FERRIARY 1995
QUARTERLY GROUNDWATER
MONITORING REPORT
JAMES RIVER CORPORATION
FLEXIBLE PACKAGING DEVISION
SAN LEANDRO, GAZINGING

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. Wheller

Thomas K. Wheeler Chief Geologist Registered Geologist No. 3925



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 San Leandro, California



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 (µg/L) to 740 µg/L of TCE, 3.4 µg/L to 3,600 µg/L of PCE, and 1.8 µg/L to 2,500 µg/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 μ g/L to 190 μ g/L, and for the first time in the groundwater sample collected from Monitoring Well W-7 at a concentration of 51 μ 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 μ g/L, and for the first time in the groundwater sample collected from Monitoring Well W-3 at a concentration of 1.2 μ g/L. Chloroform, a common laboratory contaminant, was identified in the sample collected from Monitoring Well W-9 at a concentration of 0.6 μ g/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 μ g/L to <1 μ g/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

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Todd Miller Project Manager

TM:lp

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

	14								
	Top-of- Casing	Depth to Water		G	roundwater	Surface Ele	vations (M:	SL)	
Well Designation	Elevation (MSL)	2-19-93 (Feet)	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	<u>-</u>		•
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

			3			Concentrat	ions (µg/L)			,	· · ·
Well Designation	Sample Date	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
1	11/91	5.3	0.5	1.4	3.6	4.9	4.9	3.2	<0.5	13,	<0.5
	2/92	4		<2	<2	140	39	330	5	330	<2
7	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	্ ব	ح	ব	130	24	29	় ব	- చ	ර
	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	/ 42	290	20	340	6	76	<2
•	5/92	<2 │	2	2	42.	210	12	250	4	28	< 2
	2/93	≪1	<1	<1	<1	190	19	250	<1	24	<1
W-4	3/90	₹00	<500	1200	<500	<500	<500	<500	<500	<500	<500
	6/90	<200	<200	400	.≤200	<200	. <200	390	<200	350	<200
41. A	9/90	<0.5	13	450	99	14	41	40	<1	120	<1
•	12/90	්	<500	840	<500	<500	<500	<500	<500	<500	<500
1 Sec. 1	8/91	10	12	430	100	15	 	∷ 30		52	
	11/91	- 6	8	120	^{-/-} 55	7	8	9	<1	25	<1
	2/92	1	2	411	13	140	21	180] 3 ,	200	
,	5/92	.42	< 2	2	4	150	32	300	3	140	4
	2/93	-		- 2		•	-	-	· 🔩 💮 💂	•	

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

	Par 5	100		1/20		Concentrati	ions (µg/L)	F	The Real	1	
Well Designation	Sample Date	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	4
	6/90	<2000	<50	<50	<50	340	300	2100	<50	<50	<
	9/90	<20	<20	<20	<20	170	220	670	<20	<20	<
	12/90	ব	ধ	13	<5	63	99	130	্ ব	480	
	8/91	<20	<20	40	90	440	80	1800	<20	3600	<
	11/91	<20	<20	<20	20	670	90	2600	<20	4400	<
	2/92	<20	<20	<20	<20	910	80	3500	<20	5500	<
	5/92	<20	<20	<20	<20	740	120	3000	<20	2700	<
	2/93	<30	<30	<30	<30	740	190	3600	<30	2500	<
W-6	3/90	<20	<20	<20	<20	280	<20	1700	<20	<20	<
1000	6/90	ব	<5	< 5	ব	230	ব	940	ব	< 5	
	9/90	45	ব	<5	ব	280	্ ব	980	ব	7	
	12/90	ব	<0.5	ব	ব	210	ব	540	ব	6	
	8/91	2	4	2	2	220	2	320	9	2	
	11/91	2	2	2	2	310	ব	430	5	<5	100
	2/92	2	4	2	2	360	2	430	7	2	
100	5/92	2	42	4	- 2	390	4	520	9	2	-3)
	2/93	ර	ব	ব	ර	340	- ব	520	5.1	ব	20.34
W-7	3/90	ব	ර	ರ	ර	240	d	740	ব	72	
	6/90	ব	<	ব	ব ব	210	ব	590	ব	81	
	9/90	ব	<5	ර	ব	270	ব	680	ব	65	
	12/90	ব	ব	ব	<5	170	ব	480	19	32	
	8/91	2	2	4	<2	190	2	390	6	39	
	11/91	2	2	<2	2	220	2	430	7	50	
2 2/19 - 3	2/92	<2	2	2	2	240	29	410	7	110	
	5/92	2	2	2	2	210	30	380	2	44	
	2/93	3	<3	3	<3	200	51	270	4.9	66	



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

	1000		1050		19476	Concentrati	ons (µg/L)				
Well Designation	Sample Date	Benzene	Ethyl- Benzene	Toluene	Xylenes	ТСЕ	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	4	4	2	26	2	19	8	<2	4
	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	I.8	3.3



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

				3/1		Concentrati	ions (µg/L)				200
Well - Designation	Sample Date	Benzene	Ethyl- Benzene	Toluene	Xylenes	TCE	Vinyl Chloride,	PCE	TCA	DCE	DCA
W-10	12/90	<5000	440	31000	<5000	<5000	<5000	<5090	<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
2 165	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	< 1
	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

Dissopropyl 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.

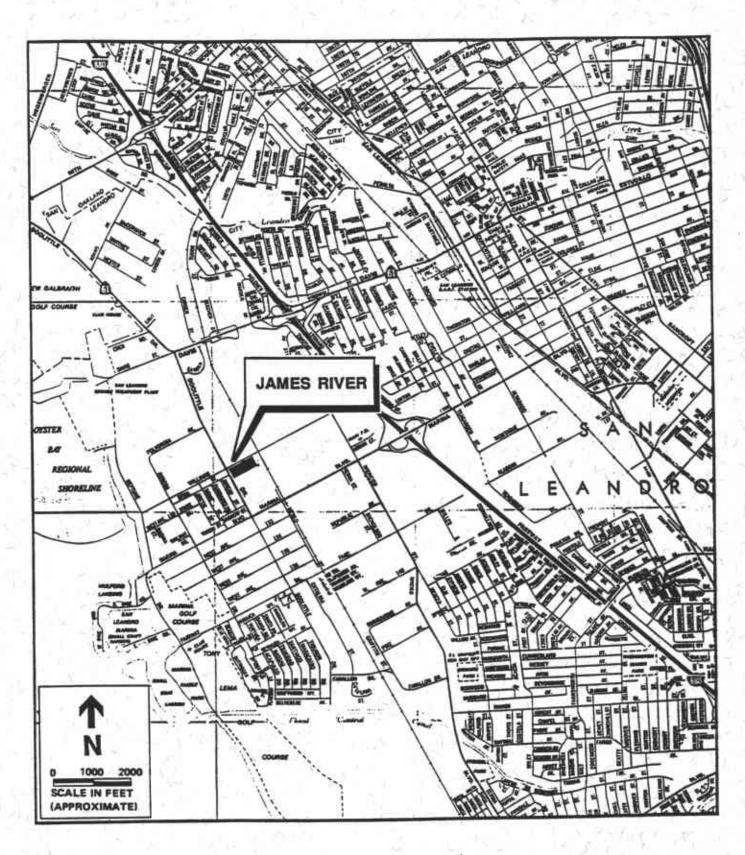


Figure 1 Facility Location Map



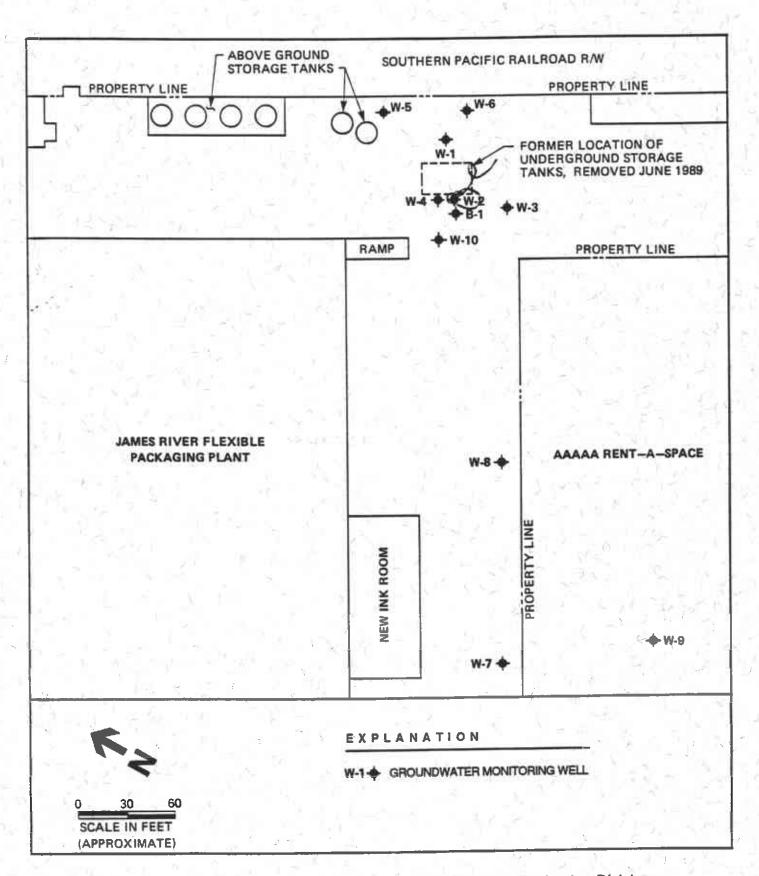


Figure 2 Site Map, James River Corporation, Flexible Packaging Division, San Leandro, California

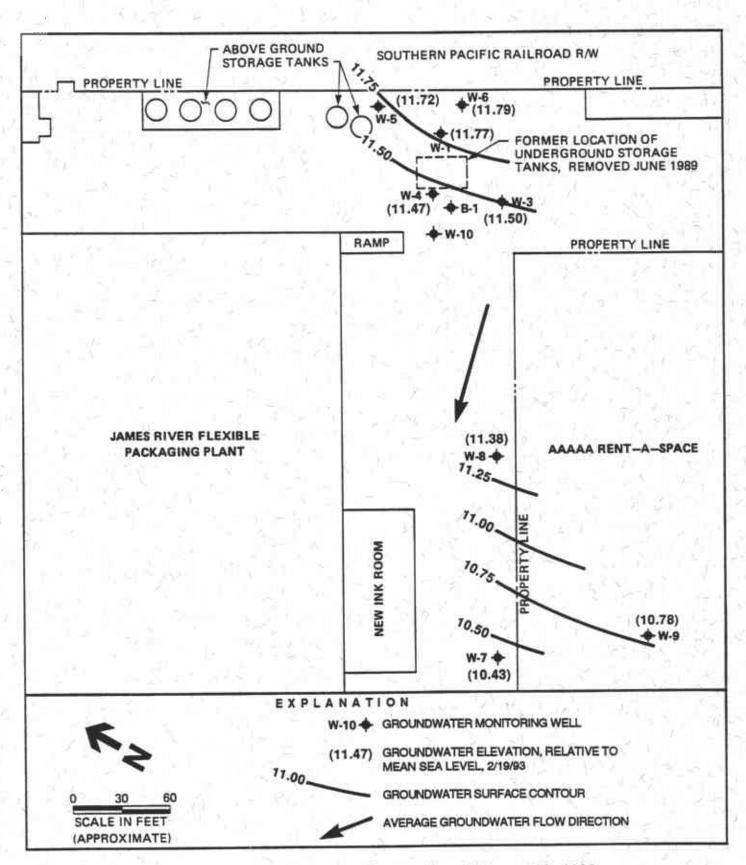


Figure 3 Groundwater Surface Elevation Contour Map, February 19, 1993, James River Corporation, Flexible Packaging Division, San Leandro, California

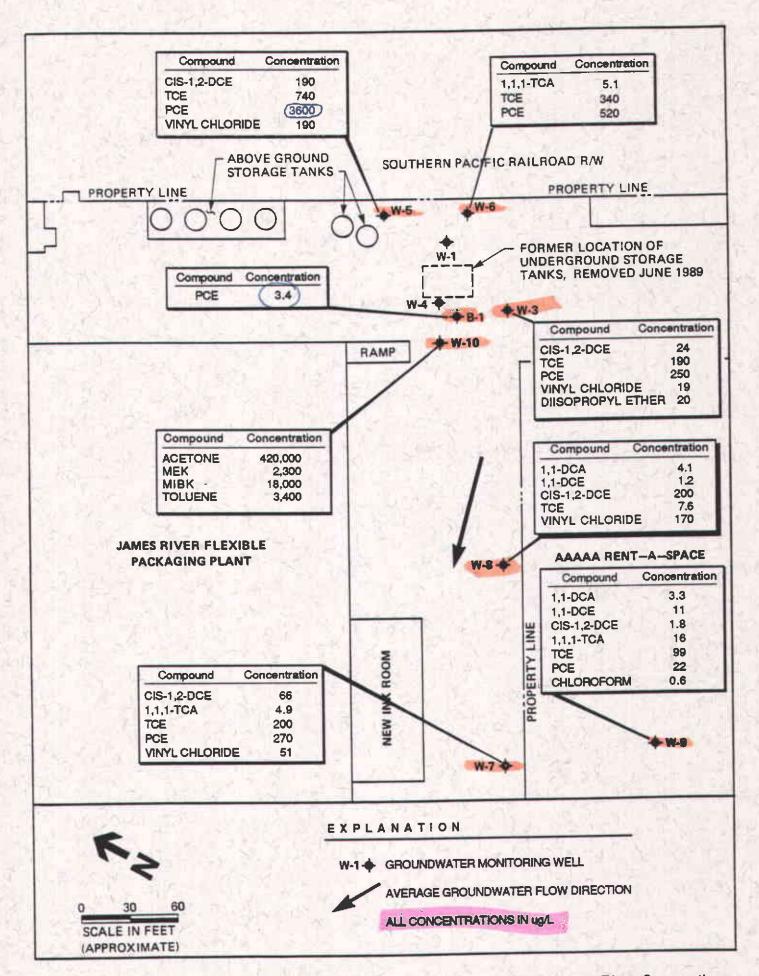


Figure 4. Groundwater Quality Analytical Results, February 19, 1993, James River Corporation, Gensults Packaging Division, San Leandro, California

ATTACHMENT A

ALAMEDA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH GROUNDWATER MONITORING PROGRAM LETTER



December 14, 1992

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

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

Subject: Flexible Packaging Group

AGENCY

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. 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

Singerely,

Hazardous Materials Specialist

Ed Howell, Chief-files ca:

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		

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WATER LEV	EL DAT	A: (from	TOC)		.*/	100.12	CTELOU (HOM L	
a. Depth to wa	ier (fi)	\\\	= <u>_9,3</u>	<u>o *</u>		Water T	able Elev	<u> </u>
b. Total Well I	Depth		= <u>37</u>	<u>/o '</u>		Tape Co	orr. (TC)	
c. Length of W	ater Col	umn =	= <u>R7,</u>	<u>80'</u> (b a.)		Well Di	ā 4 % &	3 "
d. Casing Volu	me		= <u>18.0</u>	<u> </u>	t casing])			
e. Length of fil	lter pack	4	- <u>///</u>			2-	in casing	= 0.16 gal/1
f. Filter pack v	volume		= <u>Bis</u>	5 4. (c. x [gal/f	t filter pack])	· - 4	in casing	= 0.65 gal/
g. TOTAL WI	ELL VO	LUME :	= 26.6	5/5 (d. + f.)				pack = 1.21 gal/1 pack = 1.8 gal/1
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b. Required Pu c. Field Testing	rge Volu	me (@ <u>~?</u>	<u>6.6/</u> gallo	ons per well volu	$me) = \underline{7}$	9.83 Cullons MIRT SCROVA:		4 . Turb.
b. Required Purc. Field Testing	rge Volu	me (@ <u>~?</u>	<u>6.6/</u> gallo	ons per well volu	$me) = \underline{7}$	9.83 ac/lons	or/	SWL
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b. Required Purc. Field Testing Volume Removed	rge Volu g; Equipa	me (@ <u>~</u> nent Use T	6.6/gallo	Spec. Conductivity	me) = <u>7</u> Temp/A	9.83 Cullens MIRE SCRORA = 1 Col Descri	or/ ption 1. Octor	SWL
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Well	No.	ر بي `	-5

GROUNDWA'	TER SAMPL	E COLLECTION	RECORD
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d. Casing V		4.	***	<u> </u>	(Lonises fi		N
e. Length of	Section 1	**	= <u>/</u> /		è comPl		1 000 000
f. Filter pac	- .	7 . *		(e. x [gal/i	i filter nacki	2-in. casing 4-in. casing	= 0.16 gal/ft = 0.65 gal/ft
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Volume Removed 7 /6 23 37	Time	T 18.5° 18.4° 18.3° Semo	pH 5.44 6.90 6.90 6.90	Spec. Conductivity 640 580 580 580	Turbidity 16 mm 1015	Color/ Description Clear / Wo O-lor Seme Some - Color/= W-5	SWL
Volume Removed	Time	T /8,5° /8,4° /8,3° Scmo	pH 6.99 6.90 6.90 6.5	Spec. Conductivity 640 580 580 580	Turbidity 16 mm 1015 Container	Color/ Description Clear / 100 O-lor Some Some - Color/ Clear / 100 O-lor Some - Color/ Preservation	SWL
Volume Removed 9 /6 23 37	Time UPSU 0957 1003 OLLECTIO	T /8.5° /8.4° /8.3° Scmo	pH 5.44 6.90 6.90 6.90	Spec. Conductivity 640 580 580 580	Turbidity 16 mm 1015	Color/ Description Clear / 100 O-lor Some Some - Color/ Clear / 100 O-lor Some - Color/ Preservation	SWL
Volume Removed 7 /6 23 37	Time UPSU 0957 1003 OLLECTIO	T /8.5° /8.4° /8.3° Scmo	pH 6.99 6.90 6.90 6.5	Spec. Conductivity 640 580 580 580	Turbidity 16 mm 1015 Container	Color/ Description Clear / 100 O-lor Some Some - Color/ Clear / 100 O-lor Some - Color/ Preservation	SWL
Volume Removed 9 /6 23 37	Time UPSU 0957 1003 OLLECTIO	T /8.50 /8.40 /8.30 S.cmo	pH 6.99 6.90 6.90 6.5	Spec. Conductivity 640 580 580 580	Turbidity 16 mm 1015 Container	Color/ Description Clear / 100 O-lor Some Some - Color/ Clear / 100 O-lor Some - Color/ Preservation	SWL

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Well No.	<i>-</i> 1 -	<i>(</i> `
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GROUNDWATER SAMPLE COLLECTION RECORD

Project Name:	Ocme:	Rue	<u>r </u>	J	ob No.: 🔄 🗦	475-03	<u> </u>	8/19/	93
ocation:				, , , , , , , , , , , , , , , , , , , ,					1 1
Samplers Nam	ne:	John		Victoria.	 				
Weather Cond	itions:	Q-c	c <i>es</i> +	Cos/ 5	attral	Showe		· (·	*
· / / ·	<u> </u>	<u> </u>	<u> </u>		7	7 7		, <u>, , , , , , , , , , , , , , , , , , </u>	- X
l. WATER L	EVEL DA	TA: (from	TOC)				TOC Elevation (fro	m LS)	<u>/ </u>
a. Depth to	water (ft)	. **	= <u>9.6</u>	26		· / / / /	Water Table Elev		. 1 . 4
b. Total We	ell Depth		3 6,	· · · · · · · · · · · · · · · · · · ·		1	Tape Corr. (TC)	, , , , , , , , , , , , , , , , , , ,	
c. Length o	f Water Co	lumn	= 27.	29 (b a.)			Well Dia.	· /文 8 · *	,
d. Casing V	olume .			(c. x [gal/l	ft casing])			` ,	
e. Length o	f filter pac		= <u>/</u> 0	10T - 4		\ \	2-in. casing	=	0.16 gal/ft
f. Filter pac	ck volume	* * * * * * * * * * * * * * * * * * *	= <u>8, 5</u>	(e. x [gal/i	ft filter pack])	F1 .	4-in, casing	`\ \ .	0.65 gal/ft
g. TOTAL	WELL V			<u> </u>			10-in. hole fil 12-in. hole fil		_
	*					.	6-in. casing	, -	1.47 gal/ft
. WELL PUR				n_			(8" FF-)E	354 5e/	174
2 .				/7 /				– /	
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b. Required	Purge Vol	ume (@ _	gallo	ons per well volu	ime) = 3	8.71 0	teores -	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
b. Required	Purge Vol	ume (@ _	gallo	ons per well volu	ime) = 3	8.71 0	terre	nel / t	£ . h = Tv
b. Required c. Field Tes	Purge Vol	ume (@ _	gallo	ons per well volu	ime) = 3	8.71 0	tenrea -allons -science - Con	sel <u> t</u>	£ . 6 = Tv
b. Required c. Field Tes Volume Removed	Purge Vol	ume (@ _	gallo	ons per well volu	ime) = 3	8.71 G 1 Barber	teores -	sel t	SWL
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b. Required c. Field Tes Volume Removed	Purge Volume For 38	ume (@ _oment Use T /e.3°	gallo d Rec pH 7.17	Spec. Conductivity SRO	ime) = 3 24 t Teaga	8.71 G	Color/ Description	nel /t	SWL
b. Required c. Field Tes Volume Removed 8 77	Purge Volume For 38	ume (@ _ oment Use T /2.3° /8.7°	gallo d <i>B</i>	Spec. Conductivity SRO S40	ime) = 3 24 t Teaga	S. 71 G / Border Grey Charles Sen	Color/ Description Mirky		SWL
b. Required c. Field Tes Volume Removed	Purge Volume For 38	T 2.3° 8.4° 19.3°	gallo d /2, pH 7,17 5,99 6,94 6,95	Spec. Conductivity SRO S40 S40	Turbidity /Sm.	S. 71 G / Border Grey Charles Sen	Color/ Description Mirky Ne Same		SWL
b. Required c. Field Tes Volume Removed 8 77	Purge Volume For 38	T 2.3° 8.4° 19.3°	gallo d /2, pH 7,17 5,99 6,94 6,95	Spec. Conductivity SRO S40 540	ume) = 3	S. 71 G / Border Grey Charles Sen	Color/ Description Mirky		SWL
b. Required c. Field Tes Volume Removed 8 77	Purge Volume For 38	T 2.3° 8.4° 19.3°	gallo d /2, pH 7,17 5,99 6,94 6,95	Spec. Conductivity SRO S40 S40	Turbidity /Sm.	S. 71 G / Border Grey Charles Sen	Color/ Description Mirky Ne Same		SWL
b. Required c. Field Tes Volume Removed 8 77	Purge Volume For 38	T 2.3° 8.4° 19.3°	gallo d /2, pH 7,17 5,99 6,94 6,95	Spec. Conductivity SRO S40 S40	Turbidity /Sm.	S. 71 G / Border Grey Charles Sen	Color/ Description Mirky Ne Same		SWL
b. Required c. Field Tes Volume Removed 8 77	Purge Volume For 38	T 2.3° 8.4° 19.3°	gallo d /2, pH 7,17 5,99 6,94 6,95	Spec. Conductivity SRO S40 S40	Turbidity /Sm.	S. 71 G / Border Grey Charles Sen	Color/ Description Mirky Ne Same		SWL
b. Required c. Field Tes Volume Removed 8 77	Purge Volume For 38	T 2.3° 8.4° 19.3°	gallo d /2, pH 7,17 5,99 6,94 6,95	Spec. Conductivity SRO S40 S40	Turbidity /Sm.	S. 71 G / Border Grey Charles Sen	Color/ Description Mirky Ne Same		SWL
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b. Required c. Field Tes Volume Removed 8 77	Purge Volume Forme / C38 / C96 / C/ // C/	T /2.3° /8.3° /9.3° Samp	gallo d Br. pH 7.17 5.99 6.94 6.95	Spec. Conductivity SRC S40 S40 S40	Turbidity /Sm.	3.71 G	Color/ Description Mirky Le Same W-S		SWL
b. Required c. Field Tes Volume Removed 8 17 29 39	Purge Volume For String; Equip Time For String For	oment Use T /2.3° /8.3° /8.3° ON: Meth	gallo d Br. pH 7.17 5.99 6.94 6.95	Spec. Conductivity SRC S40 S40 S40	Turbidity /Som	S. 71 G	Color/ Description Mirky Le Same W-S		SWL
b. Required c. Field Tes Volume Removed 3 7 29 39	Purge Volume For String; Equip Time For String For	oment Use T /2.3° /8.3° /8.3° ON: Meth	gallo d Br. pH 7.17 5.99 6.94 6.95	Spec. Conductivity SRC S40 S40 S40	Turbidity /Som	S. 71 G	Color/ Description Mirky Le Same W-S		SWL



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	nsuitants	1.77	· *:		· · · · · · · · · · · · · · · · · · ·	Well No, _	W-7
No. of the second		7 7 7 \$3	GROUN	DWATER SAM	PLE COLL	ECTION RECORD	
Project Name:	Jame	s Rive	ir Pac	Kaging 1	ob No.: _ 7	175-63 Date: 2/1	9/93
Location:				, ()			
Samplers Name	e: J.L	~i~t		*** * 1			
Weather Condi				1 .			
	V (32)					TOC Elevation (from LS)	<u> </u>
I. WATER L	• •	(A: (from				1	
a. Depth to		•	9,99			Water Table Elev.	
b. Total We	-		36.34		2.50 2.50	Tape Corr. (TC) Well Dia.	
c. Length of	f Water Col			6 (b a.)		Well Dia.	
d. Casing V	and the second second	8 9 j	<u> [-F]</u>	(c. x [gal/f	t casing])		
e. Length of	filter pack	() f	<u> 101</u>			2-in. casing	= 0.16 gal/ft
f. Filter pac		the first of the second	6,30	<u> </u>	t filter pack)	4-in. casing 10-in. hole filter pac	= 0.65 gai/ft
g. TOTAL	WELL VO	LUME	= 23.9	(d. + f.)	le de la companya de	12-in, hole filter pac	
A Section	1.	1	1	** Y /	4 · *	6-in. casing	= 1.47 gal/ft
2. WELL PUR	GING DA	ΓA:	i	, /	_		
a. Purge Me	thod	Tra	sh Kun	pu/wt	enz		
h Remired	Pierce Volu	me (QL	مالقو الأخ	oe oer well volu	me) = 7	7 gelms	
c. Field Tes	ting; Equip	ment Use	<u>م ۲۶۱</u>	2500 pl	1 Tongor	SC Had-Tuelsdineter	
<u> </u>	T T		1		T		
Volume Removed	Time	T	рН	Spec. Conductivity	Turbidity	Color/ Description	SWL
& Purpa	12:45				100		
. 15	12:51	18.5	7.06	790	69	Clear	10.30
35	12753	18.4	7.16	785	3.7	Clear	10.20
55	13:10	18.3	7.19	775	9.0	Clear	10.20
75	13170	18.4	7.24	730	3.3	Cleur	(0.35
Sarole	13:30	11 /2		7	/		

			12.2	1.	1				11 (A)	<u> </u>		
3. SAMPLE C	OLLECTIO	N: Metho	ما له	Stem		Container	4	Uh	, , , , , , , , , , , , , , , , , , ,	Preservation	BUD	Hte.
		Analy		8010/3	020:				, 24 ,	· · · · · · · · · · · · · · · · · · ·		
COMMENTS,	REMARK	S						\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				

1	RC	Brown and Consultants	Caldwell
		Consultants	

11/11/92E-MEMOS90011/0011-22/QSCR-WP5 QMS-PSI25

Well	No	(N-8	.*
weu	MD.		

								
roject Name:	_	1 .		J Jo	ob No.:	175-03	Date:	2/19/93
ocation:			CIA.			<u> </u>		
amplers Name			 -		<u> </u>			
Veather Condi	tions:) velicas	<u> </u>	<u> </u>	·			
· / ··						ÿ: T O	C Elevation (fro	om I.S)
. WATER LI	EVEL DAT	A: (from	TOC)					
a. Depth to	water (ft)		9.12			Wa	ter Table Elev.	1
b. Total We	li Depth		34.6	<u>ବ′୍</u>			e Corr. (TC)	
c. Length of	Water Col	umn 🛷 i	2-5.5	6 (b a.)		We	il Dia	× 8-
d. Casing V	olume		16.61	(c. x [gal/f	t casing])			
e. Length of	f filter pack	- 1	<u> </u>				2-in casing	
f. Filter pac	k volume		_ 690	(e. x [gal/f	t filter pack]) <u></u>	4-in casing	= 0.65 gal/ lter pack = 1.21 gal/
g. TOTAL	WELL VO	LUME :	= 23.4	(d. + f.)				lter pack = 1.8 gal/
				e Lizaren eta			6-in. casing	= 1.47 gal/
. WELL PUR	GING DAT	ΓA:	* · · · ·	Λ	, , , , , , , , , , , , , , , , , , ,		1. 1. 1. 1. 1. 1.	
						and the second s		
a. Purge Me			- Penp	w/ Water	- Tubing		,	
a. Purge Me b. Required	ethod Purge Volu	TV25	3.4 gallo	us per well volu	z Tubur,	70.2 gelline	-	
a. Purge Meb. Requiredc. Field Tes	ethod Purge Volu	TV25	3.4 gallo	us per well volu 3500 pl	me) =	702 gelline	tach - Tusto	l; retar
c. Field Tes	ethod Purge Volu sting; Equip	me (@ 2	<u> [34 </u>	3500 pl	t, Temp + SC	<u> </u>	Colors	
c. Field Tes Volume Removed	Purge Voluting; Equip	TV25	3.4 gallo d YST	. 3500 pl	Turbidity	<u> </u>	tach - Trube	t roter SWI
c. Field Tes	Purge Voluting; Equip	me (@ 2	ТУУ_ b	Spec. Conductivity	Turbidity	<u> </u>	Colors	
Volume Removed	Purge Voluting; Equip	ment Use	<u> [34 </u>	3500 pl	t, Temp + SC	E D	Colors	SWL
Volume Removed	Purge Voluting; Equip	ment Use	ф рн 695	Spec. Conductivity 680 665	Turbidity	Cloudy	Colors	SWL 9.30′
Volume Removed	Purge Voluting; Equip	T 18.7	рн 695 70)	Spec. Conductivity	Turbidity	Cloudy	Colors	SWL 9.30′ 9.60′
Volume Removed	Purge Voluting; Equip	T 187 18.3	pH 6.95 1.01 7.00	Spec. Conductivity 680 665	Turbidity 27 11	Cloudy Clearing Clearing	Colors	9.30° 9.60° 9.60°
Volume Removed Pup Q 10 25 50 75	Purge Voluting; Equip	T 187 18.3	pH 6.95 1.01 7.00	Spec. Conductivity 680 665	Turbidity 27 11	Cloudy Clearing Clearing	Colors	9.30° 9.60° 9.60°
Volume Removed Pup Q 10 25 50 75	Purge Voluting; Equip	T 187 18.3	pH 6.95 1.01 7.00	Spec. Conductivity 680 665	Turbidity 27 11	Cloudy Clearing Clearing	Colors	9.30° 9.60° 9.60°
Volume Removed Sup Q 10 25 50 75	Purge Voluting; Equip	T 187 18.3	pH 6.95 1.01 7.00	Spec. Conductivity 680 665	Turbidity 27 11	Cloudy Clearing Clearing	Colors	9.30° 9.60° 9.60°
Volume Removed Shap a 10 25 50 75 Shap ble	Purge Voluting; Equip	T 187 18.3	pH 695 101 7.00 697	Spec. Conductivity 680 665 655	Turbidity 27 11 10 9.5	Cloudy Clearing Clearing Clear	Color/Description	9.30 9.60 9.60 9.40
Volume Removed Shap Q 10 25 50 75 Shap Wee	Purge Voluting; Equip	T 18.7 18.3 18.3 18.2	pH 6.95 7.00 6.97	Spec. Conductivity 680 665 655 655	Turbidity 27 11	Cloudy Clearing Clearing	Color/Description	9.30° 9.60° 9.60° 9.40°
Volume Removed Sup Q 10 25 50 75 Sup We	Purge Voluting; Equip Time 11:35 11:45 11:56 12:30	T 18.7 18.3 18.2 18.3 18.2	pH 6.95 7.00 6.97	Spec. Conductivity 680 665 655	Turbidity 27 11 10 9.5	Cloudy Clearing Clearing Clear	Color/Description	9.30 9.60 9.60 9.40
Volume Removed Flup (2) 25 50 75 Sumplifie	Purge Voluting; Equip Time 11:35 11:45 11:56 12:30	T 18.7 18.3 18.2 18.3 18.2	pH 6.95 7.00 6.97	Spec. Conductivity 680 665 655 655	Turbidity 27 11 10 9.5	Cloudy Clearing Clearing Clear	Color/Description	9.30 9.60 9.60 9.40
Volume Removed Pup Q 10 25 50 75 Sumple 0	Purge Voluting; Equip Time 11:35 11:45 11:56 12:30	T 18.7 18.3 18.2 18.3 18.2	pH 6.95 7.00 6.97	Spec. Conductivity 680 665 655 655	Turbidity 27 11 10 9.5	Cloudy Clearing Clearing Clear	Color/Description	9.30 9.60 9.60 9.40

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Wall	No	/ /= 5	, .
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	Jame:	Rive	<u> </u>	<u> </u>	ob No.:	7/75-03 Date: 6	3/19/93
cation:	Son	Lean	leo C	· A			
mpiers Nam	e:	Juhn	1	ken	<u>, in 1944</u>		
eather Cond	itions:	ace	-5+/	Scatterd	Showers		
*		-		* 			
WATER L	EVEL DAT	ra: (from	TOC)	State of		TOC Elevation (from I	رکہ
a. Depth to	water (ft)		= <u>9.3</u>	<u>3′</u>		Water Table Elev.	
b. Total We	ell Depth		= 3/.3	39 [']	S .	Tape Corr. (TC)	
	F			<u>/</u> (b a.)		Well Dia @ 'x .	<i>o</i> "
d. Casing V				<u> </u>	t casing])		
e. Length o	f filter pack		= 10	, -		2-in. casing	= 0.16 gal/
f. Filter pac	k volume			(c. x [gal/f	t filter pack]	4-in. casing	= 0,65 gal/
				<u>కిగ</u> ్త (d. + f.)		10-in_hole filter p 12-in, hole filter p	
~				. 3		6-in. casing	= 1.47 gal/
WELL PUR						6-in. casing	= 1.47 gal/
WELL PUR	RGING DA'	ΓA:			setal c	6-in. casing	= 1.47 gal/
WELL PUR a. Purge Mo	CGING DA	ΓA:	sh h	ng Y Seed		6-in casing 8"F" . 384 8	= 1.47 gal/
WELL PUR a. Purge Mo b. Required	RGING DA'	ΓA: 	56 6	ons per well volu	me) =	6-in casing 8" Fi" . 384 8 2-4-cm	= 1.47 gal/
WELL PUR a. Purge Mo b. Required c. Field Tes	RGING DA'	ΓA: 	56 6	ons per well volu	me) =	6-in casing 8" Fi) . 354 8 Laterra E. S.R. Gallons Ander Scene 3 Could	= 1.47 gal/
WELL PUR a. Purge Mo b. Required	RGING DA'	ΓA: 	56 6	ons per well volu	me) =	6-in casing 8" Fi" . 384 8 2-4-cm	= 1.47 gal/
WELL PUR a. Purge Mo b. Required c. Field Tes Volume	ethod Purge Volu	ΓA: ment Use	<i>56 6</i> 2.87gallo d <i>B</i> -c.	ons per well volu	me) =	6-in. casing 8" Fi? 354 8 E. S. Gallons Andre Scrool & Cond	= 1.47 gal/
WELL PUR a. Purge Mo b. Required c. Field Tes Volume Removed	ethod Purge Voluting; Equip	TA: ment Use	56 6 2.87gaile d <u>Csec</u>	ons per well volu	me) =	6-in casing 3" F7" 354 3 Safect Science 3 Could Color/ Description	= 1.47 gal/
WELL PUR a. Purge Mo b. Required c. Field Tes Volume Removed	ethod Purge Voluting; Equip	TA: The same (@ & ment Use) T	2.87 gailed Sec. 10 pH 7.07	Spec. Conductivity	me) =	Color/ Description Chec / No cocher	= 1.47 gal/
WELL PUR a. Purge Mo b. Required c. Field Tes Volume Removed	ethod	TA: The result of the second	2.87 gailed Sec. 10 pH 7.07	Spec. Conductivity 700	me) =	Color/ Description Clear/ No cocher Same	= 1.47 gal/
WELL PUR a. Purge Me b. Required c. Field Tes Volume Removed 18 48 55	ethod Purge Voluting; Equip Time /839 /846	TA: Teme (@ g ment Use T /%40 /%/50	2.87 gallo d	Spec. Conductivity 700 700	Turbidity	Color/ Description Cher / No confer Same	= 1.47 gal/
WELL PUR a. Purge Me b. Required c. Field Tes Volume Removed 18 48 55	ethod Purge Voluting; Equip Time /839 /846	TA: Teme (@ g ment Use T /%40 /%/50	28 gallo d Sec. pH 729 7.07 7.07 7.09	Spec. Conductivity 700 700	Turbidity 3.5 nr.	Color/ Description Cher / Wo confor Same Same	= 1.47 gal/
WELL PUR a. Purge Me b. Required c. Field Tes Volume Removed 18 48 55	ethod Purge Voluting; Equip Time /839 /846	TA: Teme (@ g ment Use T /%40 /%/50	28 gallo d Sec. pH 729 7.07 7.07 7.09	Spec. Conductivity 700 700	Turbidity 3.5 nr.	Color/ Description Cher / Wo confor Same Same	= 1.47 gal/
WELL PUR a. Purge Me b. Required c. Field Tes Volume Removed 18 48 55	ethod Purge Voluting; Equip Time /839 /846	TA: Teme (@ g ment Use T /%40 /%/50	28 gallo d Sec. pH 729 7.07 7.07 7.09	Spec. Conductivity 700 700	Turbidity 3.5 nr.	Color/ Description Cher / Wo confor Same Same	= 1.47 gal/
WELL PUR a. Purge Me b. Required c. Field Tes Volume Removed 18 48 55	ethod Purge Voluting; Equip Time /839 /846	TA: Teme (@ g ment Use T /%40 /%/50	28 gallo d Sec. pH 729 7.07 7.07 7.09	Spec. Conductivity 700 700	Turbidity 3.5 nr.	Color/ Description Cher / No cocher Same Same Same Same	= 1.47 gal/
WELL PUR a. Purge Mo b. Required c. Field Tes Volume Removed 18 48 55 75	ethod Purge Voluting; Equip Time //// //// //// //// //// //// //// /	TA: Teme (@ & ment Use T	pH 724 7.07 7.09 5= m	Spec. Conductivity 700 700 700 700	Turbidity 3.5. p.	6-in. casing 8" F? 384 3 Safector Color/ Description Clear/ No cocher Same Same Same Same	= 1.47 gal/
WELL PUR a. Purge Me b. Required c. Field Tes Volume Removed 18 48 55	ethod Purge Voluting; Equip Time //// //// //// //// //// //// //// /	TA: Teme (@ & ment Use T	pH 724 7.07 7.09 5= m	Spec. Conductivity 700 700 700 700	Turbidity 3.5. p.	Color/ Description Cher / No cocher Same Same Same Same	= 1.47 gal

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Well No.	. 7	W	lo

		ON RECORD

	7	0	0 V.		¬	100000		2 110 163
Project Name: Location:				,) , J	ob No.:7	175-03	Date:	2/19/93
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Samplers Name		1	1		- /		<u> </u>	
Weather Condi	itions:	bercus	4		<u> </u>			· · · · · · · · · · · · · · · · · · ·
1. WATER LI	EVEL DAT	- - -	7000		Carlos Services	•	roc Elevation (fro	om LS)
a. Depth to			= 9.60		11		Vater Table Elev.	
b. Total We			<u> [L8</u>				Tape Corr. (TC)	
c. Length of			$\frac{1}{2}$	8 (b a.)		1	Well Dia. 45	3 * ~
d. Casing V				(c. x {gal/f	(Incine)			
e. Length of				(c. x (gan)	t casing)	1/2		0.0
f. Filter pac	·. •		3.40	(e. x [gal/f	t filter sachl	ria de la Companya d Notas de la Companya	2-in. casing 4-in. casing	and the second s
				(e. x (gan) (d. + f.)		,	10-in. hole fil	ter pack = 1.21 gal/1
g. IOIAL	WEEL VO	LUME:	=	(0. + 1.)	en e		12-in, hole fil 6-in, casing	ter pack = 1.8 gal/f = 1.47 gal/f
				and the second		18 C		. ,
WELL PUR	GING DAT	A1				1 to		
2. WELL PUR	RGING DAT	ra: Thes	LPma	w/ Witana				
a. Purge Me	ethod	Tras		w/ Watare		1.4 Sellons		
a. Purge Me	ethod	Tras	i.i.3 eaile	ns per well volu	ime) = 24	1.4 gallons	Heal Turbid	nt.
a. Purge Me	ethod	Tras	i.i.3 eaile	ns per well volu	ime) = 24	1.4 gallons	Heche Turbid	
a. Purge Me	ethod	Tras	i.i.3 eaile	ns per well volu	ime) = 24	1.4 gallons	Heche Turbid	sw.
a. Purge Me b. Required c. Field Tes	ethod Purge Volu sting; Equip	TV26 me (@ 8	gallo d YS	3 500 pl	me) = 24 t, Temp = 5	1.4 gallons	Color/	
a. Purge Me b. Required c. Field Tes Volume Removed	ethod Purge Volu sting; Equip	TV26 me (@ 8	gallo d YS	3 500 pl	me) = 24 t, Temp = 5	1.4 gallons	Color/	
a. Purge Me b. Required c. Field Tes Volume Removed	Purge Volusting; Equiportime	Tres me (@ 8 ment User T	gallo d YSI	Spec.	t, Temp + S Turbidity	4	Color/	SWL 12.5 13.3
a. Purge Me b. Required c. Field Tes Volume Removed	Purge Volusting; Equipment 10:32 10:35 10:35	Tres me (@ 8 ment User T	pH 7.03 6.30 6.60	Spec. Conductivity	t, Temp = 24 Turbidity	Cloudy	Color/	12.5 13.3 12.9
a. Purge Me b. Required c. Field Tes Volume Removed Purply 12	Purge Volusting; Equips Time 10:32 10:35 10:45 10:50	Tras me (@ 8 ment Use T	pH 7.03 6.30	Spec. Conductivity	Turbidity 13	Cloudy	Color/	SWL 12.5 13.3
a. Purge Me b. Required c. Field Tes Volume Removed Prople 12	Purge Volusting; Equipment 10:32 10:35 10:35	Tres me (@ 8 ment User T	pH 7.03 6.30 6.60	Spec. Conductivity	Turbidity 13 27	Cloudy Cloudy Cloudy	Color/	12.5 13.3 12.9
a. Purge Me b. Required c. Field Tes Volume Removed Propor 12	Purge Volusting; Equips Time 10:32 10:35 10:45 10:50	Tres me (@ 8 ment User T	pH 7.03 6.30 6.60	Spec. Conductivity	Turbidity 13 27	Cloudy Claudy Claudy	Color/	12.5 13.3 12.9
a. Purge Me b. Required c. Field Tes Volume Removed Propor 12	Purge Volusting; Equips Time 10:32 10:35 10:45 10:50	Tres me (@ 8 ment User T	pH 7.03 6.30 6.60	Spec. Conductivity	Turbidity 13 27	Cloudy Claudy Claudy	Color/	12.5 13.3 12.9
a. Purge Me b. Required c. Field Tes Volume Removed Propried 12	Purge Volusting; Equips Time 10:32 10:35 10:45 10:50	Tres me (@ 8 ment User T	pH 7.03 6.30 6.60	Spec. Conductivity	Turbidity 13 27	Cloudy Claudy Claudy	Color/	12.5 13.3 12.9 12.6
b. Required c. Field Tes Volume Removed Removed 12 18 25 Sample e	Purge Volusting; Equips Time 10:35 10:35 10:35 10:50	Tvas me (@ 8 ment Use T 18.6 18.6	pH 7.03 6.80 6.60	Spec. Conductivity 1360 1150 1970 2050	Turbidity 13 27 19	Clordy Clardy Clardy	Color/ Description	12.5 13.3 12.9 12.6
a. Purge Me b. Required c. Field Tes Volume Removed Purp On 12 18 25 Sample e	Purge Volusting; Equips Time 10:35 10:35 10:35 10:50	Tres me (@ 8 ment User T (\$ 3 (\$ 6 (\$ 6 (\$ 6	pH 7.03 6.80 6.60 6.50	Spec. Conductivity 1360 1650 1970 2050	Turbidity 13 27 19 13	Clordy Clardy Clardy	Color/	12.5 13.3 12.9 12.6
a. Purge Me b. Required c. Field Tes Volume Removed Pup Da 12 18 25 Sample e	Purge Volusting; Equips Time 10:32 10:35 10:39 10:45 10:50 11:00	Tras me (@ 8 ment Use T 19.0 18.6 18.9	pH 7.03 6.80 6.60 6.50	Spec. Conductivity 1360 1150 1970 2050	Turbidity 13 27 19 13	Clordy Clardy Clardy	Color/ Description	12.5 13.3 12.9 12.6
a. Purge Me b. Required c. Field Tes Volume Removed Purp Da 4 12 18 25 Sampled e	Purge Volusting; Equips Time 10:32 10:35 10:39 10:45 10:50 11:00	Tras me (@ 8 ment Use T 19.0 18.6 18.9	pH 7.03 6.80 6.60 6.50	Spec. Conductivity 1360 1650 1970 2050	Turbidity 13 27 19 13	Clordy Clardy Clardy	Color/ Description	12.5 13.3 12.9 12.6

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- Vol.	0 1
Well No.	13-1

GROUNDWATER SAMPLE COLLECTION R	
IRCHINIJIYA EER AANGELE CAAAAAAA KAAA	

ject Name:	<u>lanes</u>	Lover V	adley in	Jo	ob No.:	75+03	Date:	2/19/93	
	in Loans					:		1. 2 10	
	e: Jlaf			V 27		, / / .			
	itions: O				,	1		ji N	Pr 1
WATED T	ESPECT TO A ST	· A . Keille	TOO	and the said	** *	1	OC Elevation	(from LS)_	·
	EVEL DAT	A: (HOII)	100) - 9 04	irt - Land	\ 	1	Vater Table El		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
. Depth to		#	48.7		Y				· \
o. Total We	· - \/	.					ape Corr. (TC Vell Dia		ga voji vi
-	f Water Col	1	-	(b a.)		\	Vell Dia	1-0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
l. Casing V				(c. x [gal/f	t casing])	· · · · · · · · · · · · · · · · · · ·		<u> </u>	
	f filter pack		= <u>(</u> D		und	e e e e e e e e e e e e e e e e e e e			= 0.16 gal/ft
Filter pac	k volume	•	= <u>6.3</u>	(e. x [gal/f	t filter pack]))	•	ng le filter pack :	
g. TOTAL	WELL VO	LUME :	= 32.3	(d. + f.)				le filter pack	= 1.8 gal/ft
·	The State of the S			· •			6-in. casi	ng t	= 1.47 gal/8
Section 2				w/ Wtonz ons per well volu L 3500		6.9 gdh -SC	s Hech - T	ub d. insta	
o. Required c. Field Tes Volume	Purge Volusting; Equip	me (@ <u>3</u> ment Use	23 gallo d <u>VS</u>	ons per well volu	me) = 9	6.9 gelle -SC	Color/	Tubs d. inster	
o. Required c. Field Tes Volume Removed	Purge Volusting; Equip			ons per well volu		6.9 gelle -SC	 	ubod. inster	SWL
Volume Removed	Purge Volusting; Equip	me (@ 3	23 gallo	Spec. Conductivity	Turbidity		Color/	ubs d. into	SWL
Volume Removed	Purge Volusting; Equip	ment Use T	gallo d YS: pH	Spec. Conductivity	Turbidity	Clear	Color/	Tubo d. insto	SWL 9/191
Volume Removed B Rep Ch	Purge Volusting; Equip Time 04:18 04:28	ment Use T 189	23 gallo d	Spec. Conductivity 850 730	Turbidity 5.2 3.8	Clear	Color/	ubod.into	SWL 9(18) 4,30(
Volume Removed Broch 12 30	Purge Volusting; Equip Time C4:28 C4:28 C4:245 C4:245	ment Uses T 189 18.2	23 gallo d 45: pH 7.21 7.20	Spec. Conductivity 350 350 350 350 350 370	Turbidity 5.2 3.8	Clear Clear	Color/	ubod.instr	SWL 9:18' 9:30' 9:30'
Volume Removed b Rep On 12 30	Purge Volusting; Equip Time 64:28 64:28 64:245 64:45 64:59	T 189 18.2 18.6	23 gallo d 45: pH 7,01 7,20 7,24	Spec. Conductivity 850 730 730 730 730 730 730	Turbidity 5.2 3.0 2.8	Clear Clear Clear	Color/	Tubs d. into	9.18° 9.30° 9.30°
Volume Removed 12 30 80	Time G:28 G:24 G:745 G:53 G:59	ment Uses T 189 18.2	23 gallo d 45: pH 7,01 7,20 7,24	Spec. Conductivity 350 350 350 350 350 370	Turbidity 5.2 3.8	Clear Clear	Color/	Into divido	SWL 9:18' 9:30' 9:30'
Volume Removed 12 30 60 80	Purge Volusting; Equip Time 64:28 64:28 64:245 64:45 64:59	T 189 18.2 18.6	23 gallo d 45: pH 7,01 7,20 7,24	Spec. Conductivity 850 730 730 730 730 730 730	Turbidity 5.2 3.0 2.8	Clear Clear Clear	Color/	Turboll.inster	9.18° 9.30° 9.30°
Volume Removed 12 30 80	Time G:28 G:24 G:745 G:53 G:59	T 189 18.2 18.6	23 gallo d 45: pH 7.20 7.24 7.28	Spec. Conductivity 850 730 730 730 730 730 730	Turbidity 5.2 3.0 2.8	Clear Clear Clear	Color/	Tubs d. into	9.18° 9.30° 9.30°
volume Removed Dip On 12 30	Time G:28 G:24 G:745 G:53 G:59	T 189 18.2 18.6	23 gallo d 45: pH 7,01 7,20 7,24	Spec. Conductivity 850 730 730 730 730 730 730	Turbidity 5.2 3.8 3.0 2.8 2.7	Clear Clear Clear Clear	Color/		9.28° 9.30° 9.33° 9.35°
Volume Removed Depth 12 30 60 80 100	Purge Volusting; Equip Time C4:28 C4:28 C4:34 C4:34 C4:53 C4:59 L0:06	T 189 18.2 18.6 18.3	23 gallo d V5: pH 7.20 7.24 7.28	Spec. Conductivity 850 730 730 730 730 730 730	Turbidity 5.2 3.8 3.0 2.8 2.7	Clear Clear Clear Clear	Color/ Description		9.18° 9.30° 9.30° 9.35° 9.35°
Volume Removed Depth 12 30 60 80 100	Purge Volusting; Equip Time 64:28 64:24 64:24 64:45 64:53 66:59	T 189 18.2 18.4 19.6 18.3	23 gallo d	Spec. Conductivity 350 730 730 730 770	Turbidity 5.2 3.0 2.8 2.7	Clear Clear Clear	Color/ Description	8244	9.18° 9.30° 9.30° 9.35° 9.35°
Nequired C. Field Tes Volume Removed Dip On 12 30 60 80 LOU SAMPLE O	Purge Volusting; Equip Time C4:28 C4:28 C4:34 C4:34 C4:53 C4:59 L0:06	T 189 18.2 18.4 18.5 18.3 18.4 ON: Met	23 gallo d V5: pH 7.20 7.24 7.28	Spec. Conductivity 350 730 730 730 770	Turbidity 5.2 3.0 2.8 2.7	Clear Clear Clear Clear	Color/ Description	8244	9.18° 9.30° 9.30° 9.35° 9.35°

CHAIN OF CUSTODY RECORD

Client na	Drowner Carbarell Consultants 7175-6					Project or PO#	3			-	/				required		7
Address	240-	0 1/	ink Aw			Phone #510) 937	9010)			/	/20	(**			
City, Sta	39 DD 10, Zip Plac	sa d	H:11, C#	+	Report attention	1stler	7	1			' /	6				Rem	
Lab			Type*		-Plante / Nie	Lison	Number) -	3/	\g /	\0 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	. / 4 5	7, 7				
Sample number	Date sampled	Time sampled	See key below		Sample descripti	on	of containers	0	91 ² /0		S / X			//	\\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Rem	arks
	2/19/93	10:10	6W_	B-1	<u> </u>		4			X	*					Low level	detection
2		12:05		₩-3			4		14.	Х	X			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		1,m. 43.	
4		(0:15		W-5			4	X	×						. ·		
5		1135		W-6			4	×.	X		1.00		/ /				14-4 T
6	\$ - <u>.</u> 1	13:30		w-7			14	X	Х.	Z .		1		/	4		
1		12.30		w-8		,	4	X	X						1		
8		13:00	1	w-9		· /	٧.	×	Х					.*			
3	2/19/93	11:00	GW	W-10			ч		,	X	<u> </u>	e.			. goden	2 	
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	-												11.55				
		Signatur	re			nt Name		7	7.		Compa	ny			A Z	Date	Time
Relinquis	shed by	12/1-	<u> </u>		ThoPlante		V	SCC	- Pf	<u> </u>	,		/	<u>, '</u>		2/19/93	14:20
Received	d by		1 - AL					<i>e.</i>	40	**	/ ` <u>.</u>		1	· .	14.		
Relinquis	shed by						(1,		- 2	. 144 	y * .	` '		<u> </u>		
Received	d by									e.		/ A.					1
Relinquis	shed by		*	•	<u> </u>								- خر <u>ا</u>	***	-	110	7 × × × × × × × × × × × × × × × × × × ×
Received	d by Laboratory	De	NB	arres	Giler	Barne	8 B	CF.	7	_		de S				2-19-92	14:20
B C AN	IAI VTICA	•			Note: Samples are disca	rded 30 days after results		niess ot	her arra	ngemen	nts are n	nade	*KF	y wv	V—Wastew	ater SIL_Surface	Water SO_Soil

- ☐ 1255 Powelf Street, Emeryville, CA 94608 (510) 428-2300
- ☐ 801 Western Avenue, Glendale, CA 91201 (818) 247-5737
- ☐ 1200 Gene Autry Way, Anaheim, CA 92805. (714) 978-0113

Note:	Samples are discarded 30 days after results are reported unless other arrangements	are made
	Hazardous samples will be returned to client or disposed of at client's expense.	

and the second second	5.47			and the second
Disposal arrangement	s:		·	
	* * * * * * * * * * * * * * * * * * *	2.5.7		

SL—Sludge PE—Petroleum OT—Other NA-Nonaqueous GW-Groundwater AQ-Aqueous

CHAINIO	F CUSTODY	DECADA
CHAIN U	r CUSIUDY	KELUKD

Client na	Drowns Columbia Consultants 7175-03						,				7		A	nalyses	require	d .		- 74 · · ·	•	
Address	3490	Bush	1L V			Phone	(510) 937	-9010		1			. / :							•
City, Stat	Pleaser	J Hat	, CIA		Report attention	Miller				/>	× /,	/								
Lab Sample	Date	Time	Type* See key	Sampled by		Nalson		Number] /	(XX)									¥ - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
number	sampled	sampled	below		Sample de	scription		of containers	$\sqrt{\chi}$	***\	Jarie /	/				\z ²	\$ /	Remar	rs	13.7
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	10	12:05		₩-3			<u> </u>	Y	×	メ					ν.		Acutate,			
	2/19/93	11:00	(U	W-12	<u> </u>			પ	X	X.				2		_	N-Rupy	1 Aca	Lte.	**
No				- <u> </u>			· · · · · · · · · · · · · · · · · · ·							`	15	, -	€ Ethyl			
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	4:							2.16						· .	per per			J		·.
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<u> </u>		·		1/4		· · · · · · · · · · · · · · · · · · ·	74			Σ_{β}^{C}		<u>V</u>	7 (~ , , , , ,				<u> </u>		
. ` `		49.					<u> </u>										* /	<u> </u>	-1	
						1. T. A.										-				
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Received	ру	<u> </u>	<u> </u>			<u></u>			54	<u> </u>	. N		<u> </u>	<u> </u>		n =.				
Relinquis	hed by		<u> </u>	×			2 (N)		1.77	e ~ _ /	·								· - /	
Received	by				Variable (Variable)	<u> </u>			18		: ->				•		-	1		
Relinquis	hed by	1.		<u> </u>								.7		ŧ			,		J 1	
Received	by Laboratory	Dles	Ba	rus	Giles	NBO	irnes	3 3	(b);	A)		Ser Service					2/19	193	14.2	30
B C AN	ALYTICA			1 1	Note: Samples are	discarded 30	days after results	are reported u	niess oti	her arrar	ngement	ls are m	ade.	*KE	Ý: WV	V—Was	tewater SU-S	urface W	ater SO—Sc	 'il

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- ☐ 1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements:

SL-Sludge PE-Petroleum OT-Other

NA-Nonaqueous GW-Groundwater AQ-Aqueous

LOG NO: E93-02-447

Received: 19 FEB 93

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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		DA	TE SAMPLED
02-447-1 02-447-2 02-447-3	B-1 W-3 W-10	· * - ·		19 FEB 93 19 FEB 93 19 FEB 93
PARAMETER	02-447	-1	02-447-2	02-447-3
Volatile Or Date Analy Dilution I 1,1,1-Tric 1,1,2,2-Tric 1,1-Dichlo 1,2-Dichlo 1,2-Dichlo 1,2-Dichlo 1,2-Dichlo 1,2-Dichlo 2-Chloroed Acetone, u Acrolein, Acrylonita Bromometha Benzene, u	rganics (EPA 8240) yzed Pactor, Times chloroethane, ug/L etrachloroethane, ug/L chloroethane, ug/L oroethane, ug/L oroethane, ug/L oroethane, ug/L orobenzene, ug/L	93 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	02/24/93 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	02/25/93 250 <300 <300 <300 <300 <300 <300 <300 <3
2 7	zene, ug/L trachloride, ug/L ane, ug/L	<1 <1 <1 <1 <1	·	the state of the s
Chlorometl	hane, ug/L	<1	<1	/_<300



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LOG NO	SAMPLE DESCRIPTION;	GROUND	WATER	SAMPLES	ره در در خواشی	D/	ATE SAMPLED
02-447-1 02-447-2 02-447-3	B-1 W-3 W-10						19 FEB 93 19 FEB 93 19 FEB 93
PARAMETER					02-447-1	02-447-2	02-447-3
Ethylbenz Methyl et Methyl is Methylene Trichloro Trichloro Toluene, Tetrachlo Vinyl chl Total Xyl	cloromethane, ug/L ene, ug/L hyl ketone, ug/L obutyl ketone, ug/L chloride, ug/L ethene, ug/L ofluoromethane, ug/L ug/L oride, ug/L ene Isomers, ug/L ochloroethene, ug/L				<1 <1 <5 <5 <1 <1 <1 3.4 <1 <1	<1 <5 <5 <1 190 <1 <1 250 19	<300 <300 2300 18000 <300 <300 <300 <300 <300 <300 <300
cis-1,3-D trans-1,2 trans-1,3	chichloropropene, ug/L -Dichloroethene, ug/L -Dichloropropene, ug/ -Dichloropropene, ug/ latile Organics (EPA	Ļ			<1 <1 <1 <1	<1 <1	<300 <300 <300 <300
Diisopro	tified Results ** pyl Ether, ug/L CHL, ug/L					20	4000

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



LOG NO: E93-02-454

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	$\label{eq:continuous} \phi = \frac{1}{\sqrt{1-2}} 1$	KEPUKI	OF ANALI	TICAL RES	nr12		Page 1
LOG NO	~- SAMPLE DESCRI	PTION, GR	OUND WATE	R SAMPLES		DA	TE SAMPLED
02-454-1 02-454-2 02-454-3	B-1 W-3 W-10						19 FEB 93 19 FEB 93 19 FEB 93
PARAMETER	,		·		02-454-1	02-454-2	02-454-3
Methanol, Propanol, Acetates by Date Analy Dilution H Butyl acet Ethyl acet Isopropyl	mg/L Alcohol, mg/L mg/L mg/L y EPA 8240				<5 <5 <5 <5 <5 02/24/93 1 <20 <20 <20 <20	<5 <5 <5 <5 <5 02/24/93 1 <20 <20 <20 <20	<50 <50 750 <50 <50 02/25/93 250 <5000 <5000 <5000

Edward Wilson, Laboratory Director

LOG NO: E93-02-447

Received: 19 FEB 93

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

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, G	ROUND WAT	ER SAMPLES		DA	TE SAMPLED
02-447-4 02-447-5	W-5					19 FEB 93
02-447-6	W-7	4 1.	\$ 1.			19 FEB 93 19 FEB 93
02-447-7	W-8			100		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 Analy		02.25.93	02.25.93	02.25.93	02.25.93	02.25.93
Confirmati		02.25.93	02.25.93	02.25.93	02.25.93	02.25.93
Dilution F	actor, Times	50	10	5	/ 2 ,	1
1,1,1-Tric	hloroethane, ug/L	<30	5.1	4.9	<1	16
1,1,2,2-Te	trachloroethane, ug/L	<30	<5	- <3 -	<1	<0.5
1,1,2-Tric	hloroethane, ug/L	<30	<5	<3	<1	<0.5
1,1-Dichle	proethane, ug/L	<30	<5	<3	4.1	3.3
	roethene, ug/L	<30	<5	<3	1.2	11
	roethane, ug/L	<30	< 5 \	`` <3	· · · · · · · <1	<0.5
1,2-Dichlo	robenzene, ug/L	<30	<5	<3	<1	<0.5
1,2-Dichlo	roethené (Total), ug/L	2500	<5	66	200	1.8
	ropropane, ug/L	<30	<5	<3	<1	<0.5
1,3-Dichlo	robenzene, ug/L	<30	<5	<3	<1	<0.5
	robenzene, ug/L	<30	<5	<3	\ <1	<0.5
2-Chloroet	hylvinylether, ug/L	<30	<5	- ¹ - 1 <3 ¹ - 1	` ₹1	<0.5
	oromethane, ug/L	<30	<5	<3	<1/	<0.5
Bromometha	ne, ug/L	<30	<5	<3	<1	<0.5
Bromoform,		<30	<5	<3	<1	<0.5
Chlorobenz		<30	. <5	<3	<1	<0.5
Carbon Tet	rachloride, ug/L	<30	<5	<3	<1	<0.5
Chloroetha	ne, ug/L	<30	<5	<3	<1	<0.5
Chloroform		<30	<5	<3	<1	0.60
5						



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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION,	ER SAMPLES	SAMPLES DATE SAMPLE				
02-447-4	W-5					19 FEB 93	
02-447-5	W-6	F-IN LOW				19 FEB 93	
02-447-6	W-7					19 FEB 93	
02-447-7	W-8					19 FEB 93	
02-447-8	W-9	125	WG	w 7	w 8	19 FEB 93	
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	Freon 113, ug/L		<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	
		O SECTION AND ASSESSMENT	The second secon	The way was the Co		Service Committee	

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LOG NO	SAMPLE DESCRIPTION,	GROUND WAT	ER SAMPLES		DA	ATE SAMPLED
02-447-4 02-447-5 02-447-6	W-5 W-6 W-7		7			19 FEB 93 19 FEB 93 19 FEB 93
02-447-7 02-447-8	W-8: \\					19 FEB 93 19 FEB 93
PARAMETER		02-447-4	02-447-5	02-447-6	02-447-7	02-447-8
EPA Method Date Anal Confirmat	yzed / /	02.25.93 02.25.93	02.25.93	02.25.93 02.25.93	02.25.93 02.25.93	02.25.93
1,2-Dichl	Factor, Times orobenzene, ug/L orobenzene, ug/L	50 <30 <30	10 <5 <5	5 <3 <3	2 <1 <1	1 <0.5 <0.5
Benzene,	orobenzene, ug/L ug/L zene, ug/L	<30 <30 <30	<5 <5 <5	<3 <3 <3	<1 <1 <1	<0.5 <0.5 <0.5
Ethylbenz	-	<30	< 5	<3 <3	<1	<0.5

<30

<30

REPORT OF ANALYTICAL RESULTS

Edward Wilson, Laboratory Director



Toluene, ug/L

Total Xylene Isomers, ug/L

<0.5