



SP ENVIRONMENTAL SYSTEMS, INC.

9719 LINCOLN VILLAGE DR., SUITE 310 SACRAMENTO, CA 95827 (916) 369-8971 FAX (916) 369-8370

found 6-10-92

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August 26, 1991

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

**Subject: Soil Remediation
5th & Kirkham Streets Site
Oakland, California
SPEvS Job # 05032**

Dear Mr. Byrne:

SP Environmental Systems Inc. (SPEvS), on behalf of Southern Pacific Transportation Company (SPTCo), has implemented the first phase of soil remediation at the above referenced site, following the previously submitted and approved work plan dated May 16, 1991.

As proposed in the workplan, the stockpiled soil, which was excavated from underground storage tank (UST) pits, was segregated into two piles, soil to be treated and apparent clean soil. Confirmation samples were collected from the apparent clean soil stockpile. The results of analyses on these samples indicate that the soil meets our clean up objective of less than 10 parts per million (ppm) of total petroleum hydrocarbons (TPH) as gasoline, less than 10 ppm of TPH as diesel, and less than 100 ppm of motor oil range hydrocarbons. The enclosed report describes the sampling and analytical methodologies used.

This soil is scheduled to be transported on September 3, 1991, to Richmond, California, where it will be used in the construction of a large berm for a shooting range at the Southern Pacific Police Station.

If there are any questions or concerns, please do not hesitate to give me a call at 916-369-8971.

Sincerely,

A handwritten signature in cursive script that reads "Walter Floyd".

Walter Floyd
Project Geologist

/WDF

BACKGROUND

Four underground storage tanks (USTs) were removed from the property in February, 1990. The hydrocarbon impacted soil identified during the UST removal operations was excavated and stockpiled onsite in October, 1990. A report entitled "*Phase II Environmental Site Assessment, Southern Pacific Transportation Company, 5th & Kirkham Streets Property, Oakland, California*", and dated March 1, 1991, describes the soil excavation and groundwater investigation. In March, 1991, the soil stockpile was sampled. The results of analyses indicated that the hydrocarbon concentrations had attenuated over much of the pile, however, some locations still contained elevated hydrocarbon concentrations. A work plan for the remediation of the soil stockpile was proposed to Alameda County Health Care Agency - Department of Environmental Health. This work plan called for segregating the soil stockpile into two stockpiles, one pile with elevated hydrocarbon concentrations, and another pile with apparently reduced hydrocarbon concentrations. The soil with elevated hydrocarbon concentrations was to be bioremediated using a composting method. A clean-up objective was proposed to reduce the TPH as gasoline to below 10 ppm, to reduce the total of TPH as diesel and as motor oil to below 100 ppm. Soil that met the clean-up criteria would be used on-site. This work plan was accepted on June 21, 1991.

RECENT SAMPLING

On August 14, 1991, SPEvS personnel collected 5 confirmation samples from the apparent clean soil stockpile. This stockpile contained approximately 300 cubic yards (cy) of soil.

Samples were collected by digging into the stockpile approximately 3 feet and driving a clean brass tube into the soil. The sampling locations are shown in Figure 1. The ends of the tube were immediately covered with Teflon sheets and then covered with tight fitting plastic end caps which were taped to the brass tube with duct tape. The samples were then labeled, documented on a chain of custody, and stored in a cooled ice chest until delivery to Coast to Coast Analytical, a state certified analytical laboratory.

The collected samples were analyzed for:

- Total petroleum hydrocarbons (TPH) in the diesel and gasoline range using a Modified EPA Method 8260.
- TPH using EPA method 418.1. This method was used to detect hydrocarbons in the motor oil range.

RESULTS

The laboratory reports, as received from the analytical laboratory are presented in Appendix 1.

Results of analyses performed on the samples indicate:

- Gasoline concentrations were not detected in any of the samples submitted for analyses. The detection limit was 0.1 ppm.
- The diesel concentrations were not detected in any of the samples submitted for analyses. The detection limit was 0.1 ppm.
- The TPH concentrations, as determined using EPA method 418.1, ranged from 38 to 78 ppm.

The results of these analyses indicate that the soil in this stockpile meets the previously approved clean up objective for soil at this project.

There are still approximately 300 cy of soil on site being bioremediated. This soil is scheduled to be sampled in early September, 1991, to monitor the progress.



Air, Water & Hazardous Waste Sampling, Analysis & Consultation
Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

San Luis Obispo, CA • Goleta, CA • Benicia, CA • Camarillo, CA • Newport Beach, CA • Valparaiso, IN

San Luis Obispo Division
141 Suburban Road, San Luis Obispo, California 93401

(805) 543-2553
FAX (805) 543-2685

CLIENT: Walter Floyd
S.P. Environmental Systems
9719 Lincoln Village Suite 310
Sacramento, CA 95827

Lab Number : H-3124-12
Project : 5th & Kirkham (05032)
Analyzed : 08/16/91
Analyzed by: BM
Method : EPA 418.1

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED		
13821	Soil	Walter Floyd	08/14/91	08/15/91	
CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE	
Total Petroleum Hydrocarbons by 418.1		5.	42.	1	
TOTAL PETROLEUM HYDROCARBONS				2,3,4	
Total Petroleum Hydrocarbons		0.1	ND		
Percent Surrogate Recovery			101.		

San Luis Obispo Division is certified by CA Department of Health Services: ELAP #1598

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

- (1) Sample Preparation on 08/16/91 by BDM using EPA 418.1
- (2) EXTRACTED by EPA 5030 (purge-and-trap)
- (3) ANALYZED by CAL DHS DRAFT TPH (modified) and EPA 8260 (GC/MS)
- (4) Total Petroleum Hydrocarbons (gasoline, diesel 2, jet fuel, kerosene, Stoddard solvent or crude oil) were not detected at the listed PQL.

08/22/91

MH/bpl/cmo
HH161150

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D.
President



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CLIENT: Walter Floyd
S.P. Environmental Systems
9719 Lincoln Village Suite 310
Sacramento, CA 95827

Lab Number : H-3124-13
Project : 5th & Kirkham (05032)
Analyzed : 08/16/91
Analyzed by: BM
Method : EPA 418.1

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED		
13822	Soil	Walter Floyd	08/14/91	08/15/91	
CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE	
Total Petroleum Hydrocarbons by 418.1		5.	67.	1	
TOTAL PETROLEUM HYDROCARBONS				2,3,4	
Total Petroleum Hydrocarbons		0.1	ND		
Percent Surrogate Recovery			95.		

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CLIENT: Walter Floyd
S.P. Environmental Systems
9719 Lincoln Village Suite 310
Sacramento, CA 95827

Lab Number : H-3124-14
Project : 5th & Kirkham (05032)
Analyzed : 08/16/91
Analyzed by: BM
Method : EPA 418.1

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED		
13823	Soil	Walter Floyd	08/14/91	08/15/91	
CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE	
Total Petroleum Hydrocarbons by 418.1		5.	38.	1	
TOTAL PETROLEUM HYDROCARBONS				2,3,4	
Total Petroleum Hydrocarbons		0.1	ND		
Percent Surrogate Recovery			96.		

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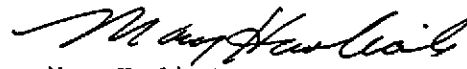
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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CLIENT: Walter Floyd
S.P. Environmental Systems
9719 Lincoln Village Suite 310
Sacramento, CA 95827

Lab Number : H-3124-15
Project : 5th & Kirkham (05032)
Analyzed : 08/16/91
Analyzed by: BM
Method : EPA 418.1

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED		
13824	Soil	Walter Floyd	08/14/91	08/15/91	
CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE	
Total Petroleum Hydrocarbons by 418.1		5.	78.	1	
TOTAL PETROLEUM HYDROCARBONS				2,3,4	
Total Petroleum Hydrocarbons		0.1	ND		
Percent Surrogate Recovery			99.		

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 08/16/91 by BDM using EPA 418.1
(2) EXTRACTED by EPA 5030 (purge-and-trap)
(3) ANALYZED by CAL DHS DRAFT TPH (modified) and EPA 8260 (GC/MS)
(4) Total Petroleum Hydrocarbons (gasoline, diesel 2, jet fuel, kerosene, Stoddard solvent or crude oil) were not detected at the listed PQL.

08/22/91

MH/bpl/cmo
HH161150

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Mary Havlicek, Ph.D.
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CLIENT: Walter Floyd
S.P. Environmental Systems
9719 Lincoln Village Suite 310
Sacramento, CA 95827

Lab Number : H-3124-16
Project : 5th & Kirkham (05032)
Analyzed : 08/16/91
Analyzed by: BM
Method : EPA 418.1

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

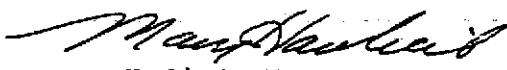
SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED		
13825	Soil	Walter Floyd	08/14/91	08/15/91	
CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE	
Total Petroleum Hydrocarbons by 418.1		5.	78.	1	
TOTAL PETROLEUM HYDROCARBONS				2,3,4	
Total Petroleum Hydrocarbons		0.1	ND		
Percent Surrogate Recovery			97.		

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08/22/91

MH/bpl/cmo
HH16I150

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.


Mary Havlicek, Ph.D.
President

Chain of Custody



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 751 S. Kellogg, Suite A • Coleta, CA 93117 • (805) 964-7838 • FAX (805) 964-4386
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 9333 Tech Center Dr., Ste. 800 • Sacramento, CA 95826 • (916) 368-1333 • FAX (916) 362-2484
 2400 Cumberland Dr. • Valparaiso, Indiana 46383 • (219) 464-2389 • FAX (219) 462-2953

PLEASE PRINT IN PEN

Client SP ENVIRONMENTAL SYSTEMS Phone # (916) 369-8971 FAX # () ()
 Address 9719 LINCOLN VILLAGE DR. CITY SACRAMENTO State CA
 Project Name/Number 5th & Kirkham / (05032) Project MGR R.W. Garey
 Bill (If different than above)
 Sampler WATER FLOYD Due Date 8/20/91 Cycler # (RUSH) Copies To: _____ Auth. Init. _____

Sample Description	Date/Time Col'd	*Matrix	# of Containers	Pres. y/n	Fill	Analysis	Remarks	Lab ID #
13821	8/14/91 13:20	SOIL	1	NO	↓	TPPH by 8260 per photo Floyd (TPH-G, TPH-D) 418.1		-12
13822	8/14 13:15				↓			-13
13823	8/14 12:37				↓			-14
13824	8/14 12:30				↓			-15
13825	8/14 12:20				↓			-16

Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By
<u>Water Floyd</u>	8-14-91 18:30	<u>Guillermo Benitez</u>				

Shipping Method _____ Shipping # _____ Received By NEON NICKAS Date/Time 8-15-91 18:30 Condition (See Remarks) Col'd Y Sealed Y Matrix Y

REMARKS _____

OR LAB USE ONLY

- * Matrix:
- DW - Drinking Water
 - WW - Wastewater
 - GW - Groundwater
 - SW - Surface Water
 - IM - Impinger
 - FI - Filter
 - FP - Free Product
 - A/G - Air/Gas
 - SL - Sludge/Soil/Solid
 - OT - Other