EBA File Ed Howell Rec'd 11-2-89

JAMES RIVER CORPORATION
FLEXIBLE PACKAGING DIVISION/
SAN LEANDRO PLANT
2101 Williams Street, San Leandro, CA 94577 (415) 895-4300

895-45~ 614-2300

October 30, 1989

Mr. Larry Seto
Dept. of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94621

Dear Larry,

In response to the questions in your letters of 10/10/89 & 9/26, I will give you a summary of our remediation plan.

We have hired Engineering Services, Inc. (ESI) as a consultant for this job. Tom Jur who is the project manager for ESI will direct excavation efforts. ESI procured Atlas Hydraulic Corporation to perform soil vapor checks and excavate contaminated soils. The excavated soils will have a composite sample analyzed to determine the proper facility at which it can be disposed. A confirming sample will be taken in the area of the excavation to confirm all contaminated dirt is removed. Both of these samples will be taken & checked by Trace Analysis of Hayward. These sample analysis results will be used in a final report to you prior to back filling the excavation with clean fill.

Once these holes are closed, we will remove the second set of product pipes that were attached to the tanks. Confirming soil samples will be taken before those holes are closed.

The following are specific answer to your questions:

1) The vertical and horizontal extent of contamination will be determined by using an organic vapor meter. This work will be performed by Atlas Hydraulic at the direction of Engineering Services Inc. Attached is a description of the organic vapor meter.

2) After excavation, composite samples will be taken from the excavated dirt as well as a confirming sample in the excavated hole. These samples will be taken and analyzed by Trace Analysis Laboratories of Hayward.

3) The samples will be analyzed for Ethyl Alcohol, N.P. Alcohol and N.P. Acetate.

4) The hauler and disposal facility will be determined based on the amount of dirt excavated and the analysis results.

5) We expect to commence work during the week of November 6, 1989. The lab results and back filling should take place by November 15th.

6) Attached are the name and addresses of the principal contractors involved in this remediation.

I would like to invite you or someone from you office to be here during excavation. Please call me if you need more info or would like to visit the site.

Sincerely,

Bob Wenning

Bob Wenning
Engineering Manager

BW:gd

Attachments

cc: Rafat A. Shahid
Jim Givens-Atlas
Tom Jur - ESI
Al Ringle
File

ATTATCHMENT I.

SECTION I

Introduction.

The 580A is a portable Organic Vapor Meter (OVM). The 580A will detect and quantitate most organic vapors, using a highly sensitive photoionization detector. The 580A has an operating range of 0-2000 parts per million (ppm) with a minimum detectable of 0.1 ppm. No support gases are required.

The accompanying photograph illustrates the compactness of the 580A OVM/Datalogger (see fig 1.1). The instrument weighs approximately 6-1/2 lbs. and has self-contained batteries, pump, and detector along with the microprocessor which operates the total instrument and the datalogging facility. All access to the instrument, when it is in field use, is through the seven segment key pads on the top of the instrument. This not only allows the operator to choose functions and adjust operating parameters but to log data in two modes: either in max. hold or by logging the data at the operator's initiation. The datalogging function will give both location, and date and time. The location is that identifier which is established by the operator for a particular place in the field. All of this data can then be retrieved by a computer or a printer through the RS-232 communications port.

1.1 DETECTOR

The Photoionization Detector is located inside the instrument. The sample is pulled through the 1/4" probe that is attached to the front end of the instrument. The sample travels through a ten micron filter prior to entering the Photoionization Detector. The movement of the sample is via a positive displacement sampling pump which is placed after the detector and subsequently delivers the sample to a fitting at the rear of the instrument where a sample collection device can be installed.

1.2 LCD READOUT

All commmunications with the operator are through the two line LCD which is seen in the top portion of the instrument. So that the operator can visually acknowledge the change in concentration, a logarithmic bar graph is provided to give an impression of concentration change. This is to eliminate the inequites of a digital meter and provide the visual contact of an analog meter. It is not, of course, a quantitative device but gives the operator a feeling for the change in concentration. Below the bar graph, the concentration as it is being read by the instrument will be presented.

1.3 ACCESS DOOR

There is an access door on the side of the 580A. This door must be opened in order to turn the 580A on or off, charge the 580A, access the communication card edge (see section 6.3) or to adjust the speaker count rate.

The 580A is turned on by removing the door at the side of the instrument and moving the slider switch to the left (see figure 1.2). The 580A is turned off by moving the slider switch back to the right.

The 580A may be operated on the charger simply by plugging the charger into the charger jack (see figure 1.2) and turning the slider switch to the on position. The 580A battery will be charged when the charger is plugged into the charger jack and the slider switch is in the off position.

The speaker count rate (see section 2.2.4) may be adjusted moving one of the four switches into the down position. Only one of the four switches should be in the down position at a time. The count rate will be higher for switches farther to the left.

ATTACHMENT II

TRACE ANALYSIS LAB
3423 Investment Blvd., #8
Hayward, CA 94545

ESI
Engineering Services, Inc.
10 Douglas Drive, Suite 100
Martinez, CA 94553
(415) 372-8600

Thomas P. Jur, P.E.
Project Manager

Atlas Hydraulic Corporation
28971 Hopkins Street, #7
Hayward, CA 94545

Jim Givens
Civil Engineer

JAMES RIVER CORPORATION
FLEXIBLE PACKAGING DIVISION/
SAN LEANDRO PLANT
2101 Williams Street, San Leandro, CA 94577 (415) 895-4300

September 26, 1989

Mr. Larry Seto
Alameda County Health Service Dept.
80 Swan Way, Room 200
Oakland, CA 94621

Dear Larry:

The purpose of this letter is two fold. First, I will give you a quick recap of our underground tank removal project and associated remediation. Second, I will attach a summary of our ground water remediation efforts for a separate spill which occurred a number of years ago.

Three underground tanks were removed 6/27/89. Tanks #1 and #3 contained mixtures of Ethyl Alcohol or N-Propanol and N-Propylacetate. Tank #2 contained only N-Propanol. Soil samples were taken immediately to be checked for solvent contamination. The next day, the first set of product pipe lines were excavated. These pipes ran from the solvent tanks to our main production building. Soil samples were taken at that time. (See attachment 1, 2 and 3.) Soil samples from pipe trench location #10 and #11 show a slight level of contamination. All other locations look good.

Our remediation plans are as follows:

1. Fill in large tank hole with noncontaminated dirt excavated from hole.

2. Conduct a soil vapor analysis in the area of sample location 9 and 10 of the pipe trench in order to determine the extent of contamination.

3. Excavate the dirt from the area.

4. Take confirming soil samples from the bottom of excavation.

5. Take composite soil samples from contaminated excavated dirt.

6. Assuming the confirming soil samples are determined through analysis to be non contaminated, we will backfill with clean fill from off sight.

7. The excavated dirt will be hauled to an appropriate land fill based on test results from Step 5.

A second set of product lines exist between the tank location and an auxiliary building east of our main production building. Due to the fact we have truck traffic in this area, we will wait until the first areas are filled and repaved before excavating.

In attachment 2 you will find a brief history and explanation of our ground water remediation to date. Attachment 3 is our most recent proposal from Brown and Caldwell to conduct ground water sampling off our property to determine the extent or source of chlorinated hydrocarbons. We are presently attempting to get permission from adjacent property owners to conduct this study.

I hope this summary brings you up to date. If you have any further questions, please feel free to contact me.

Sincerely,

JAMES RIVER CORPORATION

Bob Wenning

Bob Wenning
Engineering Manager

BW:gd

Attachments

cc: Al Ringel
Lester Faldman -
(CA Regional Water Quality Board)

ATTATCHMENT I.

SECTION I

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ATTACHMENT II

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(415) 372-8600

Thomas P. Jur, P.E.
Project Manager

Atlas Hydraulic Corporation
28971 Hopkins Street, #7
Hayward, CA 94545

Jim Givens
Civil Engineer

ATTATCHMENT 1

DATE: 7/14/

LOG NO.: 7561

DATE SAMPLED: 6/27/89

DATE RECEIVED: 6/27/89

CUSTOMER: Atlas Hydraulic Corporation

REQUESTER: Jim Givens

PROJECT: Flexible Packaging Division, 2101 Williams St., San Leandro, CA

Sample Type: Soil

Method and Constituent	Units	No. 1 Concentration	No. 1 Detection Limit	No. 2 Concentration	No. 2 Detection Limit	No. 3 Concentration	No. 3 Detection Limit
Supelco Method:							
Ethyl Alcohol	ug/kg	< 40,000	40,000	< 40,000	40,000		
N-Propanol	ug/kg	< 20,000	20,000	< 20,000	20,000	< 20,000	20,000
N-Proptlacetate	ug/kg	< 400	400	< 400	400		

		No. 4		No. 5		No. 6	
Supelco Method:							
Ethyl Alcohol	ug/kg			< 40,000	40,000	< 40,000	40,000
N-Propanol	ug/kg	< 20,000	20,000	< 20,000	20,000	< 20,000	20,000
N-Propylacetate	ug/kg			< 400	400	< 400	400

Dan Farah

Dan Farah, Ph.D.
Supervisory Chemist

DF:sam

ATTACHMENT 1

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545 (415) 783-6960

TAL

DATE REVISED: 8/3/89

LOG NO.: 7567

DATE SAMPLED: 6/28/89

DATE RECEIVED: 6/28/89

CUSTOMER: Atlas Hydraulic Corporation

REQUESTER: Jim Givens

PROJECT: Flexible Packaging Division, 2101 Williams Street, San Leandro, CA

		Sample Type: Soil					
		No. 9		No. 10		No. 11	
Method and Constituent	Units	Concentration	Detection Limit	Concentration	Detection Limit	Concentration	Detection Limit
Supelco Method:							
Ethyl Alcohol	ug/kg	<10,000,000	10,000,000	<40,000	40,000	55,000,000	1,000,0
N-Propanol	ug/kg	<5,000,000	5,000,000	<20,000	20,000	5,700,000	400,0
N-Propyl Acetate	ug/kg	390,000	100,000	2,900	400	60,000	7,0

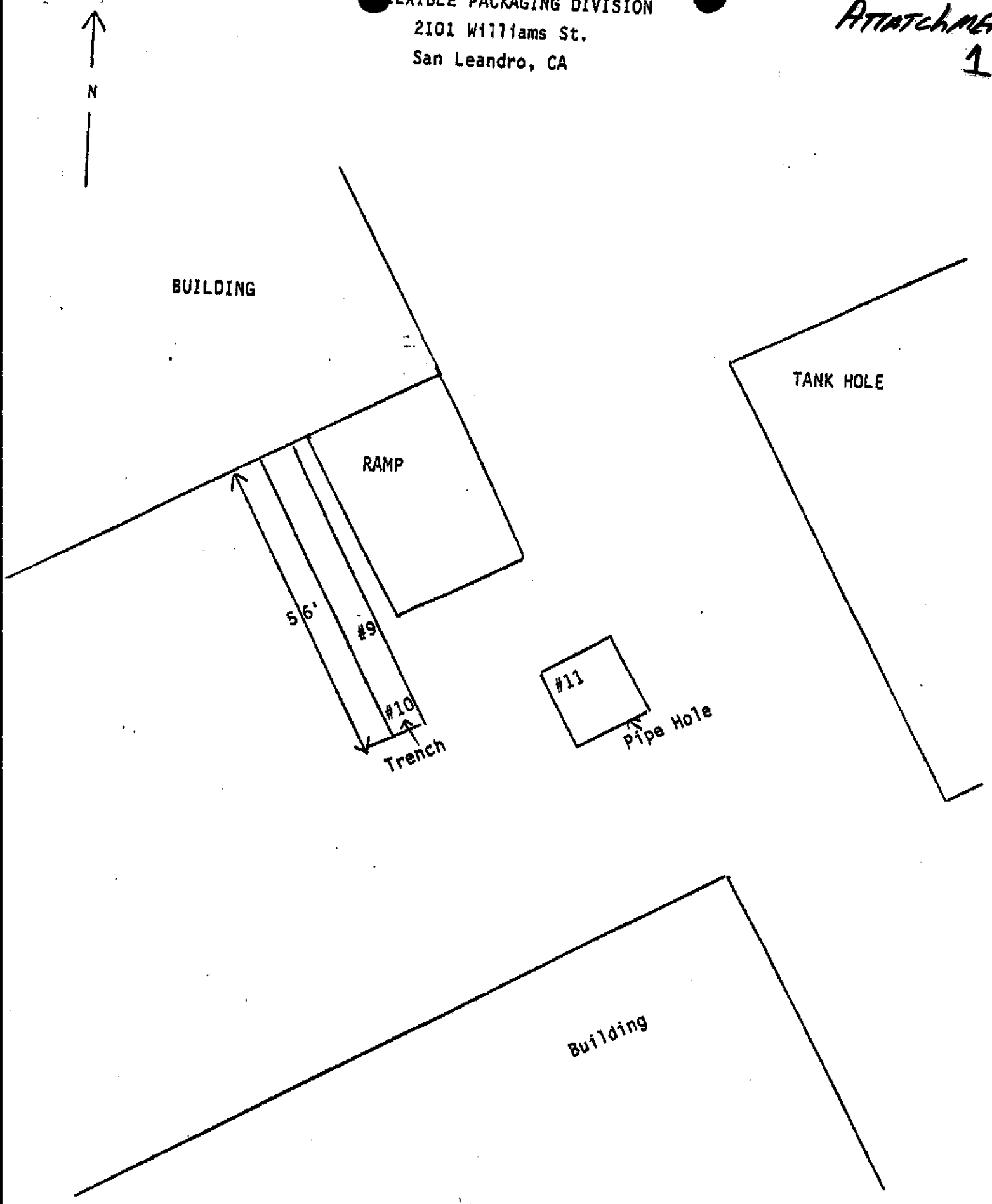
This report is revised to correct an error in calculation for Sample No. 11.
The results for Sample No. 11 are lower than previously reported.

Dan Farah

Dan Farah, Ph.D.
Supervisory Chemist

EXIBLE PACKAGING DIVISION
2101 Williams St.
San Leandro, CA

ATTACHMENT 1



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 hydrogeolgic 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

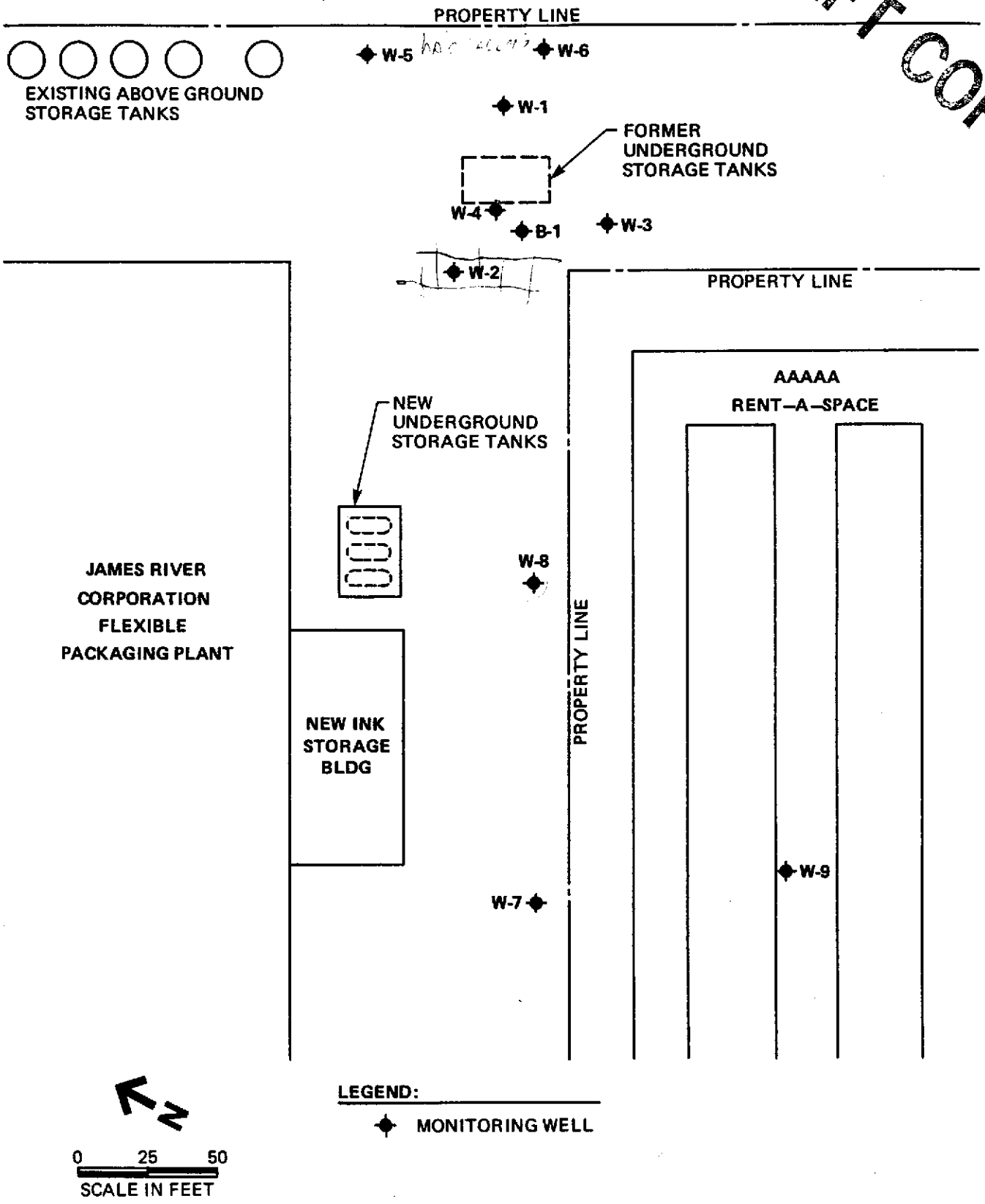


Figure 1 Well Location Map

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 ~~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 identifed above detection limits.
2. Detection limits are included in Laboratory reports in Enclosure B.

1 MICROGRAM/LITER H_2O

15

.000000000834#/gal H_2O

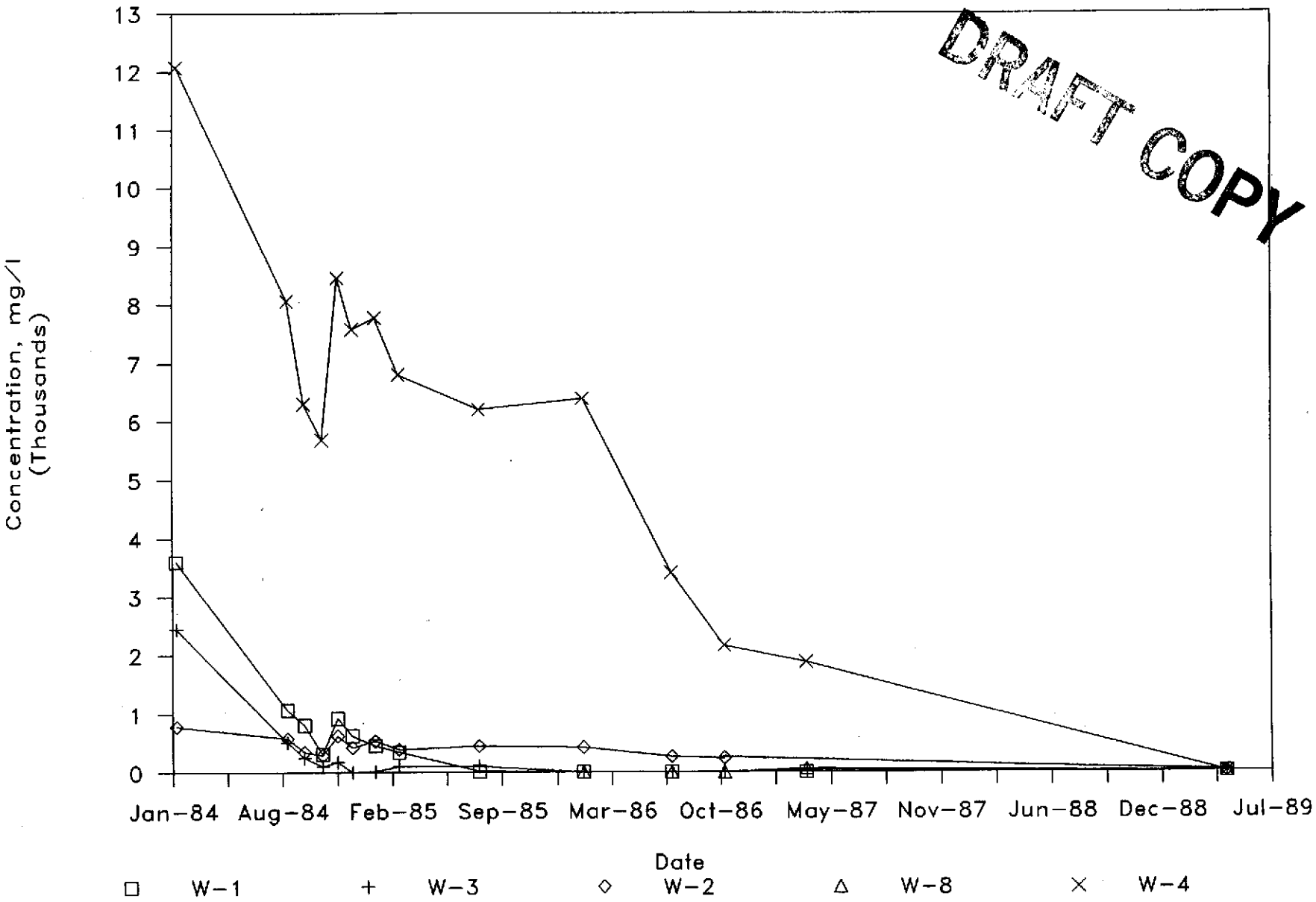


Figure 2 Total Acetate Concentrations from Select Wells

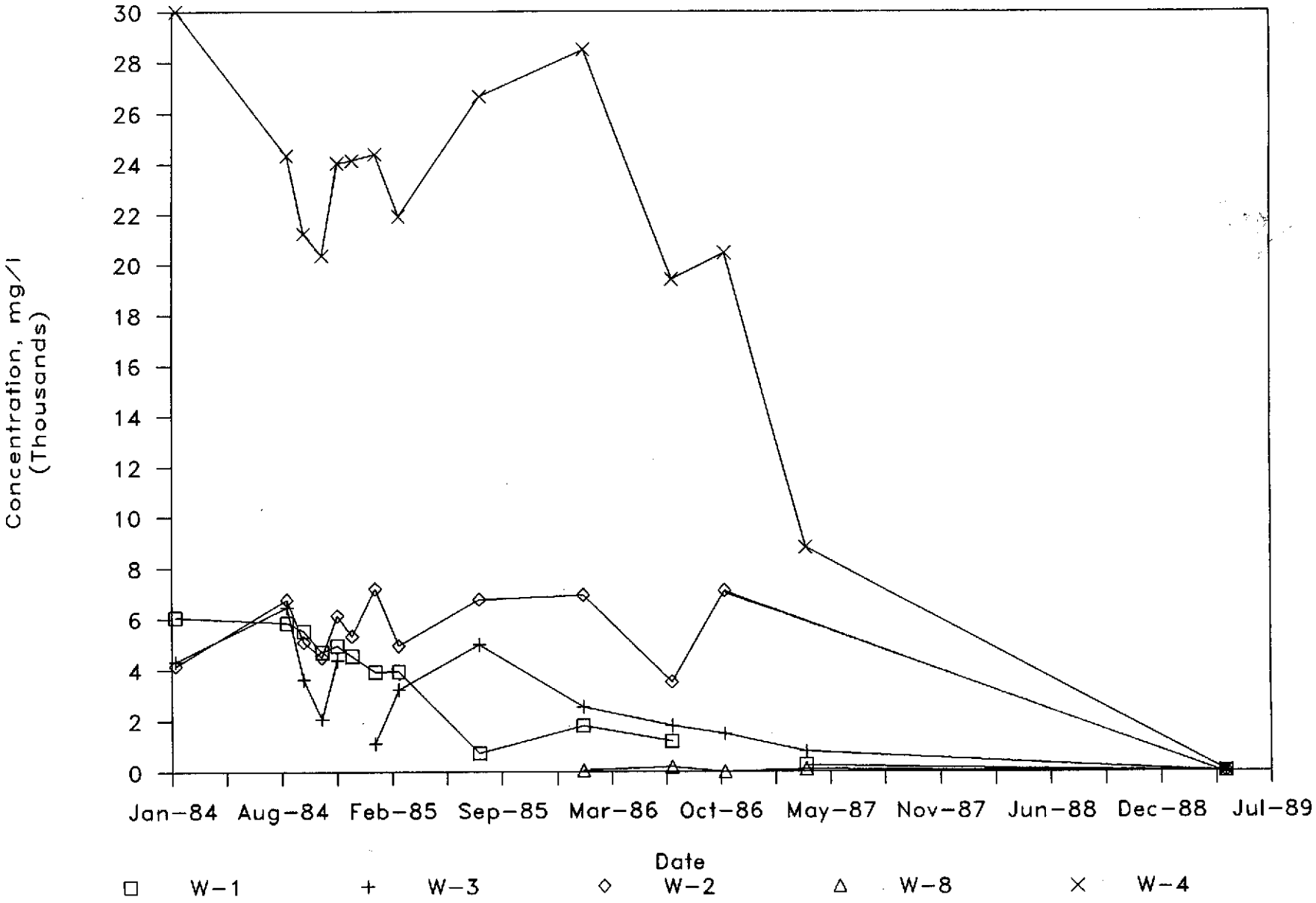


Figure 3 Total Alcohol Concentrations from Select Wells

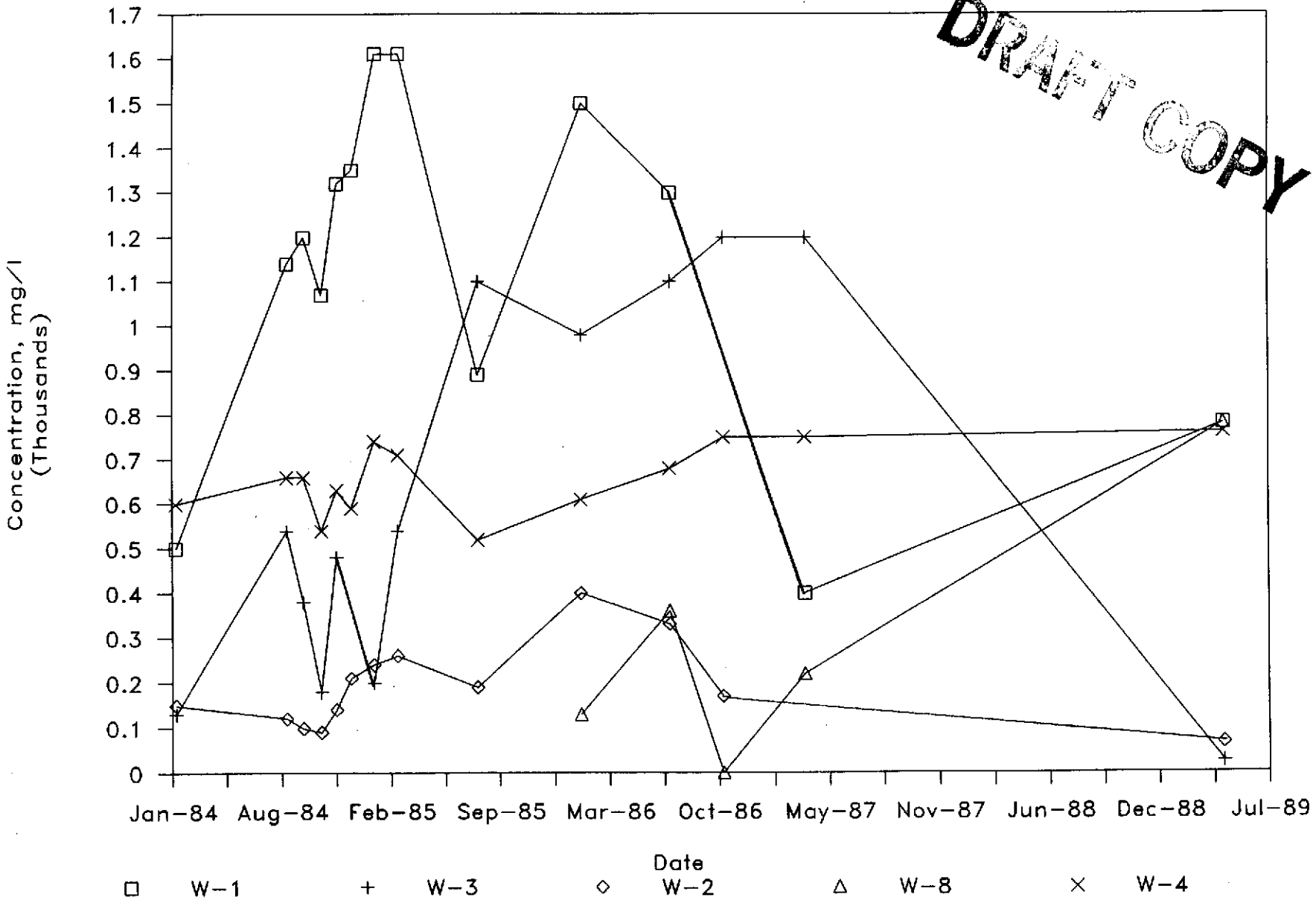


Figure 4 Acetone Concentrations from Select Wells

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 constitients not listed in the Permit.
Where action levels are not provided, the permit limit is zero.

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.

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

BROWN AND CALDWELL LABORATORIES

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

ANALYTICAL REPORT

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

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

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

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

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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ANALYTICAL REPORT

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Reported: 08 MAY 89

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Brown and Caldwell
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Pleasant Hill, California 94523

Project: 4459-01

REPORT OF ANALYTICAL RESULTS

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
Semi-Quantified Results **		
2-Hexanone, ug/L	1700	540
Acetone, ug/L	66000	---
Acetone, ug/L	---	25000
C5H1002 (Ester), ug/L	1000	---
C6H140 (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
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
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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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
C5H1002 (Ester), ug/L	---	60000	---	---	---
C6H140 (Alcohol), ug/L	---	1000	---	---	---
C6H140 (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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REPORT OF ANALYTICAL RESULTS

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
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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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
C5H1002 (Ester), ug/L	1000	---	200
C6H140 (Alcohol), ug/L	---	10	---
C6H140 (Ether), ug/L	100	---	---
C7H1402 (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

BROWN AND CALDWELL
CONSULTING ENGINEERS

RECD SEP 21 1989

ATTACHMENT 3

September 18, 1989

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

4459-02/1

Subject: Revised Groundwater Survey Proposal,
Flexible Packaging Plant, San Leandro, California

Dear Mr. Wenning:

This letter revises the scope of services submitted to you in our August 9, 1989 proposal. This previous proposal described our approach for a groundwater survey at your Flexible Packaging Plant in San Leandro, California. The purpose of the field study is to determine if there is an upgradient source of chlorinated hydrocarbons in shallow groundwater beneath your property. This revised scope was requested by you to limit the focus of the investigation to the northeast boundary of the site and the adjoining Southern Pacific Railroad property. We anticipate that we can accomplish this by advancing 18 temporary boreholes (Figure 1) to a depth of approximately 20 feet as described previously. Based on our experience at similar sites, we estimate this task will take 2 field days and 2 days to prepare a letter report. The revised cost for this field investigation will be as follows:

DESCRIPTION	SUBCONTRACTOR (HOURS)	BROWN AND CALDWELL (HOURS)	TOTAL
MOB	2.5	2.5	625.00
SURVEY DAY 1	7.5	7.5	2850.00
SURVEY DAY 2	10	10.0	3800.00
DEMOB	2.5	2.5	625.00
LABORATORY STANDARDS			440.00
REPORT PREPARATION		16.0	1260.00
PROJECT MANAGEMENT		9.5	800.00
		TOTAL	$10,400.00

As you can see, fixed costs such as mob/demob and lab standards will not be reduced by this limited scope. If the field investigation involves several phases, these fixed costs will be charged each time the project team is mobilized. The need for additional field investigations will depend on the results of this initial survey.

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We are available to perform this revised survey, however, if the purpose of this revised scope is to establish whether upgradient groundwater has elevated chlorinated hydrocarbons relative to onsite (downgradient) groundwater the effect of tidal fluxes from San Francisco Bay should be considered. Tidal variations in shallow groundwater can cause hydraulic gradient reversals. These gradient reversals could cause contaminants to flow against the normal gradient during high tides. That is, shallow groundwater could flow from your site toward the SP property during these high tide events. In order to assess the tidal influence, we suggest that repetitive groundwater elevation measurements be made at wells W-5, W-6, and W-7 during one tidal cycle. This data could be collected continuously by Brown and Caldwell, using an automatic data logger and transducers, or manually recorded by a James River employee. In any case, this data should be collected prior to initiating our limited field study.

We are prepared to conduct an onsite tidal study which will include continuous monitoring of wells W-5, W-6, and W-7 for 24 hours at a cost of $800. If you have any questions in regard to these recommendations and revised scope of services, please contact Mr. Tim Cook.

Very truly yours,

BROWN AND CALDWELL

Tim D. Cook
Principal Hydrogeologist

Patrick M. Maroney
Vice President

TDC:tdc

Enclosure

cc: Paula Diepholder, Brown and Caldwell
Pat Maroney, Brown and Caldwell

BROWN AND CALDWELL

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