

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

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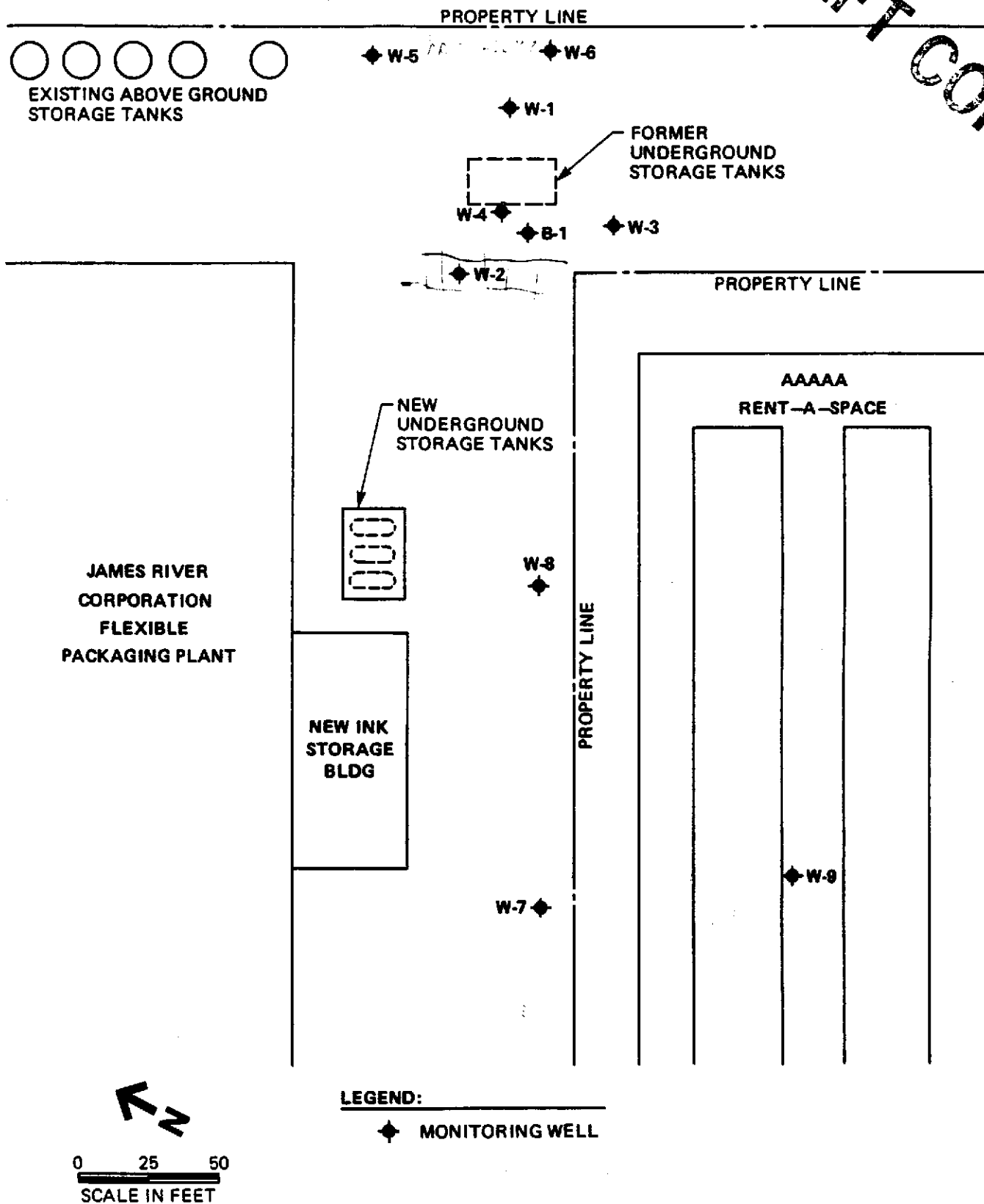


Figure 1 Well Location Map

*Handwritten notes:* 1. 10/11/01

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 ~~the~~ 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 Actate	-	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 MICROGRAM/LITER H<sub>2</sub>O

15

00000000834#/9A1 H<sub>2</sub>O

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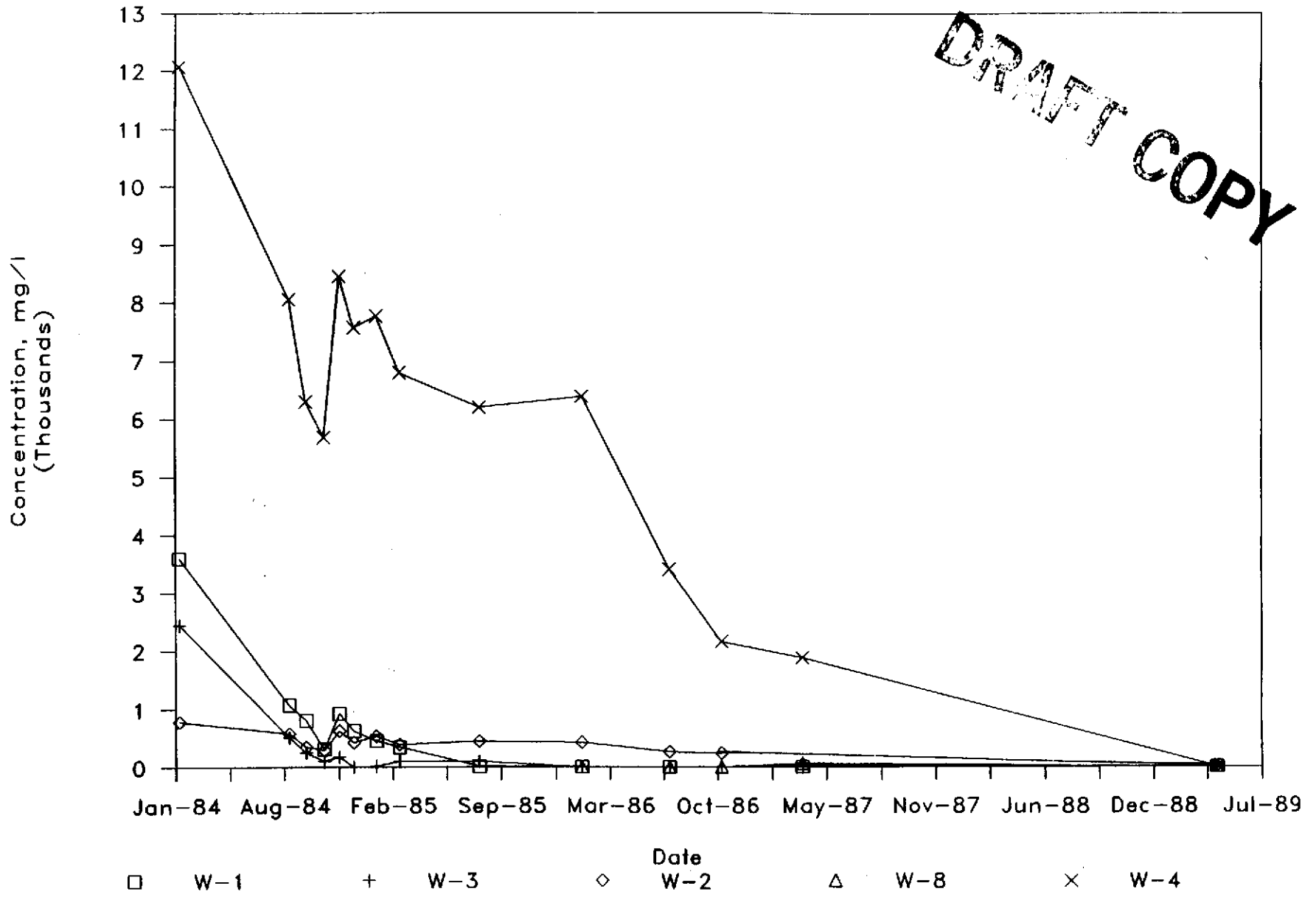


Figure 2 Total Acetate Concentrations from Select Wells

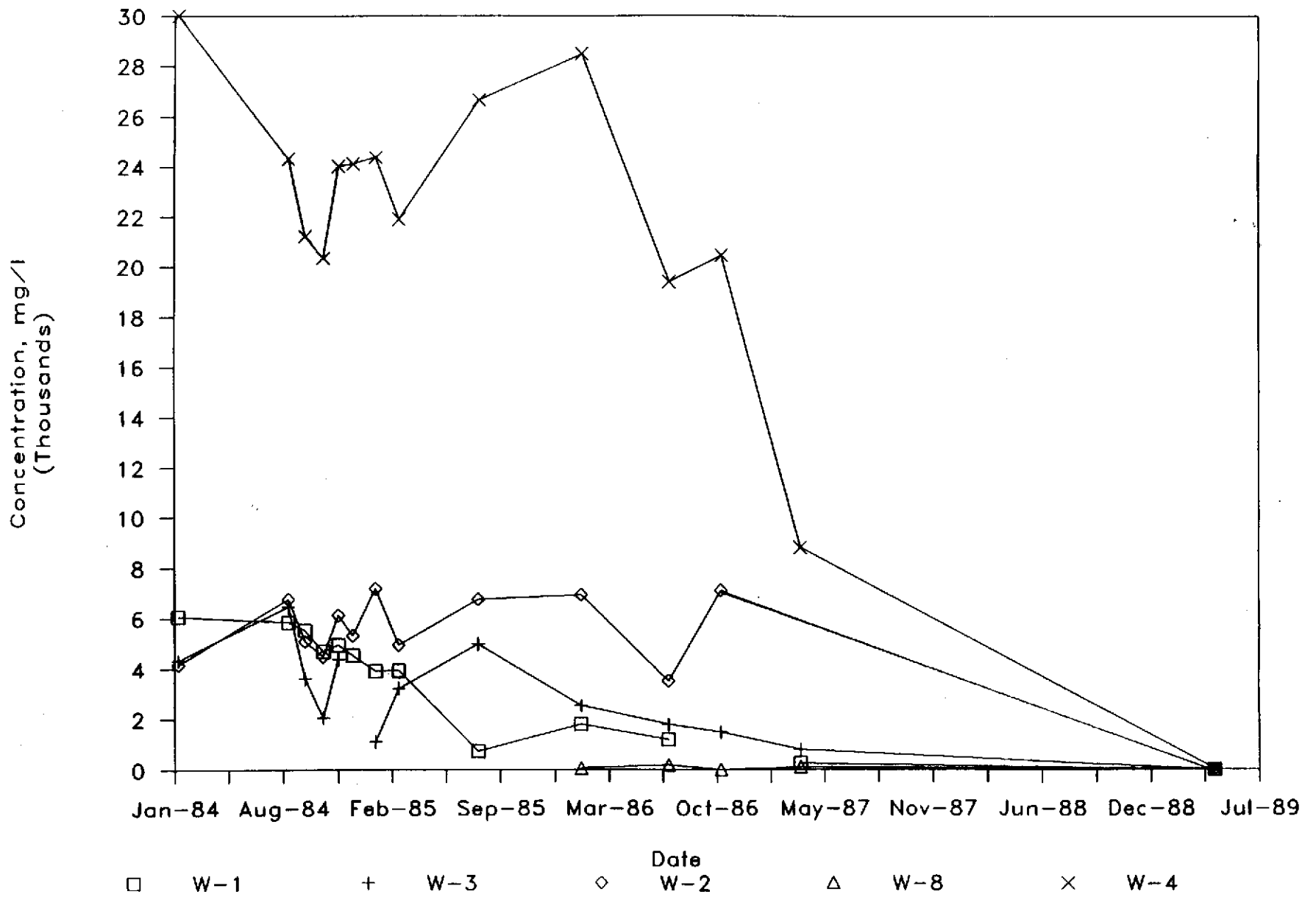


Figure 3 Total Alcohol Concentrations from Select Wells

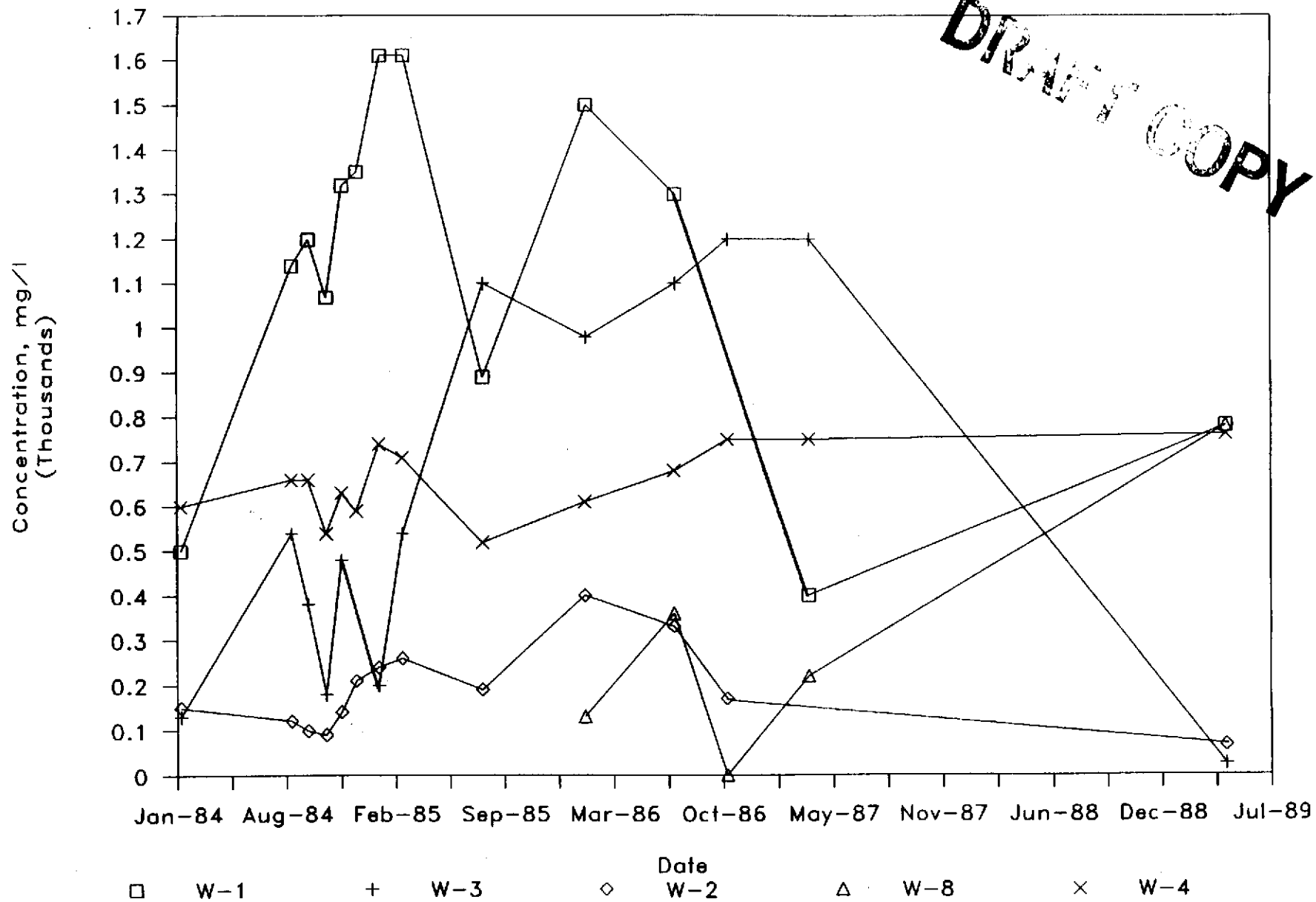


Figure 4 Acetone Concentrations from Select Wells



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

Well Identification	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	B-1
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
Pumping Rate (gallons per minute)	0.5	4.8	8.0	4.0	5.7	0.5	2.2	3.8	6.0	8.5

ENCLOSURE B  
LABORATORY REPORTS



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

LOG NO: EB9-04-609

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

Page 1

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	
04-609-1	W-2	20 APR 89	
04-609-2	W-3	20 APR 89	
PARAMETER		04-609-1	04-609-2
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	
04-609-1	W-2	20 APR 89	
04-609-2	W-3	20 APR 89	
PARAMETER		04-609-1	04-609-2
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
<b>Semi-Quantified Results **</b>			
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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Page 4

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED				
04-609-3	W-1	20 APR 89				
04-609-4	W-4	20 APR 89				
04-609-5	W-5	20 APR 89				
04-609-6	W-6	20 APR 89				
04-609-7	W-7	20 APR 89				
PARAMETER	04-609-3	04-609-4	04-609-5	04-609-6	04-609-7	
<b>Purgeable Priority Pollutants</b>						
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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04-609-3	W-1	20 APR 89				
04-609-4	W-4	20 APR 89				
04-609-5	W-5	20 APR 89				
04-609-6	W-6	20 APR 89				
04-609-7	W-7	20 APR 89				
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	---	---	
Ethanol, ug/L	---	---	---	---	20	
Isopropanol, ug/L	---	30000	---	---	200	
Methyl ethyl ketone, ug/L	---	---	---	---	79	
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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Page 6

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED		
04-609-8	W-8	20 APR 89		
04-609-9	W-9	20 APR 89		
04-609-10	B-1	20 APR 89		
PARAMETER		04-609-8	04-609-9	04-609-10
<b>Purgeable Priority Pollutants</b>				
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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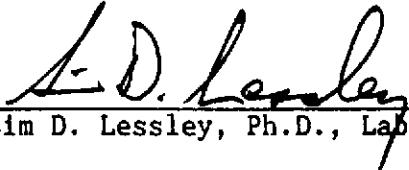
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Page 7

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED		
04-609-8	W-8	20 APR 89		
04-609-9	W-9	20 APR 89		
04-609-10	B-1	20 APR 89		
PARAMETER		04-609-8	04-609-9	04-609-10
Trichlorofluoromethane, ug/L		<5	<1	<1
Toluene, ug/L		200	7	10
Vinyl chloride, ug/L		15	3	<1
1,2-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

AUG 1 1989 10E 10:54 AM ATLAS HYDRAULIC CORP P. 02

# atlas hydraulic corporation

August 1, 1989

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

RE: Flexiable 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.

Atlas 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.propanel.
- 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.

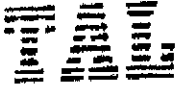
Thanks for your interest and prompt attention to this matter.

Sincerely,

ATLAS HYDRAULIC CORPORATION

  
J.P. Givens

JPG:bb



*Tom Pearson*

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	
		Concentration	Detection Limit	Concentration	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  
 LOG NO.: 5570 and 5574  
 DATE SAMPLED: 1/13/88  
 DATE RECEIVED: 1/13/88  
 PAGE: Two

Sample Type: Soil

Method and Constituent	Units	No. 1		No. 3	
		Concentration	Detection Limit	Concentration	Detection Limit
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
<del>1,1,2,2-Tetrachloroethane</del>	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-Dichloroethene	ug/kg	< 10	10	< 10	10

DATE: 1/19/88  
 LOG NO.: 5570 and 5574  
 DATE SAMPLED: 1/13/88  
 DATE RECEIVED: 1/13/88  
 PAGE: Three

Sample Type: Soil

Method and Constituent	Units	No. 5		No. 6	
		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	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  
 LOG NO.: 5570 and 5574  
 DATE SAMPLED: 1/13/88  
 DATE RECEIVED: 1/13/88  
 PAGE: Four

Sample Type: Soil

<u>Method and Constituent</u>	<u>Units</u>	<u>No. 5</u>		<u>No. 6</u>	
		<u>Concen- tration</u>	<u>Detection Limit</u>	<u>Concen- tration</u>	<u>Detection Limit</u>
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  
 LOG NO.: 5570 and 5574  
 DATE SAMPLED: 1/13/88  
 DATE RECEIVED: 1/13/88  
 PAGE: Five

Sample Type: Soil

Method and Constituent	Units	No. 1		No. 3		No. 5	
		Concentration	Detection Limit	Concentration	Detection Limit	Concentration	Detection Limit
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

DATE: 1/19/88  
LOG NO.: 5570 and 5574  
DATE SAMPLED: 1/13/88  
DATE RECEIVED: 1/13/88  
PAGE: Six

Sample Type: Soil

Method and Constituent	Units	No. 1		No. 3		No. 5	
		Concentration	Detection Limit	Concentration	Detection Limit	Concentration	Detection Limit
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  
 LOG NO.: 5570 and 5574  
 DATE SAMPLED: 1/13/88  
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 PAGE: Seven

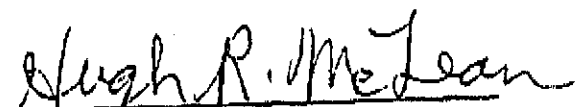
Sample Type: Soil

<u>Method and Constituent</u>	<u>Units</u>	<u>No. 6</u>	
		<u>Concen- tration</u>	<u>Detection 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  
DATE SAMPLED: 1/13/88  
DATE RECEIVED: 1/13/88  
PAGE: Eight

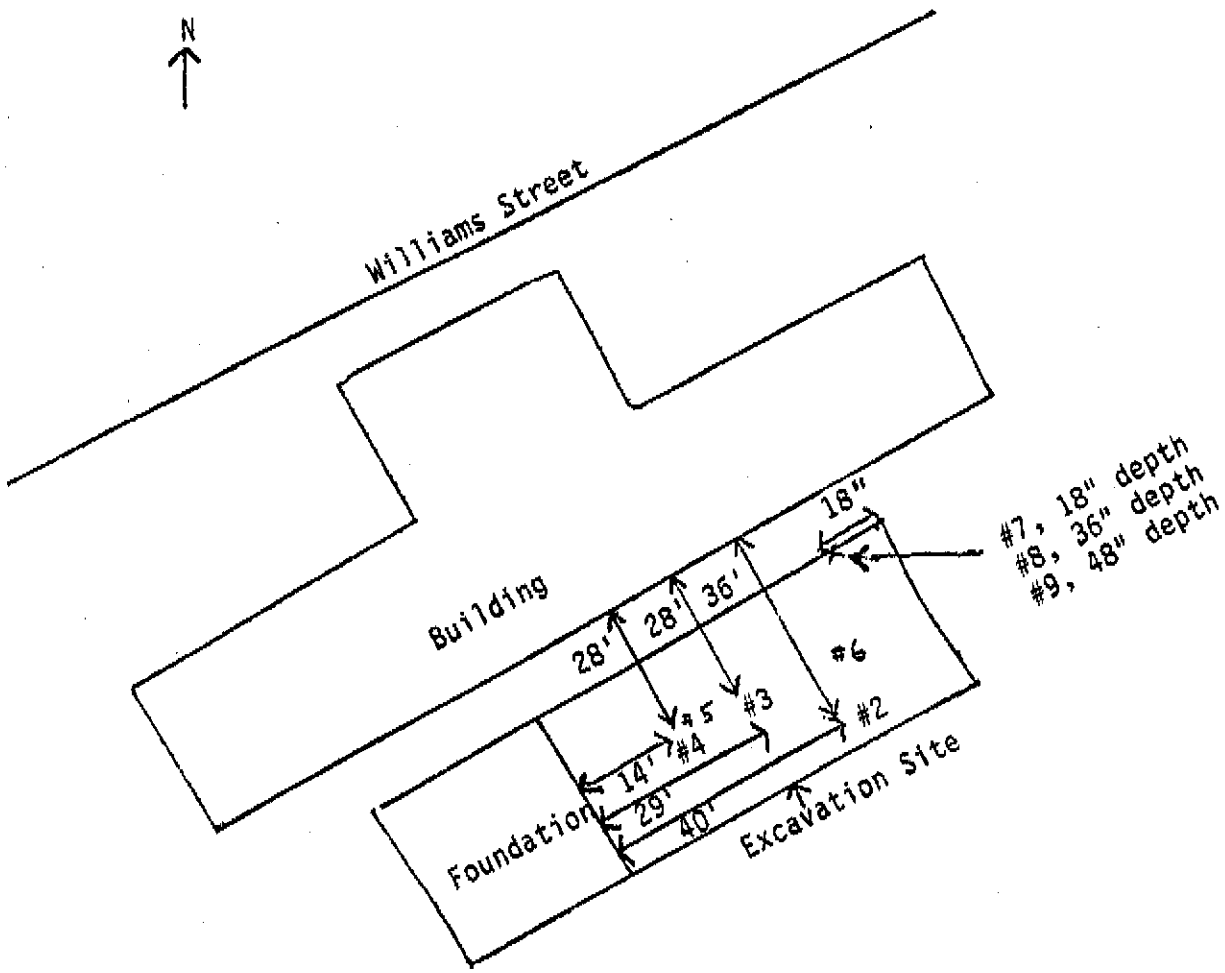
Sample Type: Soil

<u>Method and Constituent</u>	<u>Units</u>	<u>No. 6</u>	
		<u>Concen- tration</u>	<u>Detection 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  
Supervisory Chemist

HRM:mln

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





CHAIN OF CUSTODY RECORD

PO 11866

log 5574 - 2 day  
log 5575 - 10 day.

PROJ. NO.		PROJECT NAME		SAMPLERS: (Signature)		CON-TAINERS		REMARKS			
		Flexible Packaging Division James River Corp, 2101 Williams San Leandro, CA		Jouin Dupuis, TAL		5240 + 10 pecks CAM 17					
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION						
#5	1/13	4:21 pm	X	X	Center	1	X	X	Soil, brass tube - 2 day } Log 5574		
#6			X	X	Center	1	X	X	Soil, brass tube - 2 day }		
#7			X	X	18" Depth	3	X	X	Soil, 40z jars - 10 day } Log 5575		
#8			X	X	36" Depth	1	X	X	Soil brass tube - 10 day }		
#9		5:07 pm	X	X	48" Depth	1	X	X	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 Accuscript - 1 Copy to Coordinator Field Files

ENVIRONMENTAL PROTECTION AGENCY  
Office of Enforcement

log 5570

CHAIN OF CUSTODY

PROJ. NO.		PROJECT NAME		NO OF CONTAINERS	REMARKS
SAMPLERS: (Signature)		Freddie Packaging - James River Corporation 2101 Williams St. San Leandro, CA			
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION
No. 1	7/3/85	7:15-8:00	X		See Site Diagram
2				X	
3				X	
4	↓	↓		X	↓

Reinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Reinquished by: (Signature)	Date / Time	Received by: (Signature)
Reinquished by:	Date / Time	Received for Laboratory (Signature)	Date / Time	Remarks		

Hold for Laboratory  
R2101 Williams St  
CAM 17

surface soil - 2 day Hold  
- 2 day Hold

3-0605

AUG-1-89 TUE 10:44 P.M.