Harding Lawson Associates

March 8, 1994

26560 1

Ms. Madhulla Logan
Alameda County Health Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Sampling Results
Cardboard Bailer Vault Groundwater Sampling
and Hydropunch Investigation
James River Corporation
San Leandro, California

Dear Ms. Logan:

This letter report presents the results of Harding Lawson Associates' (HLA) cardboard bailer vault (vault) groundwater sampling and hydropunch investigation at James River Corporation's Flexible Packaging Plant at 2101 Williams Street, San Leandro, California. The sampling work and hydropunch investigation at the vault was authorized by the James River Corporation (James River) through Change Order No. 1 dated February 2, 1994.

CARDBOARD BAILER VAULT SAMPLING

The cardboard bailer vault at the James River facility is located inside the southeastern portion of the plant (Plate 1). The concrete vault previously housed a hydraulically powered cardboard bailing mechanism that was decomissioned. At the bottom of the 14 feet long, 10 feet wide, and 20 feet deep vault is a 2½-foot diameter ram housing for the bailing mechanism. The depth of the ram housing is approximately 14 feet below the bottom of the vault and is steel lined. At the time of HLA's initial site visit on December 8, 1993, the groundwater level inside the ram housing was approximately four feet below the floor of the vault, or approximately 10 feet below the existing water table.

After the cardboard bailer was removed, James River personnel pumped approximately 1,700 gallons from the housing and stored the water in 55-gallon drums. On December 21, 1993, HLA obtained a sample of the groundwater from inside the ram housing with a clear lucite bailer. Approximately 0.4 foot of free product was observed floating on top of the groundwater. HLA collected groundwater from the ram housing with a clean stainless steel bailer and decanted the water into three one-liter amber bottles. In addition, a sample of lubricant used for the bailing mechanism was obtained from James River and submitted for analysis.

The samples collected on December 21, 1993, were analyzed by EPA Test Methods 5520 B (total oil and grease), 5520 B/F (non-polar oil and grease), and 8015 modified (total petroleum hydrocarbons).

Laboratory analysis of the floating product collected from the ram housing detected 310,000 milligrams per million (mg/l) of total oil and grease and 228,000 mg/l of non-polar oil and grease. The total petroleum hydrocarbon (TPH) analysis of the groundwater (the free product layer was separated during analysis) reported 210 mg/l of motor oil to be present. Analysis of the lubricant obtained from James River detected 704,000 mg/l of total oil and grease and 633,000 mg/l of non-polar oil and grease. The chromatogram patterns from the James River lubricant and the free product collected from the ram housing were compared at the laboratory and were found to have similar patterns to the laboratory standard for motor oil.

Based on the laboratory results for the floating product and groundwater, it was decided that a boring would be installed approximately 20 feet downgradient of the vault and a groundwater sample collected using a hydropunch (Plate 1). The vault has been backfilled to match the building floor. A summary of the analytical results is presented in Table 1.

HYDROPUNCH INVESTIGATION

The hydropunch investigation included drilling a 20-foot deep boring below the building floor surface, collecting two soil samples near the water table, and collecting a groundwater sample with a hydropunch. The hydropunch investigation was completed on February 1, 1994. During drilling operations, soils were classified by the Unified Soil Classification System (Plate 2). At 15.5 feet below the building floor surface, free product was encountered (Plate 3). The two soil samples and one groundwater sample were submitted to NET Pacific (NET) Laboratory, Santa Rosa, California, for chemical analysis using EPA Test Method 8015 for total petroleum hydrocarbons (TPH) as motor oil.

The samples collected were assigned sequential numbers unrelated to their origin, stored on ice, and delivered with a chain of custody record to NET. NET is state certified to perform the requested analyses.

The soil samples collected from 15.5 to 16.0 and 18.0 to 18.5 feet below the building floor detected 5,700 milligrams per kilogram (mg/kg) and 3,100 mg/kg TPH as motor oil, respectively. The groundwater sample collected between 19.0 to 21.0 feet below the building floor yielded 110 mg/l TPH as motor oil. A summary of the analytical results is presented in Table 1.

CONCLUSIONS

Based on the information obtained, it is evident that lubricant from the bailer mechanism has leaked from the ram housing to the surrounding soil and groundwater downgradient of the vault. The existing monitoring well network may not be adequate for assessing the migration of motor oil from the bailer; however, Monitoring Wells MW-7 and MW-8 will be sampled during the first week of March and analyzed for TPH as motor oil. The analytical results from these wells will be evaluated prior to recommending the installation of a monitoring well downgradient of the bailer.

The location of the bailer and the size of the building preclude installing a permanent well in close proximity to the bailer. If a monitoring well is installed, it would be located several hundred feet downgradient of the bailer, outside of the building.

If you have any questions regarding this report, please contact either of the undersigned at (415) 883-0112.

Very truly yours,

HARDING LAWSON ASSOCIATES

Richard J. Hutton
Senior Hydrologist

R. Bruce Scheibach, R.G. 5062
Principal Hydrogeologist

Attachments: Table 1: Summary of Analysis, Cardboard Bailer Vault
Plate 1: Site Plan
Plate 2: Soil Classification Chart
Plate 3: Log of Boring HPB-1
NET Analytical Data, Cardboard Bailer Vault Sampling
NET Analytical Data, Hydropunch Investigation
Groundwater Sampling Form

cc: Mel Lawyer, James River Corporation

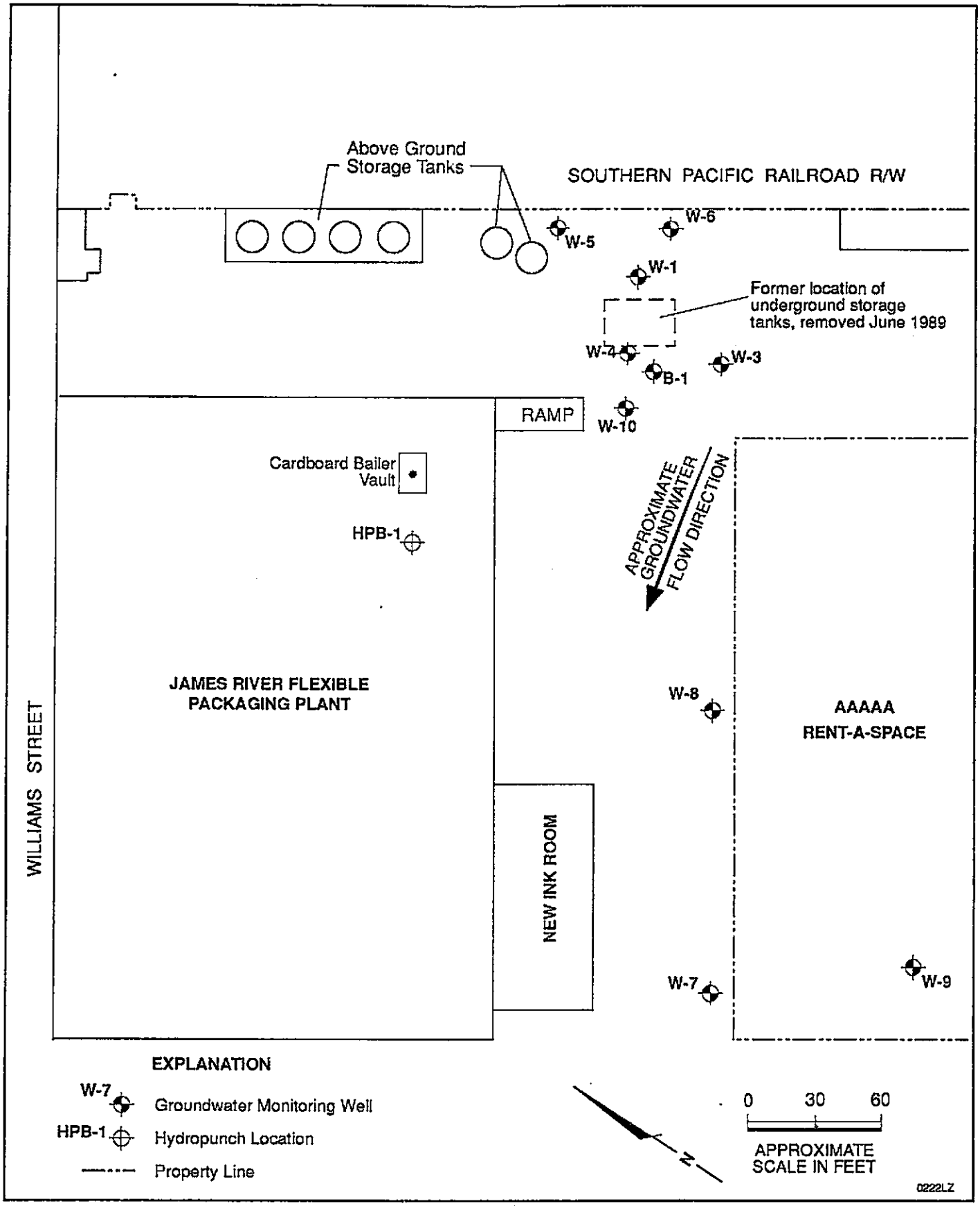
RJH/RBS:gj/gj32749-JR

Table 1. Summary of Analysis
Cardboard Bailer Vault

James River Corporation
San Leandro, California

Date Collected	Type of Sample	Point of Collection	TPH as motor oil
12/21/93	free product	ram housing	310,000 mg/l
12/21/93	groundwater	ram housing	210 mg/l
12/21/93	lubricant	J. R. Facility	633,000 mg/l
2/01/94	soil	15.5' - 16.0' *	5,700 mg/kg
2/01/94	soil	18.0' - 18.5' *	3,100 mg/kg
2/01/94	groundwater	19.0' - 21.0' *	110 mg/l

mg/l Milligrams per liter
mg/kg Milligrams per kilogram
* Depth below floor



Harding Lawson Associates
Engineering and Environmental Services

Site Plan
James River Corporation
2101 Williams Street
San Leandro, California

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
DJPc	26560 1		2/94	

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN No. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN No. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
			GP		POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 15% FINES	GM		SILTY GRAVELS, SILTY GRAVELS WITH SAND
			GC		CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN No. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			SP		POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 15% FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
			SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN No. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS
			OL		ORGANIC SILTS OR CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC SILTS OR CLAYS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			Pt		PEAT AND OTHER HIGHLY ORGANIC SOILS

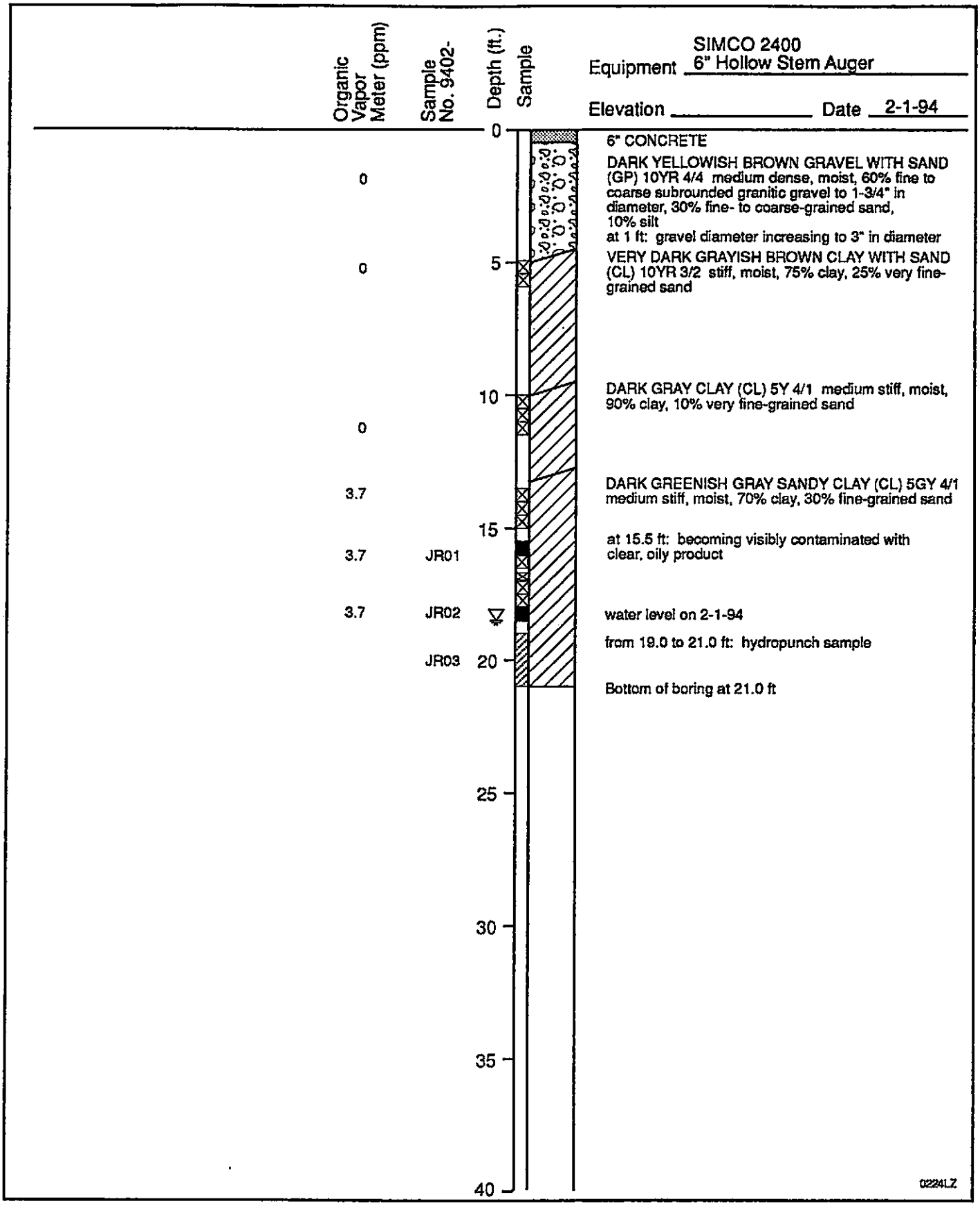
SYMBOLS KEY

	Bulk or Classification Sample
	Sample preserved for possible laboratory analysis
	Hydropunch sample
	First-encountered groundwater level
	Static groundwater level
(10YR 4/4)	Munsell soil color – 1990 edition
NA	Not available
ND	Not detected

GRAIN SIZE CHART

Classification	Range of Grain Sizes	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	ABOVE 12"	ABOVE 305
COBBLES	12" To 3"	305 to 76.2
GRAVEL coarse fine	3" To No. 4 3" to 3/4" 3/4" to No. 4	76.2 to 4.75 76.2 to 19.1 19.1 to 4.75
SAND coarse medium fine	No. 4 to No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200	4.75 to 0.075 4.75 to 2.00 2.00 to 0.425 0.425 to 0.075
SILT & CLAY	Below No. 200	Below 0.075

Source: ASTM D 2488-90, based on Unified Soil Classification System.



Harding Lawson Associates
Engineering and Environmental Services

Log of Boring HPB-1
James River Corporation
2101 Williams Street
San Leandro, California

PLATE **3**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
LZc	26560 1	TGS	2/94	

NET ANALYTICAL DATA

Cardboard Bailer Vault Sampling

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Rick Hutton
Harding Lawson Associates
105 Digital Drive
Novato, CA 94949

Date: 01/11/1994
NET Client Acct. No: 28100
NET Pacific Job No: 93.05551
Received: 12/21/1993

Client Reference Information

James River, San Leandro, Project No. 26560,1

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

Ref: James River, San Leandro, Project No. 26560,1

SAMPLE DESCRIPTION: 9312JR02
Date Taken: 12/21/1993
Time Taken: 10:40
NET Sample No: 181380

VAULT

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
Oil & Grease (Total)	310,000		5	mg/L	5520B		01/06/1994
Oil & Grease (Non-Polar)	228,000		5	mg/L	5520B/F		01/06/1994
ARMY 8015M-HEAVY SCAN						12/30/1993	
DILUTION FACTOR*	100						01/03/1994
as Bunker C	ND		50	mg/L	M8015		01/03/1994
as Creosote	ND		50	mg/L	M8015		01/03/1994
as Diesel	ND		5	mg/L	M8015		01/03/1994
as Hydraulic Oil	ND		50	mg/L	M8015		01/03/1994
as Kerosene	ND		5	mg/L	M8015		01/03/1994
as Motor Oil	210	**	50	mg/L	M8015		01/03/1994
as Stoddard Solvent	ND		5	mg/L	M8015		01/03/1994
as Transmission Fluid	ND		5	mg/L	M8015		01/03/1994

** Of the sample provided, only the water portion was analyzed for 8015M. The pattern on the chromatogram was compared to the other sample on this job and they are both similar to our Motor Oil standard.

Ref: James River, San Leandro, Project No. 26560,1

SAMPLE DESCRIPTION: 9312JR03
Date Taken: 12/21/1993
Time Taken: 10:50
NET Sample No: 181381

LUBRICANT

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
Oil & Grease (Total)	704,000		5	mg/L	5520B		01/06/1994
Oil & Grease (Non-Polar)	633,000		5	mg/L	5520B/F		01/06/1994
ARMY 8015M-HEAVY SCAN						12/28/1993	
DILUTION FACTOR*	20.000						01/03/1994
as Bunker C	ND		10000	mg/L	M8015		01/03/1994
as Creosote	ND		10000	mg/L	M8015		01/03/1994
as Diesel	ND		1000	mg/L	M8015		01/03/1994
as Hydraulic Oil	ND		10000	mg/L	M8015		01/03/1994
as Kerosene	ND		1000	mg/L	M8015		01/03/1994
as Motor Oil	420,000		10000	mg/L	M8015		01/03/1994
as Stoddard Solvent	ND		1000	mg/L	M8015		01/03/1994
as Transmission Fluid	ND		1000	mg/L	M8015		01/03/1994

Ref: James River, San Leandro, Project No. 26560,1

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials
ARMY 8015M-HEAVY SCAN						
as Diesel	114.0	1140	1000	mg/L	01/05/1994	tts
as Motor Oil	115.0	1150	1000	mg/L	01/05/1994	tts
ARMY 8015M-HEAVY SCAN						
as Diesel	96.3	963	1000	mg/L	01/03/1994	dkb
as Motor Oil	94.0	940	1000	mg/L	01/03/1994	dkb

Ref: James River, San Leandro, Project No. 26560,1

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials
Oil & Grease (Total)	ND	5	mg/L	01/06/1994	aal
Oil & Grease (Non-Polar)	ND	5	mg/L	01/06/1994	aal
ARMY 8015M-HEAVY SCAN					
as Bunker C	ND	0.5	mg/L	01/03/1994	tts
as Creosote	ND	0.5	mg/L	01/03/1994	tts
as Diesel	ND	0.05	mg/L	01/03/1994	tts
as Hydraulic Oil	ND	0.5	mg/L	01/03/1994	tts
as Kerosene	ND	0.05	mg/L	01/03/1994	tts
as Motor Oil	ND	0.5	mg/L	01/03/1994	tts
as Stoddard Solvent	ND	0.05	mg/L	01/03/1994	tts
as Transmission Fluid	ND	0.05	mg/L	01/03/1994	tts
ARMY 8015M-HEAVY SCAN					
as Bunker C	ND	0.5	mg/L	01/03/1994	dkb
as Creosote	ND	0.5	mg/L	01/03/1994	dkb
as Diesel	ND	0.05	mg/L	01/03/1994	dkb
as Hydraulic Oil	ND	0.5	mg/L	01/03/1994	dkb
as Kerosene	ND	0.05	mg/L	01/03/1994	dkb
as Motor Oil	ND	0.5	mg/L	01/03/1994	dkb
as Stoddard Solvent	ND	0.05	mg/L	01/03/1994	dkb
as Transmission Fluid	ND	0.05	mg/L	01/03/1994	dkb

Ref: James River, San Leandro, Project No. 26560,1

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Analyst Initials
Oil & Grease (Total)	94.4	92.2	2.4	123.2	ND	116.3	135.0	mg/L	01/06/1994	aal
Oil & Grease (Non-Polar)	94.4	92.2	2.4	123.2	ND	116.3	135.0	mg/L	01/06/1994	aal
ARMY 8015M-HEAVY SCAN as Diesel	72.0	72.0	0.0	1.00	ND	0.72	0.72	mg/L	01/03/1994	tts
ARMY 8015M-HEAVY SCAN as Diesel	N/A	N/A	14	1.00	ND			mg/L	01/03/1994	dkb

Ref: James River, San Leandro, Project No. 26560,1

LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Recovery	RPD	LCS Amount Found	LCS Amount Expected	Units	Date Analyzed	Analyst Initials
Oil & Grease (Total)	93.9		107.8	114.8	mg/L	01/06/1994	aal
Oil & Grease (Non-Polar)	88.9		102.1	114.8	mg/L	01/06/1994	aal
ARMY 8015M-HEAVY SCAN as Diesel	74.0		0.74	1.00	mg/L	01/03/1994	tts
ARMY 8015M-HEAVY SCAN as Diesel	101.0		1.01	1.00	mg/L	01/03/1994	dkb

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. Actual reporting limits and results have been multiplied by the listed dilution factor. Do not multiply the reporting limits or reported values by the dilution factor.
dw	:	Result expressed as dry weight.
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than the applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, Rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, Rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986., Rev. 1, December 1987.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

Revised September, 1993
abb.93

Harding Lawson Associates
105 Digital Drive
Novato, CA 94949
P.O. Box 6107
Novato, CA 94948
(415) 883-0112 • (415) 883-3300 FAX

CHAIN OF CUSTODY FORM

7164

Lab: NET Pacific

Samplers: SJK

Project Number: 26560.1

Name/Location: James River/San Leandro

Project Manager: Rick Hutton

Recorder: Steve Korbay (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr Wk Seq	DATE: Yr Mo Dy Time	STATION DESCRIPTION/ NOTES
10	X				1			93 12 JR01	93 12 21 0830	
10	X				2 1			93 12 JR02	93 12 21 1040	
80				X	1			93 12 JR03	93 12 21 1050	pure product →
10	X				1			93 12 JR04	93 12 21 1100	
										Cooler Temps - 15.8°C & 8.4°C

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	EPA TO6 Polar and Non Polar (413.1)	TPH up to C-35/ Motor Oil	Check in for Heavy Ends
						X	X	
						X	X	
						X	X	

LAB NUMBER: Yr Wk Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
				* Hold samples 9312JR01, 9312JR04 until notified by Rick Hutton
				put comment to compare water sample to product on queue

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Steve Korbay	RECEIVED BY: (Signature) NET	DATE/TIME 12.21.93 1515
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 12/21/93 1600
METHOD OF SHIPMENT		

Laboratory Copy White — Project Office Copy — Field or Office Copy Pi

6533

NET ANALYTICAL DATA

Hydropunch Investigation

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Santa Rosa Division
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Rick Hutton
Harding Lawson Associates
105 Digital Drive
Novato, CA 94949

Date: 02/16/1994
NET Client Acct. No: 28100
NET Pacific Job No: 94.00424
Received: 02/02/1994

Client Reference Information

James River/San Leandro, Job No. 26560.1

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Nora Pearmain
Project Coordinator

Jim Hoch
Operations Manager

Enclosure(s)

Ref: James River/San Leandro, Job No. 26560.1

SAMPLE DESCRIPTION: 9402JR01
Date Taken: 02/01/1994
Time Taken: 13:40
NET Sample No: 184123

SOIL @ 15.5 to 16.0 Feet

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
METHOD 3550/M8015						02/08/1994	
DILUTION FACTOR*	100						02/11/1994
as Motor Oil	5,700		1000	mg/kg	3550		02/11/1994

Ref: James River/San Leandro, Job No. 26560.1

SAMPLE DESCRIPTION: 9402JR02
Date Taken: 02/01/1994
Time Taken: 14:00
NET Sample No: 184124

SOIL @ 18.0 to 18.5 Feet

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
METHOD 3550/M8015						02/08/1994	
DILUTION FACTOR*	50						02/08/1994
as Motor Oil	3,100		500	mg/kg	3550		02/08/1994

Ref: James River/San Leandro, Job No. 26560.1

SAMPLE DESCRIPTION: 9402JR03
Date Taken: 02/01/1994
Time Taken: 15:00
NET Sample No: 184125

GROUNDWATER HYDROPUNCH SAMPLE

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
METHOD 3510/M8015						02/10/1994	
DILUTION FACTOR*	50						02/15/1994
as Motor Oil	110		20	mg/L	3510		02/15/1994

Ref: James River/San Leandro, Job No. 26560.1

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials
METHOD 3510/M8015						
as Diesel	91.3	913	1000	mg/L	02/15/1994	dkb
as Motor Oil	94.2	942	1000	mg/L	02/15/1994	dkb
METHOD 3550/M8015						
as Diesel	94.4	944	1000	mg/kg	02/08/1994	dkb
as Motor Oil	76.3	763	1000	mg/kg	02/08/1994	dkb

Ref: James River/San Leandro, Job No. 26560.1

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials
METHOD 3510/M8015					
as Diesel	ND	0.05	mg/L	02/15/1994	dkb
as Motor Oil	ND	0.5	mg/L	02/15/1994	dkb
METHOD 3550/M8015					
as Diesel	ND	1.0	mg/kg	02/08/1994	dkb
as Motor Oil	ND	10	mg/kg	02/08/1994	dkb

Ref: James River/San Leandro, Job No. 26560.1

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Analyst Initials
METHOD 3510/M8015										
as Diesel	76.0	72.0	5.4	1.00	1.7			mg/L	02/15/1994	dkb
METHOD 3550/M8015										
as Diesel	56.6	67.7	17.9	16.7	ND	9.45	11.3	mg/kg	02/08/1994	dkb

Ref: James River/San Leandro, Job No. 26560.1

LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Recovery	RPD	LCS Amount Found	LCS Amount Expected	Units	Date Analyzed	Analyst Initials
METHOD 3510/M8015 as Diesel	50.0		0.50	1.00	mg/L	02/15/1994	dkb
METHOD 3550/M8015 as Diesel	67.1		11.2	16.7	mg/kg	02/08/1994	dkb

NET®

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. Actual reporting limits and results have been multiplied by the listed dilution factor. Do not multiply the reporting limits or reported values by the dilution factor.
dw	:	Result expressed as dry weight.
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than the applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, Rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, Rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986., Rev. 1, December 1987.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

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abb.93

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CHAIN OF CUSTODY FORM

7745

Lab: NETT

Samplers: TOM DRINKARD

Job Number: 26560.1

Name/Location: JAMES RIVER / SAN LEANDRO

Project Manager: RICK HUTTON

Recorder: T. O'Donnell
(Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH Motor Oil
SO			X		1			94	02	JR01	94	02	01	1340							X
SO			X		1			94	02	JR02	94	02	01	1400							X
23	X				2			94	02	JR03	94	02	01	1500	*						X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						* PLEASE EXTRACT SAMPLE FROM WATER PHASE, BELOW FLOATING PRODUCT
						Temp Record: 0.4°C

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) T. O'Donnell	RECEIVED BY: (Signature) D. Lumbre	DATE/TIME 2/1/94 16:30
RELINQUISHED BY: (Signature) D. Lumbre 2/1/94 18:00	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) (VIA NCS) DATE/TIME	RECEIVED FOR LAB BY: (Signature) K. Kenyon 2/2/94 0800	DATE/TIME

METHOD OF SHIPMENT: LAB COURIER

Laboratory Copy Project Office Copy Field or Office Copy

6533

GROUNDWATER SAMPLING FORM

Harding Lawson Associates
Engineers and Geoscientists

GROUND-WATER SAMPLING FORM

Well No. HYDROPUNCH BORING 1 (HPB-1)
Well Type: ☐ Monitor ☐ Extraction ☐ Other _____
Well Material: ☐ PVC ☐ St. Steel ☐ Other _____

Job Name JAMES RIVER
Job Number 265560.1
Date 2-1-94 Time _____
Recorded by _____ (Signature)
Sampled by _____ (Initials) TMD

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Total Depth of Casing (TD in feet BTOC): _____
Water Level Depth (WL in feet BTOC): _____
Number of Well Volumes to be purged (# Vols)
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other _____

PURGE METHOD

☐ Bailer - Type: _____
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.: _____
☐ Other - Type: _____

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☐ Other _____
Depth in feet (BTOC): _____ Screen Interval in feet (BTOC): from _____ to _____

PURGE VOLUME CALCULATION

(_____ (TD feet) − _____ (WL feet)) X _____ (D^2 (inches)) X _____ (# Vols) X 0.0408 = _____ gallons (Calculated Purge Volume)

PURGE TIME

_____ Start _____ Stop _____ Elapsed

PURGE RATE

Initial _____ gpm Final _____ gpm

ACTUAL PURGE VOLUME

_____ gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☑ °C ☐ °F	Other
	7.0	950	16.0	

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☐ °F	Other
Meter Nos.	4319, 15581			

Observations During Purging (Well Condition, Turbidity, Color, Odor): SILTY GREY W/ CLEAR PRODUCT GLOBULES
Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☑ Other DRUM

WELL SAMPLING

SAMPLING METHOD

☑ Bailer - Type: SS THROUGH HYDROPUNCH
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.: _____
☐ Same As Above
☐ Grab - Type: _____
☐ Other - Type: _____

SAMPLE DISTRIBUTION

Sample Series: 9402

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
JR03	2 - 1LA	BOTH TPH MOTOR OIL	NONE	NETT	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.