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October 26, 1992

Mr. Robert Weston
Alameda County Health Agency
Department of Environmental Health
Division of Hazardous Materials
80 Swan Way, Room 200
Oakland, California 94621

11-7175-02/1

Subject: Amended Groundwater Monitoring Program/Frequency
James River Corporation, Flexible Packaging Group
2101 Williams Street, San Leandro, California

Dear Mr. Weston:

On behalf of the James River Corporation (JRC), Brown and Caldwell is submitting this proposal for amendment of the groundwater monitoring plan (GMP) currently being followed by JRC at the flexible packaging facility, located at 2101 Williams Street in San Leandro, California. This amended GMP has been developed by BC, in cooperation with JRC. The revised GMP was a direct result of JRC's need to ascertain possible alternatives to reducing overhead expenditures. By amending the current GMP, following the guidelines listed below, JRC can save in overhead expenditures as much as $75,000 over the next five years. The following sections describe past and current conditions identified at the facility and provide support for the recommended revisions to the present GMP.

Summary

JRC has collected groundwater samples on a quarterly basis from 10 groundwater monitoring wells for the past 2 years. Sufficient laboratory data have been collected to adequately characterized the constituents which exist in the shallow groundwater beneath the subject facility. A compilation of the analytical results for the quarterly samples has been provided by JRC to the San Francisco Regional Water Quality Control Board (RWQCB) in each of the quarterly groundwater monitoring reports. Results of quarterly groundwater analyses have identified aromatic and chlorinated VOCs in shallow groundwater beneath the site. Since chlorinated compounds have never been stored at this facility an off-site source for these compounds is presumed to exist. The conclusions of a 1990 off-site groundwater survey conducted by BC support the theory that the chlorinated VOCs identified in the groundwater samples collected from the on-site monitoring wells are probably associated with a source upgradient of the JRC facility.

Project History

Since 1982, the JRC has decommissioned and removed six underground storage tank (USTs) from the location shown on Figure 1. One UST was removed during July 1982, two UST were removed during December 1983, and three USTs were removed during June 1989. According to JRC records these tanks were used to store the following aromatic organic compounds: butyl acetate, ethyl acetate, isopropyl acetate, N-propyl acetate, ethyl alcohol, and N-propyl alcohol.

In June 1989, JRC obtained a permit from the City of San Leandro Fire Department to excavate and remove three underground storage tanks. Excavation and removal procedures were conducted by Engineering Services, Inc. and Atlas Hydraulic, and were supervised by the City of San Leandro Fire Department and Alameda County Water District. During the June 1989 excavation it was determined that the soil in the vicinity of the new ink room contained moderate concentrations of aromatic organic compounds. Soil containing identifiable concentrations of the constituents of concern was removed and the excavation was backfilled with clean material.

Since June 1989, BC has installed 11 groundwater monitoring wells on-site (W-1 through W-10 and B-1). In March 1992, Monitoring Well W-2 was properly abandoned because of a collapsed casing. The remaining 10 groundwater monitoring wells are monitored on a quarterly basis for the presence of volatile organic compounds (VOCs). Groundwater samples are analyzed by BC Analytical, a State of California, Department of Toxic Substance Control certified laboratory, following EPA Methods 8010 and 8020.

Results of quarterly groundwater analyses have identified aromatic and chlorinated VOCs in shallow groundwater beneath the site. **Since chlorinated compounds have never been stored at this facility an off-site source for these compounds was presumed to exist.** BC conducted an off-site shallow groundwater survey in July, 1990. Analytical results from this survey identified the presence of chlorinated VOCs in the groundwater immediately upgradient of the JRC facility. Evaluation of the analytical data from the various sampling locations indicated that the samples collected from the furthest up-gradient sampling point contained the highest concentrations of chlorinated VOCs. This indicates a possible upgradient source for the chlorinated VOCs identified in the shallow groundwater beneath the JRC facility.

Current Groundwater Monitoring Program

The present GMP was developed in 1989 to identify constituents which may be present in the shallow groundwater beneath the site related to the former USTs which were excavated and removed from the site in June, 1989. The current GMP being implemented by JRC includes collecting samples from nine on-site groundwater monitoring wells (B-1, W-1, W-3 through

W-8, and W-10) and one off-site groundwater monitoring well (W-9) on a quarterly basis (Figure 1). Constituents identified in groundwater and their relative concentrations are given in Table 1.

Proposed Revised Groundwater Monitoring Program

Collect groundwater samples from monitoring wells W-5 and W-6, the two upgradient groundwater monitoring wells, on a quarterly basis. Collecting samples from these two wells will allow JRC to monitor the influx of chlorinated VOCs beneath their property. The eight remaining monitoring wells would be sampled on an annual basis. Sampling of the eight remaining wells would occur between the months of December and February, the months most recently associated with the highest identified concentrations of constituents of concern.

All samples will be collected following the field sampling procedures previously established for this facility. Groundwater monitoring wells will be purged using a teflon or polyethylene bailer or a stainless steel submersible pump. Purge water will be routinely monitored for Ph, temperature, and specific conductance throughout the purging process. Once these three parameters have stabilized (three consecutive measurements not varying by more than 5%) and a minimum of three well volumes have been purged from the well a groundwater sample will be collected. All groundwater samples will be submitted to a State of California, Department of Toxic Substance Control certified laboratory for analysis. All samples will be analyzed for the presence of volatile organic compounds (VOCs) following EPA Methods 8010 and 8020. A quarterly monitoring report will be prepared and submitted to Alameda County and the Regional Water Quality Control Board within 45 days of the completion of the sampling.

This revised sampling plan is expected to provide adequate data to evaluate the condition of the shallow groundwater for the following reasons:

- A comprehensive database containing two years of historical data, collected on a quarterly basis, has been compiled by JRC. The trend in the data indicate relatively stable concentrations of the constituents of concern beneath the site, except for periods of substantial rainfall when the constituents increase in concentration. This increase appears to be associated with a rise in the local groundwater elevation and is a common effect identified at almost all sites in the San Francisco Bay Area where shallow groundwater has been affected.

- The local groundwater gradient has consistently been towards the west throughout the past two years and is extremely shallow, approximately 0.005 feet per foot. The resulting average groundwater flow velocity is not expected to exceed a few feet per year.

- The constituents of concern associated with past site activities (aromatic organic compounds) are identified in relatively low concentrations near the former UST area and are virtually nonexistent near the western (down gradient) facility boundary.

- The chlorinated VOCs which are considered the most significant chemicals of concern (i.e. TCE) have been identified in shallow groundwater across the site. The identification of these chlorinated constituents prompted an off-site investigation. In situ groundwater grab samples were collected west and north west of the JRC facility (upgradient), within Southern Pacific Railroads right-of-way. In situ groundwater grab samples were screened on-site for the presence of chlorinated VOCs using a flame ionization detector. Duplicate samples were submitted to BC Analytical Laboratory, in Emeryville, California, for analysis. The conclusions of the 1990 off-site groundwater survey conducted by BC indicate that the chlorinated VOCs identified in the groundwater samples collected from the on-site monitoring wells are probably associated with a source upgradient of the JRC facility.

If you have any questions regarding the information contained in this letter please contact me at your earliest convenience.

Very truly yours,

BROWN AND CALDWELL

Todd Miller
Project Manager

TM:bw

cc: Mr. Lester Feldman, San Francisco Bay Regional Water Quality Control Board
Mr. Michael Bakaldin, San Leandro Fire Department

References

Additional Site Investigation Summary Report, James River Corporation, Flexible Packaging Plant, San Leandro, California, July 11, 1991, Brown and Caldwell

May 1992 Quarterly Self-Monitoring Report, James River Corporation, Flexible Packaging Group, San Leandro, California, June 24, 1992, Brown and Caldwell

Results of Off-site Groundwater Survey, James River Corporation, Flexible Packaging Plant, San Leandro, California, July 11, 1991, Brown and Caldwell

Brown and Caldwell
Consultants

Table 1 Summary of Groundwater Analytical Results
James River Corporation, San Leandro, California

Well Designation	Sample Date	Concentrations (µg/L)									
		Benzene	Ethyl-Benzene	Toluene	Xylenes	TCE	Vinyl Chloride	PCE	1,1,1-TCA	1,2-DCE	1,1-DCA
W1	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
W3	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
W4	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
W5	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

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		Benzene	Ethyl-Benzene	Toluene	Xylenes	TCE	Vinyl Chloride	PCE	1,1,1-TCA	1,2-DCE	1,1-DCA
W6	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
W7	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
W8	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[1]	62	<0.5	<0.5	51	3.9
W9	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

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James River Corporation, San Leandro, California

Well Designation	Sample Date	Concentrations (µg/L)									
		Benzene	Ethyl-Benzene	Toluene	Xylenes	TCE	Vinyl Chloride	PCE	1,1,1-TCA	1,2-DCE	1,1-DCA
W10	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
B1	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

µg/L = micrograms per liter
1,1-DCA = 1,1-Dichloroethane
1,2-DCE = 1,2-Dichloroethylene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethylene
PCE = Tetrachloroethylene

NOTES:
1. Dichlorodifluoromethane was identified at 26 µg/L in the sample collected from Well W-7.
2. Chloroform and 1,1-DCE were identified at 0.5 and 7.5 µg/L, respectively, in the sample collected from Well W-9.
3. Methylene chloride was identified at 200 µg/L in the sample collected form Well W-10.