene, ug/L	<1	<1	3400
Tetrachloroethene, ug/L	3.4	250	<300
Vinyl chloride, ug/L	<1	19	<300
Total Xylene Isomers, ug/L	<1	<1	<300
cis-1,2-Dichloroethene, ug/L	<1	24	<300
cis-1,3-Dichloropropene, ug/L	<1	<1	<300
trans-1,2-Dichloroethene, ug/L	<1	<1	<300
trans-1,3-Dichloropropene, ug/L	<1	<1	<300
Other Volatile Organics (EPA 8240)	---	---	---
Semi-Quantified Results **			
Diisopropyl Ether, ug/L	---	20	---
+ISPRPYLLCHL, ug/L	---	---	4000

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

Analytical Report

ANALYTICAL REPORT

LOG NO: E93-02-454

Received: 19 FEB 93

Mailed: MAR - 5 1993


Mr. Todd Miller
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 7175.03

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
02-454-1	B-1	19 FEB 93		
02-454-2	W-3	19 FEB 93		
02-454-3	W-10	19 FEB 93		
PARAMETER		02-454-1	02-454-2	02-454-3
Alcohols				
N-Butanol, mg/L		<5	<5	<50
Ethanol, mg/L		<5	<5	<50
Isopropyl Alcohol, mg/L		<5	<5	750
Methanol, mg/L		<5	<5	<50
Propanol, mg/L		<5	<5	<50
Acetates by EPA 8240				
Date Analyzed		02/24/93	02/24/93	02/25/93
Dilution Factor, Times		1	1	250
Butyl acetate, ug/L		<20	<20	<5000
Ethyl acetate, ug/L		<20	<20	<5000
Isopropyl acetate, ug/L		<20	<20	<5000
N-Propyl acetate, ug/L		<20	<20	<5000


Edward Wilson, Laboratory Director

Analytical Report

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
02-447-4	W-5	19 FEB 93				
02-447-5	W-6	19 FEB 93				
02-447-6	W-7	19 FEB 93				
02-447-7	W-8	19 FEB 93				
02-447-8	W-9	19 FEB 93				
PARAMETER	02-447-4	02-447-5	02-447-6	02-447-7	02-447-8	
EPA Method 8010						
Date Analyzed	02.25.93	02.25.93	02.25.93	02.25.93	02.25.93	
Confirmation Date	02.25.93	02.25.93	02.25.93	02.25.93	02.25.93	
Dilution Factor, Times	50	10	5	2	1	
1,1,1-Trichloroethane, ug/L	<30	5.1	4.9	<1	16	
1,1,2,2-Tetrachloroethane, ug/L	<30	<5	<3	<1	<0.5	
1,1,2-Trichloroethane, ug/L	<30	<5	<3	<1	<0.5	
1,1-Dichloroethane, ug/L	<30	<5	<3	4.1	3.3	
1,1-Dichloroethene, ug/L	<30	<5	<3	1.2	11	
1,2-Dichloroethane, ug/L	<30	<5	<3	<1	<0.5	
1,2-Dichlorobenzene, ug/L	<30	<5	<3	<1	<0.5	
1,2-Dichloroethene (Total), ug/L	2500	<5	66	200	1.8	
1,2-Dichloropropane, ug/L	<30	<5	<3	<1	<0.5	
1,3-Dichlorobenzene, ug/L	<30	<5	<3	<1	<0.5	
1,4-Dichlorobenzene, ug/L	<30	<5	<3	<1	<0.5	
2-Chloroethylvinylether, ug/L	<30	<5	<3	<1	<0.5	
Bromodichloromethane, ug/L	<30	<5	<3	<1	<0.5	
Bromomethane, ug/L	<30	<5	<3	<1	<0.5	
Bromoform, ug/L	<30	<5	<3	<1	<0.5	
Chlorobenzene, ug/L	<30	<5	<3	<1	<0.5	
Carbon Tetrachloride, ug/L	<30	<5	<3	<1	<0.5	
Chloroethane, ug/L	<30	<5	<3	<1	<0.5	
Chloroform, ug/L	<30	<5	<3	<1	0.60	

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
02-447-4	W-5	19 FEB 93				
02-447-5	W-6	19 FEB 93				
02-447-6	W-7	19 FEB 93				
02-447-7	W-8	19 FEB 93				
02-447-8	W-9	19 FEB 93				
		WS	W6	W7	W8	W9
PARAMETER	02-447-4	02-447-5	02-447-6	02-447-7	02-447-8	
Chloromethane, ug/L	<30	<5	<3	<1	<0.5	
Dibromochloromethane, ug/L	<30	<5	<3	<1	<0.5	
Dichlorodifluoromethane, ug/L	<30	<5	<3	<1	<0.5	
Freon 113, ug/L	<50	<10	<5	<2	<1	
Methylene chloride, ug/L	<30	<5	<3	<1	<0.5	
Trichloroethene, ug/L	740	340	200	7.6	99	
Trichlorofluoromethane, ug/L	<30	<5	<3	<1	<0.5	
Tetrachloroethene, ug/L	3600	520	270	<1	22	
Vinyl chloride, ug/L	190	<5	51	170	<0.5	
cis-1,2-Dichloroethene, ug/L	2500	<5	66	200	1.8	
cis-1,3-Dichloropropene, ug/L	<30	<5	<3	<1	<0.5	
trans-1,2-Dichloroethene, ug/L	<30	<5	<3	<1	<0.5	
trans-1,3-Dichloropropene, ug/L	<30	<5	<3	<1	<0.5	

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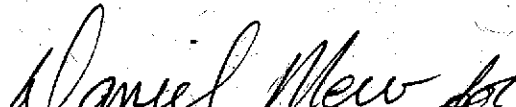
Project: 7175-03

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
02-447-4	W-5	19 FEB 93
02-447-5	W-6	19 FEB 93
02-447-6	W-7	19 FEB 93
02-447-7	W-8	19 FEB 93
02-447-8	W-9	19 FEB 93

PARAMETER	02-447-4	02-447-5	02-447-6	02-447-7	02-447-8
EPA Method 8020					
Date Analyzed	02.25.93	02.25.93	02.25.93	02.25.93	02.25.93
Confirmation Date	02.25.93	---	02.25.93	02.25.93	---
Dilution Factor, Times	50	10	5	2	1
1,2-Dichlorobenzene, ug/L	<30	<5	<3	<1	<0.5
1,3-Dichlorobenzene, ug/L	<30	<5	<3	<1	<0.5
1,4-Dichlorobenzene, ug/L	<30	<5	<3	<1	<0.5
Benzene, ug/L	<30	<5	<3	<1	<0.5
Chlorobenzene, ug/L	<30	<5	<3	<1	<0.5
Ethylbenzene, ug/L	<30	<5	<3	<1	<0.5
Toluene, ug/L	<30	<5	<3	<1	<0.5
Total Xylene Isomers, ug/L	<30	<5	<3	<1	<0.5


Edward Wilson, Laboratory Director