



*Site name: Longview Fiber Co.
8511 Blaine St.*

January 9, 1990

Re 887 CLOSER

SFO24103.C1.00

Mr. David N. Mendenhall
Water Quality Engineer
Longview Fibre Company
P.O. Box 639
Longview, Washington 98632

01

Dear David:

Subject: Groundwater Monitoring at the Oakland, California Facility

The following table summarizes the final results of the groundwater monitoring program at Longview Fibre Company's Oakland, California facility. The monitoring well is located at the former site of the four underground diesel storage tanks that were removed in January of 1988.

Parameter Analytical Method)	Concentration 05-09-88 (ug/l)	Concentration 01-13-89 (ug/l)	Concentration 05-12-89 (ug/l)	Concentration 11-21-89 (ug/l)
Volatile Aromatics (EPA Method 602/8020 or CAD LUFT)				
Benzene	<1.0	<1.0	<1	<1
Toluene	<1.0	<1.0	<1	<1
Ethyl benzene	<1.0	<1.0	<1	<1
Xylene (Total Isomers)	<1.0	<1.0	<1	<1
Chlorobenzene	<1.0	<1.0		

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Parameter Analytical Method)	Concentration 05-09-88 (ug/l)	Concentration 01-13-89 (ug/l)	Concentration 05-12-89 (ug/l)	Concentration 11-21-89 (ug/l)
1,4-Dichlorobenzene	<1.0	<1.0		
1,3 Dichloreobenzene	<1.0			
1,2-Dichlorobenzene	<1.0	<1.0		
Tertbutylmethylether	NA	<1.0		
Total Aromatics			<1	
Total Petroleum Hydrocarbons-Diesel	NA	<50	<50	<50
Free Fuel Product Thickness On Water Table	None Visible	None Visible	None Visible	None Visible

ug/l = Micrograms per Liter.

NA = Not Analyzed

NOTE:

A "<" sign indicate that the compound was not detected in the sample. The numbers shown correspond to the method detection limit.

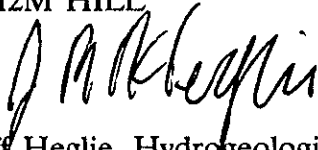
Attached for your information is a detailed description of the field procedures for the November sampling, as well as copies of the laboratory reports and chain-of-custody form. A complete copy of this report has been sent directly to Worth Cornelius in Oakland, the Regional Water Quality Control Board, and the Alameda County Environmental Health Department.

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Should you have any questions regarding this report, please contact either Jack Payne at 503/224-9190 or me at 415/652-2426.

Sincerely,

CH2M HILL



Jeff Heglie, Hydrogeologist
Project Manager

SFO28/001.50
Enclosure

cc: Worth Cornelius, Longview Fibre Co., Oakland Facility

Jack Payne, CH2M HILL/PDX

California Regional Water Quality Control Board, San Francisco Bay
Region

Ariu Levi, Alameda County Division of Hazardous Materials,
Environmental Health Department

Attachment
SAMPLING AND ANALYSIS PROCEDURES

INTRODUCTION

After the removal of four underground fuel storage tanks from the Longview Fibre Company's Oakland facility, CH2M HILL recommended that a monitoring well be installed and soil and water samples be collected and analyzed in accordance with guidelines issued by the California Regional Water Quality Control Board (RWQCB). A description of the field activities and a discussion of the results of the soil sampling and initial groundwater investigation are presented in CH2M HILL's July 1988 report "Monitoring Well Installation and Sampling, Longview Fibre Company, Oakland, California Facility." CH2M HILL's February 1988 report entitled "Report on the Removal of Underground Storage Tanks and Sump Closure, Longview Fibre Company, Oakland, California Facility" contains details of the underground storage tank removal and associated soil sampling.

BACKGROUND

Following removal of four underground diesel storage tanks from a portion of Longview Fibre's Oakland facility, CH2M HILL developed a remedial action plan and submitted it to the Alameda County Department of Environmental Health. The plan called for the installation of a down-gradient monitoring well and the collection and analysis of groundwater samples for volatile organic aromatics (EPA Method 602) and soil samples for total petroleum hydrocarbons-diesel (TPH-Diesel) (CH2M HILL, 1988).

The subsequent May 1988 site investigation included the following field activities: installation and development of one shallow monitoring well, collection and analysis of one soil sample from the borehole during monitoring well construction and one sample of the drill cuttings, measurement of fuel product thickness in the well, and the collection and analysis of one groundwater sample after purging the well.

Results of the initial soil and groundwater analyses of May 1988 indicated that there were no detectable concentrations of volatile aromatic hydrocarbons in the groundwater in the immediate vicinity of the former diesel storage tanks, and less than 10 ppm of diesel fuel hydrocarbons in the soils. Additional groundwater sampling and analysis for volatile organic aromatics (EPA Method 602) and diesel (TPH-Diesel) was recommended to confirm the initial results.

FIELD METHODS

The monitoring program consists of measuring the fuel product thickness in the well, if any, and collecting and analyzing one groundwater sample after purging the well. The methods that have been followed are described in the following paragraphs.

EQUIPMENT DECONTAMINATION AND WASTE STORAGE

Prior to sampling, the teflon bailer and associated teflon spigot were washed with a detergent and water solution, rinsed in tap water, spray-rinsed with isopropanol, and rinsed with distilled water. The clear bailer and electric well sounder (for groundwater measurements), and the bailer and suction hose (for well development) were washed with the detergent and water solution and rinsed in tap water.

All groundwater produced during sampling was stored next to the well in barrels with lids secured by bolt rings.

SAMPLE PRESERVATION AND CHAIN-OF-CUSTODY PROCEDURES

Once filled, sample containers were labelled, secured with custody seals, and placed in an ice-filled cooler. Chain-of-custody forms were generated for each shipment of samples, enclosed in zip lock plastic bags, and packed inside the cooler with the samples. A copy of the most recent chain-of-custody form is attached to this letter. Custody seals were affixed to the front and rear of the cooler's lid before shipment to the laboratory via an express courier service.

GROUNDWATER SAMPLING

Before collecting the groundwater sample on November 21, 1989 measurements were made of the water level and petroleum product thickness in the monitoring well. The water level was measured to the nearest 0.01 inches with an electric well sounder, and the product thickness was measured using a clear acrylic bailer.

Standing water was purged from the well by using a hand-powered suction pump and a plastic hose. Approximately 9 gallons (equal to about three casing volumes) were removed from the well. After purging the well, a water sample was collected with a teflon bailer for analysis for volatile organic aromatics (EPA Method 602) and total petroleum hydrocarbons-diesel (TPH-Diesel). Before filling the sample bottles, the initial three bailers full of water removed from the well were discarded in order to further rinse the teflon bailer. Three 40 milliliter VOA sample bottles and one 1-liter bottle were filled from the subsequent bailer fulls of water. The VOA bottles were carefully filled to

prevent any air bubbles from remaining in the container after sealing. All discarded groundwater was poured into the barrels containing well development water.

The water sample was analyzed for volatile organic compounds (DHS LUFT Method) and total petroleum hydrocarbons-diesel (TPH-Diesel) in accordance with and guidelines issued by the California Department of Health Services. Analytical services for the water samples were provided by the CH2M HILL laboratory in Redding, California. Copies of the laboratory reports for the most recent sampling are attached to this letter.

SF028/005A.WP

REFERENCES

California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, 1985. Guidelines for Addressing Fuel Leaks, September.

CH2M HILL, 1988. Report on the Removal of Underground Storage Tanks and Sump Closure, Longview Fibre Company, Oakland, California Facility. Unpublished report prepared for Longview Fibre, February.

CH2M HILL, 1988. Monitoring Well Installation and Sampling, Longview Fibre Company, Oakland, California Facility. Unpublished report prepared for Longview Fibre, July.

CH2M HILL, 1989. Groundwater Monitoring at the Oakland, California Facility. Unpublished letter report of monitoring prepared for Longview Fibre, April.

CH2M HILL, 1989. Groundwater Monitoring at the Oakland, California Facility. Unpublished letter report of monitoring prepared for Longview Fibre, June.

SF028/005.WP

January 5, 1990

LRD191.10

CH2M HILL
6425 Christie Ave., Suite 500
Emeryville, CA 94608

Attention: Jeff Heglie

Dear Jeff:

The results are enclosed for your sample which was received by our laboratory on November 22, 1989.

If you have any questions please contact Dr. Lawrence Jacoby or Ms. Mona Jones in Client Services.

CH2M HILL stores samples for 30 days after the written report date at no charge. After 30 days, non-hazardous samples are disposed of at no charge. If you require either of the following services you need to notify us within 15 days:


- * Return of samples to the address shown above.
- * Storage of samples at \$5.00/sample/month.

If a sample is determined to be hazardous, we will contact you to discuss disposal options.

Thank you for selecting a CH2M HILL laboratory for your analytical testing needs.

Sincerely,

CH2M HILL QUALITY ANALYTICS LABORATORY


Barbara J. Hurley
Document Control Officer

Encl.



CASE NARRATIVE FOR
BTXE

LABORATORY: CH2M HILL CLIENT: Longview Fiber Corp.
CASE NO : N/A CONTRACT NO.: N/A
LAB ID : 24955 SDG # : N/A

I. RECEIPT

A. Date: November 22, 1989

B.	LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
	24955001	LVF-GW-1189	Water	11-21-89	N/A	11-29-89

C. Documentation Problems : None encountered.

II. EXTRACTION

- A. Holding Times: Not applicable.
- B. Problems : None encountered

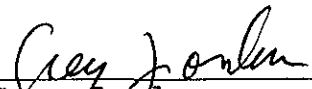
III. ANALYSIS

- A. Holding Times: All met
- B. Problems : None encountered.

IV. QUALITY CONTROL

- A. Method Blank : A method blank is a laboratory-generated sample used to determine the degree to which laboratory operations may cause false positive results for this sample. No target parameters were detected in the method blanks associated with this sample.
- B. Surrogate Recoveries : All met acceptable QC. limits.
- C. Matrix Spike Results : Not applicable.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature. Diskette deliverables have not been provided for this data package.



Greg Jordan
QC Section Supervisor

12/15/89

Date

24955nar



METHOD: EPA 8020 (Gasoline Aromatics)

Client: Longview Fiber Corp.
Client Sample ID: LVF-GW-1189

Reference No: 24955-1

Sample Matrix: Water

Date Sampled: 11-21-89
Date Received: 11-22-89
Date Analyzed: 11-29-89

Compounds	Detection Limit	Method Blank	Sample Result
Benzene	1	<1	<1
Toluene	1	<1	<1
Ethyl Benzene	1	<1	<1
Total Xylenes	1	<1	<1
Surrogate (SS)		96	112

Results reported as ug/l.

Comments:

SS - Surrogate Standard reported as percent recovery.
Bromofluorobenzene used as surrogate standard.

Approved By: Gay Jordan

**CASE NARRATIVE FOR
TFH DIESEL SAMPLES**

LABORATORY: CH2M HILL

CLIENT: Longview Fiber Corp.

CASE NO : N/A

CONTRACT NO : N/A

LAB ID : N/A

SDG # : N/A

I. RECEIPT

A. Date: 11/22/89

B.	LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
	24955	LVF-GW-1189	WATER	11/21/89	11/28/89	12/14/89
	BLANK	METHOD BLANK	WATER	N/A	11/28/89	12/14/89

C. Documentation
Problems : None encountered.

II. EXTRACTION

- A. Holding Time : All holding times met.
- B. Extraction Exceptions : Sample extractions proceeded as normal.
No exceptions were encountered.


III. ANALYSIS

- A. Holding Times: All met.
- B. Analytical Exceptions : No exceptions were encountered.

IV. QUALITY CONTROL

- A. Method Blank : A method blank is a lab generated sample used to determine the degree to which laboratory operations may cause false positive results for these samples. No target parameters were detected in the method blanks associated with these samples.
- B. Surrogate Recoveries : Not Applicable.
- C. Matrix Spike Results : Not Applicable.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature. Diskette deliverables have not been provided for this data package.



Greg Jordan
GC Section Supervisor

1/5/90

Date