Industrial Compliance

9719 Lincoln Village Drive, Suite 310 Sacramento, CA 95827 916/369-8971 FAX 916/369-8370

JAN 9 1992

January 2, 1992

CALIFORNIA REGIONAL WATER
JAN 07 1992
QUALITY CONTROL BOARD

01
01-1412

Mr. Dennis Byrne
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

type = G.
1/2/92 QR

Subject: **Fourth Quarter 1991 Groundwater Monitoring Report**
Southern Pacific Transportation Company
5th and Kirkham Streets Site
Oakland, California
November, 1991
IC Project No. 05032

Dear Mr. Byrne:

Industrial Compliance, Inc. (IC) is submitting this groundwater monitoring report for the above referenced site on behalf of Southern Pacific Transportation Company (SPTCo). Work was performed in accordance with the guidelines set in the Alameda County Health Care Services Agency (ACHCSA) letter dated June 21, 1991, requiring groundwater monitoring at this site. Previous work at this site is described in the *Phase II Environmental Site Assessment, Southern Pacific Transportation Company, 5th and Kirkham Streets, Oakland, California* (SPEvS, March 1, 1991) and the *Third Quarter 1991 groundwater Monitoring Report* (SPEvS September 30 1991).

Groundwater Sampling

There are currently four wells onsite (MW-1, MW-3, MW-4 and MW-6). Well locations are shown on Figure 1. Wells MW-1, MW-3 and MW-4 were installed in former underground storage tank (UST) locations and were the wells sampled in this investigation. The monitoring well MW-6 is an upgradient well not associated with the UST's, and was therefore not sampled.

Groundwater samples were collected on November 6 & 7, 1991. Groundwater elevations were measured with an electronic water level probe. Prior to sampling, approximately 3 well volumes were purged from each well using a submersible pump. The pump was decontaminated by steam-cleaning onsite prior to initial use and between each well. Samples were collected with disposable polyethylene bailers and transferred into laboratory supplied containers. Samples were analyzed for Total Petroleum Hydrocarbons (TPH)-Gasoline and benzene, toluene, ethylbenzene, and xylenes (BTEX) using Method P/T-GBX-Triregional, and TPH-Diesel using Method TPH-D-Triregional. Analytical results are summarized in Table 1.

Analytical Results

Results of analyses of samples from MW-1 and MW-4 indicate TPH and BTEX were not present at concentrations above the method detection limits. The results of analyses on samples collected from MW-3 indicated 1200 ug/L TPH diesel and 3.1 ug/l benzene. TPH gasoline, toluene, ethylbenzene, and xylenes were not detected above the method detection limits in the sample collected from MW-3. Laboratory reports are attached as Appendix A.

The next sampling period is currently scheduled for February, 1991.

If you have any questions concerning this report, please contact Walter Floyd at (916) 369-8971.

Sincerely,

Walter D. Floyd
Project Geologist

Mark S. Dockum, C.E.G.
Project Manager

Attachment

cc: Mr. Lester Feldman
Mr. Rafat Shahid
Mr. Dave Long, Esq.
Mr. Greg Shepherd
Mr. Rick Gooch

05032 wdf

Table 1
Fourth Quarter 1991 Groundwater Monitoring Report
Southern Pacific Transportation Company
5th & Kirkham Streets
Oakland, California
SPEvS Project No. 05032

Well[a]	Sample I.D.	TPH-Gasoline[b] range (ug/L)	TPH-[c] Diesel range (ug/L)	BTEX[d] (ug/L)
MW-1	14900	ND	ND	ND
MW-3	14839	ND	1200	3.1 (Benzene) ND (TEX)
MW-4	14980	ND	ND	ND
Detection Limit	--	50	50	0.50

Notes:

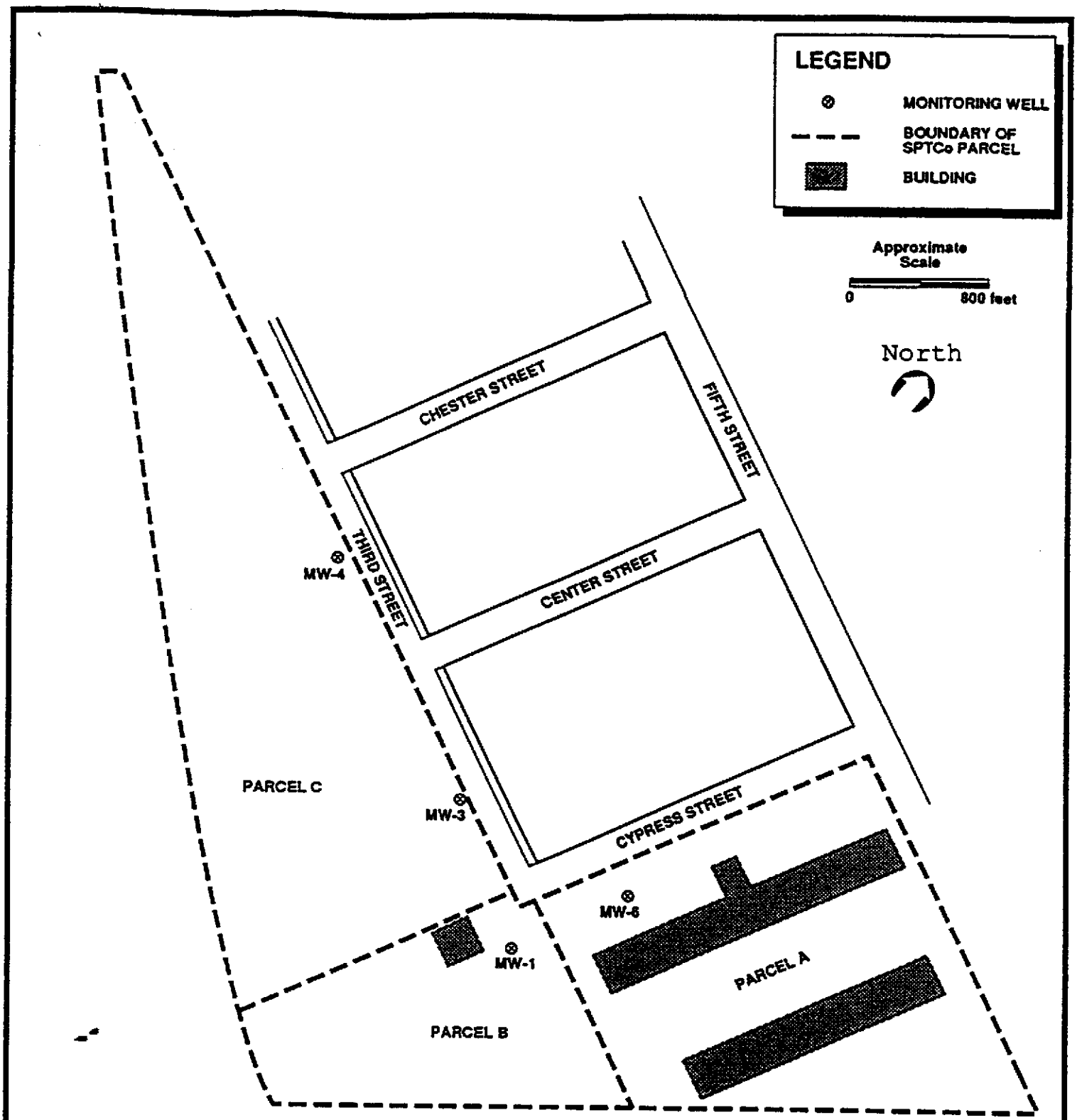
a See Figure 1 for approximate well locations.

b TPH-Gasoline Total Petroleum Hydrocarbons as gasoline analyzed using Method P/T-GBX-Triregional.

c TPH-Diesel Total Petroleum Hydrocarbons as diesel analyzed using Method TPH-D-Triregional.

d BTEX Benzene, Toluene, Ethylbenzene, Xylenes analyzed using Method P/T-GBX-Triregional.

ND Not detected above method detection limit



SP ENVIRONMENTAL SYSTEMS, INC.		LOCATION OF MONITORING WELLS SOUTHERN PACIFIC TRANSPORTATION CO. 5TH & KIRKHAM PROPERTY OAKLAND, CALIFORNIA	FIGURE 1
PROJECT NO: 05032	DATE: 09/30/91		SCALE as shown
DRAWN BY: PD	CHECKED BY: DB		

05032 Fig 1/disc 44/GW Mon 0991

Enseco
A Corning Company

November 23, 1991
Lab ID: 061462

Walt Floyd
S.P. Environmental
9719 Lincoln Village Dr.
Suite 310
Sacramento, CA 95827

Dear Mr. Floyd:

Enclosed is the report for the three aqueous samples for your BoBo Project, Number 05032, which were received at Enseco-Cal Lab on 11 November 1991.

The report consists of the following sections:

I	Sample Description
II	Analysis Request
III	Quality Control Report
IV	Analysis Results

If you have any questions, please feel free to call.

Sincerely,

Douglas Baker
Program Administrator

Robert Weidenfeld
Program Administrator

svf

Enseco Incorporated
2544 Industrial Boulevard
West Sacramento, California 95691
916/372-1393 Fax: 916/372-7768

Enseco
A Corning Company

I Sample Description

See the attached Sample Description Information.

The samples were received under chain-of-custody.

II Analysis Request

The following analytical tests were requested.

Lab ID	Analysis Description
061462-1 thru 3	Total Petroleum Hydrocarbons (Gasoline) and BTEX
	Total Petroleum Hydrocarbons (Triregional)

III Quality Control

A. Project Specific QC. No project specific QC (i.e., spikes and/or duplicates) was requested.

B. Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

No target parameters were detected in the method blanks associated with your samples at the reporting limit levels noted on the Method Blank Report.

C. Laboratory Control Samples - The LCS Program

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The DCS results associated with your samples are on the attached Duplicate Control Sample Report.

Single Control Sample. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS. The SCS results associated with your samples are on the attached Single Control Sample Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{\text{(measured concentration)}}{\text{(actual concentration)}} \times 100$$

Precision is measured using duplicate tests by Relative Percent Difference (RPD) as in:

$$RPD = \frac{\text{(\% recovery test 1 - \% recovery test 2)}}{\text{(\% recovery test 1 + \% recovery test 2)/2}} \times 100$$

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery +/-3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference + 3 standard deviation units. In cases where there is not enough historical data, EPA limits or advisory limits are set, with the approval of the Quality Assurance department.

IV Analysis Results

Test methods may include minor modifications of published EPA Methods such as reporting limits or parameter lists. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis, i.e., no correction is made for moisture content, unless the method requires or the client requests that such correction be made.

Results are on the attached data sheets.

Enseco
A Corning Company

SAMPLE DESCRIPTION INFORMATION
for
SP Environmental

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
061462-0001-SA	14900	AQUEOUS	06 NOV 91	14:45	11 NOV 91
061462-0002-SA	14839	AQUEOUS	07 NOV 91	14:40	11 NOV 91
061462-0003-SA	14980	AQUEOUS	07 NOV 91	15:30	11 NOV 91

Enseco
A Corning Company

QC LOT ASSIGNMENT REPORT
Hydrocarbon Work Cell

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
061462-0001-SA	AQUEOUS	TPH-BTEX-A	08 NOV 91-14A	12 NOV 91-14A
061462-0002-SA	AQUEOUS	TPH-BTEX-A	08 NOV 91-14A	12 NOV 91-14A
061462-0003-SA	AQUEOUS	TPH-BTEX-A	08 NOV 91-14A	12 NOV 91-14A

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A Corning Company

METHOD BLANK REPORT
Hydrocarbon Work Cell

Analyte	Result	Units	Reporting Limit
Test: TPH-G-BTEX-TR-A			
Matrix: AQUEOUS			
QC Lot: 08 NOV 91-14A QC Run: 12 NOV 91-14A			
Benzene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Xylenes (total)	ND	ug/L	0.50
Gasoline	ND	ug/L	50
Unknown hydrocarbon	ND	ug/L	50

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A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Hydrocarbon Work Cell

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: TPH-BTEX-A Matrix: AQUEOUS QC Lot: 08 NOV 91-14A Concentration Units: ug/L								
Benzene	5.00	4.88	5.12	5.00	100	78-116	4.8	9
Toluene	5.00	4.89	5.07	4.98	100	78-113	3.6	10
Gasoline	1000	972	1020	996	100	76-125	4.8	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A Corning Company

QC LOT ASSIGNMENT REPORT
Hydrocarbon Work Cell

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
061462-0001-SA	AQUEOUS	TPH-D-TR-A	07 NOV 91-A	12 NOV 91-A
061462-0002-SA	AQUEOUS	TPH-D-TR-A	07 NOV 91-A	12 NOV 91-A
061462-0003-SA	AQUEOUS	TPH-D-TR-A	07 NOV 91-A	12 NOV 91-A

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A Corning Company

METHOD BLANK REPORT
Hydrocarbon Work Cell

Analyte	Result	Units	Reporting Limit
Test: TPH-D-TR-A			
Matrix: AQUEOUS			
QC Lot: 07 NOV 91-A QC Run: 12 NOV 91-A			
Diesel Fuel	ND	ug/L	50
Unknown hydrocarbon	ND	ug/L	50

Enseco
A Corning Company

DUPLICATE CONTROL SAMPLE REPORT
Hydrocarbon Work Cell

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: TPH-D-TR-A Matrix: AQUEOUS QC Lot: 07 NOV 91-A Concentration Units: ug/L								
Diesel Fuel	300	217	202	210	70	34-147	7.2	28

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A Corning Company

SINGLE CONTROL SAMPLE REPORT
Hydrocarbon Work Cell

Analyte	Concentration Spiked	Measured	Accuracy(%) SCS	Limits
Category: TPH-D-TR-A				
Matrix: AQUEOUS				
QC Lot: 07 NOV 91-A QC Run: 12 NOV 91-A				
Concentration Units: ug/L				
Diesel Fuel	300	260	87	34-147

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A Corning Company

Total Petroleum Hydrocarbons (Gasoline) and BTEX

Method P/T-GBX-TRIREGIONAL

Client Name: SP Environmental
Client ID: 14900
Lab ID: 061462-0001-SA
Matrix: AQUEOUS Sampled: 06 NOV 91 Received: 11 NOV 91
Authorized: 11 NOV 91 Prepared: NA Analyzed: 12 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Xylenes (total)	ND	ug/L	0.50
Gasoline	ND	ug/L	50
Unknown hydrocarbon	ND	ug/L	50

ND = Not detected
NA = Not applicable

Reported By: Pat Trinidad Approved By: Tom MacClanahan

The cover letter is an integral part of this report.
Rev 230787

Enseco
A Corning Company

Total Petroleum Hydrocarbons (Gasoline) and BTEX

Method P/T-GBX-TRIREGIONAL

Client Name: SP Environmental
Client ID: 14839
Lab ID: 061462-0002-SA
Matrix: AQUEOUS Sampled: 07 NOV 91 Received: 11 NOV 91
Authorized: 11 NOV 91 Prepared: NA Analyzed: 12 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	3.1	ug/L	0.50
Toluene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Xylenes (total)	ND	ug/L	0.50
Gasoline	ND	ug/L	50
Unknown hydrocarbon	ND	ug/L	50

ND = Not detected
NA = Not applicable

Reported By: Pat Trinidad Approved By: Tom MacClanahan

The cover letter is an integral part of this report.
Rev 230787

Enseco
A Corning Company

Total Petroleum Hydrocarbons (Gasoline) and BTEX

Method P/T-GBX-TRIREGIONAL

Client Name: SP Environmental
Client ID: 14980
Lab ID: 061462-0003-SA
Matrix: AQUEOUS Sampled: 07 NOV 91 Received: 11 NOV 91
Authorized: 11 NOV 91 Prepared: NA Analyzed: 12 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Xylenes (total)	ND	ug/L	0.50
Gasoline	ND	ug/L	50
Unknown hydrocarbon	ND	ug/L	50

ND = Not detected
NA = Not applicable

Reported By: Pat Trinidad Approved By: Tom MacClanahan

The cover letter is an integral part of this report.
Rev 230787

Enseco
A Corning Company

Total Petroleum Hydrocarbons by GC/FID (Triregional)

Method TPH-D-TRIREGIONAL

Client Name: SP Environmental
Client ID: 14900
Lab ID: 061462-0001-SA
Matrix: AQUEOUS
Authorized: 11 NOV 91

Sampled: 06 NOV 91
Prepared: 13 NOV 91

Received: 11 NOV 91
Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Diesel Fuel	ND	ug/L	50
Unknown hydrocarbon	ND	ug/L	50

ND = Not detected
NA = Not applicable

Reported By: Tony Young

Approved By: Lisa Stafford

The cover letter is an integral part of this report.
Rev 230787

Enseco
A Corning Company

Total Petroleum Hydrocarbons by GC/FID (Triregional)

Method TPH-D-TRIREGIONAL

Client Name: SP Environmental
Client ID: 14839
Lab ID: 061462-0002-SA
Matrix: AQUEOUS Sampled: 07 NOV 91 Received: 11 NOV 91
Authorized: 11 NOV 91 Prepared: 13 NOV 91 Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit	
Diesel Fuel	ND	ug/L	750	R
Unknown hydrocarbon	1200	ug/L	750	1

Note R : Raised reporting limit(s) due to high analyte level(s).

Note 1 : The hydrocarbons present in this sample represent an unknown mixture in the range of about C-10 to C-21. Quantitation is based on a diesel reference.

ND = Not detected
NA = Not applicable

Reported By: Tony Young Approved By: Lisa Stafford

The cover letter is an integral part of this report.
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Enseco
A Corning Company

Total Petroleum Hydrocarbons by GC/FID (Triregional)

Method TPH-D-TRIREGIONAL

Client Name: SP Environmental
Client ID: 14980
Lab ID: 061462-0003-SA
Matrix: AQUEOUS
Authorized: 11 NOV 91

Sampled: 07 NOV 91
Prepared: 13 NOV 91

Received: 11 NOV 91
Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Diesel Fuel	ND	ug/L	50	
Unknown hydrocarbon	ND	ug/L	50	1

Note 1 : This sample contains three single peaks in the ranges of about C-16, C-21, and C-25.

ND = Not detected
NA = Not applicable

Reported By: Tony Young

Approved By: Lisa Stafford

The cover letter is an integral part of this report.
Rev 230787

SP - EvS

CHAIN-OF-CUSTODY RECORD

No. 11424

SP - Environmental Systems, Inc. • 9719 Lincoln Village Drive, Ste. 310 • Sacramento, CA 95827 • Phone 916-369-8971 • FAX 916-369-8370

PROJECT NAME: Bo Bo

PROJECT LOCATION:

PROJ. NO.: 05032

PROJECT CONTACT: Trish Curl

PROJECT TELEPHONE NO.: 9163698971

CLIENT'S REPRESENTATIVE:

PROJECT MANAGER/SUPERVISOR:

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): TPH-GAS; BTEX PT/GBX-Triregional; TPH Diesel - TPH.D. Triregional

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE LOCATION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH-GAS	BTEX	TPH Diesel						REMARKS
1	14900	11/6/91	1445			H2O	4	X	X	X						2 VOAh w/Bubbles 14900
2	14839	11/7/91	1440			↓	4	X	X	X						2 VOAh w/Bubbles 14839
3	14980	11/7/91	1530			↓	4	X	X	X						
4																
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	3	[signature]	M. McGuckle [signature]	11/11/91	14:50
2					
3					
4					

REMARKS: Regular T.A.

SAMPLER'S NAME: Brayton Lievens

SAMPLER'S SIGNATURE: [signature]

LAB COPY