

ATTACHMENT
2

REC'D JUL 14 1989

July 13, 1989

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

11-4459-01/1

Subject: Draft Groundwater Remediation Plan Evaluation,
James River Corporation, San Leandro Facility

Dear Mr. Wenning:

This draft report summarizes the findings and recommendations from our review of the current groundwater remediation plan prepared for the subject facility. Included is a summary of the groundwater analytical data collected to date. This work was performed under the terms and conditions of Brown and Caldwell's agreement with James River Corporation for engineering services dated March 8, 1989, and the James River Purchase Order No. SL 03526-EE, dated April 28, 1989.

Background

Harding Lawson Associates conducted a hydrogeologic investigation at the James River Facility in 1986. The purpose of the investigation was to provide sufficient data for developing a groundwater remedial action plan. The investigation included monitoring well installation, groundwater sampling and analysis, and data evaluation. The findings of that investigation were summarized in a report dated April 10, 1986.

As discussed in the 1986 report, organic compounds such as acetates and alcohols were identified in the groundwater. The earliest documented leakage occurred in 1982 with n-propyl alcohol and n-propyl acetate. The most recent documented release occurred in 1986 with ethyl alcohol and butyl acetate.

Current Remediation Plan

Incorporating the findings of the 1986 investigation, James River voluntarily began developing plans to prevent further solvent leaks, and to remediate the groundwater. To prevent subsequent leaks, the underground storage tanks (USTs) were removed in 1987. To cleanup the groundwater, James River developed a plan to pump the groundwater and discharge it to the City of San Leandro (City) Wastewater Treatment Plant (Plant) for treatment. A three-year discharge permit was granted by the City in April, 1988. James River plans to install one or more groundwater pumps on site to prevent the migration of constituents in the groundwater. Two existing 13,500 gallon capacity above-ground storage tanks will be used for storage prior to discharge to the City Plant. The tanks will allow daily measurement of the discharge volume and other permit parameters prior to discharge to the Plant.

Recent Analytical Results

Evaluation of the current remediation plan included sampling and analysis of groundwater collected from ten existing on-site monitoring wells, and comparing these data with City Plant discharge limits and earlier analytical results. Well locations are illustrated on Figure 1. The samples were submitted for analysis at the California Department of Health Services certified, Brown and Caldwell Laboratory in Emeryville. The samples were analyzed for priority pollutant purgeable organics chemicals using EPA test method 8240. Biochemical Oxygen Demand (BOD), Non-filterable Residue (TSS), and flashpoint were performed on only two samples. These analyses were conducted to indicate compliance with the existing City Plant discharge permit using the current remediation plan. Under the permit requirements, priority pollutant purgeable organic chemicals, various metals, pesticides, and herbicides must be analyzed on a quarterly basis, BOD and TSS monthly, and

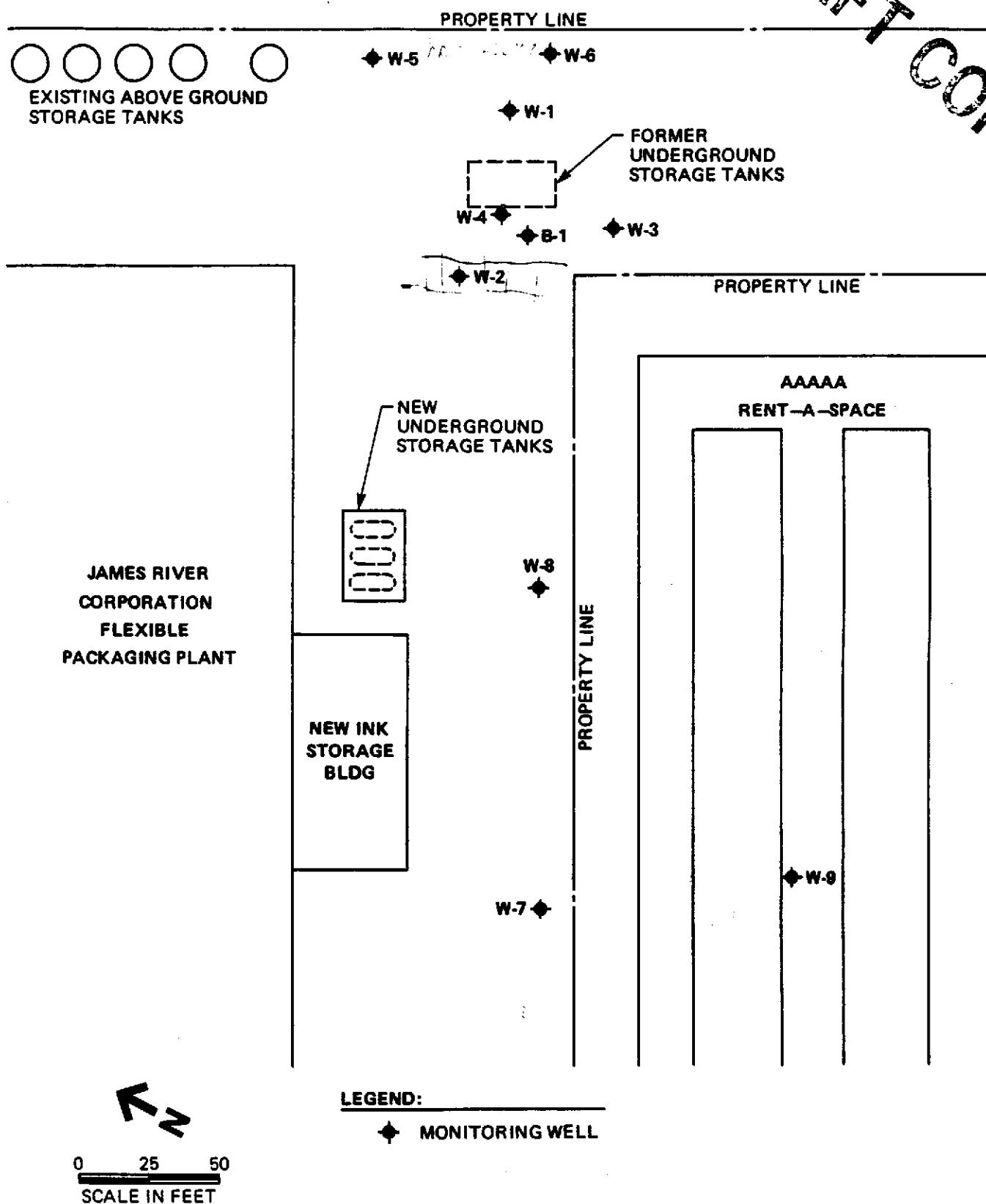


Figure 1 Well Location Map

temperature and flashpoint daily. Presently, discharge to the Plant will be limited if the organic chemicals, pesticides, herbicides, metals, or flashpoint exceed the permit concentrations. The permit does not include limits for BOD, TSS or temperature at this time. Various metals, pesticides, and herbicides were not analyzed in this study since a potential source of these constituents was not identified.

The results of the 1989 groundwater analyses are summarized in Table 1. This table presents the concentrations of the organic chemicals identified above detection limits. The sampling summary and analytical test reports are provided as Enclosures A and B respectively. The following paragraphs summarize and ~~discuss~~ discuss significant findings.

Purgeable Organic Chemicals. Total acetate, alcohol, and acetone concentrations identified in wells W-1, W-2, W-3, W-4, and W-8 are plotted on Figures 2 through 4 respectively. Total concentrations were calculated as the sum of all related measured constituents. As illustrated on Figures 2 and 3, the total acetate and total alcohol concentrations have declined from several thousand milligrams per liter (mg/l) in 1984 to less than 10 mg/l currently in all wells.

Unlike total acetate and total alcohol concentrations, acetone concentrations vary at each well location. As illustrated on Figure 4, acetone concentrations in recent samples collected from wells W-1, W-4, and W-8 increased, while concentrations at wells W-2 and W-3 decreased from earlier concentrations. The source of acetone in the groundwater has not been determined.

Table 1. Analytical Results for Groundwater Samples (April 1989)

Well Identification	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	B-1
PARAMETERS (micrograms per liter)										
Purgeable Organic Chemicals										
Benzene	<100	<50	<10	<100	<1	<1	<1	<5	2	<1
Tetrachloroethylene	300	1,000	1,200	140	5,000	1,400	1,100	120	33	12
Trichloroethylene	<100	<50	230	<100	600	240	260	<5	34	<1
Toluene	<100	920	<10	2,900	7	<1	4	200	7	10
Vinyl Chloride	300	450	39	<100	1,000	<1	43	15	3	<1
1,2-Dichloroethene	730	1,400	170	720	6,000	12	140	35	16	7
Total Purgeable Organic Chemicals	1,330	3,770	1,639	3,760	12,607	1,652	1,547	370	95	29
Semi-Quantified Results										
Acetone	68,000	66,000	25,000	760,000	77	-	2,100	780,000	1,400	4,500
2-Hexanone	-	1,700	540	8,200	9	-	150	6,400	36	38
C5H10O2 (Ester)	-	1,000	-	60,000	-	-	-	-	-	200
Ethanol	-	500	-	-	-	-	20	200	10	-
Isopropanol	-	6,000	500	30,000	-	-	200	5,000	100	60
Methyl Acetate	-	200	-	-	-	-	-	40	-	-
N-Butyl Acetate	-	4,400	-	-	-	-	-	-	-	-
Propyl Acetate	-	900	-	-	-	-	-	-	-	-
Total Xylene Isomers	-	-	-	400	-	-	-	-	-	-
Methyl Ethyl Ketone	-	-	-	-	-	-	79	-	-	-

Notes: 1. Parameters listed above include purgeable organic chemicals identified above detection limits.
 2. Detection limits are included in Laboratory reports in Enclosure B.

1 milligram/liter H₂O

15

00000000834#/gal H₂O

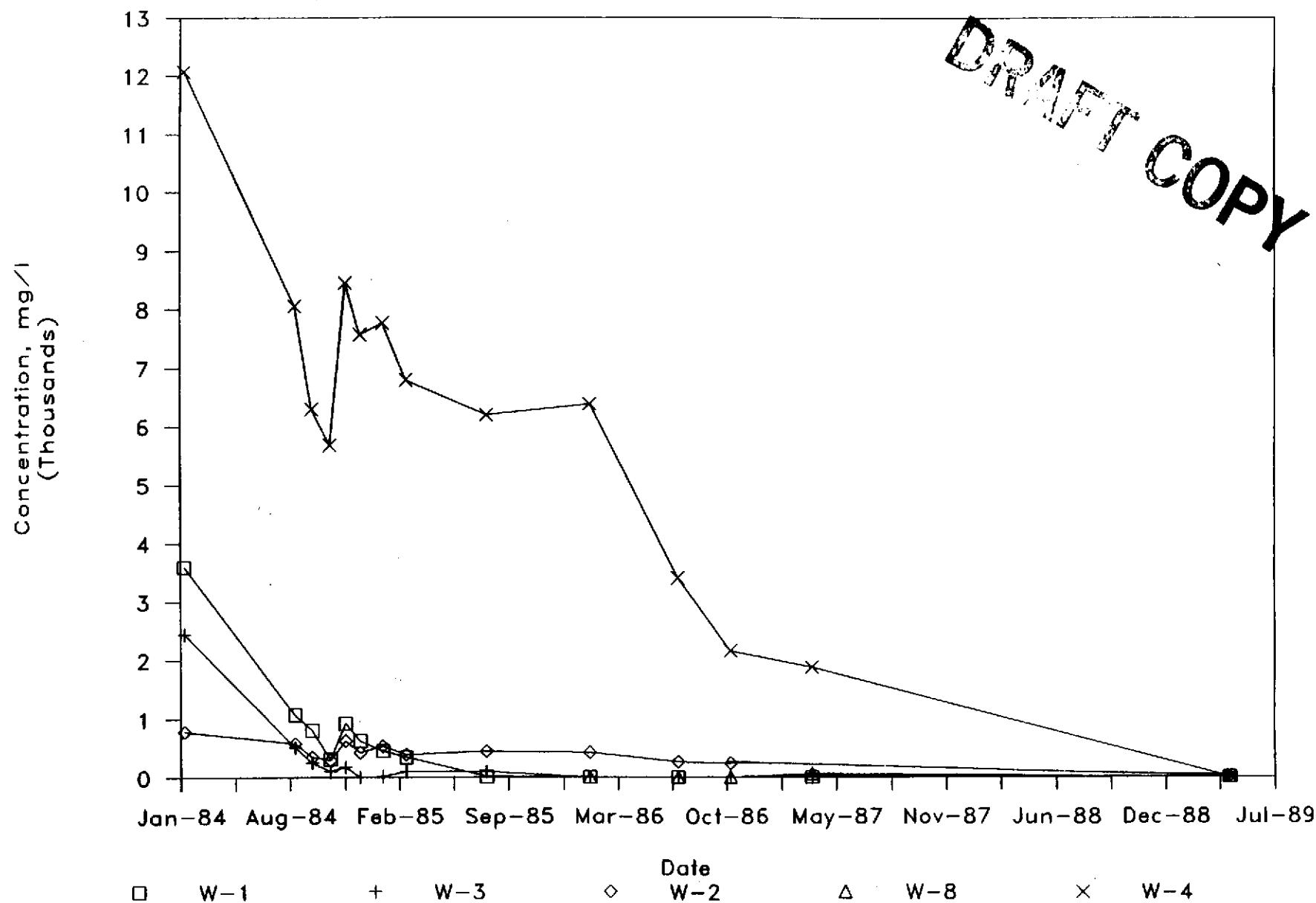


Figure 2 Total Acetate Concentrations from Select Wells

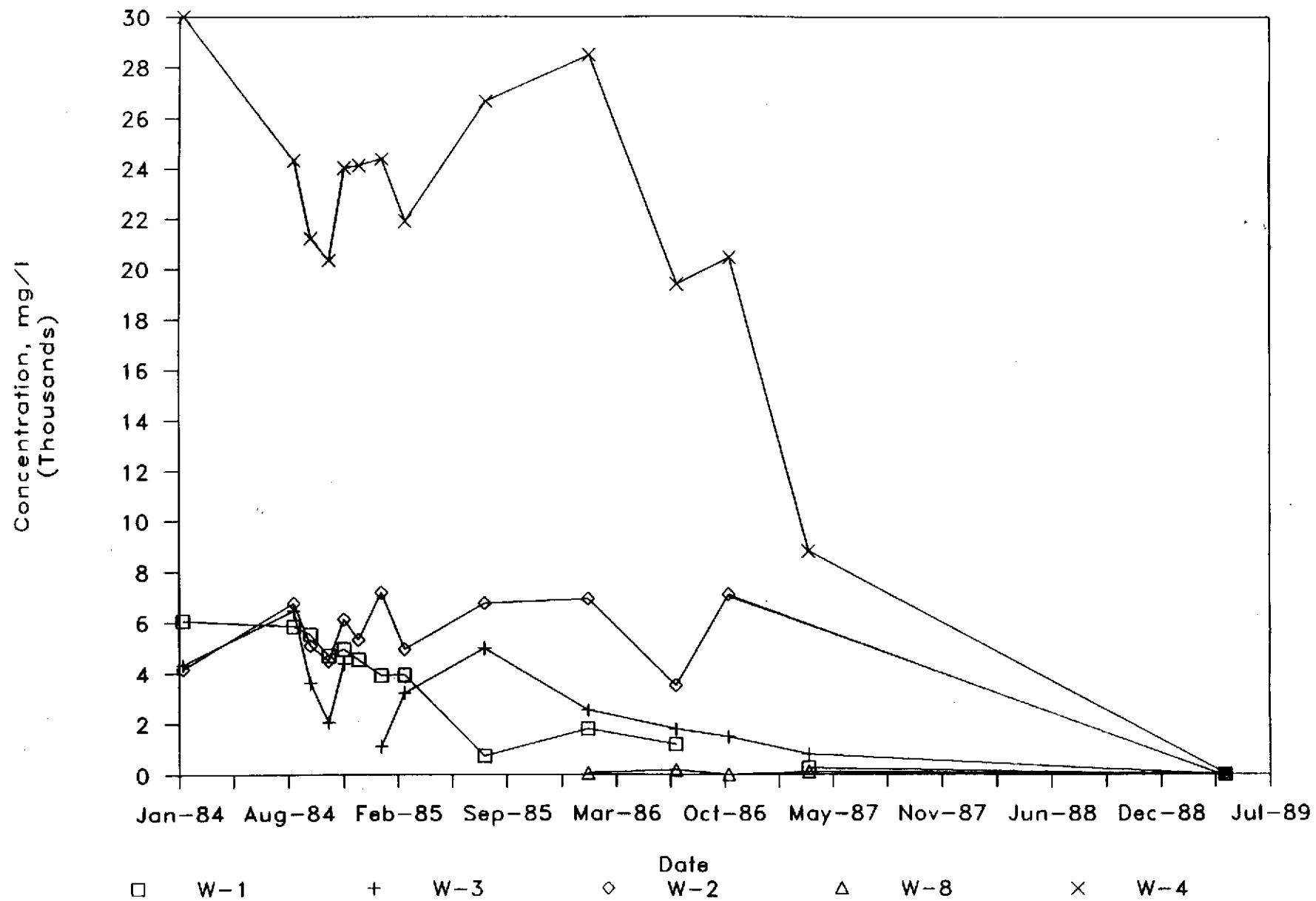


Figure 3 Total Alcohol Concentrations from Select Wells

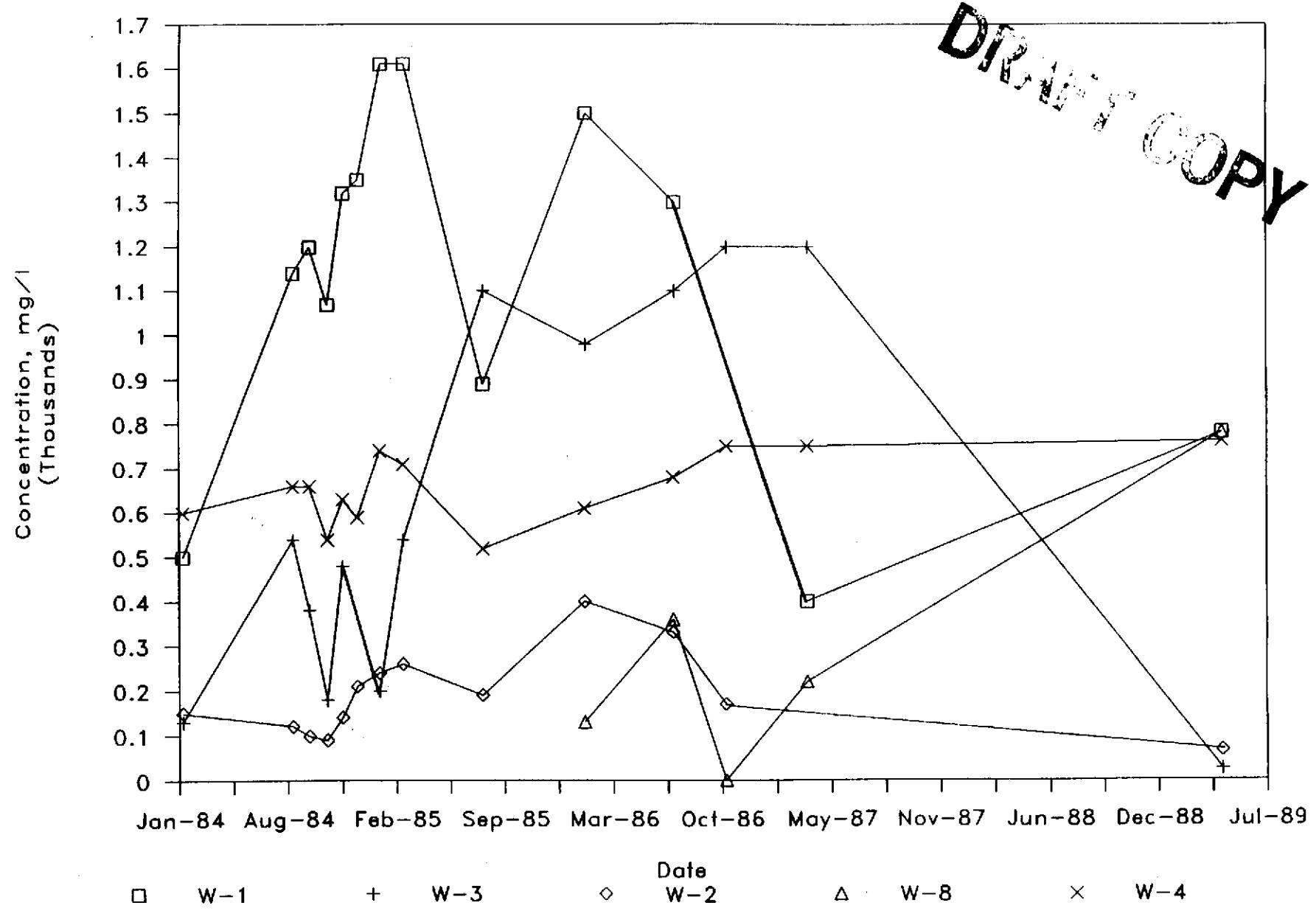


Figure 4 Acetone Concentrations from Select Wells

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A comparison of maximum site constituent concentrations with the discharge permit limits is provided on Table 2. Included on the table is the well location of maximum concentrations identified in the groundwater samples. Note that many of the constituents are reported as <100 micrograms per liter (ug/l). This relatively high detection limit does not allow for good comparison of the data with permit limits less than 100 ug/l. For example, methylene chloride was reported as <100 ug/l; the maximum permit level is 40 ug/l. The actual concentration could be less than, or greater than 40 ug/l. The high detection limits resulted from diluting the sample at the laboratory to measure constituents which were present in much greater concentrations. For these samples with high concentrations, a good comparison with the permit limit may be made. Halocarbons such as tetrachloroethylene, trichloroethylene, 1, 2 - dichloroethene (Total), vinyl chloride, and toluene were identified in concentrations ranging from 600 to 6,000 ug/l; these concentrations are above permit levels. Semi-quantified constituents such as acetone, isopropanol, and methyl ethyl ketone were also present in concentrations above permit levels.

BOD, TSS, and Flash Point. The BOD of the sample collected from well W-2 was 1,900 mg/l and the TSS was 52 mg/l. The BOD and TSS of the sample collected from W-3 were relatively lower at 14 mg/l and 20 mg/l, respectively. Both samples were not ignitable.

Table 2, Permit Limits and Maximum Site Concentrations

Parameters	Permit Limit	Maximum Concentration	Well Identification
Flashpoint	>200 degrees	NI	W-2, W-3
Metals (various), mg/l	ND to 3	NA	none sampled
Herbicides (various), ug/l	8 to 500	NA	none sampled
Pesticides (various), ug/l	0.02 to 350	NA	none sampled
Purgeable Halocarbons, ug/l			
Carbon Tetrachloride	5	<100	W-1, W-4
Methylene Chloride	40	<100	W-1, W-4
Vinyl Chloride	2	1,000	W-5
1,1-dichloroethylene	6	<100	W-1, W-4
Cis-1,2-dichloroethylene	16	NA	none sampled
Trans-1,2-dichloroethylene	16	NA	none sampled
Tetrachloroethylene	4	5,000	W-5
Trichloroethylene	5	600	W-5
1,1-dichloroethane	20	<100	W-1, W-4
1,2-dichloroethane	1	<100	W-1, W-4
1,1,2-trichloroethane	100	<100	W-1, W-4
1,1,1-trichloroethane	200	<100	W-1, W-4
Freon II	3,400	<100	W-1, W-4
Freon III	18,000	NA	none sampled
Purgeable Aromatics, ug/l			
Benzene	0.7	400	W-1, W-4
Ethylbenzene	680	<100	W-1, W-4
Monochlorobenzene	30	NA	none sampled
1,2-dichlorobenzene	13	NA	none sampled
1,3-dichlorobenzene	130	NA	none sampled
1,4-dichlorobenzene	0.5	NA	none sampled
Toluene	100	2900	W-4
Xylene Isomers	620	400	W-4

Notes: 1. Samples collected April 21, 1989.
 2. NI denotes sample is not ignitable.
 3. ND denotes parameter not detected.
 4. NA denotes parameter not analyzed.
 5. Permit limits consist of concentrations for constituents in the Permit. State and Federal Action levels are used for constituents not listed in the Permit.
 Where action levels are not provided, the permit limit is zero.

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Data Interpretation

Based on the recent analytical results, either significant insitu treatment of the alcohols and acetates identified in the groundwater has taken place, or these constituents have not yet migrated downgradient to well W-8. Because of the relatively high volatility and biological degradability of these compounds, the removal is hypothesized as resulting from vaporization and microbiological assimilation. The data also indicate that removal of the USTs has prevented further release of these constituents.

Removing the USTs however, has not prevented the continued identification of various other organic constituents. Acetone concentrations in three wells are greater than 700 ug/l. These concentrations are higher than the measurements in 1987. The highest concentrations of acetone were detected in monitoring wells (W-2, W-4, and W-8) located near or downgradient to the former UST locations. The data suggest acetone is migrating downgradient towards the site boundary to the southwest.

The highest concentrations of halocarbons were identified in well W-5, located upgradient of the former USTs and near the site boundary. This indicates that the halocarbons may be migrating to the James River facility from an off-site source.

ENCLOSURE A
SAMPLING SUMMARY

WELL SAMPLING DATA SUMMARY

Date: April 21, 1989

Time: 0830 hrs to 1845 hrs

Location: James River Flexible Packaging Plant
2101 Williams Street
San Leandro, California

Total Well Sampled: 10

Total Number of Sample Containers: 26

Analyses: Priority Pollutant Purgeable Organic Chemicals

EPA Test Method 8240.

Biochemical Oxygen Demand (BOD)

Total Settleable Solids (TSS)

Sampling Method: Teflon Bailer, 1-inch diameter

Groundwater Sampling Summary Data

<u>Well Identification</u>	<u>W-1</u>	<u>W-2</u>	<u>W-3</u>	<u>W-4</u>	<u>W-5</u>	<u>W-6</u>	<u>W-7</u>	<u>W-8</u>	<u>W-9</u>	<u>B-1</u>
Sample Order	2	7	6	4	3	1	10	9	8	5
Casing Diameter	4	4	4	4	2	2	4	4	4	4
Estimated Well Volume (gallons)	16	16	16	16	4	4	16	16	16	32
Estimated Purged Volume (gallons)	31	64	65	31	17	10	55	55	55	150
Well Volumes Purged	1.9	4.0	4.1	1.9	4.3	2.5	3.4	3.4	3.4	4.7
<u>Pumping Rate (gallons per minute)</u>	<u>0.5</u>	<u>4.8</u>	<u>8.0</u>	<u>4.0</u>	<u>5.7</u>	<u>0.5</u>	<u>2.2</u>	<u>3.8</u>	<u>6.0</u>	<u>8.5</u>

**ENCLOSURE B
LABORATORY REPORTS**



BROWN AND CALDWELL LABORATORIES

ANALYTICAL REPORT

1256 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

LOG NO: E89-04-609

Received: 20 APR 89

Reported: 08 MAY 89

Ms. Paula Diepolder
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 4459-01

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED	
04-609-1	W-2		20 APR 89
04-609-2	W-3		20 APR 89
PARAMETER			
		04-609-1	04-609-2
BOD, mg/L		1900	14
Flash Point, deg F		NI	NI
Non-filterable Residue (TSS), mg/L		52	20



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LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED	
PARAMETER		04-609-1	04-609-2
04-609-1	W-2		20 APR 89
04-609-2	W-3		20 APR 89
Purgeable Priority Pollutants			
Date Extracted		05.03.89	05.03.89
1,1,2-Trichloroethane, ug/L		<50	<10
1,1-Dichloroethane, ug/L		<50	<10
1,1-Dichloroethylene, ug/L		<50	<10
1,2-Dichloroethane, ug/L		<50	<10
1,2-Dichloropropane, ug/L		<50	<10
1,3-Dichloropropene, ug/L		<50	<10
2-Chloroethylvinylether, ug/L		<50	<10
Acrolein, ug/L		<500	<100
Acrylonitrile, ug/L		<500	<100
Bromodichloromethane, ug/L		<50	<10
Bromomethane, ug/L		<50	<10
Benzene, ug/L		<50	<10
Chlorobenzene, ug/L		<50	<10
Carbon Tetrachloride, ug/L		<50	<10
Chloroethane, ug/L		<50	<10
Bromoform, ug/L		<50	<10
Chloroform, ug/L		<50	<10
Chloromethane, ug/L		<50	<10
Dibromochloromethane, ug/L		<50	<10
Ethylbenzene, ug/L		<50	<10
Methylene chloride, ug/L		<50	<10
Tetrachloroethylene, ug/L		1000	1200
Trichloroethylene, ug/L		<50	230
Trichlorofluoromethane, ug/L		<50	<10



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LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED	
PARAMETER		04-609-1	04-609-2
04-609-1	W-2		20 APR 89
04-609-2	W-3		20 APR 89
Toluene, ug/L		920	<10
Vinyl chloride, ug/L		450	39
1,2-Dichloroethene (Total), ug/L		1400	170
trans-1,3-Dichloropropene, ug/L		<50	<10
1,1,1-Trichloroethane, ug/L		<50	<10
1,1,2,2-Tetrachloroethane, ug/L		<50	<10
Semi-Quantified Results **			
2-Hexanone, ug/L		1700	540
Acetone, ug/L		66000	---
Acetone, ug/L		---	25000
C5H10O2 (Ester), ug/L		1000	---
C6H14O (Alcohol), ug/L		500	80
Ethanol, ug/L		500	---
Isopropanol, ug/L		6000	500
Methyl Acetate, ug/L		200	---
N-Butyl acetate, ug/L		440	---
Propyl Acetate, ug/L		900	---

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



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LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED				
PARAMETER		04-609-3	04-609-4	04-609-5	04-609-6	04-609-7
Purgeable Priority Pollutants						
Date Extracted		05.03.89	05.03.89	05.04.89	05.03.89	05.03.89
1,1,2-Trichloroethane, ug/L		<100	<100	<1	<1	<1
1,1-Dichloroethane, ug/L		<100	<100	<1	<1	<1
1,1-Dichloroethylene, ug/L		<100	<100	10	<1	<1
1,2-Dichloroethane, ug/L		<100	<100	<1	<1	<1
1,2-Dichloropropane, ug/L		<100	<100	<1	<1	<1
1,3-Dichloropropene, ug/L		<100	<100	<1	<1	<1
2-Chloroethylvinylether, ug/L		<100	<100	<1	<1	<1
Acrolein, ug/L		<1000	<1000	<10	<10	<10
Acrylonitrile, ug/L		<1000	<1000	<10	<10	<10
Bromodichloromethane, ug/L		<100	<100	<1	<1	<1
Bromomethane, ug/L		<100	<100	<1	<1	<1
Benzene, ug/L		<100	<100	<1	<1	1
Chlorobenzene, ug/L		<100	<100	<1	<1	<1
Carbon Tetrachloride, ug/L		<100	<100	<1	<1	<1
Chloroethane, ug/L		<100	<100	<1	<1	<1
Bromoform, ug/L		<100	<100	<1	<1	<1
Chloroform, ug/L		<100	<100	<1	<1	<1
Chloromethane, ug/L		<100	<100	<1	<1	<1
Dibromochloromethane, ug/L		<100	<100	<1	<1	<1
Ethylbenzene, ug/L		<100	<100	<1	<1	<1
Methylene chloride, ug/L		<100	<100	<1	<1	<1



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LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED				
PARAMETER		04-609-3	04-609-4	04-609-5	04-609-6	04-609-7
Tetrachloroethylene, ug/L		300	140	5000	1400	1100
Trichloroethylene, ug/L		<100	<100	600	240	260
Trichlorofluoromethane, ug/L		<100	<100	<1	<1	<1
Toluene, ug/L		<100	2900	7	<1	4
Vinyl chloride, ug/L		300	<100	1000	<1	43
1,2-Dichloroethene (Total), ug/L		730	720	6000	12	140
trans-1,3-Dichloropropene, ug/L		<100	<100	<1	<1	<1
1,1,1-Trichloroethane, ug/L		<100	<100	2	<1	2
1,1,2,2-Tetrachloroethane, ug/L		<100	<100	<1	<1	<1
Semi-Quantified Results **						
2-Hexanone, ug/L	---		8200	9	---	150
Acetone, ug/L	68000		760000	77	---	2100
C5H10O2 (Ester), ug/L	---		60000	---	---	---
C6H14O (Alcohol), ug/L	---		1000	---	---	---
C6H14O (Ether), ug/L	---		---	20	---	20
Ethanol, ug/L	---		---	---	---	200
Isopropanol, ug/L	---		30000	---	---	79
Methyl ethyl ketone, ug/L	---		---	---	---	---
Total Xylene Isomers, ug/L	---		400	---	---	---

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



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LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED		
PARAMETER		04-609-8	04-609-9	04-609-10
Purgeable Priority Pollutants				
Date Extracted		05.03.89	05.03.89	05.03.89
1,1,2-Trichloroethane, ug/L		<5	<1	<1
1,1-Dichloroethane, ug/L		<5	<1	<1
1,1-Dichloroethylene, ug/L		<5	<1	<1
1,2-Dichloroethane, ug/L		<5	<1	<1
1,2-Dichloropropane, ug/L		<5	<1	<1
1,3-Dichloropropene, ug/L		<5	<1	<1
2-Chloroethylvinylether, ug/L		<5	<1	<1
Acrolein, ug/L		<50	<10	<10
Acrylonitrile, ug/L		<50	<10	<10
Bromodichloromethane, ug/L		<5	<1	<1
Bromomethane, ug/L		<5	<1	<1
Benzene, ug/L		<5	2	<1
Chlorobenzene, ug/L		<5	<1	<1
Carbon Tetrachloride, ug/L		<5	<1	<1
Chloroethane, ug/L		<5	<1	<1
Bromoform, ug/L		<5	<1	<1
Chloroform, ug/L		<5	<1	<1
Chloromethane, ug/L		<5	<1	<1
Dibromochloromethane, ug/L		<5	<1	<1
Ethylbenzene, ug/L		<5	<1	<1
Methylene chloride, ug/L		<5	<1	<1
Tetrachloroethylene, ug/L		120	33	12
Trichloroethylene, ug/L		<5	34	<1



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PARAMETER		04-609-8	04-609-9	04-609-10
04-609-8	W-8		20 APR 89	
04-609-9	W-9		20 APR 89	
04-609-10	B-1		20 APR 89	
Trichlorofluoromethane, ug/L		<5	<1	<1
Toluene, ug/L		200	7	10
Vinyl chloride, ug/L		15	3	<1
1,1-Dichloroethene (Total), ug/L		35	16	7
trans-1,3-Dichloropropene, ug/L		<5	<1	<1
1,1,1-Trichloroethane, ug/L		<5	3	<1
1,1,2,2-Tetrachloroethane, ug/L		<5	<1	<1
Semi-Quantified Results **				
2-Hexanone, ug/L		6400	36	38
Acetone, ug/L		780000	1400	4500
C5H10O2 (Ester), ug/L		1000	---	200
C6H14O (Alcohol), ug/L		---	10	---
C6H14O (Ether), ug/L		100	---	---
C7H14O2 (Ester), ug/L		10	---	---
Ethanol, ug/L		200	10	---
Isopropanol, ug/L		5000	100	60
Methyl ethyl ketone, ug/L		3300	---	---
N-Butyl acetate, ug/L		40	---	---
Propyl Acetate, ug/L		100	---	---
Propylfuran, ug/L		80	---	---

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

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

**atlas
hydraulic
corporation**

August 1, 1989

Larry Seto
Alameda County Health Dept.
80 Bon Way Rm. 200
Oakland, CA 94621

RE: Flexible Packaging Div.
James River Corporation
2101 Williams St.
San Leandro, CA

We request permission to backfill the tank hole with soil removed from the excavation and compact to 90-95%. Following is brief history of the project.

Altas Hydraulic Corporation removed the following three underground storage tanks which had been installed 6-8 years ago, contents and volume are listed below:

- 1- 5000 gal. 90% ethyl alcohol/10% N.propanol.
- 1- 2000 gal 80% ethyl alcohol/20% N. propanal alcohol
- 1- 2000 gal. 100% N. propanal alcohol.

Test results of the soil are as follows: (see attached).

Please phone me your approval to backfill.

Thanks for your interest and prompt attention to this matter.

Sincerely,

ATLAS HYDRAULIC CORPORATION


J.P. Givens

JPG:bb

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545

RECEIVED 1/22/88

(415) 783-6960

John Deamer
DATE: 1/19/88

LOG NO.: 5570 and 5574

DATE SAMPLED: 1/13/88

DATE RECEIVED: 1/13/88

CUSTOMER: Atlas Hydraulic Corporation

REQUESTER: Bill Bender

PROJECT: Flexible Packaging Division, James River Corporation
2101 Williams Street, San Leandro

Sample Type: Soil

Method and Constituent	Units	No. 1		No. 3	
		Concen-tration	Detection Limit	Concen-tration	Detection Limit
EPA Method 8240:					
Chloromethane	ug/kg	< 5	5	< 5	5
Bromomethane	ug/kg	< 5	5	< 5	5
Vinyl chloride	ug/kg	< 5	5	< 5	5
Chloroethane	ug/kg	< 5	5	< 5	5
Methylene chloride	ug/kg	< 5	5	→ 200	5
Trichlorofluoromethane	ug/kg	< 5	5	< 5	5
1,1-Dichloroethene	ug/kg	< 5	5	< 5	5
1,1-Dichloroethane	ug/kg	< 5	5	< 5	5
trans-1,2-Dichloroethene	ug/kg	< 5	5	< 5	5
Chloroform	ug/kg	< 5	5	< 5	5
1,2-Dichloroethane	ug/kg	< 5	5	< 5	5
1,1,1-Trichloroethane	ug/kg	< 5	5	< 5	5
Carbon tetrachloride	ug/kg	< 5	5	< 5	5
Bromodichloromethane	ug/kg	< 5	5	< 5	5
1,2-Dichloropropane	ug/kg	< 5	5	< 5	5
trans-1,3-Dichloropropene	ug/kg	< 5	5	< 5	5
Trichloroethene	ug/kg	< 5	5	< 5	5

DATE: 1/19/88
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 PAGE: Two

Sample Type: Soil

<u>Method and Constituent</u>	<u>Units</u>	<u>No. 1</u>	<u>Detection Limit</u>	<u>No. 3</u>	<u>Detection Limit</u>
		<u>Concen-</u> <u>tration</u>	<u>Concen-</u> <u>tration</u>		
EPA Method 8240 (Cont'd):					
Benzene	ug/kg	< 5	5	< 5	5
Dibromochloromethane	ug/kg	< 5	5	< 5	5
1,1,2-Trichloroethane	ug/kg	< 5	5	< 5	5
cis-1,3-Dichloropropene	ug/kg	< 5	5	< 5	5
2-Chloroethylvinyl ether	ug/kg	< 5	5	< 5	5
Bromoform	ug/kg	< 5	5	< 5	5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	5	> 5	5
Toluene	ug/kg	< 5	5	< 5	5
Chlorobenzene	ug/kg	< 5	5	< 5	5
Ethyl benzene	ug/kg	< 5	5	< 5	5
1,3-Dichlorobenzene	ug/kg	< 5	5	< 5	5
1,2-Dichlorobenzene	ug/kg	< 5	5	< 5	5
1,4-Dichlorobenzene	ug/kg	< 5	5	< 5	5
Additional Peaks:					
Acetone	ug/kg	→ 3,100	10	< 10	10
4-Methyl-2-pentanone (MIBK)	ug/kg	→ 870	10	< 10	10
Ethanol	ug/kg	→ 780	10	< 10	10
2-Propanol	ug/kg	→ 1,900	10	< 10	10
1-Propanol	ug/kg	→ 300	10	< 10	10
Acetic acid ethyl ester	ug/kg	→ 80	10	< 10	10
2,2'-Oxy-bis-propane	ug/kg	< 10	10	< 10	10
cis-1,2-Dichloroethylene	ug/kg	< 10	10	< 10	10

DATE: 1/19/88
 LOG NO.: 5570 and 5574
 DATE SAMPLED: 1/13/88
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<u>Method and Constituent</u>	<u>Units</u>	Sample Type: Soil		<u>No. 6</u> <u>Concen-</u> <u>tration</u>	<u>Detection</u> <u>Limit</u>
		<u>No. 5</u> <u>Concen-</u> <u>tration</u>	<u>Detection</u> <u>Limit</u>		
EPA Method 8240:					
Chloromethane	ug/kg	< 5	5	< 5	5
Bromomethane	ug/kg	< 5	5	< 5	5
Vinyl chloride	ug/kg	< 5	5	< 5	5
Chloroethane	ug/kg	< 5	5	< 5	5
Methylene chloride	ug/kg	140	5	130	5
Trichlorofluoromethane	ug/kg	< 5	5	< 5	5
1,1-Dichloroethene	ug/kg	< 5	5	< 5	5
1,1-Dichloroethane	ug/kg	< 5	5	< 5	5
trans-1,2-Dichloroethene	ug/kg	< 5	5	< 5	5
Chloroform	ug/kg	< 5	5	< 5	5
1,2-Dichloroethane	ug/kg	< 5	5	< 5	5
1,1,1-Trichloroethane	ug/kg	< 5	5	< 5	5
Carbon tetrachloride	ug/kg	< 5	5	< 5	5
Bromodichloromethane	ug/kg	< 5	5	< 5	5
1,2-Dichloropropane	ug/kg	< 5	5	< 5	5
trans-1,3-Dichloropropene	ug/kg	< 5	5	< 5	5
Trichloroethene	ug/kg	< 5	5	< 5	5
Benzene	ug/kg	< 5	5	< 5	5
Dibromochloromethane	ug/kg	< 5	5	< 5	5
1,1,2-Trichloroethane	ug/kg	< 5	5	< 5	5
cis-1,3-Dichloropropene	ug/kg	< 5	5	< 5	5
2-Chloroethylvinyl ether	ug/kg	< 5	5	< 5	5
Bromoform	ug/kg	< 5	5	< 5	5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	5	< 5	5
Tetrachloroethene	ug/kg	→ 48	5	→ 38	5
Toluene	ug/kg	< 5	5	< 5	5
Chlorobenzene	ug/kg	< 5	5	< 5	5
Ethyl benzene	ug/kg	< 5	5	< 5	5
1,3-Dichlorobenzene	ug/kg	< 5	5	< 5	5

DATE: 1/19/88
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<u>Method and Constituent</u>	<u>Units</u>	Sample Type: Soil			
		No. 5 Concen- tration	Detection Limit	No. 6 Concen- tration	Detection Limit
EPA Method 8240 (Cont'd):					
1,2-Dichlorobenzene	ug/kg	< 5	5	< 5	5
1,4-Dichlorobenzene	ug/kg	< 5	5	< 5	5
Additional Peaks:					
Acetone	ug/kg	< 10	10	< 10	10
4-Methyl-2-pentanone (MIBK)	ug/kg	< 10	10	< 10	10
Ethanol	ug/kg	< 10	10	< 10	10
2-Propanol	ug/kg	< 10	10	< 10	10
1-Propanol	ug/kg	< 10	10	< 10	10
Acetic acid ethyl ester	ug/kg	< 10	10	< 10	10
2,2'-Oxy-bis-propane	ug/kg	5	10	< 10	10
cis-1,2-Dichloroethene	ug/kg	7	10	< 10	10

DATE: 1/19/88
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Sample Type: Soil

<u>Method and Constituent</u>	<u>Units</u>	No. 1		No. 3		No. 5	
		<u>Concen-</u> <u>tration</u>	<u>Detection</u> <u>Limit</u>	<u>Concen-</u> <u>tration</u>	<u>Detection</u> <u>Limit</u>	<u>Concen-</u> <u>tration</u>	<u>Detection</u> <u>Limit</u>
EPA Method 7041: Sb	ug/kg	< 1,000	1,000	< 1,000	1,000	< 1,000	1,000
EPA Method 7061: As	ug/kg	280	20	2,800	80	1,700	200
EPA Method 7081: Ba	ug/kg	< 100,000	100,000	< 100,000	100,000	< 100,000	100,000
EPA Method 7091: Be	ug/kg	310	60	880	60	840	60
EPA Method 7131: Cd	ug/kg	89	50	320	50	300	50
EPA Method 7190: Cr	ug/kg	160,000	6,000	83,000	6,000	59,000	6,000
EPA Method 219.1: Co	ug/kg	< 10,000	10,000	< 10,000	10,000	< 10,000	10,000
EPA Method 7210: Cu	ug/kg	170,000	10,000	97,000	10,000	68,000	10,000
EPA Method 7421: Pb	ug/kg	3,100	500	16,000	500	4,800	500
EPA Method 7471: Hg	ug/kg	72	10	23	10	25	10
EPA Method 246.1: Mo	ug/kg	< 100,000	100,000	< 100,000	100,000	< 100,000	100,000
EPA Method 7520: Ni	ug/kg	64,000	20,000	120,000	20,000	53,000	20,000
EPA Method 7741: Se	ug/kg	< 300	300	< 300	300	< 300	300

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Sample Type: Soil

<u>Method and Constituent</u>	<u>Units</u>	<u>No. 1</u>		<u>No. 3</u>		<u>No. 5</u>	
		<u>Concentration</u>	<u>Detection Limit</u>	<u>Concentration</u>	<u>Detection Limit</u>	<u>Concentration</u>	<u>Detection Limit</u>
EPA Method 7761: Ag	ug/kg	< 100	100	120	100	200	100
EPA Method 7841: Tl	ug/kg	< 200	200	< 200	200	< 200	200
EPA Method 7911: V	ug/kg	25,000	1,000	170,000	10,000	19,000	1,000
EPA Method 7950: Zn	ug/kg	40,000	4,000	120,000	4,000	65,000	4,000

DATE: 1/19/88
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Sample Type: Soil

<u>Method and Constituent</u>	<u>Units</u>	No. 6	
		<u>Concen-</u> <u>tration</u>	<u>Detection</u> <u>Limit</u>
EPA Method 7041: Sb	ug/kg	< 1,000	1,000
EPA Method 7061: As	ug/kg	1,500	80
EPA Method 7081: Ba	ug/kg	< 100,000	100,000
EPA Method 7091: Be	ug/kg	980	60
EPA Method 7131: Cd	ug/kg	500	50
EPA Method 7190: Cr	ug/kg	63,000	6,000
EPA Method 219.1: Co	ug/kg	< 10,000	10,000
EPA Method 7210: Cu	ug/kg	72,000	10,000
EPA Method 7421: Pb	ug/kg	8,400	500
EPA Method 7471: Hg	ug/kg	19	10
EPA Method 246.1: Mo	ug/kg	< 100,000	100,000
EPA Method 7520: Ni	ug/kg	61,000	20,000
EPA Method 7741: Se	ug/kg	< 300	300

DATE: 1/19/88
LOG NO.: 5570 and 5574
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<u>Method and Constituent</u>	<u>Units</u>	Sample Type: Soil	
		No. 6 <u>Concen-</u> <u>tration</u>	<u>Detection</u> <u>Limit</u>
EPA Method 7761: Ag	ug/kg	120	100
EPA Method 7841: Tl	ug/kg	< 200	200
EPA Method 7911: V	ug/kg	25,000	1,000
EPA Method 7950: Zn	ug/kg	71,000	4,000

Hugh R. McLean
Hugh R. McLean
Supervisory Chemist

Flexible Packaging Division
James River Corporation
2101 Williams Street
San Leandro, California

N

Williams Street

Building

Foundation

Excavation Site

28' ↑ 28' ↑ 36' ↑
↓ ↓ ↓
#4 #5 #3

14'

29'

40'

18"

#6

#2

#7, 18" depth
#8, 36" depth
#9, 48" depth

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

CHAIN OF CUSTODY RECORD

P.O. 11866

Log 5574 -2 day

Log 5575 -10 day.

PROJ. NO.	PROJECT NAME Flex big Packaging Division Jane River Corp., 2101 Williams St. San Leandro, CA 94578				CONTAINERS OF	REMARKS			
SAMPLERS: (Signature)	<u>Jeanne DuPuis, TAL</u>								
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION				
#5	1/13	4:21 pm	X	Center	1	XX	Soil, brass tube -2 day } Log 5574		
#6			X	Center	1	XX	Soil, brass tube -2 day }		
#7			X	18' = Depth	3	XX	Soil, 4oz jars -10 day } Log 5575		
#8			X	36' = Depth	1	XX	Soil brass tube -10 day }		
#9		5:07 pm	X	48' = Depth	1	XX	Soil brass tube -10 day }		
1988									
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)	
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)	
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)		Date / Time		Remarks		

Distribution: Original Attached to Sample - Copy to Coordinator Field File

3-0605

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

Aug 55 70

ENVIRONMENTAL PROTECTION AGENCY Office of Enforcement						CHAIN OF CUSTODY						
PROJ. NO.	PROJECT NAME Free-Style Packaging - James River Corporation 2101 Williams St., San Leandro, CA					NO.	CONTAINERS					REMARKS
SAMPLERS: (Signature) <i>See Note for TAL</i>						OF CONTAINERS	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 259 260 261 262 263 264 265 266 267 268 269 269 270 271 272 273 274 275 276 277 278 279 279 280 281 282 283 284 285 286 287 288 289 289 290 291 292 293 294 295 296 297 298 299 299 300 300 301 302 303 304 305 306 307 308 309 309 310 311 312 313 314 315 316 317 318 319 319 320 321 322 323 324 325 326 327 328 329 329 330 331 332 333 334 335 336 337 338 339 339 340 341 342 343 344 345 346 347 348 349 349 350 351 352 353 354 355 356 357 358 359 359 360 361 362 363 364 365 366 367 368 369 369 370 371 372 373 374 375 376 377 378 379 379 380 381 382 383 384 385 386 387 388 389 389 390 391 392 393 394 395 396 397 398 399 399 400 400 401 402 403 404 405 406 407 408 409 409 410 411 412 413 414 415 416 417 418 419 419 420 421 422 423 424 425 426 427 428 429 429 430 431 432 433 434 435 436 437 438 439 439 440 441 442 443 444 445 446 447 448 449 449 450 451 452 453 454 455 456 457 458 459 459 460 461 462 463 464 465 466 467 468 469 469 470 471 472 473 474 475 476 477 478 479 479 480 481 482 483 484 485 486 487 488 489 489 490 491 492 493 494 495 496 497 498 499 499 500 500 501 502 503 504 505 506 507 508 509 509 510 511 512 513 514 515 516 517 518 519 519 520 521 522 523 524 525 526 527 528 529 529 530 531 532 533 534 535 536 537 538 539 539 540 541 542 543 544 545 546 547 548 549 549 550 551 552 553 554 555 556 557 558 559 559 560 561 562 563 564 565 566 567 568 569 569 570 571 572 573 574 575 576 577 578 579 579 580 581 582 583 584 585 586 587 588 589 589 590 591 592 593 594 595 596 597 598 598 599 599 600 600 601 602 603 604 605 606 607 608 609 609 610 611 612 613 614 615 616 617 618 619 619 620 621 622 623 624 625 626 627 628 629 629 630 631 632 633 634 635 636 637 638 639 639 640 641 642 643 644 645 646 647 648 649 649 650 651 652 653 654 655 656 657 658 659 659 660 661 662 663 664 665 666 667 668 669 669 670 671 672 673 674 675 676 677 678 679 679 680 681 682 683 684 685 686 687 688 689 689 690 691 692 693 694 695 696 697 698 698 699 699 700 700 701 702 703 704 705 706 707 708 709 709 710 711 712 713 714 715 716 717 718 719 719 720 721 722 723 724 725 726 727 728 729 729 730 731 732 733 734 735 736 737 738 739 739 740 741 742 743 744 745 746 747 748 749 749 750 751 752 753 754 755 756 757 758 759 759 760 761 762 763 764 765 766 767 768 769 769 770 771 772 773 774 775 776 777 778 779 779 780 781 782 783 784 785 786 787 788 789 789 790 791 792 793 794 795 796 797 798 798 799 799 800 800 801 802 803 804 805 806 807 808 809 809 810 811 812 813 814 815 816 817 818 819 819 820 821 822 823 824 825 826 827 828 829 829 830 831 832 833 834 835 836 837 838 839 839 840 841 842 843 844 845 846 847 848 849 849 850 851 852 853 854 855 856 857 858 859 859 860 861 862 863 864 865 866 867 868 869 869 870 871 872 873 874 875 876 877 878 879 879 880 881 882 883 884 885 886 887 888 889 889 890 891 892 893 894 895 896 897 898 898 899 899 900 900 901 902 903 904 905 906 907 908 909 909 910 911 912 913 914 915 916 917 918 919 919 920 921 922 923 924 925 926 927 928 929 929 930 931 932 933 934 935 936 937 938 939 939 940 941 942 943 944 945 946 947 948 949 949 950 951 952 953 954 955 956 957 958 959 959 960 961 962 963 964 965 966 967 968 969 969 970 971 972 973 974 975 976 977 978 979 979 980 981 982 983 984 985 986 987 988 988 989 989 990 991 992 993 994 995 996 997 997 998 998 999 999 1000 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1088 1089 1089 1090 1091 1092 1093 1094 1095 1096 1097 1097 1098 1098 1099 1099 1100 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149 1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1159 1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1188 1189 1189 1190 1191 1192 1193 1194 1195 1196 1197 1197 1198 1198 1199 1199 1200 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1209 1210 1211 1212 1213 1214 1215 1216 1217 1218 1219 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1288 1289 1289 1290 1291 1292 1293 1294 1295 1296 1297 1297 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