

Applied Geotechnology Inc.



A Report Prepared for:

Ms. Margarete Vest
Environmental Engineering
Building Products - Western Region
Georgia-Pacific Corporation
900 S.W. Fifth Avenue
Portland, OR 97204

REPORT OF FINDINGS
SECOND QUARTERLY ROUND SEDIMENT SAMPLING/TESTING
BALL CREEK CHANNEL
FORMER GEORGIA-PACIFIC TRUCKING FACILITY
14020 S.W. 72ND AVENUE
TIGARD, OREGON

AGI Job # 30,164.002

Applied Geotechnology Inc.
541 N.E. 20th Avenue, Suite #103
Portland, Oregon 97232

September 1, 1993



September 1, 1993

30,164.002

Ms. Margarete Vest
Environmental Engineering
Building Products - Western Region
Georgia-Pacific Corporation
900 S.W. Fifth Avenue
Portland, Oregon 97204

SUBJECT: REPORT OF FINDINGS
 SECOND QUARTERLY ROUND SEDIMENT SAMPLING/TESTING
 BALL CREEK CHANNEL
 FORMER GEORGIA-PACIFIC TRUCKING FACILITY
 14020 S.W. 72ND AVENUE
 TIGARD, OREGON

Dear Margarete:

This report presents the findings of the second round of stream sediment sampling and testing performed by Applied Geotechnology Inc. (AGI) at the former Georgia-Pacific truck facility in Tigard, Oregon.

This work was conducted to further address Oregon Department of Environmental Quality (ODEQ) concerns about evidence of petroleum hydrocarbons in Ball Creek. The scope of services provided by AGI included sampling stream-bottom sediments from four locations, analyzing those samples for the presence of petroleum hydrocarbons, and summarizing the results in this letter report to Georgia-Pacific.

The previous, or first round of stream sediment sampling, was performed by AGI on April 22, 1993. Results of the sampling were presented to Georgia-Pacific in our letter report dated May 14, 1993. In brief, four samples were collected from Ball Creek adjacent to the former Georgia-Pacific site. Heavy petroleum hydrocarbons (greater than hydrocarbon chain C28) were detected in each sample.

Site Description

The former Georgia-Pacific site is located immediately southwest of the intersection of Interstate Highway 5 and Oregon State Highway 217 (Figure 1). Power Rents, a large equipment-rental business, currently occupies the site. Directly to the east, Ball Creek emerges from a culvert below the Interstate 5 Freeway and turns sharply to the south, flowing parallel to the site property line (Figure 2). Ball Creek curves to the west about 600 feet farther down stream and is joined by Carter Creek.

Sampling

On July 22, 1993, AGI personnel collected four stream sediment samples (S-1 to S-4) at the approximate locations shown in Figure 2. Several of the sample numbers and locations were changed, as detailed in the following paragraphs and Table 1.

S-1 was collected to provide a sample upstream of the former G-P site storm sewer outfall (located on Figure 2).

S-2 was collected just downstream of the outfall to determine the effects that the G-P outfall location may have on stream sediments.

Similar to S-2, Sample S-3 was collected further downstream of the G-P outfall to determine the effects on stream sediments. Sample S-3 was obtained at the site of the April 1993 Sample S-4 location.

S-4 was collected several hundred feet south of the outfall to provide a data point located a significant distance downstream.

A hand shovel was used to remove sediments from the stream bottom. The top two to six inches of the sediment column was sampled at locations as close as possible to the stream centerline. Bright orange flagging was labeled with the sample number and tied to vegetation on the adjacent bank. Sample material was tightly packed into 250 milliliter glass jars to eliminate headspace and potential loss of volatile compounds. The sampling equipment was decontaminated by washing in detergent, followed by a distilled water rinse, N-propyl alcohol rinse, and final distilled water rinse before each sampling event to preclude cross contamination.

The Ball Creek sediments were generally composed of a mixture of gravelly, fine to coarse sand with minor silt and organic matter. Sediments at Sample S-2 showed interlayers (1/4- to 1/2-inch thick) of gray organic silt. Gross indicators of petroleum hydrocarbons (determined visually and by odor) were present in all samples except S-1. Prior to sampling, we observed iridescent, petroleum-like blebs (up to 1/4-inch across) were observed within the sediments of these samples. A narrow band (about 12 inches wide) of petroleum-like sheen was present on the stream surface near the locations of S-2 and S-3 and appeared to emanate from the bank below the G-P storm water outfall. This sheen was not visible at the S-4 location.

Analytical Testing

Following collection, the samples were stored in a chilled cooler and transported under appropriate chain-of-custody protocols to Analytical Technologies Inc., in Durham, Oregon. The samples were screened for the presence of petroleum hydrocarbons using Oregon DEQ Method TPH-HCID. Hydrocarbons in the C28 to C40 range (heavy hydrocarbons) were identified in all four samples. Hydrocarbons in the heavy end of the C10 to C28 range (diesel) were identified in S-2, S-3, and S-4; these hydrocarbons were identified as heavier than diesel by the laboratory.

To quantify the concentrations of heavy hydrocarbons, the samples were subsequently analyzed for total petroleum hydrocarbons (TPH) using Oregon DEQ Method TPH-418.1M. The results are presented in the following table, which also includes results from the first round of sampling for comparison:

Sample Number	Sample Date	Oregon Method HCID (mg/kg)			Oregon Method 418.1 (mg/kg)
		Gasoline (C6 - C10)	Diesel * (C10 - C28)	Heavy Hydrocarbons (C28 - C40)	
S-1	4/22/93	<20	<50	Observed	230
	7/22/93	<20	<50	Observed	260
S-2	4/22/93	<20	<50	Observed	260
	7/22/93	<20	>50 *	Observed	230
S-3 (was S-4)	4/22/93	<20	<50	Observed	410
	7/22/93	<20	>50 *	Observed	430
S-4	4/22/93	NA	NA	NA	NA
	7/22/93	<20	>50 *	Observed	470

* = All detections in the C10-C28 range were identified as heavier than diesel.

NA = Not applicable (area not sampled 4/22/93)

The complete analytical report for the July 22, 1993, sampling event is provided in Attachment A. A Quality Assurance (QA) review and evaluation of the laboratory data were performed by AGI chemists to verify the quality of the results. The standards applied to the QA review followed USEPA data validation and functional guidelines for organic and inorganic analyses. The laboratory data were determined to be of known and acceptable quality. The QA Report is presented in Attachment B.

COMMENTS

Oil/grease concentrations in the sediment samples are nearly identical to the April results. Compared to the first sampling round, two of the TPH values decrease slightly and one value increased slightly. These changes are within a range that could be attributed to sample heterogeneity. Also, TPH values from the new downstream location are similar to values obtained closer to the G-P site.

At face value, the data suggests that the G-P site may have been a historic contributor of oil/grease to Ball Creek. It is our opinion, however, that the data is inconclusive. Many factors contribute to the retention of oil/grease in stream sediments including water velocity and sediment type (e.g., grain size and organic content). Higher velocity streams deposit coarser-grained sediments which, generally, are less likely to retain oil/grease than finer-grained (especially organic) sediments in an active stream bed. Our cursory review of Ball Creek's stream profile and sediment types suggest that water

Ms. Margarete Vest
Project No. 30,164.002
September 1, 1993
Page 4

Applied Geotechnology Inc.

velocities decrease with distance downstream of the freeway culvert and the G-P outfall. Combine these variables with the fact that other possible sources of oil/grease exist upstream of the G-P outfall and east of the creek channel.

We are not ruling out the possibility that the G-P outfall is a former and/or current source of oil/grease in Ball Creek. However, many other situations could have caused the current distribution of oil/grease in stream sediments. Results of additional quarterly TPH testing likely will not change our opinion. Further study is needed to identify all current sources of contamination. Such extra work (e.g., water and soil sampling and additional sediment sample points) may be beyond the intent of the initial agreement between Georgia-Pacific and the Oregon DEQ. This issue should be discussed with Oregon DEQ and AGI would be pleased to take part in this discussion.

Should you have any questions regarding the findings of this report, please call us at 503/232-1800.

Sincerely,

APPLIED GEOTECHNOLOGY INC.



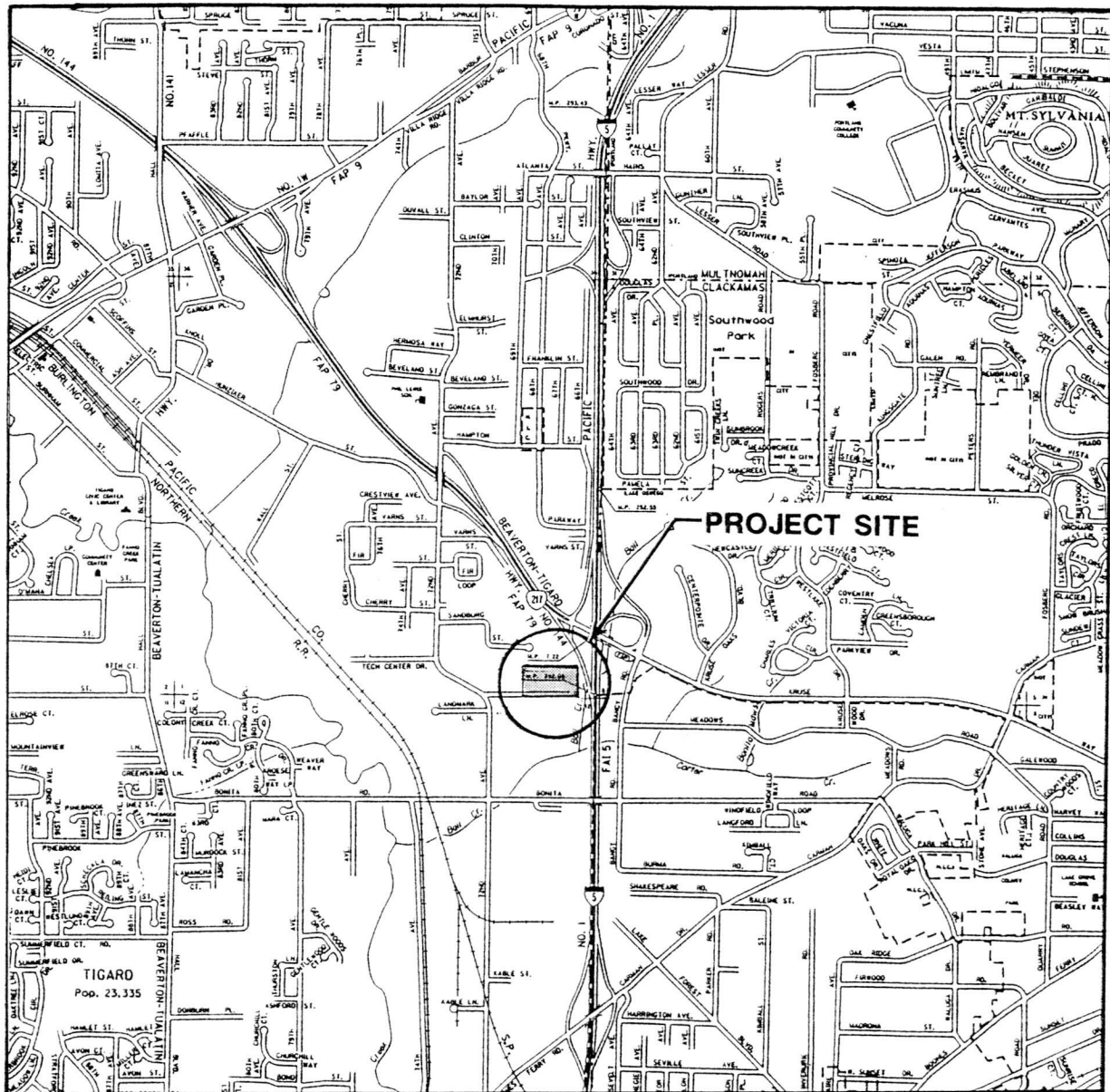
David Rankin, P.G.
Associate Geologist



Robert Strazer, P.E.
Vice President

DKR\RJS:bm

Attachments: Vicinity Map and Site Plan (Figures 1 and 2)
A. Analytical Report
B. Quality Assurance Report



Base Map: Oregon Department of Transportation, Tigard and Vicinity, 1988



Applied Geotechnology Inc.
Geotechnical Engineering
Geology & Hydrogeology

VICINITY MAP Former Georgia-Pacific Truck Facility Tigard, Oregon

FIGURE

1

JOB NUMBER

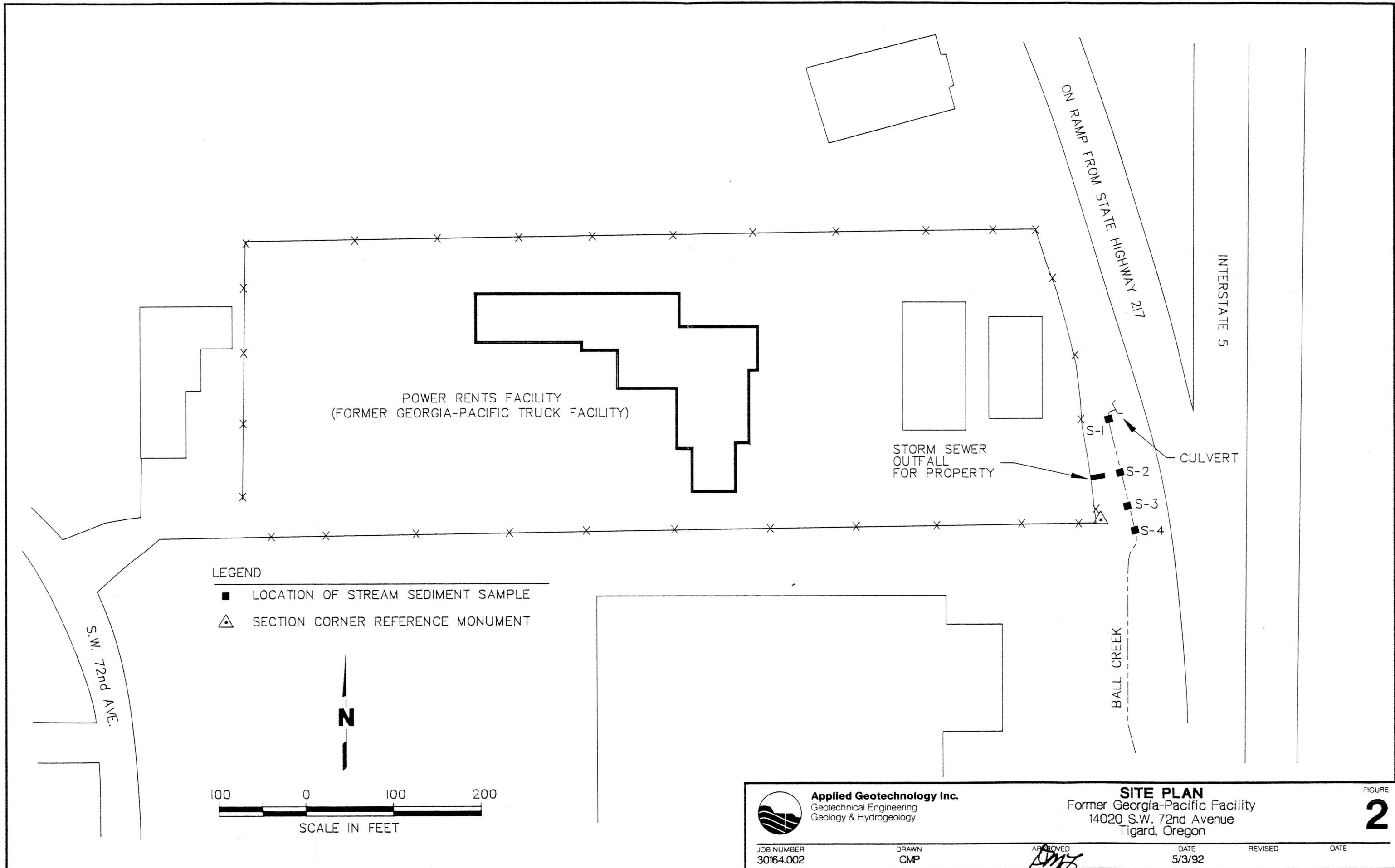
DRAWN
SLW

APPROVED
DMZ

DATE
04/29/93

REVISED

DATE



Applied Geotechnology Inc.
Geotechnical Engineering
Geology & Hydrogeology

JOB NUMBER
30164.002

DRAWN
CMP

APPROVED
[Signature]

DATE
5/3/92

REVISED

DATE

SITE PLAN
Former Georgia-Pacific Facility
14020 S.W. 72nd Avenue
Tigard, Oregon

FIGURE
2

Applied Geotechnology Inc.

ATTACHMENT A
Analytical Report



Analytical **Technologies, Inc.**

17400 S.W. Upper Boones Ferry Road, Suite 270

Durham, OR. 97224

(503) 684-0447 (503) 620-0393 (FAX)

ATI I.D. 307611

August 6, 1993

David Rankin
Applied Geotechnology Inc.
541 NE 20th Avenue
Suite 103
Portland, OR 97232

Attention: David Rankin

On July 22, 1993, Analytical Technologies, Inc. received four soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Fred Voosen
Fred Voosen For
Project Manager

Alan J. Kleinschmidt
Alan J. Kleinschmidt
Laboratory Manager

AJK:alm
Enclosure



Analytical Technologies, Inc.

SAMPLE CROSS REFERENCE SHEET

CLIENT: Applied Geotechnology ATI I.D.: 307611
PROJECT #: 30164.002
PROJECT NAME: G-P / ATI MATRIX: SOIL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED
307611-1	S-1 7/22	7/22/93
307611-2	S-2 7/22	7/22/93
307611-3	S-3 7/22	7/22/93
307611-4	S-4 7/22	7/22/93

-----TOTALS-----

MATRIX
SOIL

SAMPLES
4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

ANALYTICAL SCHEDULE

CLIENT: Applied Geotechnology ATI I.D.: 307611
PROJECT #: 30164.002
PROJECT NAME: G-P / ATI

ANALYSIS	TECHNIQUE	REFERENCE	LAB
Hydrocarbon Identification	GC/FID	OR TPH-HCID	PLD
Petroleum Hydrocarbon	IR	OR TPH-418.1	PLD

PLD = ATI - Portland
R = ATI - Renton
SD = ATI - San Diego
PHX = ATI - Phoenix
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-0
CLIENT I.D.:	Method Blank	DATE SAMPLED:	N/A
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	N/A
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/23/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	NOT OBSERVED
SURROGATES:	
1-CHLOROOCTANE (50% - 150%)	104%
O-TERPHENYL (50% - 150%)	106%

Analyst: CS 7-26-93

Reviewer: [Signature]



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-1
CLIENT I.D.:	S-1 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/24/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	OBSERVED
SURROGATES:	
1-CHLOROOCCTANE (50% - 150%)	114%
O-TERPHENYL (50% - 150%)	112%

Analyst: CS 7-26-93

Reviewer: 6/7/26/93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-2
CLIENT I.D.:	S-2 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/24/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	GREATER THAN 50 mg/Kg *
C28-C40	OBSERVED
SURROGATES:	
1-CHLOROOCTANE (50% - 150%)	91%
O-TERPHENYL (50% - 150%)	90%

* Petroleum hydrocarbons heavier than diesel.

Analyst: CS 7-26-93

Reviewer: 07/26/93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-3
CLIENT I.D.:	S-3 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/24/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	GREATER THAN 50 mg/Kg *
C28-C40	OBSERVED
SURROGATES:	
1-CHLOROOCTANE (50% - 150%)	112%
O-TERPHENYL (50% - 150%)	110%

* Petroleum hydrocarbons heavier than diesel.

Analyst: CS 7-26-93

Reviewer: 7/22/93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-4
CLIENT I.D.:	S-4 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/24/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
------------------------	--------------------

DIESEL (C10 - C28)	GREATER THAN 50 mg/Kg *
-----------------------	-------------------------

C28-C40	OBSERVED
---------	----------

SURROGATES:

1-CHLOROOCTANE (50% - 150%)	122%
O-TERPHENYL (50% - 150%)	120%

* Petroleum hydrocarbons other than diesel.

Analyst: CS 7-26-93

Reviewer: CS 7/26/93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY SPIKE RESULTS

TEST:	TPH-HCID (Oregon)	ATI ACCESSION:	307611
CLIENT:	Applied Geotechnology Inc.	QC SAMPLE:	Method Blank
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/23/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

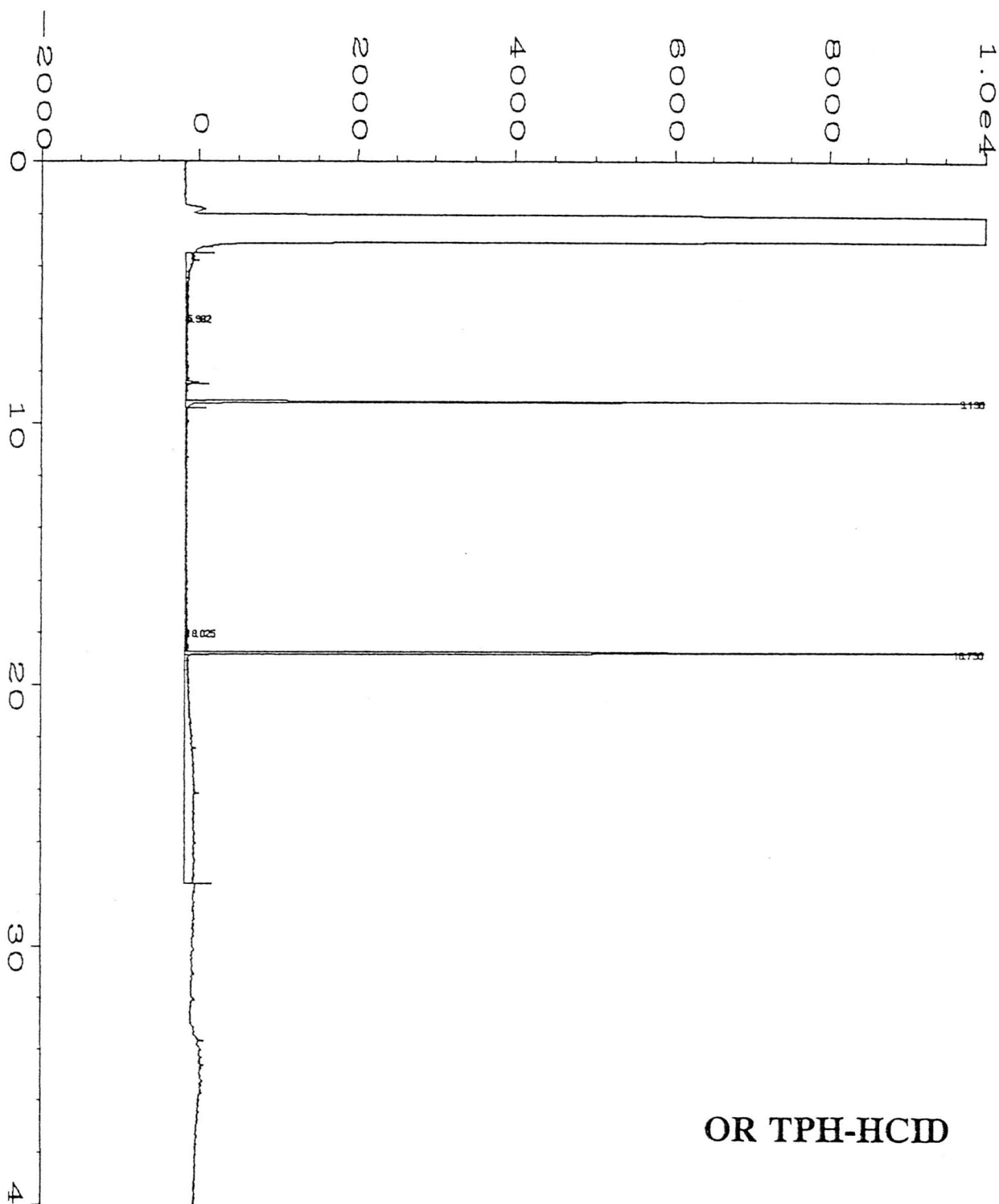
PARAMETER	SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	< 50	100	103	103	105	105	2
SURROGATE:							
1-CHLOROOCCTANE (50% - 150%)			100%		104%		
O-TERPHENYL (50% - 150%)			102%		106%		

CONTROL LIMITS

DIESEL	% REC	RPD
	70 - 130	20

Analyst: CS 7-26-93

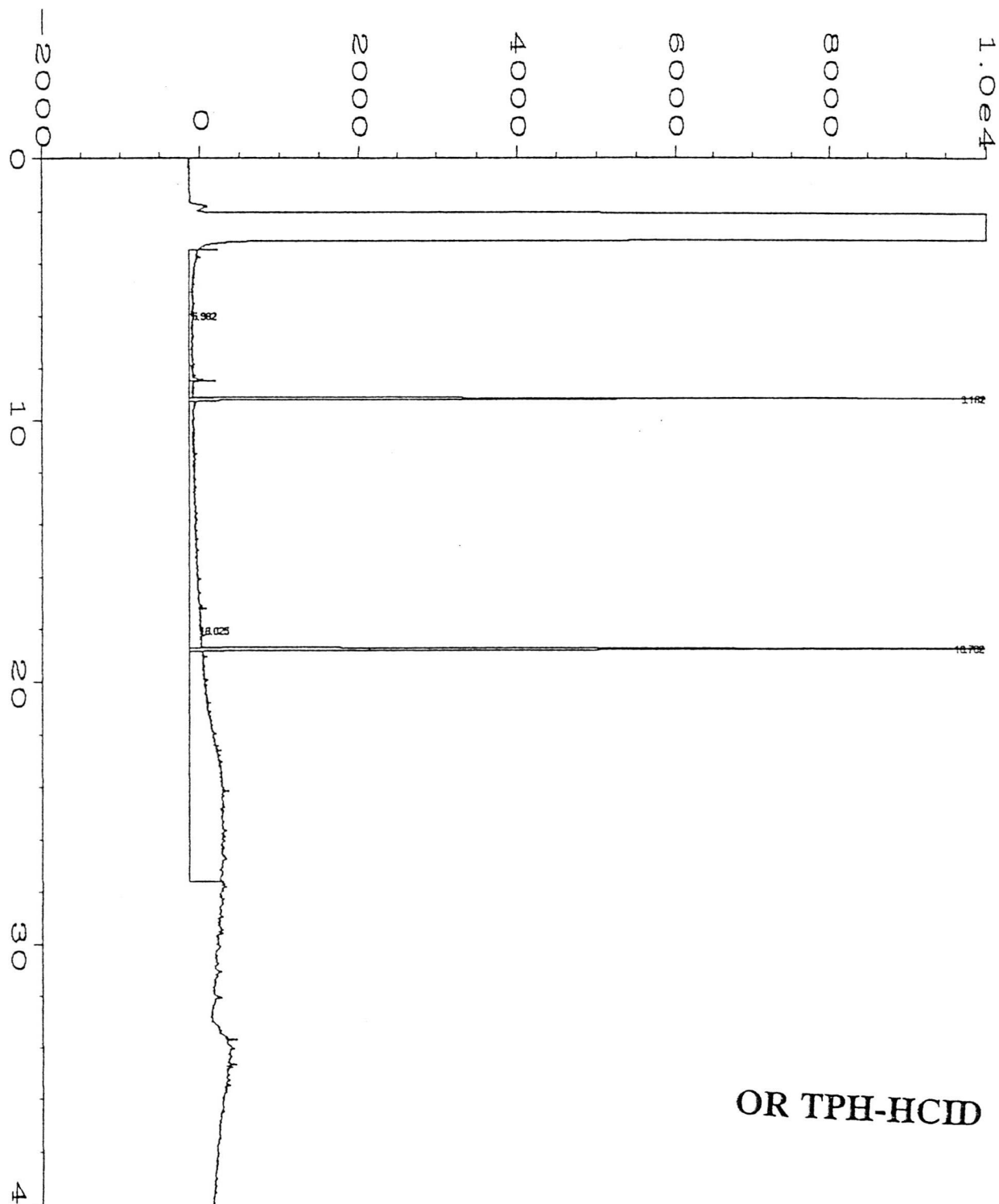
Reviewer: 7/26/93



OR TPH-HCID

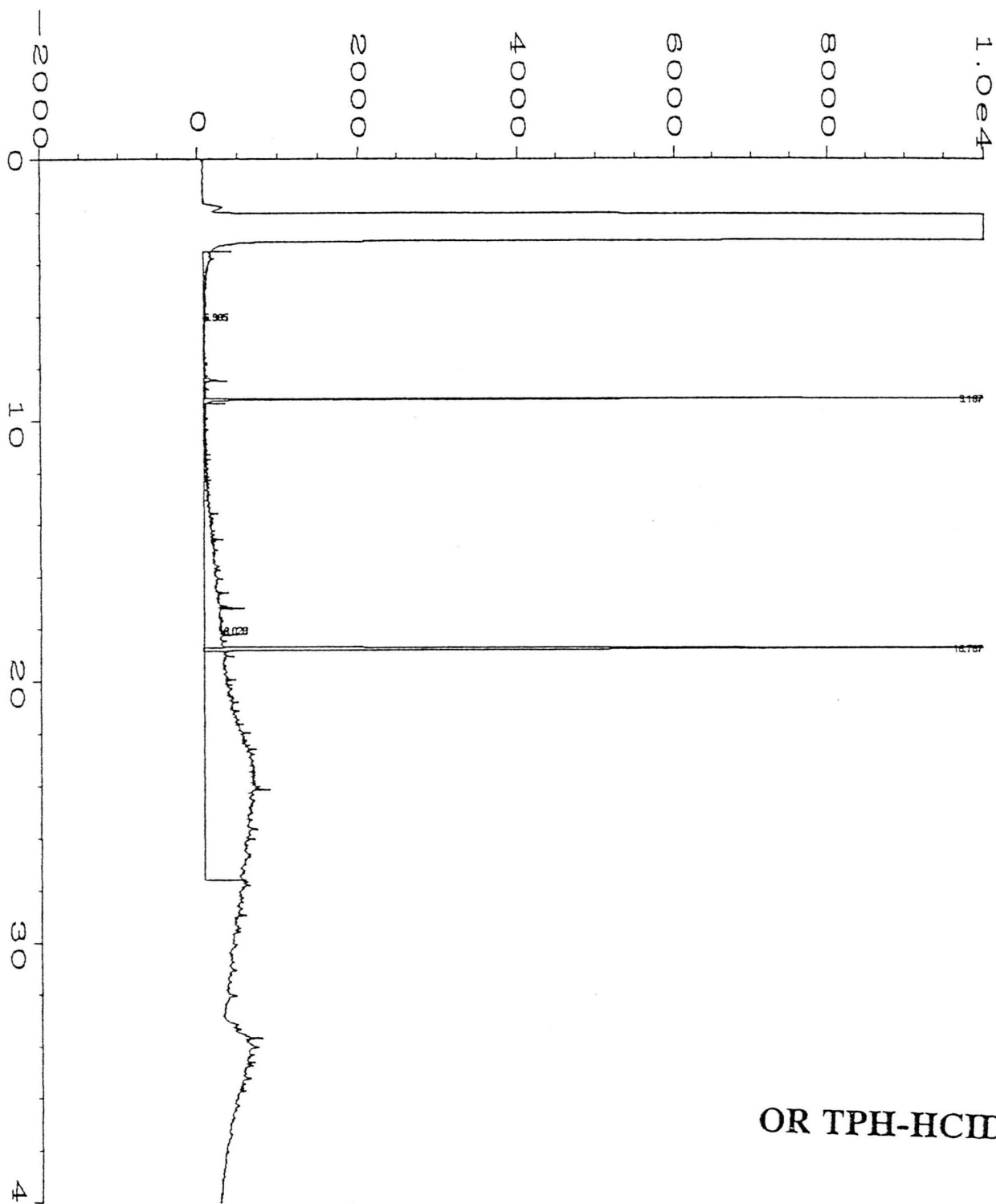
Data File Name : F:\DATA\FUELS\GAUSS\D\930723\012F0101.D
 Operator : FUELS
 Instrument : GAUSS
 Sample Name : 307611-1
 Run Time Bar Code:
 Acquired on : 24 Jul 93 02:22 AM
 Report Created on: 25 Jul 93 11:58 AM
 Last Recalib on : 21 JUL 93 01:26 PM
 Multiplier : 1

Page Number : 1
 Vial Number : 12
 Injection Number : 1
 Sequence Line : 1
 Instrument Method: LCOHCID.MTH
 Analysis Method : OF-HCID.MTH
 Sample Amount : 0
 ISTD Amount :



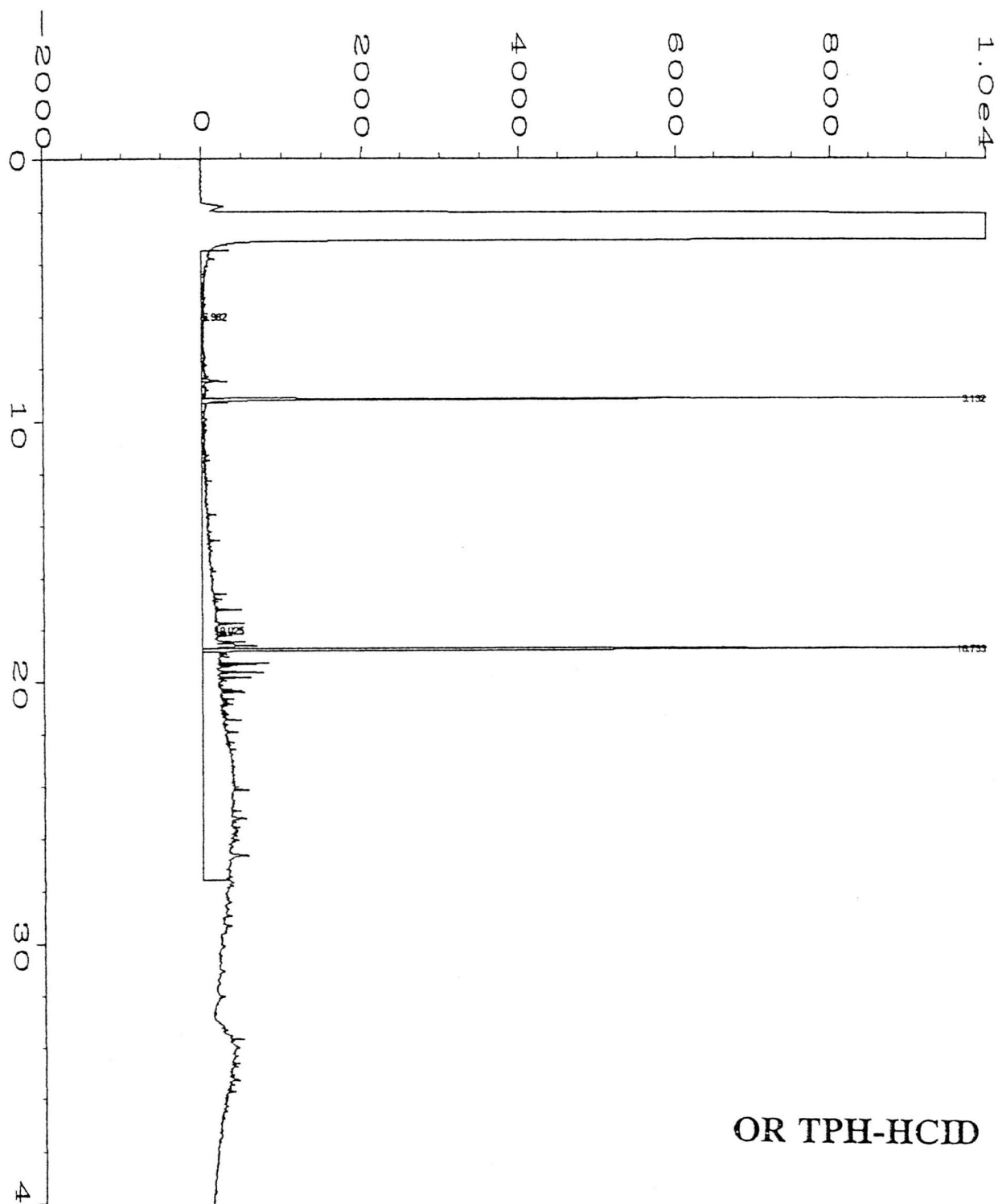
OR TPH-HCID

Data File Name	: F:\DATA\FUELS\GAUSS\D\930723\014F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 14
Instrument	: GAUSS	Injection Number	: 1
Sample Name	: 307611-2	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	LCOHCID.MTH
Acquired on	: 24 Jul 93 04:07 AM	Analysis Method	: OF-HCID.MTH
Report Created on:	25 Jul 93 12:00 PM	Sample Amount	: 0
Last Recalib on	: 21 JUL 93 01:26 PM	ISTD Amount	:
Multiplier	: 1		



OR TPH-HCID

Data File Name	: F:\DATA\FUELS\GAUSS\D\930723\016F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 16
Instrument	: GAUSS	Injection Number	: 1
Sample Name	: 307611-3	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: LCOHCID.MT
Acquired on	: 24 Jul 93 05:56 AM	Analysis Method	: OF-HCID.MT
Report Created on	: 25 Jul 93 12:01 PM	Sample Amount	: 0
Last Recalib on	: 21 JUL 93 01:26 PM	ISTD Amount	:
Multiplier	: 1		



OR TPH-HCID

Data File Name	: F:\DATA\FUELS\GAUSS\D\930723\018F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 18
Instrument	: GAUSS	Injection Number	: 1
Sample Name	: 307611-4	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	LCOHCID.M
Acquired on	: 24 Jul 93 07:41 AM	Analysis Method	: OF-HCID.M
Report Created on:	25 Jul 93 12:03 PM	Sample Amount	: 0
Last Recalib on	: 21 JUL 93 01:26 PM	ISTD Amount	:
Multiplier	: 1		



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-0
CLIENT I.D.:	Method Blank	DATE SAMPLED:	N/A
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	N/A
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	< 20
------------------------	------

Analyst: *[Signature]*
Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-1
CLIENT I.D.:	S-1 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	260
------------------------	-----

Analyst: 7/30/93

Reviewer: 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-2
CLIENT I.D.:	S-2 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	230
------------------------	-----

Analyst: *[Signature]* 7/30/93

Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-3
CLIENT I.D.:	S-3 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	430
------------------------	-----

Analyst: *[Signature]*

Reviewer: CS 7-30-93



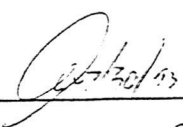
Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-4
CLIENT I.D.:	S-4 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	470
------------------------	-----

Analyst: 
Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY DUPLICATE RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI ACCESSION:	307611
CLIENT:	Applied Geotechnology, Inc.	QC SAMPLE:	307645-1
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	5
		UNITS:	mg/Kg

PARAMETER	SAMPLE RESULT	DUP. RESULT	RPD
PETROLEUM HYDROCARBONS	1600	1400	13

CONTROL LIMITS

Petroleum Hydrocarbons			RPD 20
------------------------	--	--	-----------

Analyst:

Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY SPIKE RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI ACCESSION:	307611
CLIENT:	Applied Geotechnology, Inc.	QC SAMPLE:	307609-5
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	5
		UNITS:	mg/Kg

PARAMETER	SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP.	DUP.	RPD
					SPIKED RESULT	% REC.	
MOTOR OIL	1400	400	1860	115	1860	115	0

	CONTROL LIMITS		
Motor Oil	%REC		RPD
	50 - 130		20

Analyst: CS 7-30-93
Reviewer: CS 7-30-93



Analytical Technologies, Inc.

DATE 7-22-95 PAGE 1 OF 1

17400 S.W. Upper Boones Ferry Rd., Suite 270
 Durham, Oregon 97224 • (503) 684-0447 FAX: (503) 620-0393

Chain of Custody

LABORATORY NUMBER: 307611

PROJECT NOTICE NUMBER: _____

PROJECT MANAGER: <u>David Rankin</u>					ANALYSIS REQUEST																		NUMBER OF CONTAINERS											
COMPANY: <u>Applied Geotechnology</u>																																		
ADDRESS: <u>541 NE 20th Ave Suite 103</u> <u>Portland, OR 97232</u>																																		
PHONE: <u>232-1800</u> SAMPLED BY: <u>DML</u>																																		
SAMPLE DISPOSAL INSTRUCTIONS																																		
☒ ATI Disposal @ \$5.00 each ☐ Return																																		
SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TPH-HCID	State: OR/WA	TPH-G	State: OR/WA	TPH-D	State: OR/WA	State: OR/WA	1418.1	EPA 418.1	8015M	8020M-BETX only	80310 HPLC PAHs	7421 Lead	% Moisture	8010 Halogenated VOCs	8020 Aromatic VOCs	8040 Phenols	8040 GCMS Volatiles		8070 GCMS Semivolatiles	8080 OC Pesticides/PCBs	8080M PCBs only	Drinking Water (6)	Priority Pollutant Metals (13)	Cyanide	TCLP Metals (8)	TCLP Volatiles 8240 ZH-EXT	TCLP Semivolatiles 8270		
S-1 7/22	7-22-95	1020	S	1	X							X																						1
S-2 7/22		1045		2	X							X																						1
S-3 7/22		1000		3	X							X																						1
S-4 7/22		1130		4	X							X																					1	

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: <u>30164.002</u>		TOTAL NUMBER OF CONTAINERS <u>4</u>		Signature: <u>DMLance 1220</u>		Signature: _____		Signature: _____	
PROJECT NAME: <u>G-P/ATI</u>		COC SEALS/INTACT? <u>Y</u> <u>N</u> <u>NA</u>		Printed Name: _____		Printed Name: _____		Printed Name: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED INTACT? <u>Y</u> <u>N</u>		Date: _____		Date: _____		Date: _____	
ONGOING PROJECT? <u>YES</u> <u>NO</u> <u>Q</u>		RECEIVED COLD? <u>Y</u> <u>N</u>		Company: <u>Applied Geotechnology</u>		Company: _____		Company: _____	
PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) <u>X</u> 2 WKS (RUSH) ☐ 24 HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: _____		Signature: _____		Signature: <u>Fred Voosen 1220</u>	
GREATER THAN 24 HR. NOTICE? <u>YES</u> ☐ <u>NO</u> ☐ (LAB USE ONLY)				Printed Name: _____		Printed Name: _____		Printed Name: <u>Fred Voosen 7/22/95</u>	
SPECIAL INSTRUCTIONS: <u>If PHCs are observed, perform appropriate TPH followup analyses to quantify.</u>				Date: _____		Date: _____		Date: _____	
Received via: _____				Company: _____		Company: _____		Company: <u>Analytical Technologies, Inc.</u>	

Applied Geotechnology Inc.

ATTACHMENT B

Quality Assurance Report

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: GP/GP Former Truck Facility
Project No.: 30,164.002
Lab Name: Analytical Technologies, Inc. - Durham, OR
Lab Number: 307611
Sample No.: S-1 7/22, S-2 7/22, S-3 7/22, S-4 7/22

Matrix: Soil

QUALITY ASSURANCE SUMMARY

All data are of known and acceptable quality.

ANALYTICAL METHODS

<u>Parameter</u>	<u>Technique</u>	<u>Method</u>
TPH-Hydrocarbon Identification	GC/FID	OR TPH-HCID
Petroleum Hydrocarbon	IR	OR TPH-418.1

TIMELINESS

<u>Parameter</u>	<u>Date Sampled</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>	<u>Time Until Extraction</u>	<u>Time Until Analysis</u>
TPH-HCID	7/22/93	7/23/93	7/24/93	1 (14)	2 (21)
TPH-418.1	7/22/93	7/29/93	7/30/93	7 (14)	8 (30)

Numbers in parentheses indicate recommended holding times in days for soil.

All samples were extracted and analyzed within recommended holding times for soil.

Detectability and Comparability

TPH-HCID and TPH-418.1 analyses were performed without sample dilution. Sample results are comparable.

Chromatography

Petroleum hydrocarbons were not detected at or above the reporting limits for "gasoline" in any sample. Detections of diesel range hydrocarbons are supported by chromatogram for samples S-2 7/22, S-3 7/22, and S-4 7/22. Detections of hydrocarbons heavier than C28 are supported by chromatograms for all samples.

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: GP/GP Former Truck Facility
Project No.: 30,164.002
Lab Name: Analytical Technologies, Inc. - Durham, OR
Lab Number: 307611
Sample No.: S-1 7/22, S-2 7/22, S-3 7/22, S-4 7/22

FIELD QUALITY CONTROL SAMPLES

Field Duplicates: None collected.

Rinsate: None collected.

Trip Blank: None collected.

LAB QUALITY CONTROL SAMPLES

Reagent Blank: No analytes were detected at or above their reporting limits by the following methods:

OR TPH-HCID
OR TPH-418.1

Matrix Spikes: Matrix spike/matrix spike duplicate percent recoveries and relative percent differences (RPDs) are within ATI's control limit criteria for the following method:

OR TPH-418.1

Matrix spikes are not required for the following method:

OR TPH-HCID

Blank Spike: Blank spike/blank spike duplicate percent recoveries and RPDs are within ATI's control limit criteria for the following method:

OR TPH-HCID

Blank spikes are not required by the following method:

OR TPH-418.1

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: GP/GP Former Truck Facility
Project No.: 30,164.002
Lab Name: Analytical Technologies, Inc. - Durham, OR
Lab Number: 307611
Sample No.: S-1 7/22, S-2 7/22, S-3 7/22, S-4 7/22

Duplicates: Sample/sample duplicate RPD data are within ATI's control limit criteria for the following method:

OR TPH-418.1

Sample/sample duplicates are not required for the following method:

OR TPH-HCID

Surrogates: All surrogate spike percent recoveries are within ATI's control limit criteria for the following methods:

OR TPH-HCID
OR TPH-418.1

SIGNATURE

Prepared by Cinnette Johnson

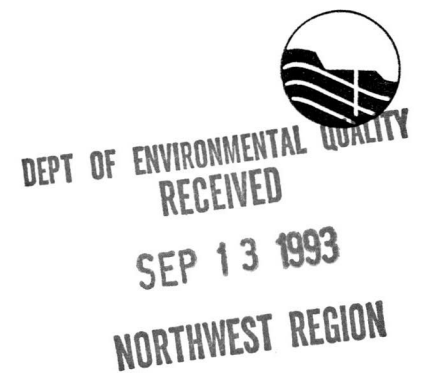
Date 8/16/93

AGI

Applied Geotechnology Inc.



Applied Geotechnology Inc.



A Report Prepared for:

Ms. Margarete Vest
Environmental Engineering
Building Products - Western Region
Georgia-Pacific Corporation
900 S.W. Fifth Avenue
Portland, OR 97204

REPORT OF FINDINGS
SECOND QUARTERLY ROUND SEDIMENT SAMPLING/TESTING
BALL CREEK CHANNEL
FORMER GEORGIA-PACIFIC TRUCKING FACILITY
14020 S.W. 72ND AVENUE
TIGARD, OREGON

, AGI Job # 30,164.002

Applied Geotechnology Inc.
541 N.E. 20th Avenue, Suite #103
Portland, Oregon 97232

September 1, 1993



September 1, 1993

30,164.002

Ms. Margarete Vest
Environmental Engineering
Building Products - Western Region
Georgia-Pacific Corporation
900 S.W. Fifth Avenue
Portland, Oregon 97204

**SUBJECT: REPORT OF FINDINGS
 SECOND QUARTERLY ROUND SEDIMENT SAMPLING/TESTING
 BALL CREEK CHANNEL
 FORMER GEORGIA-PACIFIC TRUCKING FACILITY
 14020 S.W. 72ND AVENUE
 TIGARD, OREGON**

Dear Margarete:

This report presents the findings of the second round of stream sediment sampling and testing performed by Applied Geotechnology Inc. (AGI) at the former Georgia-Pacific truck facility in Tigard, Oregon.

This work was conducted to further address Oregon Department of Environmental Quality (ODEQ) concerns about evidence of petroleum hydrocarbons in Ball Creek. The scope of services provided by AGI included sampling stream-bottom sediments from four locations, analyzing those samples for the presence of petroleum hydrocarbons, and summarizing the results in this letter report to Georgia-Pacific.

The previous, or first round of stream sediment sampling, was performed by AGI on April 22, 1993. Results of the sampling were presented to Georgia-Pacific in our letter report dated May 14, 1993. In brief, four samples were collected from Ball Creek adjacent to the former Georgia-Pacific site. Heavy petroleum hydrocarbons (greater than hydrocarbon chain C28) were detected in each sample.

Site Description

The former Georgia-Pacific site is located immediately southwest of the intersection of Interstate Highway 5 and Oregon State Highway 217 (Figure 1). Power Rents, a large equipment-rental business, currently occupies the site. Directly to the east, Ball Creek emerges from a culvert below the Interstate 5 Freeway and turns sharply to the south, flowing parallel to the site property line (Figure 2). Ball Creek curves to the west about 600 feet farther down stream and is joined by Carter Creek.

Sampling

On July 22, 1993, AGI personnel collected four stream sediment samples (S-1 to S-4) at the approximate locations shown in Figure 2. Several of the sample numbers and locations were changed, as detailed in the following paragraphs and Table 1.

S-1 was collected to provide a sample upstream of the former G-P site storm sewer outfall (located on Figure 2).

S-2 was collected just downstream of the outfall to determine the effects that the G-P outfall location may have on stream sediments.

Similar to S-2, Sample S-3 was collected further downstream of the G-P outfall to determine the effects on stream sediments. Sample S-3 was obtained at the site of the April 1993 Sample S-4 location.

S-4 was collected several hundred feet south of the outfall to provide a data point located a significant distance downstream.

A hand shovel was used to remove sediments from the stream bottom. The top two to six inches of the sediment column was sampled at locations as close as possible to the stream centerline. Bright orange flagging was labeled with the sample number and tied to vegetation on the adjacent bank. Sample material was tightly packed into 250 milliliter glass jars to eliminate headspace and potential loss of volatile compounds. The sampling equipment was decontaminated by washing in detergent, followed by a distilled water rinse, N-propyl alcohol rinse, and final distilled water rinse before each sampling event to preclude cross contamination.

The Ball Creek sediments were generally composed of a mixture of gravelly, fine to coarse sand with minor silt and organic matter. Sediments at Sample S-2 showed interlayers (1/4- to 1/2-inch thick) of gray organic silt. Gross indicators of petroleum hydrocarbons (determined visually and by odor) were present in all samples except S-1. Prior to sampling, we observed iridescent, petroleum-like blebs (up to 1/4-inch across) were observed within the sediments of these samples. A narrow band (about 12 inches wide) of petroleum-like sheen was present on the stream surface near the locations of S-2 and S-3 and appeared to emanate from the bank below the G-P storm water outfall. This sheen was not visible at the S-4 location.

Analytical Testing

Following collection, the samples were stored in a chilled cooler and transported under appropriate chain-of-custody protocols to Analytical Technologies Inc., in Durham, Oregon. The samples were screened for the presence of petroleum hydrocarbons using Oregon DEQ Method TPH-HCID. Hydrocarbons in the C28 to C40 range (heavy hydrocarbons) were identified in all four samples. Hydrocarbons in the heavy end of the C10 to C28 range (diesel) were identified in S-2, S-3, and S-4; these hydrocarbons were identified as heavier than diesel by the laboratory.

To quantify the concentrations of heavy hydrocarbons, the samples were subsequently analyzed for total petroleum hydrocarbons (TPH) using Oregon DEQ Method TPH-418.1M. The results are presented in the following table, which also includes results from the first round of sampling for comparison:

Sample Number	Sample Date	Oregon Method HCID (mg/kg)			Oregon Method 418.1 (mg/kg)
		Gasoline (C6 - C10)	Diesel * (C10 - C28)	Heavy Hydrocarbons (C28 - C40)	
S-1	4/22/93	<20	<50	Observed	230
	7/22/93	<20	<50	Observed	260
S-2	4/22/93	<20	<50	Observed	260
	7/22/93	<20	>50 *	Observed	230
S-3 (was S-4)	4/22/93	<20	<50	Observed	410
	7/22/93	<20	>50 *	Observed	430
S-4	4/22/93	NA	NA	NA	NA
	7/22/93	<20	>50 *	Observed	470

* = All detections in the C10-C28 range were identified as heavier than diesel.

NA = Not applicable (area not sampled 4/22/93)

The complete analytical report for the July 22, 1993, sampling event is provided in Attachment A. A Quality Assurance (QA) review and evaluation of the laboratory data were performed by AGI chemists to verify the quality of the results. The standards applied to the QA review followed USEPA data validation and functional guidelines for organic and inorganic analyses. The laboratory data were determined to be of known and acceptable quality. The QA Report is presented in Attachment B.

COMMENTS

Oil/grease concentrations in the sediment samples are nearly identical to the April results. Compared to the first sampling round, two of the TPH values decrease slightly and one value increased slightly. These changes are within a range that could be attributed to sample heterogeneity. Also, TPH values from the new downstream location are similar to values obtained closer to the G-P site.

At face value, the data suggests that the G-P site may have been a historic contributor of oil/grease to Ball Creek. It is our opinion, however, that the data is inconclusive. Many factors contribute to the retention of oil/grease in stream sediments including water velocity and sediment type (e.g., grain size and organic content). Higher velocity streams deposit coarser-grained sediments which, generally, are less likely to retain oil/grease than finer-grained (especially organic) sediments in an active stream bed. Our cursory review of Ball Creek's stream profile and sediment types suggest that water

Ms. Margarete Vest
Project No. 30,164.002
September 1, 1993
Page 4

Applied Geotechnology Inc.

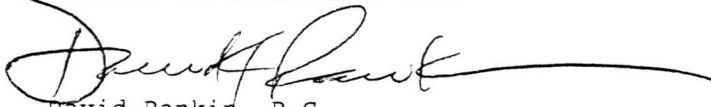
velocities decrease with distance downstream of the freeway culvert and the G-P outfall. Combine these variables with the fact that other possible sources of oil/grease exist upstream of the G-P outfall and east of the creek channel.

We are not ruling out the possibility that the G-P outfall is a former and/or current source of oil/grease in Ball Creek. However, many other situations could have caused the current distribution of oil/grease in stream sediments. Results of additional quarterly TPH testing likely will not change our opinion. Further study is needed to identify all current sources of contamination. Such extra work (e.g., water and soil sampling and additional sediment sample points) may be beyond the intent of the initial agreement between Georgia-Pacific and the Oregon DEQ. This issue should be discussed with Oregon DEQ and AGI would be pleased to take part in this discussion.

Should you have any questions regarding the findings of this report, please call us at 503/232-1800.

Sincerely,

APPLIED GEOTECHNOLOGY INC.



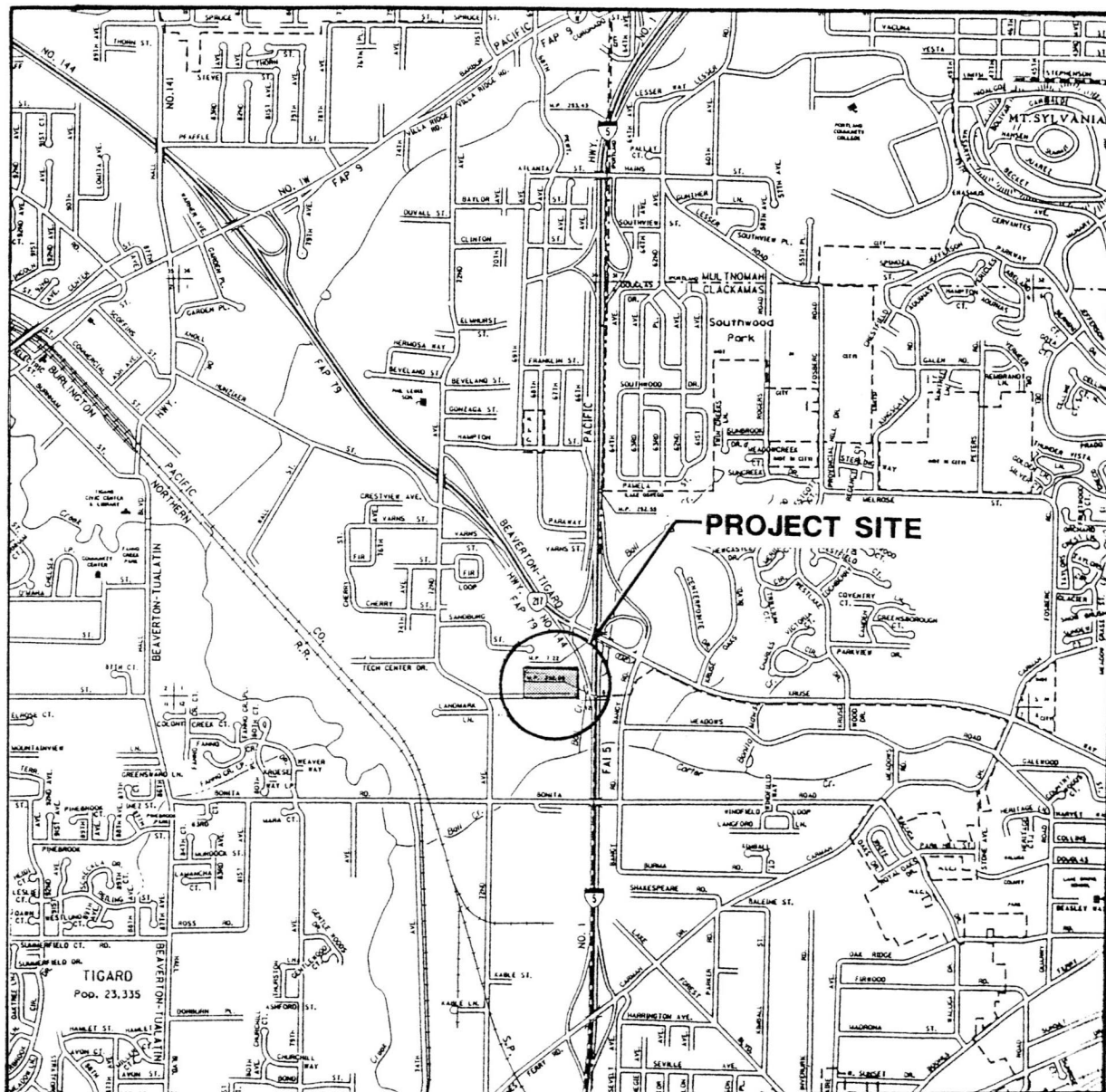
David Rankin, P.G.
Associate Geologist



Robert Strazer, P.E.
Vice President

DKR\RJS:bm

Attachments: Vicinity Map and Site Plan (Figures 1 and 2)
A. Analytical Report
B. Quality Assurance Report



Base Map: Oregon Department of Transportation, Tigard and Vicinity, 1988



Applied Geotechnology Inc.
Geotechnical Engineering
Geology & Hydrogeology

VICINITY MAP
Former Georgia-Pacific Truck Facility
Tigard, Oregon

FIGURE

1

JOB NUMBER

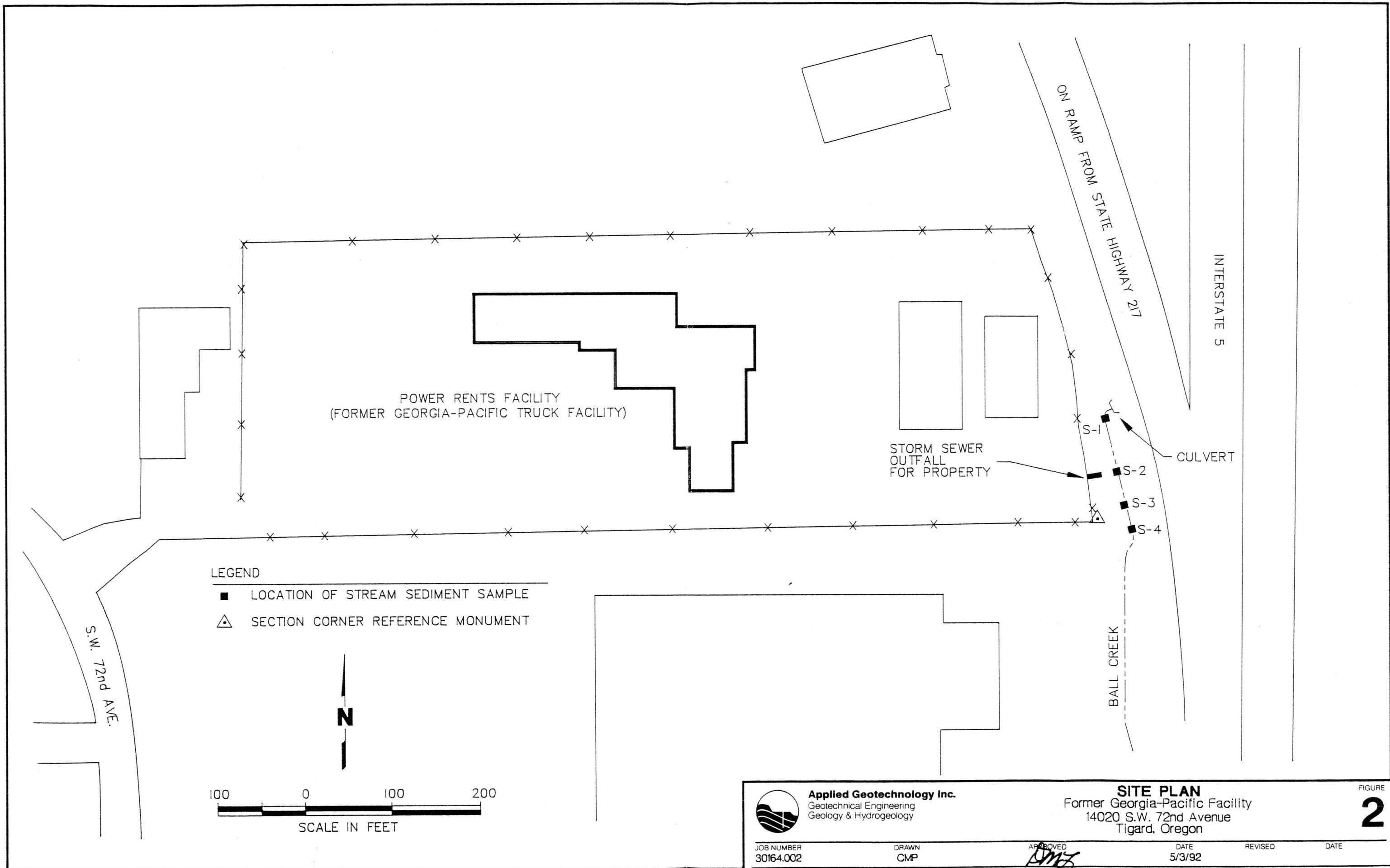
DRAWN
SLW

APPROVED
[Signature]

DATE
04/29/93

REVISED

DATE



Applied Geotechnology Inc.
Geotechnical Engineering
Geology & Hydrogeology

JOB NUMBER
30164.002

DRAWN
CMP

APPROVED
[Signature]

DATE
5/3/92

REVISED

DATE

SITE PLAN
Former Georgia-Pacific Facility
14020 S.W. 72nd Avenue
Tigard, Oregon

FIGURE
2

Applied Geotechnology Inc.

ATTACHMENT A
Analytical Report



Analytical**Technologies, Inc.**

17400 S.W. Upper Boones Ferry Road, Suite 270

Durham, OR. 97224

(503) 684-0447 (503) 620-0393 (FAX)

ATI I.D. 307611

August 6, 1993

David Rankin
Applied Geotechnology Inc.
541 NE 20th Avenue
Suite 103
Portland, OR 97232

Attention: David Rankin

On July 22, 1993, Analytical Technologies, Inc. received four soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Fred Voosen
Fred Voosen For
Project Manager

AJK:alm
Enclosure

Alan J. Kleinschmidt
Alan J. Kleinschmidt
Laboratory Manager



Analytical Technologies, Inc.

SAMPLE CROSS REFERENCE SHEET

CLIENT: Applied Geotechnology ATI I.D.: 307611
PROJECT #: 30164.002
PROJECT NAME: G-P / ATI MATRIX: SOIL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED
307611-1	S-1 7/22	7/22/93
307611-2	S-2 7/22	7/22/93
307611-3	S-3 7/22	7/22/93
307611-4	S-4 7/22	7/22/93

-----TOTALS-----

MATRIX
SOIL

SAMPLES
4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

ANALYTICAL SCHEDULE

CLIENT: Applied Geotechnology ATI I.D.: 307611
PROJECT #: 30164.002
PROJECT NAME: G-P / ATI

ANALYSIS	TECHNIQUE	REFERENCE	LAB
Hydrocarbon Identification	GC/FID	OR TPH-HCID	PLD
Petroleum Hydrocarbon	IR	OR TPH-418.1	PLD

PLD = ATI - Portland
R = ATI - Renton
SD = ATI - San Diego
PHX = ATI - Phoenix
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-0
CLIENT I.D.:	Method Blank	DATE SAMPLED:	N/A
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	N/A
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/23/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	NOT OBSERVED
SURROGATES:	
1-CHLOROOCTANE (50% - 150%)	104%
O-TERPHENYL (50% - 150%)	106%

Analyst: CS 7-26-93

Reviewer: Q7/26/93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-1
CLIENT I.D.:	S-1 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/24/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	OBSERVED
SURROGATES:	
1-CHLOROOCTANE (50% - 150%)	114%
O-TERPHENYL (50% - 150%)	112%

Analyst: CS 7-26-93

Reviewer: 6/7/26/93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-2
CLIENT I.D.:	S-2 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/24/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	GREATER THAN 50 mg/Kg *
C28-C40	OBSERVED
SURROGATES:	
1-CHLOROOCTANE (50% - 150%)	91%
O-TERPHENYL (50% - 150%)	90%

* Petroleum hydrocarbons heavier than diesel.

Analyst: CS 7-26-93

Reviewer: Al 7/26/93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-3
CLIENT I.D.:	S-3 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/24/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	GREATER THAN 50 mg/Kg *
C28-C40	OBSERVED
SURROGATES:	
1-CHLOROOCTANE (50% - 150%)	112%
O-TERPHENYL (50% - 150%)	110%

* Petroleum hydrocarbons heavier than diesel.

Analyst: CS 7-26-93

Reviewer: AK 7/26/93

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	307611-4
CLIENT I.D.:	S-4 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/24/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
------------------------	--------------------

DIESEL (C10 - C28)	GREATER THAN 50 mg/Kg *
-----------------------	-------------------------

C28-C40	OBSERVED
---------	----------

SURROGATES:

1-CHLOROOCTANE (50% - 150%)	122%
O-TERPHENYL (50% - 150%)	120%

* Petroleum hydrocarbons other than diesel.

Analyst: CS 7-26-93Reviewer: CS 7/26/93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY SPIKE RESULTS

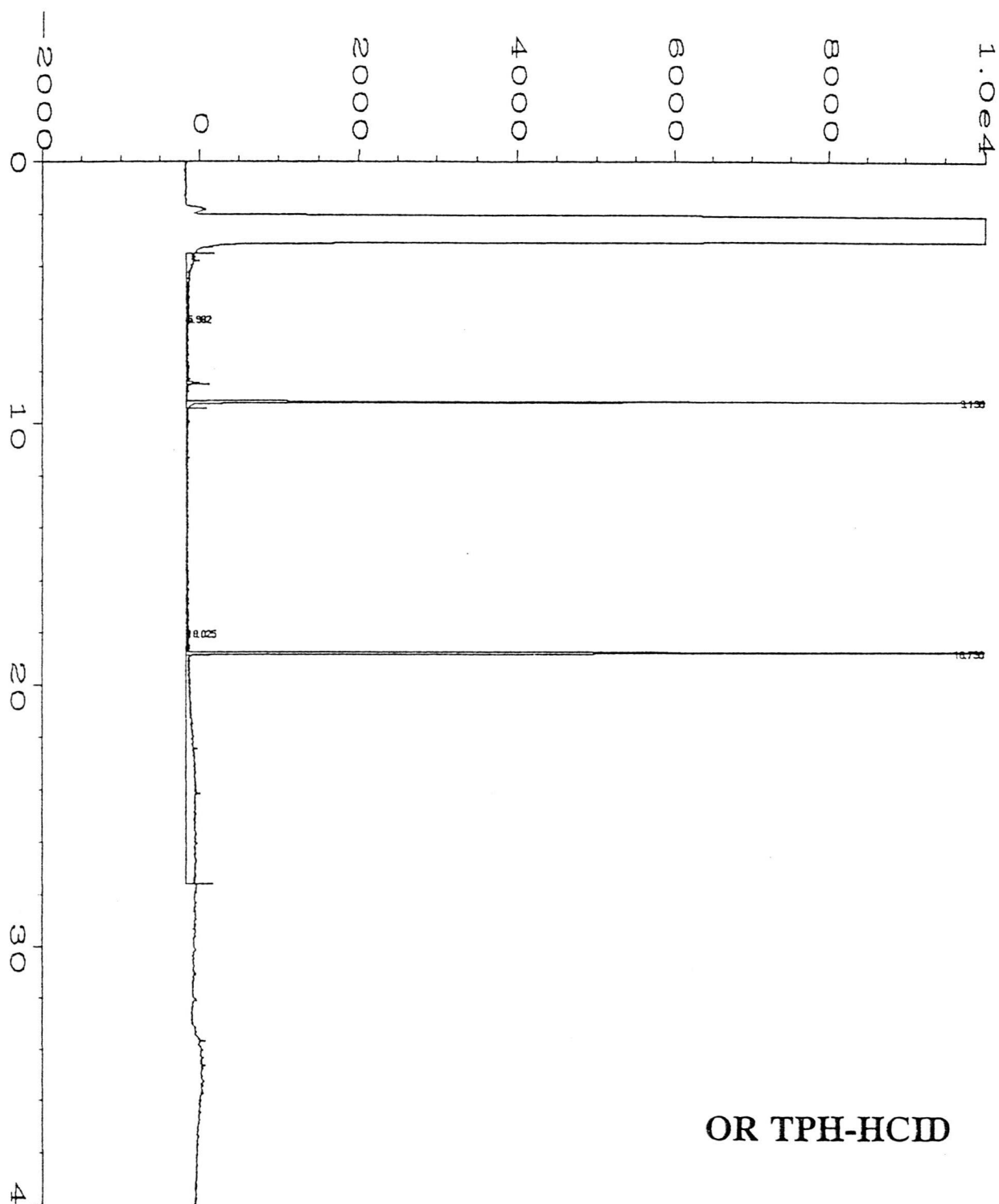
TEST:	TPH-HCID (Oregon)	ATI ACCESSION:	307611
CLIENT:	Applied Geotechnology Inc.	QC SAMPLE:	Method Blank
PROJECT #:	30164.002	DATE EXTRACTED:	07/23/93
PROJECT NAME:	G-P/ATI	DATE ANALYZED:	07/23/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	< 50	100	103	103	105	105	2
SURROGATE:							
1-CHLOROOCTANE (50% - 150%)			100%		104%		
O-TERPHENYL (50% - 150%)			102%		106%		

CONTROL LIMITS			
		% REC	RPD
DIESEL		70 - 130	20

Analyst: CS 7-26-93

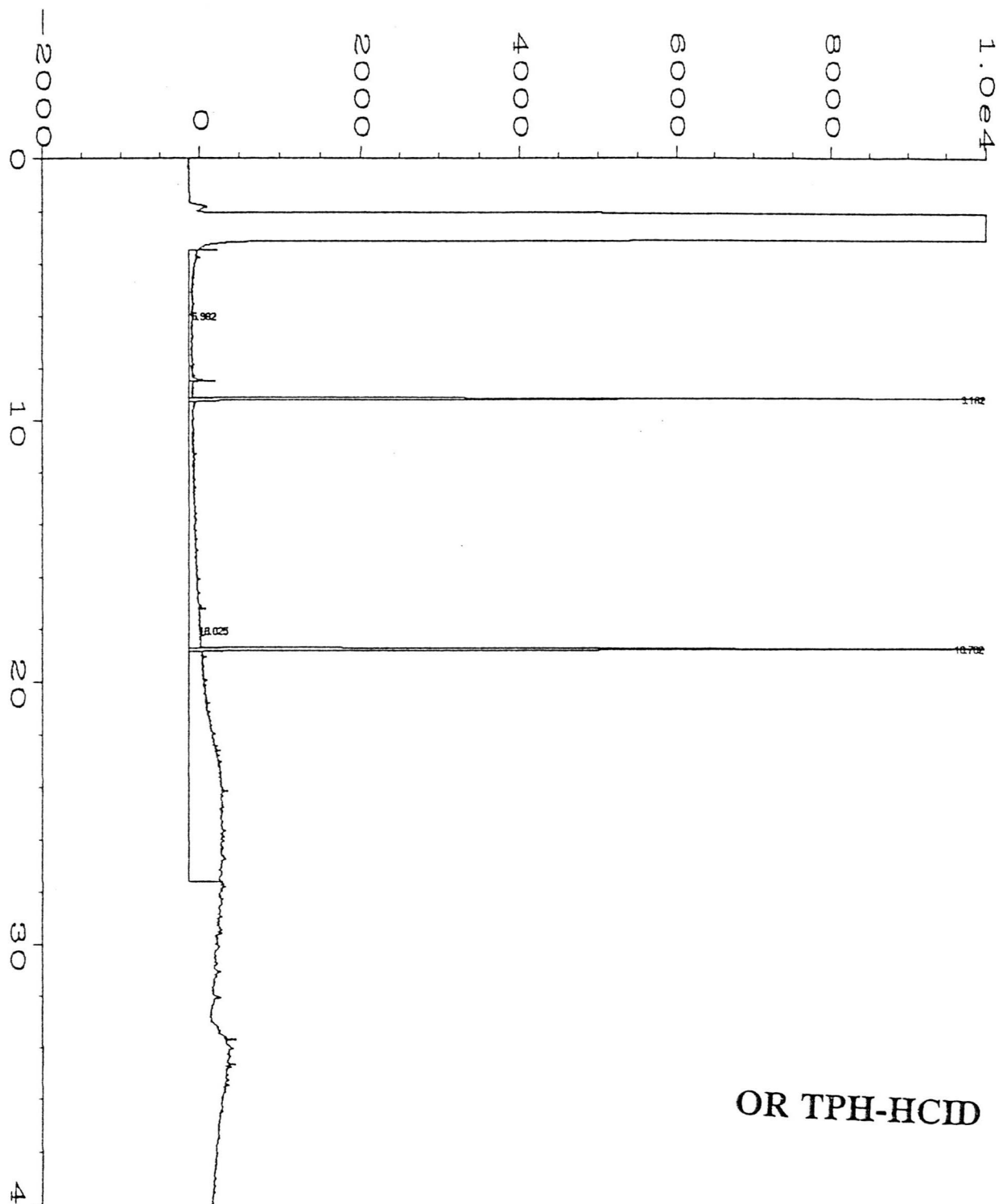
Reviewer: 7/26/93



OR TPH-HCID

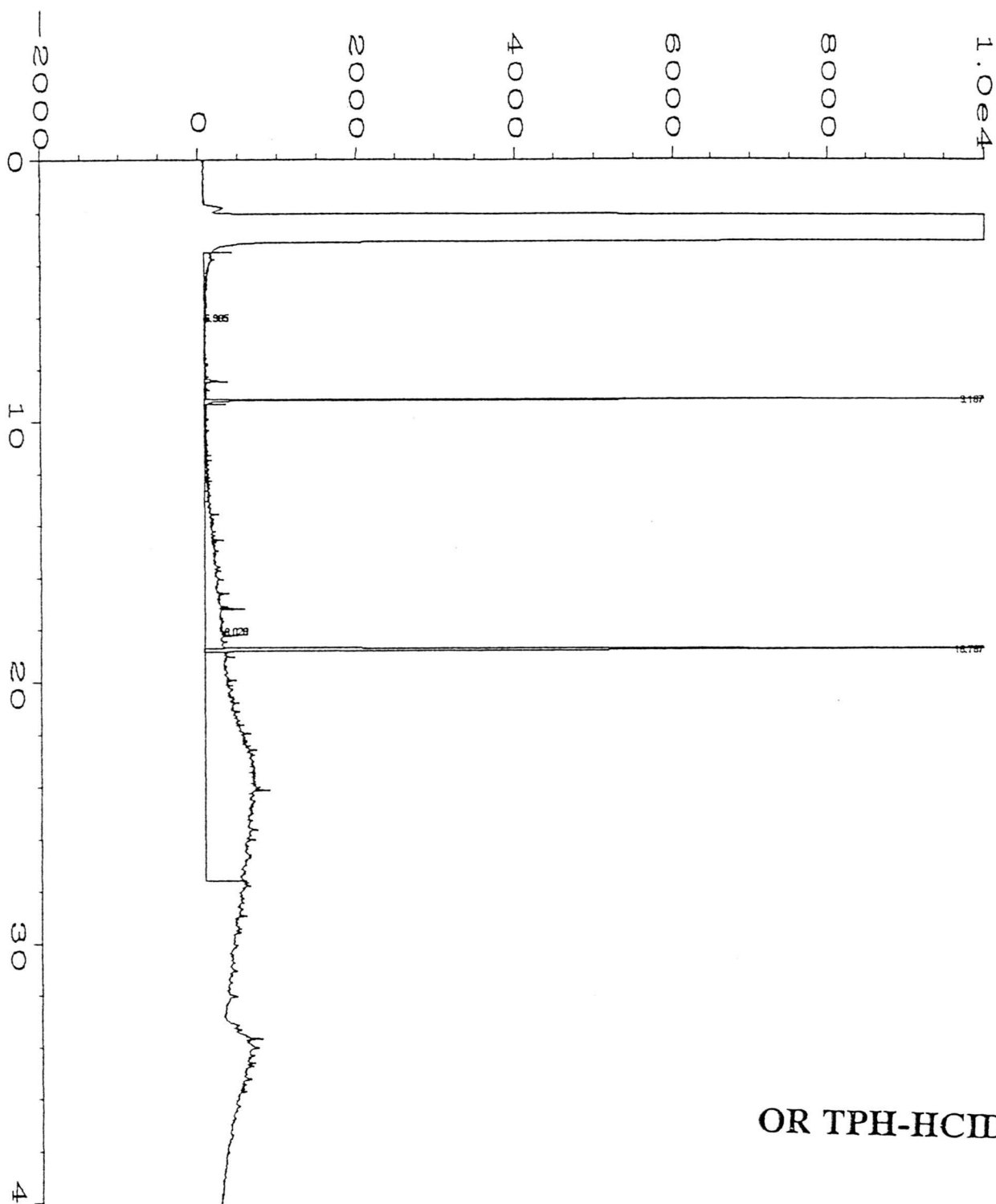
Data File Name : F:\DATA\FUELS\GAUSS\D\930723\012F0101.D
 Operator : FUELS
 Instrument : GAUSS
 Sample Name : 307611-1
 Run Time Bar Code:
 Acquired on : 24 Jul 93 02:22 AM
 Report Created on: 25 Jul 93 11:58 AM
 Last Recalib on : 21 JUL 93 01:26 PM
 Multiplier : 1

Page Number : 1
 Vial Number : 12
 Injection Number : 1
 Sequence Line : 1
 Instrument Method: LCOHCID.MTH
 Analysis Method : OF-HCID.MTH
 Sample Amount : 0
 ISTD Amount :



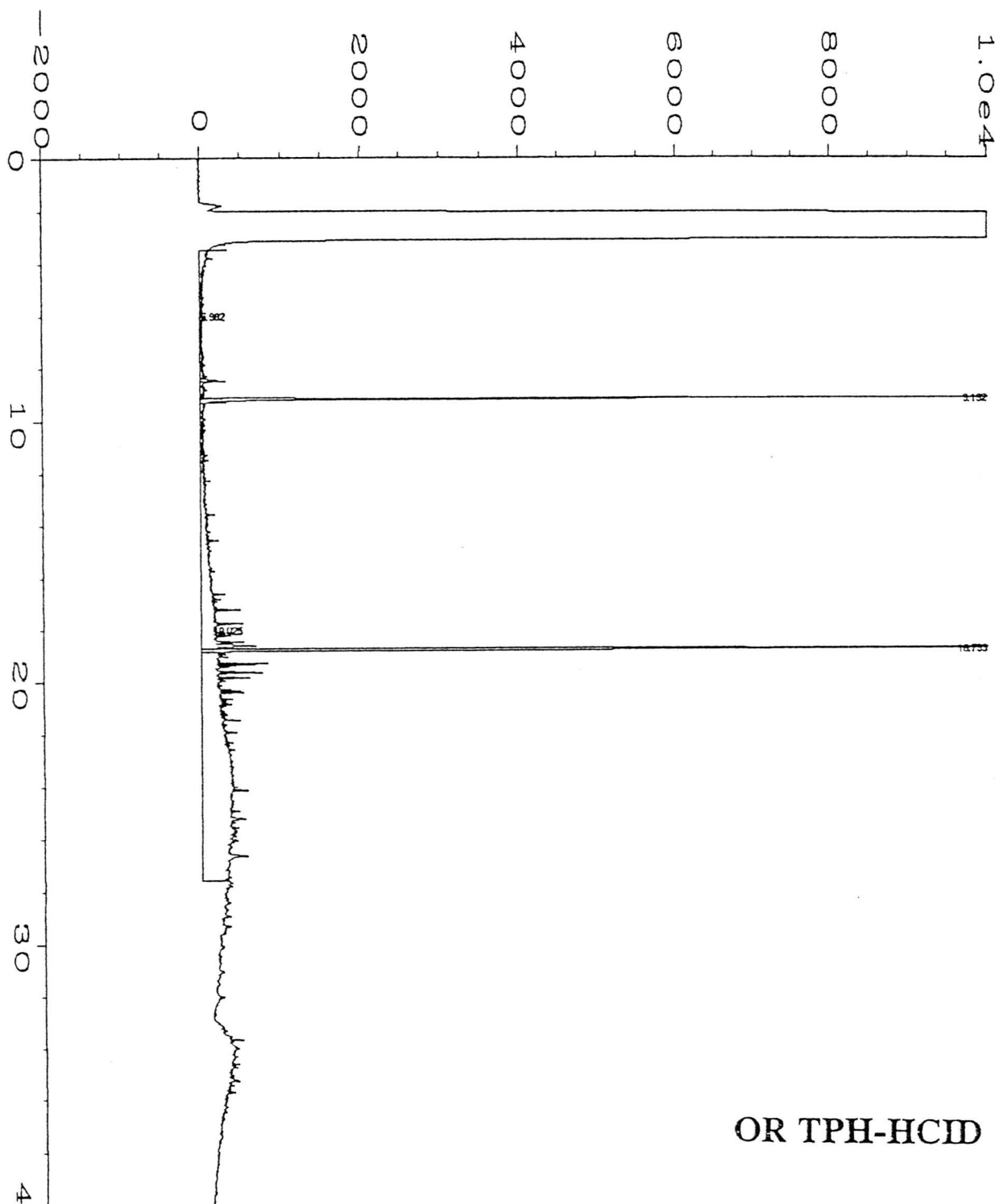
OR TPH-HCID

Data File Name	: F:\DATA\FUELS\GAUSS\D\930723\014F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 14
Instrument	: GAUSS	Injection Number	: 1
Sample Name	: 307611-2	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	LCOHCID.MTH
Acquired on	: 24 Jul 93 04:07 AM	Analysis Method	: OF-HCID.MTH
Report Created on:	25 Jul 93 12:00 PM	Sample Amount	: 0
Last Recalib on	: 21 JUL 93 01:26 PM	ISTD Amount	:
Multiplier	: 1		



OR TPH-HCID

Data File Name	: F:\DATA\FUELS\GAUSS\D\930723\016F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 16
Instrument	: GAUSS	Injection Number	: 1
Sample Name	: 307611-3	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: LCOHCID.MTH
Acquired on	: 24 Jul 93 05:56 AM	Analysis Method	: OF-HCID.MTH
Report Created on:	25 Jul 93 12:01 PM	Sample Amount	: 0
Last Recalib on	: 21 JUL 93 01:26 PM	ISTD Amount	:
Multiplier	: 1		



OR TPH-HCID

Data File Name	: F:\DATA\FUELS\GAUSS\D\930723\018F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 18
Instrument	: GAUSS	Injection Number	: 1
Sample Name	: 307611-4	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	LCOHCID.M
Acquired on	: 24 Jul 93 07:41 AM	Analysis Method	: OF-HCID.M
Report Created on:	25 Jul 93 12:03 PM	Sample Amount	: 0
Last Recalib on	: 21 JUL 93 01:26 PM	ISTD Amount	:
Multiplier	: 1		



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-0
CLIENT I.D.:	Method Blank	DATE SAMPLED:	N/A
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	N/A
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	< 20
------------------------	------

Analyst: *[Signature]*

Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-1
CLIENT I.D.:	S-1 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	260
------------------------	-----

Analyst: 7/30/93

Reviewer: 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-2
CLIENT I.D.:	S-2 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	230
------------------------	-----

Analyst: AK 7/30/93

Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-3
CLIENT I.D.:	S-3 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	430
------------------------	-----

Analyst: *[Signature]*

Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	307611-4
CLIENT I.D.:	S-4 7/22	DATE SAMPLED:	07/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	07/22/93
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	470
------------------------	-----

Analyst: CS 7-30-93

Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY DUPLICATE RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI ACCESSION:	307611
CLIENT:	Applied Geotechnology, Inc.	QC SAMPLE:	307645-1
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	5
		UNITS:	mg/Kg

PARAMETER	SAMPLE RESULT	DUP. RESULT	RPD
PETROLEUM HYDROCARBONS	1600	1400	13

CONTROL LIMITS

Petroleum Hydrocarbons

RPD
20

Analyst:

Reviewer: CS 7-30-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY SPIKE RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI ACCESSION:	307611
CLIENT:	Applied Geotechnology, Inc.	QC SAMPLE:	307609-5
PROJECT #:	30164.002	DATE EXTRACTED:	07/29/93
PROJECT NAME:	G-P / ATI	DATE ANALYZED:	07/30/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	5
		UNITS:	mg/Kg

PARAMETER	SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP.	DUP.	RPD
					SPIKED RESULT	% REC.	
MOTOR OIL	1400	400	1860	115	1860	115	0

CONTROL LIMITS

Motor Oil	%REC	RPD
	50 - 130	20

Analyst:

Reviewer:

CS 7-30-93



Analytical Technologies, Inc.

DATE 7-22-95 PAGE 1 OF 117400 S.W. Upper Boones Ferry Rd., Suite 270
Durham, Oregon 97224 • (503) 684-0447 FAX: (503) 620-0393

Chain of Custody

LABORATORY NUMBER: 307611
PROJECT NOTICE NUMBER: _____PROJECT MANAGER: David Rankin
COMPANY: Applied Geotechnology
ADDRESS: 541 NE 25th Ave, Suite 103
Portland, OR 97232
PHONE: 232-1800 SAMPLED BY: DML**SAMPLE DISPOSAL INSTRUCTIONS**☒ ATI Disposal @ \$5.00 each ☐ Return

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
S-1 7/22	7-22-95	1020	S	1
S-2 7/22		1045		2
S-3 7/22		1000		3
S-4 7/22		1130		4

ANALYSIS REQUEST

PETROLEUM HYDROCARBONS													ORGANICS				INORGANICS		TCLP		OTHER													NUMBER OF CONTAINERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
TPH-HCID	State: OR / WA	TPH-G	State: OR / WA	TPH-D	State: OR / WA	418.1	EPA 418.1	8015M	8020M-BETX only	8310 HPLC PAHs	7421 Lead	% Moisture	8010 Halogenated VOCs	8020 Aromatic VOCs	8040 Phenols	8240 GCMS Volatiles	8270 GCMS Semivolatiles	8080 OC Pesticides/PCBs	8080M PCBs only	Drinking Water (8)	Priority Pollutant Metals (13)	Cyanide	TCLP Metals (8)	TCLP Volatiles 8240 ZH-EXT	TCLP Semivolatiles 8270																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

ok per meter 7/26/95

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NUMBER: <u>30164.002</u>	TOTAL NUMBER OF CONTAINERS <u>4</u>
PROJECT NAME: <u>G-P/ATI</u>	COC SEALS/INTACT? <u>Y</u> <u>N</u> <u>(N)</u>
PURCHASE ORDER NUMBER:	RECEIVED INTACT? <u>Y</u> <u>N</u>
ONGOING PROJECT? <u>YES</u> <u>X</u> <u>NO</u> <u></u>	RECEIVED COLD? <u>Y</u> <u>N</u>
PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS	
TAT: (NORMAL) <u>X</u> 2 WKS (RUSH) ☐ 24 HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	
GREATER THAN 24 HR. NOTICE? ☐ YES ☐ NO ☐ (LAB USE ONLY)	
SPECIAL INSTRUCTIONS: <u>If PHCs are observed, perform appropriate TPH followup analyses to quantify.</u>	
Received via:	

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: <u>DM Lance</u> 1220	Signature: _____	Signature: _____
Time: _____	Time: _____	Time: _____
Printed Name: _____	Printed Name: _____	Printed Name: _____
Date: _____	Date: _____	Date: _____
Company: <u>Applied Geotechnology</u>	Company: _____	Company: _____
RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: _____	Signature: _____	Signature: <u>Fred Voosen</u> 1220
Time: _____	Time: _____	Time: _____
Printed Name: _____	Printed Name: _____	Printed Name: _____
Date: _____	Date: _____	Date: _____
Company: _____	Company: _____	Company: <u>Analytical Technologies, Inc.</u>

Applied Geotechnology Inc.

ATTACHMENT B

Quality Assurance Report

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: GP/GP Former Truck Facility
 Project No.: 30,164.002
 Lab Name: Analytical Technologies, Inc. - Durham, OR
 Lab Number: 307611
 Sample No.: S-1 7/22, S-2 7/22, S-3 7/22, S-4 7/22
 Matrix: Soil

QUALITY ASSURANCE SUMMARY

All data are of known and acceptable quality.

ANALYTICAL METHODS

<u>Parameter</u>	<u>Technique</u>	<u>Method</u>
TPH-Hydrocarbon Identification	GC/FID	OR TPH-HCID
Petroleum Hydrocarbon	IR	OR TPH-418.1

TIMELINESS

<u>Parameter</u>	<u>Date Sampled</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>	<u>Time Until Extraction</u>	<u>Time Until Analysis</u>
TPH-HCID	7/22/93	7/23/93	7/24/93	1 (14)	2 (21)
TPH-418.1	7/22/93	7/29/93	7/30/93	7 (14)	8 (30)

Numbers in parentheses indicate recommended holding times in days for soil.

All samples were extracted and analyzed within recommended holding times for soil.

Detectability and Comparability

TPH-HCID and TPH-418.1 analyses were performed without sample dilution. Sample results are comparable.

Chromatography

Petroleum hydrocarbons were not detected at or above the reporting limits for "gasoline" in any sample. Detections of diesel range hydrocarbons are supported by chromatogram for samples S-2 7/22, S-3 7/22, and S-4 7/22. Detections of hydrocarbons heavier than C28 are supported by chromatograms for all samples.

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: GP/GP Former Truck Facility
Project No.: 30,164.002
Lab Name: Analytical Technologies, Inc. - Durham, OR
Lab Number: 307611
Sample No.: S-1 7/22, S-2 7/22, S-3 7/22, S-4 7/22

FIELD QUALITY CONTROL SAMPLES

Field Duplicates: None collected.

Rinsate: None collected.

Trip Blank: None collected.

LAB QUALITY CONTROL SAMPLES

Reagent Blank: No analytes were detected at or above their reporting limits by the following methods:

OR TPH-HCID
OR TPH-418.1

Matrix Spikes: Matrix spike/matrix spike duplicate percent recoveries and relative percent differences (RPDs) are within ATI's control limit criteria for the following method:

OR TPH-418.1

Matrix spikes are not required for the following method:

OR TPH-HCID

Blank Spike: Blank spike/blank spike duplicate percent recoveries and RPDs are within ATI's control limit criteria for the following method:

OR TPH-HCID

Blank spikes are not required by the following method:

OR TPH-418.1

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: GP/GP Former Truck Facility
Project No.: 30,164.002
Lab Name: Analytical Technologies, Inc. - Durham, OR
Lab Number: 307611
Sample No.: S-1 7/22, S-2 7/22, S-3 7/22, S-4 7/22

Duplicates: Sample/sample duplicate RPD data are within ATI's control limit criteria for the following method:

OR TPH-418.1

Sample/sample duplicates are not required for the following method:

OR TPH-HCID

Surrogates: All surrogate spike percent recoveries are within ATI's control limit criteria for the following methods:

OR TPH-HCID
OR TPH-418.1

SIGNATURE

Prepared by Annette J. J. J. J. Date 8/16/93

* L U S T F O R M *

- INCIDENT INFORMATION -

LUST Incident Nbr: _____ LUST Log Nbr: 34-89-019 UST Facility ID: 5976
 Date Received: 2/9/89 Received By: URC Emergency Resp Taken: (Y) N
 Tank Location: Name: Georgia Pacific *see also 34-91-079*
 Street: 14410 SW 72nd
 City: Tigard Zip: 97224
 County: Washington Phone: 620-4203
 Incident Comments: _____

- CONTACT & MAIL TYPES -

Reported By: Ed Teuscher LUST Contact: _____ Responsible Party: Margarete Vest
 Name: _____ Name: _____ Name: same as above
 Street: same as above Street: same as above Street: 900 SW 5th
 City: _____ Zip: _____ City: _____ Zip: 97204
 County: _____ Phone: _____ County: Mult Phone: 222-5561

- SITE ASSESSMENT -

LUST Incident Nbr: (XXXXXXXXXXXX)
 Date Investigated: 2-7-89 Investigated By: RC by report
 Release Exists: (Y) N Confirmation Method: A) Staff B) Lab: DEQ C) Lab: RP D) Lab: Other E) RP F) Other
 (Circle) (Circle)
 Cleanup Necessary: (Y) N Regulated Tank: (Y) N Exposure Assessment: Y N
 (Circle) (Circle)
 Off-Site Migration: (Y) N ? Estimated Gallons Released: _____ Priority: _____
 (Circle)
 Discovery Date: 2/1/89 Reported as spill.
 How Discovered: A) Routine Monitoring B) Inventory Control C) Decommissioning D) Site Assessment
 (Circle) E) Complaint F) Tank Test G) Other Oil sheen in creek
 Material Released: A) Unleaded Gasoline B) Leaded Gasoline C) Misc. Gasoline 300-350' along pipe to creek.
 (Circle) D) Diesel E) Fuel Oil F) Waste Oil
 G) Lubricant H) Solvent I) Bunker Fuel
 J) Other Pet. Dist. K) Chemical L) Unknown
 Source of Release: A) Tank Leak B) Pipe Leak C) Overfill D) Surface Spill
 (Circle) E) Pump/Valve Leak F) Other G) Unknown
 Impacts: Soil (Y) N % ?
 (Circle) Groundwater Y N % ?
 Surface Water (Y) N % ?
 Drinking Water Y N % ?
 Facility (Vapor) Y N % ?
 Facility (Free Product) Y N % ?

Site Assessment Comments: Have containment booms in creek

- SITE MANAGEMENT -

LUST Incident Nbr: (XXXXXXXXXXXX)
 Date Released Stopped: 2/7/89
 Cleanup Activity: Start Date: 2/8/89 Under Control Date: 2-8-89
 End Date: 2-22-89 Contractor Name: Chem Pro
 Cleanup Guideline: Matrix C.A.P. Cleanup Lead: RP SLW/TF SLW/oTF (600cy previously accounted for in 34-91-079)
 (Circle) (Circle)
 Free Product Disposal: _____ Soil Disposal: 1073
 Est. Gallons: N/A Est. Cu/Yds: _____
 Resp. Party: _____ Resp. Party: Georgia Pacific
 Disposal Location: _____ Disposal Location: Hillboro LF
 Removal Date: _____ Removal Date: 7-6-90
 Enforcement Action: Y (N)
 (Circle)
 Cost Recovery Initiated: (Y) N Source of Cost Recovery: Pct. R.P.: 100
 (Circle) Pct. SLW/TF: _____
 Pct. SLW/oTF: _____

Estimations: Cost of Cleanup: _____ Staff Time On Project: _____

Site Management Comments: 8/22/89 Visit - contamination appears limited to sand layer along creek - fed by pipe trench. Source appears eliminated, asked for update report and proposal within 30 days.
Champion / Pacific Tank working on it.
* Closed 4-25-94 *

State of Oregon
Department of Environmental Quality

Memorandum

Date: February 10, 1994

To: Judith Hatton, Business Office
From: Norm King, WMCD *Norm*
Subject: Georgia Pacific

Cleanup work at the Georgia Pacific site (#34-89-0019) is complete. Please send a final invoice as soon as possible and close the Business Office file as soon as final payment is recieved. Last hours worked at the site will Be in February, 1994. No additional time will be charged to the project. Do not invoice the responsible party when total direct and indirect expenditures are less than \$25.00.

Invoicing Address is:

Margarete Vest
Georgia Pacific Corporation
900 SW Fifth Avenue
Portland, OR 97204-1255

Please notify myself and Darby Jensen when the site is closed, so a letter of completion can be sent out to the RP and Regional and ECD files can be closed.

Sheila Monroe, NWR, DEQ
cc: *Andree Pollock, NWR, DEQ*
Darby Jensen, WMCD, DEQ

LUSTCLOS.MEM

DAVID J. NEWTON ASSOCIATES, INC.

CIVIL & GEOLOGICAL ENGINEERING SERVICES

DAVID J. NEWTON, P.E., C.E.G.

President

1201 S.W. 12th Ave., Suite 620
Portland, Oregon 97205

(503)
228-7718

ED TEUSCHER

Safety Supervisor

Pulp & Paper Transport Division

(503) 289-0265



Georgia-Pacific Corporation

14410 SW 72nd Avenue

Tigard, OR 97224

(503) 620-4203



A Burlington
Environmental Inc.
Company

RON ROBINSON
Operations Supervisor

Olympus

CHEMPRO ENVIRONMENTAL SERVICES

6305 NW Lower River Road
P.O. Box 1337
Vancouver, Washington 98666

(206) 696-0159 • (503) 286-3210
FAX: (206) 696-0132

April 27, 1994

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

MS MARGARETE VEST
GEORGIA PACIFIC CORPORATION
900 SW FIFTH AVENUE
PORTLAND OR 97204-1255

NORTHWEST REGION

Re: Georgia Pacific
File No. 34-89-019

Dear Ms. Vest:

The Department of Environmental Quality has completed its review of the information submitted to date concerning the underground storage tank (UST) decommissioning conducted at 14410 SW 72nd Avenue in Tigard, Oregon. The Department has determined that the cleanup appears to have met the requirements of the Oregon Administrative Rules (OAR) 340-122-205 through 340-122-360 and that no further action is required at this time.

This determination is a result of our evaluation and judgement based on the regulations and facts as we now understand them, including:

1. The Department issued a partial no further action letter on May 25, 1990 (attached). The outstanding issues to be addressed were the proper treatment and/or disposal of stockpiled contaminated soil and monitoring of creek sediments.
2. Approximately 1673 cubic yards of soil were treated on-site and then disposed of at Hillsboro Landfill.
3. Initially, up to 930 parts per million (ppm) total petroleum hydrocarbons (TPH) were detected in creek sediments down stream from the release. After two quarters of monitoring, up to 470 ppm TPH as heavy oil were detected in down stream creek sediments. Up to 260 ppm TPH as heavy oil were detected in up stream creek sediments. Because diesel was released at the site and heavy oil contamination remains in creek sediments, it appears that the diesel contamination has degraded and that the oil contamination may be from another source such as freeway run-off.

The Department's determination will not be applicable if new or undisclosed facts show that the cleanup does not comply with the referenced rules. The Department's determination also does not apply to any conditions at the site other than the release of the petroleum product specifically addressed in the report(s). We recommend that a copy of this information be kept with the permanent facility records.



2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice/TDD
DEQ-1

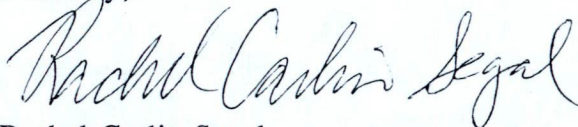
MS MARGARETE VEST

Page 2

Please note that pursuant to OAR 340-122-360(2), a copy of your report must be retained until ten (10) years after the first transfer of the property.

Your efforts to comply with the regulations to ensure that your facility has been adequately cleaned up has been appreciated. If you have any questions, please feel free to contact me at (503) 229-5492.

Sincerely,

A handwritten signature in cursive script that reads "Rachel Carlin Segal".

Rachel Carlin Segal
UST Cleanup Specialist
Northwest Region

cc: Mr. David Rankin
Applied Geotechnology Inc.
541 NE 20th Ave., Suite 103
Portland, OR 97232



Georgia-Pacific Corporation

900 S.W. Fifth Avenue
Portland, Oregon 97204-1255
Telephone (503) 222-5561
Fax (503) 221-0835

Sept. 9, 1993

Ms. Rachel Segal
Environmental Specialist
Oregon Department of Environmental Quality
1500 SW First Avenue, Suite 750
Portland, OR 97201-5884

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

SEP 13 1993

NORTHWEST REGION

RE: ODEQ FILE NO: 34-8-019
Report Findings Second Round of Ball Creek Sediment Sampling/Testing
Former Georgia-Pacific Trucking Facility, 14410 SW 72nd Ave., Tigard, OR 97224

Dear Rachel:

Two copies of the referenced report are enclosed for your files.

As discussed in April, the July sampling round would include a sample taken at the 90-degree bend in Ball Creek. Testing indicates effectively no change in the low TPH values. Oil/grease concentrations in the sediment samples are nearly identical to the April results.

The data is inconclusive. We are not ruling out the possibility that the Georgia-Pacific outfall is a former and/or current source of oil/grease in Ball Creek. However, many other situations could have caused the current distribution of oil/grease in stream sediments. Recently, a sheen was noted in the runoff into the creek from the existing operations. Additionally, the close proximity of the interstate and automobile accidents in the ditch contribute to the low levels of TPH.

Further study is needed to identify all current sources of contamination. Such extra work (e.g., water and soil sampling and additional sediment sample points) may be beyond the intent of our initial agreement with the Oregon DEQ.

I would like to discuss discontinuing future sampling/testing. Please call me at 248-7342.

Sincerely,

Margarete M. Vest, P.E.
Environmental Engineer
Building Products - Western Region

Enclosures
MMV/cw

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

LEAST INCIDENT PRIORITIZATION SYSTEM

Scoring Sheet

995

Date: 7-14-93

Log Number: 34-89-019

DEQ Scorer Initials: RCS

Site Name: Georgia Pacific

Consultant Name: _____

HUMAN HEALTH IMPACTS

Drinking Water

*** NOTE: In this section, all (or none) of the criteria must be scored.

Difficulty in replacing the supply: Hard ☐ Medium ☐ Easy ☐

Type of supply that may be impacted: Community ☐ Intermittent ☐ Private ☐

Size of population served by the supply: Large ☐ Medium ☐ Small ☐

When is impact likely to occur: Current/In Use ☐ Imminent ☐ Current/Alt ☐ Possible ☐

2

Toxic Vapor Impacts

*** NOTE: In this section, all (or none) of the criteria must be scored.

Level of vapor present: High ☐ Low ☐

Potential population exposed: Large ☐ Medium ☐ Small ☐

2

ENVIRONMENTAL DAMAGES

*** NOTE: In this section, all (or none) of the criteria must be scored.

Type of environment that may be impacted: Type A ☐ Type B ☒ Type C ☒

Likelihood of impact: High ☒ Medium ☐ Low ☐

RESOURCE DAMAGES

Non-Drinking Water Supply Impacts

Type of supply that may be impacted: Industrial ☐ Agricultural ☐ Non-use ☒

If non-use supply, specify impact to: Groundwater ☐ Surface Water ☒

Utility Corridors: Presence ☐ Damage ☐

2

TIEBREAKER

Potential for Transport

*** NOTE: In this section, all (or none) of the criteria must be scored.

Mean Annual Rainfall: >45" (H) ☐ 20-45" (M) ☒ <20" (L) ☐

Soil Permeability: High ☒ Medium ☐ Low ☐

Type of Contaminant: Gasoline (G) ☐ Diesel (D) ☐ Waste Oil (W) ☒ Crudes (C) ☐

Magnitude of Release

Number of Gallons Lost: >5000 (V) ☐ 1000-5000 (L) ☐ 500-999 (M) ☐ 100-499 (S) ☐ <100 (E) ☒

2

Potential Receptors

*** NOTE: In this section, all (or none) of the criteria must be scored.

Aquifer Depth: <25' (1) ☒ 25-50' (2) ☐ 51-100' (3) ☐ >100' (4) ☐

Distance to surface water: <100 yds (N) ☒ 100-500 yds (M) ☐ >500 yds (F) ☐

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

LUST INCIDENT PRIORITIZATION SYSTEM

Other Factors

(Default answer is 'No' -- only need to designate 'Yes' or 'Unknown')

SITE CHARACTERISTICS THAT MAY DECREASE PRIORITY			
		YES	UNKNOWN
1	Monitoring only action required	X	
2	Active Soil venting system on-site		
3	Active groundwater cleanup system		
4	Cleanup is progressing aggressively	X	
5	Other (describe)		

SITE CHARACTERISTICS THAT MAY INCREASE PRIORITY			
		YES	UNKNOWN
1	Orphan site		
2	Free product spreading/prompt action required		
3	Source unknown		
4	Release recent/prompt response may prevent further impacts		
5	Contamination poses threat to adjacent property	X	
6	Site not progressing on schedule		
7	Recalcitrant responsible party		
8	Interruption of utility service		
9	Other (describe)		

OTHER CHARACTERISTICS OF CONCERN			
		YES	UNKNOWN
1	Political concern		
2	Public concern		





Georgia-Pacific Corporation

900 S.W. Fifth Avenue
Portland, Oregon 97204-1255
Telephone (503) 222-5561
Fax (503) 221-0835

June 22, 1993

Ms. Rachel Carlin Segal
Oregon Department of Environmental Quality
Northwest Region
1500 SW First Avenue, Suite 750
Portland, OR 97201-5884

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

JUN 23 1993

NORTHWEST REGION

Re: File No. 34-89-019
Georgia-Pacific Tigard Trucking
14410 SW 72nd Avenue
Tigard, OR 97224

Dear Ms. Segal,

Georgia-Pacific Corporation has contracted with Applied Geotechnology, Inc., a consulting firm, to sample Ball Creek for petroleum hydrocarbons at G-P's former trucking facility as required by Oregon Department of Environmental Quality. The sampling is to monitor the creek after clean-up of the underground tank at the facility. The sampling results of the creek's sediments are attached. Some of the results are slightly above what we expected. This may be due to adjacent traffic and there appears to be evidence of accidents in the ditch area. We will sample again in late July to monitor the TPH-D levels and then discuss future sampling requirements with you.

Please call me if you have any questions or comments. I can be reached at 503/248-7342.

Sincerely,

Margarete M. Vest, P.E.
Environmental Engineer

Enclosure
MMV:cw

cc: Richard Funderhyde, Georgia-Pacific Corp.



Georgia-Pacific Corporation

900 S.W. Fifth Avenue
Portland, Oregon 97204-1255
Telephone (503) 222-5561
Fax (503) 221-0835

June 22, 1993

Ms. Rachel Carlin Segal
Oregon Department of Environmental Quality
Northwest Region
1500 SW First Avenue, Suite 750
Portland, OR 97201-5884

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

JUN 23 1993

NORTHWEST REGION

Re: File No. 34-89-019
Georgia-Pacific Tigard Trucking
14410 SW 72nd Avenue
Tigard, OR 97224

Dear Ms. Segal,

Georgia-Pacific Corporation has contracted with Applied Geotechnology, Inc., a consulting firm, to sample Ball Creek for petroleum hydrocarbons at G-P's former trucking facility as required by Oregon Department of Environmental Quality. The sampling is to monitor the creek after clean-up of the underground tank at the facility. The sampling results of the creek's sediments are attached. Some of the results are slightly above what we expected. This may be due to adjacent traffic and there appears to be evidence of accidents in the ditch area. We will sample again in late July to monitor the TPH-D levels and then discuss future sampling requirements with you.

Please call me if you have any questions or comments. I can be reached at 503/248-7342.

Sincerely,

Margarete M. Vest, P.E.
Environmental Engineer

Enclosure
MMV:cw

cc: Richard Funderhyde, Georgia-Pacific Corp.

5-17-93
Applied Geotechnology Inc.



May 14, 1993

DEPT OF ENVIRONMENTAL QUALITY 90,164.002
RECEIVED

JUN 23 1993

NORTHWEST REGION

Ms. Margaret Vest
Environmental Engineering
Building Products - Western Region
Georgia-Pacific Corporation
900 S.W. Fifth Avenue
Portland, Oregon 97204

**SUBJECT: REPORT OF FINDINGS - PHASE 1 EVALUATION
 PETROLEUM HYDROCARBONS IN STREAM SEDIMENTS
 FORMER GEORGIA-PACIFIC TRUCKING FACILITY
 14020 S.W. 72ND AVENUE
 TIGARD, OREGON**

Dear Ms. Vest:

This report presents the findings of stream sediment sampling and testing performed by Applied Geotechnology Inc. (AGI) for Georgia-Pacific near their former truck facility in Tigard, Oregon. The purpose of the work was to address Oregon Department of Environmental Quality (ODEQ) concerns about visual evidence of petroleum hydrocarbons in Ball Creek (also known as Still Creek). The scope of services provided by AGI involved sampling stream-bottom sediments from four locations, analyzing the samples for the presence of petroleum hydrocarbons, and summarizing the results in this letter report for Georgia-Pacific.

As you have discussed with David Rankin, there was confusion about the proposed sampling location furthest downstream from the site. This was due to the number of flagged locations observed in the field. Georgia-Pacific and ODEQ intended that the sample be collected several hundred feet downstream from the location actually sampled. This matter was discussed with ODEQ representative Rachel Segal and it was agreed that a sample would be collected from this more distant location during sampling planned for the next calendar quarter.

Site Description

The former Georgia-Pacific site is located immediately southwest of the intersection of Interstate Highway 5 and Oregon State Highway 217 (Figure 1). The site is currently occupied by Power Rents, a large equipment-rental business. Directly east of the site, Ball Creek emerges from a culvert adjacent to Interstate 5 and turns sharply to the south, running parallel to the site property line (Figure 2).

Sampling

On April 22, 1993, AGI personnel collected four sediment samples (S-1 to S-4) at the approximate locations shown in Figure 2. Two of these locations, S-2

and S-3, were previously flagged during a meeting on site between Georgia-Pacific and ODEQ personnel. S-1 was collected to provide a sample upstream of the storm system outfall that drains the site (Figure 2). S-4 was collected to provide an additional data point further downstream.

A hand shovel was used to remove sediments from the stream bottom. The sediment collected for the samples was obtained two to six inches below the top of the sediment column and as close as possible to the stream centerline. Bright orange flagging was labeled with the sample number and tied to vegetation on the adjacent bank. Sample material was tightly packed into 250 ml glass jars to eliminate headspace and potential loss of volatile compounds. Before each sample collection, the sampling equipment was decontaminated by washing in detergent, followed by a distilled water rinse, a N-propyl alcohol rinse, and a final distilled water rinse.

The sediments were generally composed of a mixture of gravelly, fine to coarse sand with minor content of silt and organic matter. Sediments at S-2 and S-3 showed interlayers (1/4- to 1/2-inch thick) of gray organic silt. When mixed or agitated, the water-saturated silt imparted a petroleum-like sheen and a distinct petroleum odor was present. Several iridescent, petroleum-like blebs (up to 1/2-inch across), also with petroleum odors, were observed within the sands of S-3 and S-4. At the S-4 sample location, soil (organic silt) along a portion of the stream bank (where the material was disturbed by the AGI sampler) produced a petroleum-like sheen on the water and the soil yielded a distinct petroleum odor.

Analytical Testing

Following collection, the samples were stored in a chilled cooler and transported under chain-of-custody protocol to Analytical Technologies Inc., in Durham, Oregon. The samples were screened for the presence of petroleum hydrocarbons using Oregon Method HCID. Hydrocarbons were identified in each sample, but only in the range of C28 to C40. This range is typically associated with heavy petroleum products such as motor oil or hydraulic oil. To quantify the concentrations, the samples were subsequently analyzed for total petroleum hydrocarbons (TPH) using Oregon Method 418.1. The results were as follows:

Sample Number	Oregon Method HCID (mg/kg)			Oregon Method 418.1 (mg/kg)
	Gasoline (C6 - C10)	Diesel (C10 - C28)	Heavy Hydrocarbons (C28 - C40)	
S-1	<20	<50	Observed	230
S-2	<20	<50	Observed	260
S-3	<20	<50	Observed	1,400
S-4	<20	<50	Observed	410

Ms. Margaret Vest
Project No. 30,164.002
May 14, 1993
Page 3

Applied Geotechnology Inc.

The complete analytical report, which includes all results, is provided in Attachment A. A Quality Assurance review and evaluation of the laboratory data were performed by AGI chemists to verify the quality of the results and limit potential liability. The standards applied to the review followed U.S. EPA data validation and functional guidelines for organic and inorganic analyses. The laboratory data were determined to be of known and acceptable quality. The Quality Assurance Report is presented in Attachment B.

Should you have any questions regarding the findings of this report, please call us at 503/232-1800.

Sincerely,

APPLIED GEOTECHNOLOGY INC.

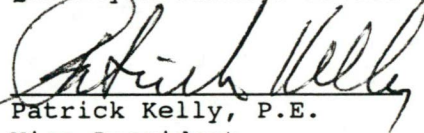


Donald Lance, P.G.
Senior Geologist



David Rankin, P.G.
Associate Geologist

Quality Assurance Review By:



Patrick Kelly, P.E.
Vice President

DML/DKR:bm

Attachments

Applied Geotechnology Inc.

ATTACHMENT A
Analytical Report



Analytical**Technologies**, Inc.

17400 S.W. Upper Boones Ferry Road, Suite 270

Durham, OR. 97224

(503) 684-0447 (503) 620-0393 (FAX)

ATI I.D. 304570

April 30, 1993

Don Lance
Applied Geotechnology Inc.
2510 SW 1st Avenue
Portland, OR 97201

Project Name/Number: AGI - GP / 30164.002

Attention: Don Lance

On April 22, 1993, Analytical Technologies, Inc. received four soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Fred Voosen
Project Manager

FOR
Alan J. Kleinschmidt
Laboratory Manager

AJK:alm
Enclosure



Analytical Technologies, Inc.

SAMPLE CROSS REFERENCE SHEET

CLIENT: Applied Geotechnology ATI I.D.: 304570
PROJECT #: 30164.002
PROJECT NAME: AGI - GP MATRIX: SOIL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED
304570-1	S-1	4/22/93
304570-2	S-2	4/22/93
304570-3	S-3	4/22/93
304570-4	S-4	4/22/93

-----TOTALS-----

MATRIX
SOIL

SAMPLES
4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

ANALYTICAL SCHEDULE

CLIENT: Applied Geotechnology ATI I.D.: 304570
PROJECT #: 30164.002
PROJECT NAME: AGI - GP

ANALYSIS	TECHNIQUE	REFERENCE	LAB
Hydrocarbon Identification	GC/FID	OR TPH-HCID	PLD
Petroleum Hydrocarbon	IR	OR TPH-418.1	PLD

PLD = ATI - Portland
R = ATI - Renton
SD = ATI - San Diego
PHX = ATI - Phoenix
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	304570-0
CLIENT I.D.:	Method Blank	DATE SAMPLED:	N/A
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	N/A
PROJECT #:	30164-002	DATE EXTRACTED:	04/22/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/22/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	NOT OBSERVED

SURROGATES:

1-CHLOROOCTANE (50% - 150%)	101%
O-TERPHENYL (50% - 150%)	105%

Analyst: Ala 4/23/93
Reviewer: CS4-23-93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	304570-1
CLIENT I.D.:	S-1	DATE SAMPLED:	04/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	04/22/93
PROJECT #:	30164-002	DATE EXTRACTED:	04/22/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/22/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	OBSERVED

SURROGATES:

1-CHLOROOCTANE (50% - 150%)	100%
O-TERPHENYL (50% - 150%)	101%

Analyst: Ch 4/23/93

Reviewer: CS 4-23-93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	304570-2
CLIENT I.D.:	S-2	DATE SAMPLED:	04/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	04/22/93
PROJECT #:	30164-002	DATE EXTRACTED:	04/22/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/22/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C8 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	OBSERVED

SURROGATES:

1-CHLOROOCTANE (50% - 150%)	99%
O-TERPHENYL (50% - 150%)	99%

Analyst: Alb. 4/23/93

Reviewer: CS 4-23-93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	304570-3
CLIENT I.D.:	S-3	DATE SAMPLED:	04/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	04/22/93
PROJECT #:	30164-002	DATE EXTRACTED:	04/22/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/22/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	OBSERVED

SURROGATES:

1-CHLOROOCTANE (50% - 150%)	103%
O-TERPHENYL (50% - 150%)	103%

Analyst: CS 4-23-93

Reviewer: CS 4-23-93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST:	TPH-HCID (Oregon)	ATI I.D.:	304570-4
CLIENT I.D.:	S-4	DATE SAMPLED:	04/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	04/22/93
PROJECT #:	30164-002	DATE EXTRACTED:	04/22/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/23/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
GASOLINE (C6 - C10)	LESS THAN 20 mg/Kg
DIESEL (C10 - C28)	LESS THAN 50 mg/Kg
C28-C40	OBSERVED

SURROGATES:

1-CHLOROOCTANE (50% - 150%)	99%
O-TERPHENYL (50% - 150%)	98%

Analyst: Alm/23/93

Reviewer: CS 4-23-93



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY SPIKE RESULTS

TEST:	TPH-HCID (Oregon)	ATI ACCESSION:	304570
CLIENT:	Applied Geotechnology, Inc.	QC SAMPLE:	Method Blank
PROJECT #:	30164-002	DATE EXTRACTED:	04/22/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/22/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	< 50	100	89	89	95	95	7
SURROGATE:							
1-CHLOROOCTANE (50% - 150%)			98%		102%		
O-TERPHENYL (50% - 150%)			98%		104%		

CONTROL LIMITS

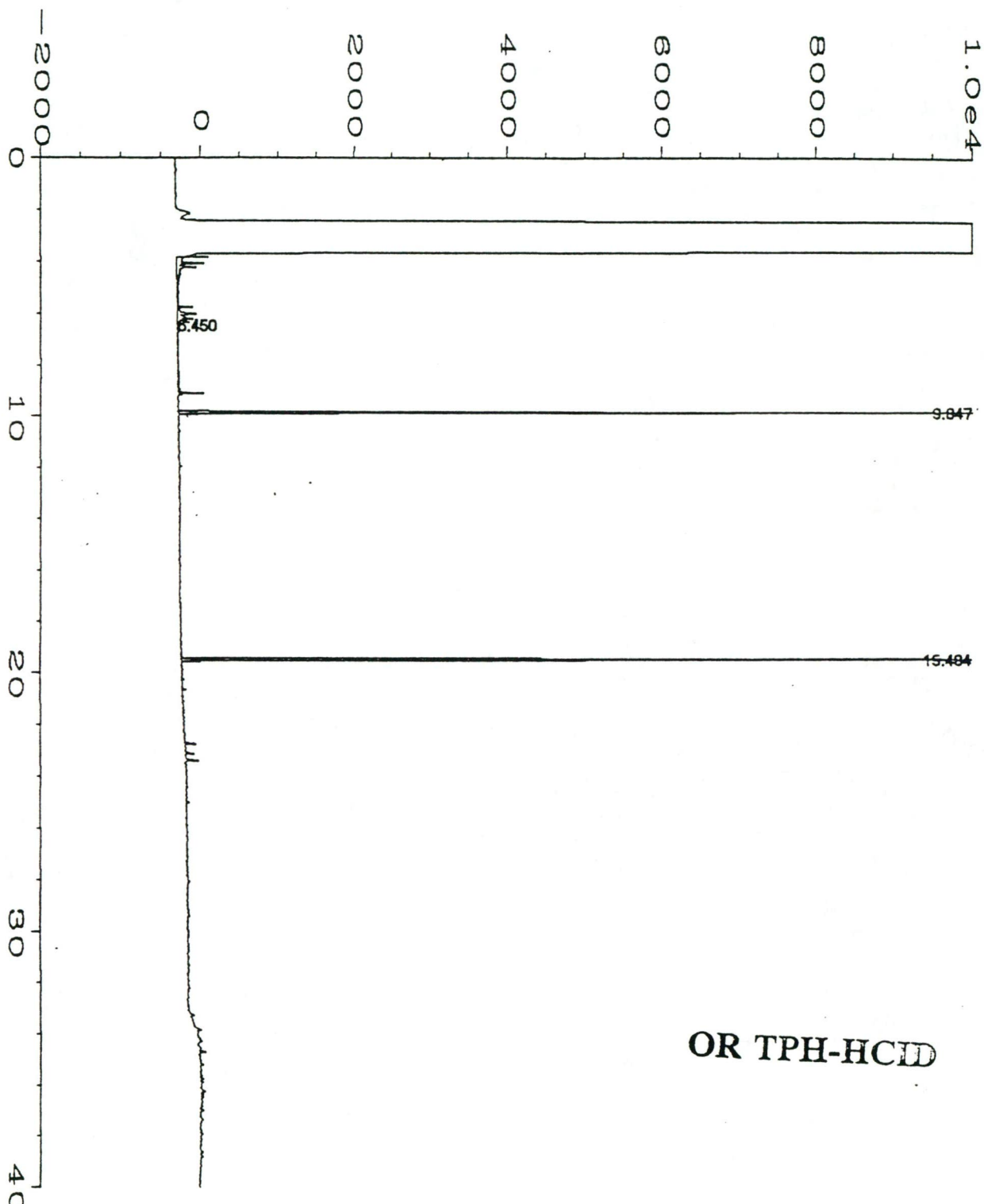
	% REC	RPD
DIESEL	70 - 130	20

Analyst: ALL 4/23/93

Reviewer: CS 4-23-93

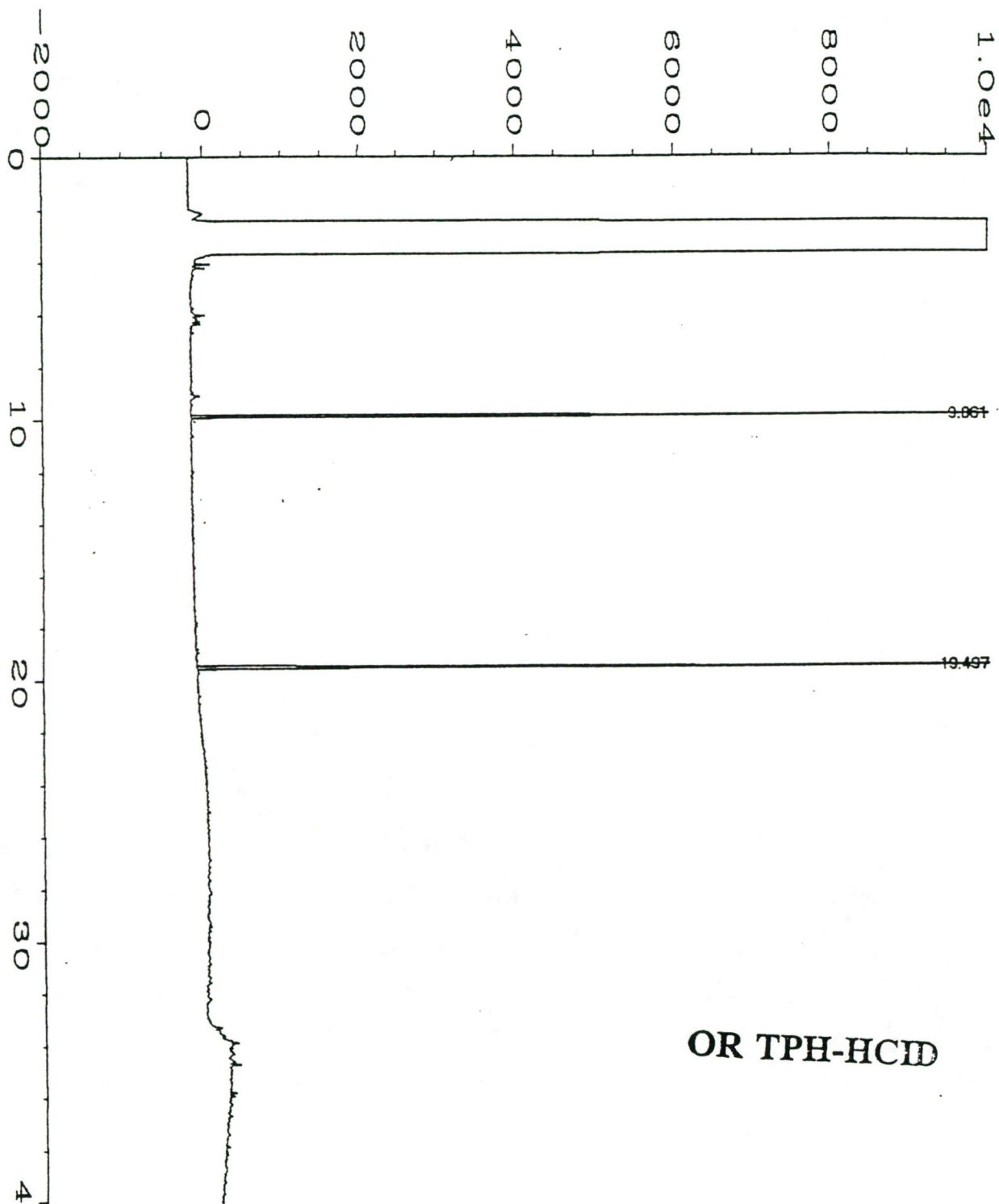


Analytical Technologies, Inc.



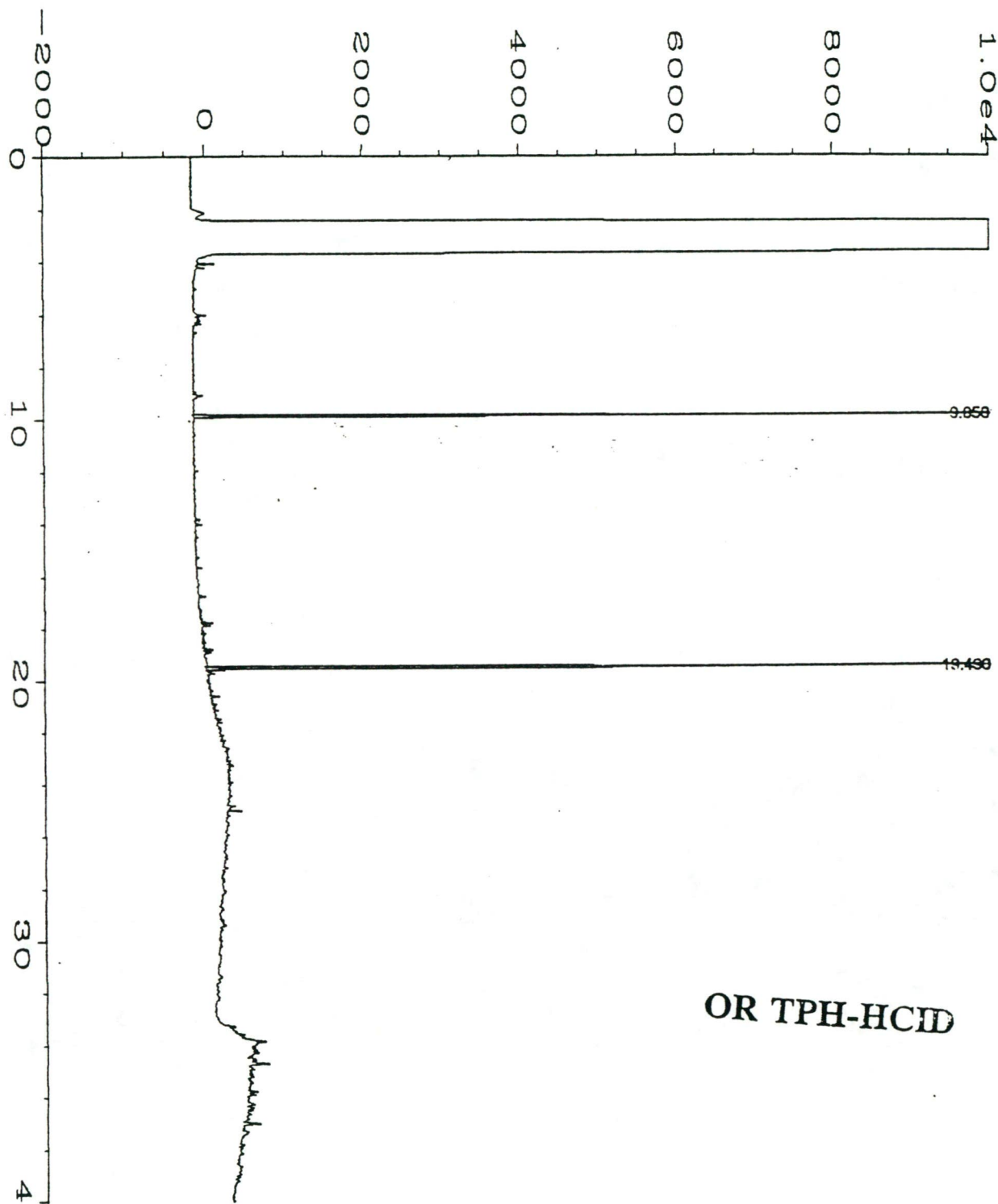
OR TPH-HCID

Data File Name	: F:\DATA\FUELS\DEEMTER\D\930422\010F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 10
Instrument	: DEEMTER	Injection Number	: 1
Sample Name	: 304570-1	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: OHCID.MTH
Acquired on	: 22 Apr 93 09:19 PM	Analysis Method	: OF-HCID.MT
Report Created on:	23 Apr 93 09:38 AM	Sample Amount	: 0
Last Recalib on	: 04 APR 93 03:33 PM	ISTD Amount	:
Multiplier	: 1		



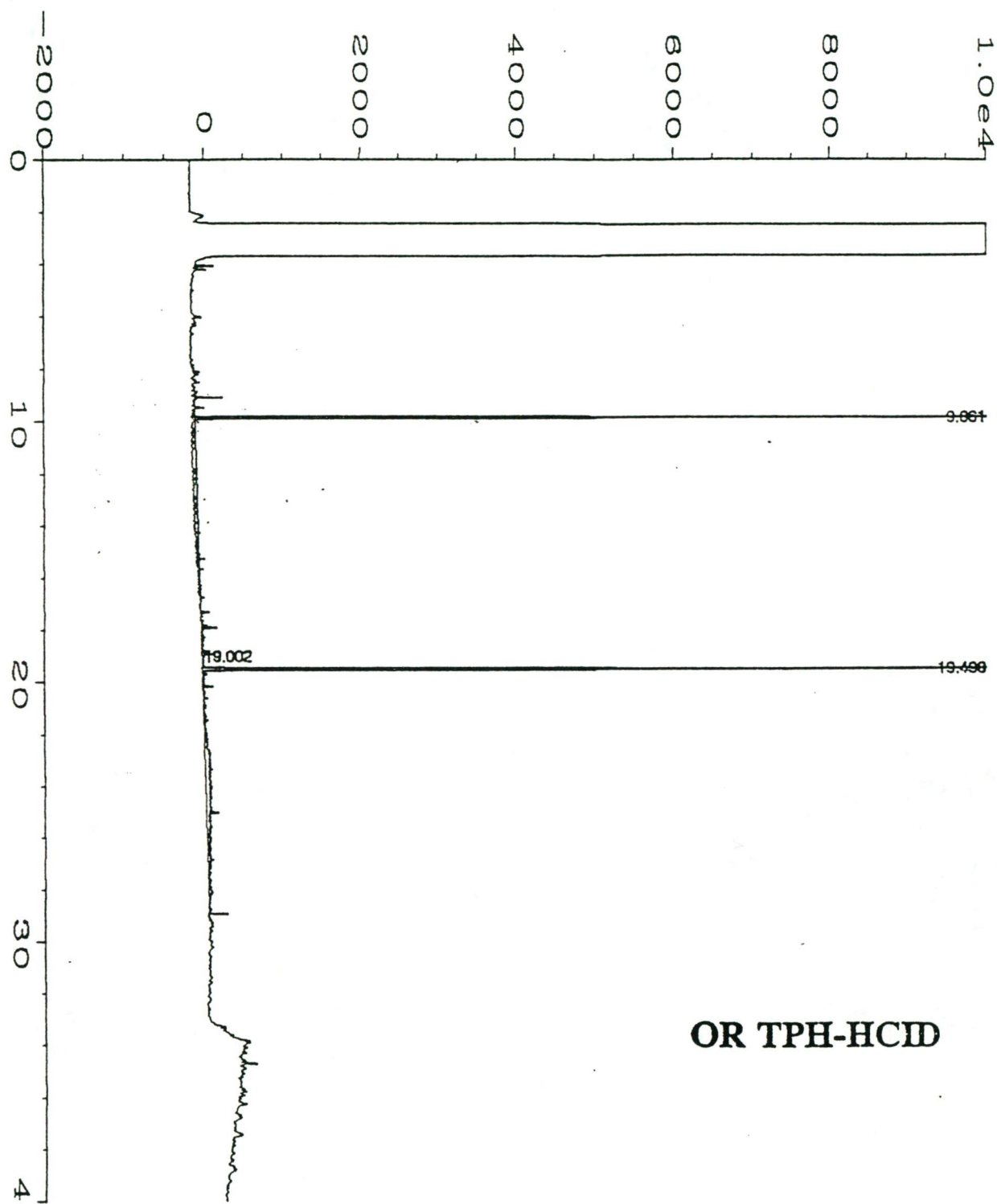
OR TPH-HCID

Data File Name	: F:\DATA\FUELS\DEEMTER\D\930422\011F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 11
Instrument	: DEEMTER	Injection Number	: 1
Sample Name	: 304570-2	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: OHCID.MTH
Acquired on	: 22 Apr 93 10:17 PM	Analysis Method	: OF-HCID.MT
Report Created on	: 23 Apr 93 09:41 AM	Sample Amount	: 0
Last Recalib on	: 04 APR 93 03:33 PM	ISTD Amount	:
Multiplier	: 1		



OR TPH-HCID

Data File Name	: F:\DATA\FUELS\DEEMTER\D\930422\012F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 12
Instrument	: DEEMTER	Injection Number	: 1
Sample Name	: 304570-3	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: OHCID.MTH
Acquired on	: 22 Apr 93 11:15 PM	Analysis Method	: OF-HCID.MT
Report Created on	: 23 Apr 93 09:44 AM	Sample Amount	: 0
Last Recalib on	: 04 APR 93 03:33 PM	ISTD Amount	:
Multiplier	: 1		



OR TPH-HCID

Data File Name	: F:\DATA\FUELS\DEEMTER\D\930422\013F0101.D	Page Number	: 1
Operator	: FUELS	Vial Number	: 13
Instrument	: DEEMTER	Injection Number	: 1
Sample Name	: 304570-4	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	OHCID.MTH
Acquired on	: 23 Apr 93 00:12 AM	Analysis Method	: OF-HCID.MTH
Report Created on:	23 Apr 93 09:46 AM	Sample Amount	: 0
Last Recalib on	: 04 APR 93 03:33 PM	ISTD Amount	:
Multiplier	: 1		



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	304570-0
CLIENT I.D.:	Method Blank	DATE SAMPLED:	N/A
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	N/A
PROJECT #:	30164-002	DATE EXTRACTED:	04/28/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/28/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	< 20
------------------------	------

Analyst

CS 4-29-93

Reviewer:

CS 4-29-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	304570-1
CLIENT I.D.:	S-1	DATE SAMPLED:	04/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	04/22/93
PROJECT #:	30164-002	DATE EXTRACTED:	04/28/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/28/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS

230

Analyst: CS 4-29-93

Reviewer: CS 4-29-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	304570-2
CLIENT I.D.:	S-2	DATE SAMPLED:	04/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	04/22/93
PROJECT #:	30164-002	DATE EXTRACTED:	04/28/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/28/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS

260

Analyst: CS 4-29-93

Reviewer: CS 4-29-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	304570-3
CLIENT I.D.:	S-3	DATE SAMPLED:	04/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	04/22/93
PROJECT #:	30164-002	DATE EXTRACTED:	04/28/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/28/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	10
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS

1400

Analyst:

[Signature]

Reviewer:

CS4-29-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI I.D.:	304570-4
CLIENT I.D.:	S-4	DATE SAMPLED:	04/22/93
CLIENT:	Applied Geotechnology, Inc.	DATE RECEIVED:	04/22/93
PROJECT #:	30164-002	DATE EXTRACTED:	04/28/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/28/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/Kg

PARAMETER	RESULTS
-----------	---------

PETROLEUM HYDROCARBONS	410
------------------------	-----

Analyst:

CS 4-29-93

Reviewer:

CS 4-29-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY DUPLICATE RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI ACCESSION:	304570
CLIENT:	Applied Geotechnology, Inc.	QC SAMPLE:	304592-1
PROJECT #:	30164-002	DATE EXTRACTED:	04/28/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/28/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	25
		UNITS:	mg/Kg

PARAMETER	SAMPLE RESULT	DUP. RESULT	RPD
PETROLEUM HYDROCARBONS	3500	3700	6

CONTROL LIMITS

Petroleum Hydrocarbons

RPD
20

Analyst: CS 4-29-93

Reviewer: CS 4-29-93



Analytical Technologies, Inc.

INFRARED SPECTROPHOTOMETRY SPIKE RESULTS

TEST:	TPH - 418.1 (OREGON)	ATI ACCESSION:	304570
CLIENT:	Applied Geotechnology, Inc.	QC SAMPLE:	304570-1
PROJECT #:	30164-002	DATE EXTRACTED:	04/28/93
PROJECT NAME:	AGI - GP	DATE ANALYZED:	04/28/93
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	2
		UNITS:	mg/Kg

PARAMETER	SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP.	DUP.	RPD
					SPIKED RESULT	% REC.	
MOTOR OIL	230	400	656	107	658	107	0

	CONTROL LIMITS		
Motor Oil	%REC		RPD
	50 - 130		20

Analyst: CS 4-29-93

Reviewer: CS 4-29-93



Analytical Technologies, Inc.

17400 S.W. Upper Boones Ferry Rd., Suite 270
Durham, Oregon 97224 • (503) 684-0447 FAX: (503) 620-0393

DATE 4-22-93 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 304510
PROJECT NOTICE NUMBER: _____

PROJECT MANAGER: Don Lance
COMPANY: Applied Geotechnical
ADDRESS: 5411 NE 20th Ave, Suite 103
Portland, OR 97232
PHONE: 503/232-1800 SAMPLED BY: DML

SAMPLE DISPOSAL INSTRUCTIONS

☐ ATI Disposal @ \$5.00 each ☐ Return

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
* S-1	4-22-93	1030	S	-1
* S-2	↓	1050	S	-2
* S-3	↓	1120	S	-3
* S-4	↓	1140	S	-4

ANALYSIS REQUEST

PETROLEUM HYDROCARBONS										ORGANICS				INORGANICS	TCLP		OTHER										NUMBER OF CONTAINERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
ITPH-HCID		State: OR		State: WA		ITPH-G		State: OR		State: WA		ITPH-D		State: OR		State: WA		EPA 418.1		18015M		18020M-BETX only		18310 HPLC PAHs		7421 Lead		% Moisture		18010 Halogenated VOCs		18020 Aromatic VOCs		18040 Phenols		18240 GCMS Volatiles		18270 GCMS Semivolatiles		18080 OC Pesticides/PCBs		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only		18080M PCBs only	

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: <u>30164.002</u>		TOTAL NUMBER OF CONTAINERS <u>4</u>		Signature: <u>DM Lance</u> Date: <u>4-22-93</u>		Signature: _____ Date: _____		Signature: _____ Date: _____	
PROJECT NAME: <u>AGI-GP</u>		COC SEALS/INTACT? Y \ N \ NA		Printed Name: <u>DM Lance</u> Date: <u>4-22-93</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED INTACT? Y \ N		Company: <u>AGI</u>		Company: _____		Company: _____	
ONGOING PROJECT? YES ☐ NO ☒		RECEIVED COLD? Y \ N		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS				Signature: _____ Date: _____		Signature: _____ Date: _____		Signature: <u>ANDI McNEIL</u> Date: <u>4/22/93</u>	
TAT: (NORMAL) ☐ 2 WKS (RUSH) ☒ 24 HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
GREATER THAN 24 HR. NOTICE? YES ☐ NO ☐ (LAB USE ONLY)				Company: _____		Company: _____		Company: _____	
SPECIAL INSTRUCTIONS: <u>HCID - 24 hr rush</u>									
* Please perform followup analyses for any HCID hits (TPH-G, TPH-D, 418.1) as necessary.									
Followup analyses should be rushed - 72 hr TAT									
Received via: <u>HAND</u>									

Applied Geotechnology Inc.

ATTACHMENT B

Quality Assurance Report

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: Georgia-Pacific
Project No.: 30,164.002
Lab Name: Analytical Technologies, Inc. (ATI) - Durham, OR
Lab Number: 304570
Sample No.: S-1, S-2, S-3, S-4
Matrix: Soil

QUALITY ASSURANCE SUMMARY

All data are of known and acceptable quality.

ANALYTICAL METHODS

<u>Parameter</u>	<u>Technique</u>	<u>Method</u>
Hydrocarbon Identification	GC/FID	OR TPH-HCID
Petroleum Hydrocarbon	IR	OR TPH-418.1

TIMELINESS

<u>Parameter</u>	<u>Date Sampled</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>	<u>Time Until Extraction</u>	<u>Time Until Analysis</u>
Hydrocarbon Identification	4/22/93	4/22/93	4/22/93	0	0 (14)
Petroleum Hydrocarbon	4/22/93	4/28/93	4/28/93	6	6 (14)

Numbers in parentheses indicate recommended holding times in days for soils.

All samples were analyzed within recommended holding times for soils.

DETECTABILITY AND COMPARABILITY

All samples were analyzed undiluted by OR TPH-HCID. Sample results by this method are comparable.

OR TPH-418.1: Sample S-1, S-2, and S-4 were analyzed undiluted. Sample S-3 was diluted by a factor of 10 for analysis. For duplicate analysis, both sample and sample duplicate were diluted by a factor of 25 for analysis. For matrix spike analysis, sample was diluted by a factor of 2.

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: Georgia-Pacific
Project No.: 30,164.002
Lab Name: Analytical Technologies, Inc. (ATI) - Durham, OR
Lab Number: 304570
Sample No.: S-1, S-2, S-3, S-4
Matrix: Soil

FUEL HYDROCARBON CHEMISTRY

OR TPH-HCID: Gasoline (C6 - C10) and diesel (C10 - C28) range hydrocarbons were not detected at or above the method reporting limits (MRL) in any of the samples. However, all sample chromatograms indicate hydrocarbons as oil (C28 - C40) were detected but not quantitated by this method. The oil detected in all of the samples was likely a heavy and/or weathered petroleum oil product.

OR TPH-418.1: Oil (C28 - C40) range petroleum hydrocarbons were quantitated by this method in all of the samples.

FIELD QUALITY CONTROL SAMPLES

Field Duplicates: None collected.

Rinsate: None collected.

Trip Blank: None collected.

LAB QUALITY CONTROL SAMPLES

Reagent Blank: No analytes were detected at or above the MRL in the reagent blanks for methods OR TPH-HCID and OR TPH-418.1.

Matrix Spikes: Matrix spike (MS) and matrix spike duplicate (MSD) percent recoveries and relative percent difference (RPD) are within ATI's control limit criteria for method OR TPH-418.1.

Duplicates: Sample/sample duplicate RPD is within ATI's control limit criteria for methods OR TPH-HCID and OR TPH-418.1.

Blank Spike: Blank spike percent recovery and blank spike/spike duplicate RPD are within ATI's control limit criteria for OR TPH-HCID.

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: Georgia-Pacific
Project No.: 30,164.002
Lab Name: Analytical Technologies, Inc. (ATI) - Durham, OR
Lab Number: 304570
Sample No.: S-1, S-2, S-3, S-4
Matrix: Soil

Surrogates: All surrogate percent recoveries for OR TPH-HCID are within ATI's control limit criteria.

SIGNATURES

Prepared by

Migda Lin

Date 05/07/93

Checked by

Katherine Bourbonnais

Date 5/7/93

UST FIELD INSPECTION REPORT

Site Name: Georgia Pacific

Date: 3-29-93 Total Time*: 2 hrs

Site Address: 14410 SW 72nd, Tigard

*Include inspection, travel, paperwork

File/Facility No.: 34-89-019

Inspector: Rachel Segal

Others Onsite: Margarete Vest - Georgia Pacific

Inspection Type

- ☐ Install/Retro
- ☐ Decommission
- ☐ UST Facility
- ☐ Distrib. Audit
- ☒ Cleanup
- ☐ Soil Aeration
- ☐ Complaint
- ☐ Excav. Closure
- ☐ FAP Application

include company name

Supervisor License No.: _____ (note name with **)

Health & Safety

Potential Site Hazards

Hazards Appraised? Y / N

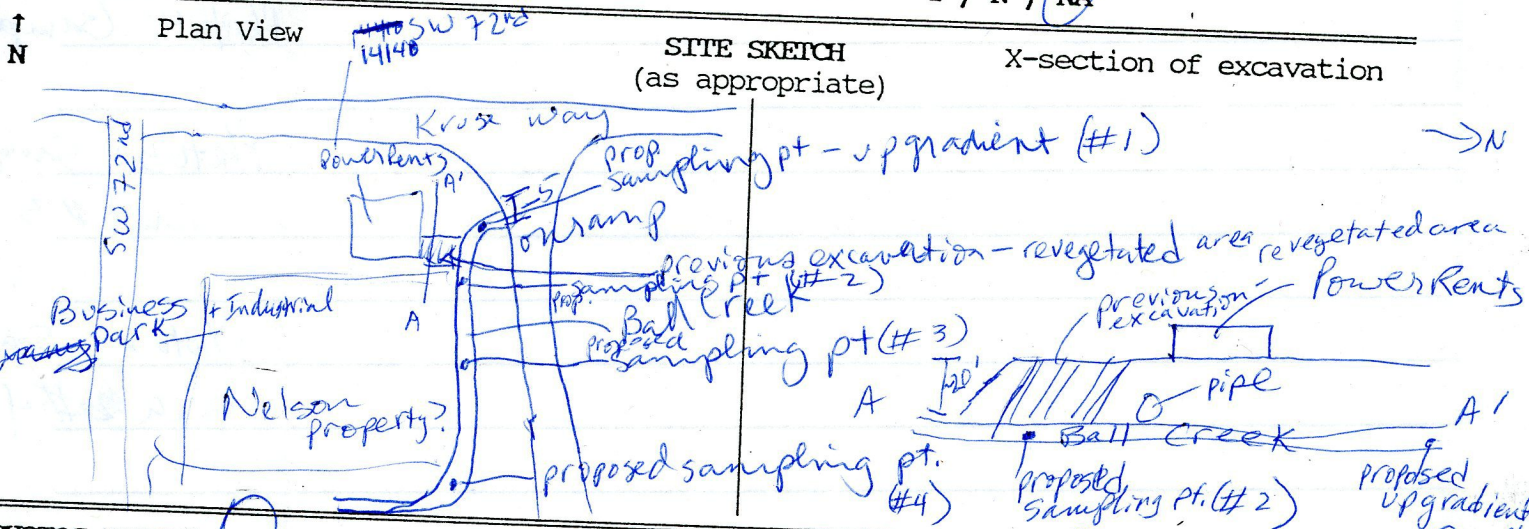
Freeway onramp, thick vegetation

Benzene Monitoring? Y / N
(if yes, attach form)

(use NOTES if more room needed)

(other) FAP Site? Y / N

INSPECTION RESULTS - IN COMPLIANCE? Y / N / NA



PHOTOS TAKEN? Y / N (attach)

SAMPLES TAKEN? Y / N (attach results)

NOTES (use back of form as necessary)

Met Ms. Vest at site to determine best sampling locations for Ball Creek sampling. Sample locations were chosen based on ease of access to creek with adequate spacing between each sampling pt. Ms. Vest expects to have samples taken by the end of the week, + results in ~1 month.

INSPECTION NOTES: (cont.)



Photo 1: up gradient sampling point. Release occurred just downstream from area where yellow vehicle is. (Sample #1)



Photo 2: View looking up stream from release. Grassy area with stakes is where soil was removed.

Photo 3: Another view of release location

Photo 4: (Sample #2)

Photo 5: Sampling area #3

Photo 6: Sampling area #4



Photo 1: up gradient sampling point. Release occurred just downstream from area where yellow vehicle is. (Sample #1)



Photo 2: View looking up stream from release. Grassy area with stakes is where soil was removed.

Photo 3: Another view of release location.
Photo 4: (Sample #2)

Photo 5: Sampling area #3

Photo 6: Sampling area #4



gradient sampling
lease occurred just
am from area where
icle is. (Sample #1)

Photo 2: View looking
up stream from release.
Grassy area with
stakes is where
soil was removed.

Photo 3: Another view
of release location.
Photo 4: (Sample #2)

Photo 5: Sampling
area #3

Photo 6: Sampling
area #4



gradient sampling
ease occurred just
down from area where
ice is. (Sample #1)

Photo 2: View looking
up stream from release.
Grassy area with
stakes is where
soil was removed.

Photo 3: Another view
of release location.
Photo 4: (Sample #2)

Photo 5: Sampling
area #3

Photo 6: Sampling
area #4



gradient sampling
ease occurred just
down from area where
ice is. (Sample #1)

Photo 2: View looking
up stream from release.
Grassy area with
stakes is where
soil was removed.

Photo 3: Another view
of release location.
Photo 4: (Sample #2)

Photo 5: Sampling
area #3

Photo 6: Sampling
area #4



gradient sampling
ease occurred just
am from area where
icle is. (Sample #1)

Photo 2: View looking
up stream from release.
Grassy area with
stakes is where
soil was removed.

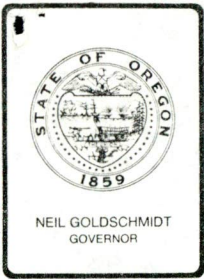
Photo 3: Another view
of release location

Photo 4: (Sample #2)

Photo 5: Sampling
area #3



Photo 6: Sampling
area #4



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

November 7, 1990

Mearl Royse
Georgia Pacific Corporation
14410 S.W. 72nd Avenue
Tigard, OR 97224

Re: UST - Washington County
Georgia Pacific Site
File No. 34-89-019

Dear Mr. Royse:

In our letter of May 25, 1990, we required monitoring of contamination levels in the sediments of Ball Creek. A monitoring plan was to have been submitted in June 1990. We have not received any response concerning this requirement. Additionally, we have coordinated on the disposal of a portion of the contaminated soils stockpiled on your site, but have heard nothing concerning the remainder of those soils.

It is important that these issues be addressed in a timely manner. The following actions are required, within the suspense dates given, to avoid enforcement actions against Georgia Pacific.

1. Georgia Pacific must select at least three to four monitoring points along Ball Creek between the release point upstream and the culvert that goes under 72nd Avenue. The creek sediments at these points must be sampled quarterly for at least one full year to monitor diesel contamination levels. An outline of the monitoring program for this site, including a map of monitoring points, must be submitted to the Department for review and approval **by November 20, 1990.**
2. A report summarizing the results of the first round of sampling must be submitted within 30 days of approval of the monitoring plan, with subsequent reports due at 90 day intervals.
3. **By November 20, 1990,** a report summarizing recent activities concerning contaminated soils and outlining the planned activities and schedule for completing the treatment and/or disposal of contaminated soils must be submitted to the department.

The Department is required to recover costs from the responsible party for oversight of complex cleanups. Although the majority of the cleanup work has been completed, the remaining monitoring and soil disposal activities will be subject to cost recovery. As of the date of this letter, Departmental time and resources spent on this site will be tracked and you

Mearl Royse
November 7, 1990
Page 2

will receive periodic invoices. You will also receive further information about how this will be done. For further information about the cost recovery process, please contact Mr. Rick Silverman at (503) 229-6384.

We look forward to resolution of concerns at this site. If you have questions concerning these matters, please contact me at 229-6142.

Sincerely,



Loren G. Garner
Environmental Engineer
Northwest Region

cc: ECD, UST Cleanup Section
Ron Robinson
Olympus Environmental
12019 N.E. Marx Street
Portland, OR 97220
Scott Mills
GeoEngineers
10170 S.W. Nimbus Avenue, Suite H1
Portland, OR 97223

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

DATE: November 7, 1990

TO: Rick Silverman, ECD Ust Cleanup

FROM: Loren Garner *LJG*

SUBJECT: Cost Recovery, Georgia Pacific, (34-89-019)

The Georgia Pacific site at 14410 S.W. 72nd Avenue in Tigard, OR 97223 has completed the majority of a complex cleanup of diesel fuel that impacted soils at the site and the waters and sediments of a nearby creek. The remaining work involves monitoring of creek sediments and treatment/disposal of stockpiled soils. They have been put on notice that cost recovery is in effect for the remainder of the work. They will be submitting a monitoring plan, but no formal CAP is anticipated. I trust your judgement on the need for public announcement for this site that was reported in February 1989.

Please update the accounting information to include this site and send agreement letters as appropriate. If more information is needed for public notice, please let me know.

The responsible party is:

Mearl Royse
Georgia Pacific Corporation
14410 S.W. 72nd Avenue
Tigard, OR 97223



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

October 11, 1990

Mr. Mearl Royse
Georgia-Pacific Corporation
Pulp & Paper Division
14410 SW 72nd Avenue
Tigard, OR 97224

RE: File No. 34-89-019
Georgia-Pacific
Washington County

The Northwest Region of the Department of Environmental Quality has been working with you regarding a cleanup of a release from an underground storage tank(s) at your site. The purpose of this letter is to inform you that the Department may be recovering its costs associated with the cleanup at your site.

The Department is required to recover costs from the responsible party for oversight of Corrective Action Plan (CAP) cleanups. This is due to the substantial amount of staff time involved with these more complex sites.

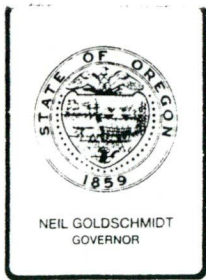
You will be notified on an individual basis if the Department determines that cost recovery will be implemented for your site. For general information about the cost recovery process, please contact Mr. Rick Silverman at (503) 229-6384.

Thank you for your cooperation and continued efforts to comply with the regulations.

Sincerely,

UST CLEANUP SECTION
Northwest Region

cc: UST Cleanup Section, ECD



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

June 15, 1990

Gary D. Clapshaw
Hillsboro Landfill
3205 SE Minter Bridge Rd.
Hillsboro, OR 97123

Re: SW - Washington County
Hillsboro Landfill
SW Permit No. 112

This letter will authorize disposal of diesel contaminated soils from the Georgia Pacific Site on S.W. 72nd Avenue in Tigard, Oregon. Only the stockpile recently sampled and characterized may be accepted. This pile is described as 195 feet by 36 feet by 2.5 feet. Volume estimates range from 600 to 1000 cubic yards. The taller rounded stockpile at the site may not be disposed at this time.

During loading of the material, any pockets with obvious heavier contamination than what was found during the characterization sampling must be segregated and either further characterized prior to transporting or retained for handling with the other stockpile.

Permission is hereby granted to receive this contaminated soil at your landfill. The soil should be incorporated with the final soil cap wherever possible.

If you have any questions, please contact me at 229-6142.

Sincerely,

Loren G. Garner
Environmental Engineer
Northwest Region

cc: Solid Waste Section, DEQ
Kent Mathiot
Sweet-Edwards/EMCON
P.O. Box 1648
Tualatin, OR 97062
Gordon Riseling
Georgia Pacific
14410 S.W. 72nd Avenue
Tigard, OR 97224

TELEPHONE USE REPORT

CALL FROM/TO: David Rankin
 COMPANY/TITLE: AGI
 PHONE NO.: 232-1800
 CITY: _____ COUNTY: _____

DATE: 5-13-93
 TIME: 11:28

re: Georgia Pacific
34-89-019

(Circle for filing)
 AQ Asbestos
 WQ OSS
 SW HW
 General Spill

SUMMARY OF CALL:

One of 4 samples taken from creek sediments was taken from the wrong place (only 150 ft downstream instead of 300-400 ft.). He proposed to do no further sampling at this time because additional sampling is already planned for next quarter. At that time he proposes to take the sample in the correct location.
 I approved this arrangement.

R. Segal
 Signature



Georgia-Pacific Corporation

900 S.W. Fifth Avenue
Portland, Oregon 97204
Telephone (503) 222-5561
Fax (503) 221-0835

April 1, 1993

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

APR 02 1993

NORTHWEST REGION

Rachel Carlin Segal
Environmental Specialist
Oregon Department of Environmental Quality
1500 S.W. First Avenue, Suite 750
Portland, OR 97201-5884

Re: File No. 34-89-019
Georgia-Pacific Tigard Trucking Facility
14410 S.W. 72nd Avenue
Tigard, OR 97224

Dear Ms. Segal:

I would like to summarize our site visit of Ball Creek adjacent to the former Georgia-Pacific Tigard Trucking facility, now owned by Power Rents. This summary includes our proposed sampling agenda as we discussed at the site.

We walked the length of Ball Creek from the storm pipe headwall to the point at which the creek turns perpendicular to the highway. We chose four sampling points, three of which were flagged. The fourth point is located on private property, Fiskars Corporation, at the bend in the creek. We will sample sediments for TPH-D within the next two weeks and report the results to you. Based on the results we can determine if continued monitoring is necessary.

Thank you for your reviewing the site with me and for your assistance with this project.

Sincerely,

Margarete M. Vest

Margarete M. Vest, P.E.
Environmental Engineer
Building Products
Western Region

MMV

UST Compliance Query

----- Facility -----

Facility ID 5976 SIC 4231 LUST facility Y
Facility Name GEORGIA-PACIFIC CORP.
Facility Address 14410 S.W. 72ND AVE.
City, ST Zip TIGARD OR 97223
Comments

----- Tanks -----

Tank ID	1	Contents:	
Tank Status	REMOVED	Empty	
Date Decomm.	15-FEB-89	Petroleum	DIESEL
Permit #	EKAH	Haz. Material	
Permit Status	TERMINATED	Unknown	
Installed	06-MAR-64	Construction	UNKNOWN
Gallons	12000	External Prot	UNKNOWN
Overfill			
Leak Detect	STOCK INVENTORY,		

UST Compliance Query

----- Facility -----

Facility ID 5976 SIC 4231 LUST facility Y
Facility Name GEORGIA-PACIFIC CORP.
Facility Address 14410 S.W. 72ND AVE.
City, ST Zip TIGARD OR 97223

Comments

----- Tanks -----

Tank ID	2	Contents:	
Tank Status	REMOVED	Empty	
Date Decomm.	03-FEB-91	Petroleum	DIESEL
Permit #	EKAJ	Haz. Material	
Permit Status	TERMINATED	Unknown	
Installed	06-MAR-75	Construction	STEEL
Gallons	15000	External Prot	EXTERNAL CATHODIC
Overfill			
Leak Detect	STOCK INVENTORY,		

^ v Char Mode: Replace Page 1

Count: 2

UST Compliance Query

----- Facility -----

Facility ID 5976 SIC 4231 LUST facility Y
Facility Name GEORGIA-PACIFIC CORP.
Facility Address 14410 S.W. 72ND AVE.
City, ST Zip TIGARD OR 97223

Comments

----- Tanks -----

Tank ID	3	Contents:	
Tank Status	REMOVED	Empty	
Date Decomm.	03-FEB-91	Petroleum	USED OIL
Permit #	EKBK	Haz. Material	
Permit Status	TERMINATED	Unknown	
Installed	06-MAR-64	Construction	STEEL
Gallons	2000	External Prot	EXTERNAL CATHODIC
Overfill			
Leak Detect	STOCK INVENTORY,		

^ v Char Mode: Replace Page 1

Count: 3

UST Compliance Query

----- Facility -----

Facility ID 5976 SIC 4231 LUST facility Y
Facility Name GEORGIA-PACIFIC CORP.
Facility Address 14410 S.W. 72ND AVE.
City, ST Zip TIGARD OR 97223
Comments

----- Tanks -----

Tank ID	4	Contents:	
Tank Status	REMOVED	Empty	
Date Decomm.	03-FEB-91	Petroleum	GASOLINE
Permit #	EKBA	Haz. Material	
Permit Status	TERMINATED	Unknown	
Installed	06-MAR-64	Construction	STEEL
Gallons	3000	External Prot	EXTERNAL CATHODIC
Overfill			
Leak Detect	STOCK INVENTORY,		

UST Compliance Query

----- Facility -----

Facility ID 5976 SIC 4231 LUST facility Y
Facility Name GEORGIA-PACIFIC CORP.
Facility Address 14410 S.W. 72ND AVE.
City, ST Zip TIGARD OR 97223
Comments

----- Tanks -----

Tank ID	5	Contents:	
Tank Status	REMOVED	Empty	
Date Decomm.	03-FEB-91	Petroleum	MOTOR OIL
Permit #	AHBEH	Haz. Material	
Permit Status	TERMINATED	Unknown	
Installed	10-MAY-62	Construction	STEEL
Gallons	3000	External Prot	EXTERNAL CATHODIC
Overfill			
Leak Detect	STOCK INVENTORY,		

	-----	Contacts	-----
Permitee:	Name		
	Organization	Georgia Pacific Corp.	
	Address1	24605 SW Kinsman Road	
	Address2		
	City, ST Zip	Wilsonville	OR 97070-8701
	Phonel	(503) 620-4203	

Owner:	Name		
	Organization	Georgia Pacific Corp.	
	Address1	24605 SW Kinsman Road	
	Address2		
	City, ST Zip	Wilsonville	OR 97070-8701
	Phonel	(503) 620-4203	

Property Owner:	Name		
	Organization	Georgia Pacific Corp.	
	Address1	24605 SW Kinsman Road	
	Address2		
	City, ST Zip	Wilsonville	OR 97070-8701
	Phonel	(503) 620-4203	



Georgia-Pacific Corporation

500 S.W. Fifth Avenue
Portland, Oregon 97204
Telephone (503) 222-5561
FAX (503) 221-0835

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED
MAR 17 1993
NORTHWEST REGION

March 17, 1993

HAND DELIVERED

Ms. Rachel Carlin Segal
Oregon Department of Environmental Quality
Northwest Region
1500 SW First Avenue
Suite 750
Portland, OR 97201-5884

Re: File No. 34-89-019
Georgia Pacific Tigard Trucking Facility
14410 SW 72nd Avenue
Tigard, OR 97224

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED
MAR 18 1993
NORTHWEST REGION

Dear Ms. Segal:

This letter is in response to your letter of February 18, 1993 to Mr. Steven Petrin regarding monitoring activity in Ball Creek near Georgia-Pacific's former Tigard trucking facility. Monitoring was required of the facility after the underground tank removal and cleanup project was complete. Visual monitoring has been done since the project began. We will complete the sediment analysis as required.

The facility environmental coordinator made frequent visual inspections, particularly during heavy storm events, and maintained oil booms and pads around potential leach areas in the embankment adjacent to our property. Visual inspection logs of the ditch were also maintained. There have not been any releases since the inspection began.

As we discussed during our telephone conversation of March 12, 1993, we want to move forward with monitoring the Ball Creek sediments for project closure. Due to the lapse of time since the project began there has probably been considerable biodegradation of any diesel contamination which may potentially have entered the Creek area. Therefore, we are proposing three or four TPH-diesel samples of the creek sediments to determine if any monitoring is necessary at all. The baseline test will be at representative points along the creek that can be chosen at our mutual site visit on March 26th. The May 25, 1990 letter from DEQ engineer Loren G. Garner suggested three or four points between "the release point and the culvert that goes under 72nd Avenue." Upon receiving the results of the baseline tests we would then

Ms. Rachel Carlin Segal
March 17, 1993
Page 2

review whether further action would be required for closure of the project and submit that report to you in a timely manner, dependent on our findings.

In response to the question of soil treatment activities, the attached invoice from Chempro Environmental Services documents the soil aeration activity as having occurred in August 1989. Analysis results showed 470 ppm of TPH as diesel in a soil sample taken on September 27, 1989. We believe this is a sample of the soil removed under the approved DEQ application to dispose of special waste, see attached application signed 3/1/91. According to Gordon Riseling, the facility's environmental coordinator, the second "taller rounded stockpile" was included in the second tank removal project onsite, DEQ file no.34-91-079. Also enclosed is a sample analysis provided by Sweet-Edwards dated 6/14/90 of a stockpile that had been spread and aerated. We believe this may be analysis of the second taller pile.

We want to continue a cooperative effort with the Department to maintain compliance and look forward to completing a clean closure on the project.

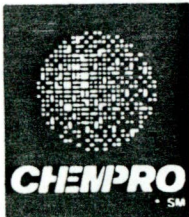
Sincerely,

Margarete M. Vest

Margarete M. Vest, P.E.
Environmental Engineer
Building Products
Western Region

Enclosures
MMV

cc: William Craig
Richard Moser
Gordon Riseling
Mearl Royse



A Burlington
Environmental Inc
Company

CHEMPRO ENVIRONMENTAL SERVICES

Formerly Crowley Environmental Services, Inc.

INVOICE NUMBER

11494

IN ACCOUNT WITH:

Georgia Pacific Corporation
14410 SW 72nd Avenue
Tigard, OR 97224

PLEASE REMIT TO:

2203 AIRPORT WAY SOUTH
SUITE 400
SEATTLE, WASHINGTON 98134
(206) 223-0500

ATTN: Mr. Mearl Royse 503-620-4203

CUSTOMER NO.	DIVISION	LOCATION	INVOICE DATE	INVOICE NO.	B/L OR P.O. NUMBER	TERMS
350600	Columbia	0000	10/02/89	11494	Contract Basis	NET 30
JOB DATE	JOB NUMBER	PLEASE SHOW CUSTOMER NUMBER AND INVOICE NUMBER ON REMITTANCE ADVICE				
	989009A					
QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXT. AMT.		
0.00	EA	Labor	0.000	642.00		
0.00	EA	Equipment and Materials	0.000	369.37		
0.00	EA	Lab fee	0.000	52.00		
		Job Dates: 08/23/89 and 09/27/89				
		This is to invoice for the spreading of diesel				
		contaminated soil for airing and soil sampling.				
		This is a progress billing. Thank you.				
		PHONE NO. 206-682-4898				
COMMENTS.			TOTAL	1,063.37		

Jerry = Acct. Available

Will Return call - 10-9-1989 - 10:22 AM

10-10-89 10:55 AM called no one could help
Receptionist said she would have
PAT PARKER Return my call.

10-11-89 8 AM Pat Parker returned my call said she would
TURN THIS OVER TO FIELD Services & HAVE Someone
FROM THERE RETURN MY CALL.

OCT-11-'89 WED 16:03

P.03

Page 2 of 2

Pacific
Environmental
Laboratory, Inc.

PEL REPORT NUMBER: 89-1144
CLIENT: Chempro
DATE: October 4, 1989
ITEMS: One Soil Sample

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample ID</u>	<u>TPH</u>
Soil Sample	470
Lab Blank	ND
Detection Limit	5

CK # 1098 2/25/91

HILLSBORO LANDFILL, INC.
3205 S.E. Minter Bridge Road
Hillsboro, OR 97123
Phone: 503-640-9427 FAX 648-2490

Application to Dispose of Special Wastes

APPROVED

INSTRUCTIONS: Please read important sheet attached. Type, or print heavily in ink.
The person responsible for accuracy of information must sign. Return copy of completed
application and any supporting information to Hillsboro Landfill, Inc. along with a check for the \$25 application fee.

Office use only

Permit no. 304

Expires 6/1/91

Applicant's Name Georgia Pacific Corp.

Address 14024 S.W. 72nd City Tigard Zip Code 97223

Contact Person Gordon Riseling Phone (503) 620-4203

Description of Special Waste (waste composition and physical, chemical, manufacturing process from which waste originated)

Soil with diesel fuel from leaking fuel tank.

One time disposal? ☒ yes ☐ no Disposal frequency (if more than one time) _____

Quantity: (gallons, drums, lbs., cubic yards) 1200 cy Quantity per year _____

Hazardous ☐ yes ☒ no How did you determine whether hazardous or not? Material Safety Data Sheet

test results ☒ other _____ (enclose documents)

Handling and spill clean up directions None

Transporter Kerry Gerttula Trucking

Previous permit for this waste, if any. Number _____

NO SEALED EMPTY CONTAINERS WILL BE ACCEPTED. If empty pesticide containers only: (a) Describe material originally in
containers _____

(b) Describe method of cleansing, rinsing and preparation of containers _____

Certificate of Accuracy of Description: This is to certify that the above described materials are properly classified, identified, packaged,
marked, labeled, cleansed, rinsed and prepared as indicated above.

X - Signature _____ Date _____

(also type or print name) _____

DEQ Review: The above described special waste is approved _____ disapproved _____ for disposal at the Hillsboro Landfill.

Signature _____ Date _____

Special Instructions _____

Hillsboro Landfill Action: Disposal of the above described special waste is approved ☒ disapproved _____ for disposal at the
Hillsboro Landfill at the disposal rate of \$ 18.50 per cu yd/ton _____ per trip minimum charge.

Signature Charles W. Gray Date 3-1-91

GENERAL INSTRUCTIONS: Appointment may be required 24 HOURS prior to each disposal. Cash on disposal (NO CHECKS) or
have prior account established. To Establish an account or call for an appointment, telephone 640-9427.

SPECIAL INSTRUCTIONS:



Sweet-Edwards/EMCON, Inc.

P.O. Box 1648
Tualatin, Oregon 97062
(503) 624-7200
FAX (503) 620-7658

June 14, 1990
Project W3901.01

Mr. Gordon Riseling
Georgia Pacific
14410 SW 72nd
Tigard, OR 97224

Re: Soil Sampling at Georgia Pacific Property in Tigard, Oregon

Dear Mr. Riseling:

We are pleased to submit this letter report describing the May 24, 1990 sampling of the soil stockpiled at the Georgia Pacific property in Tigard, Oregon (see Figure 1).

Background

The stockpiled soil was sampled by Sweet-Edwards/EMCON, Inc. (SE/E) at Georgia Pacific's request. The stockpile, located on the east side of the property, is approximately 195 feet long by 36 feet wide, and 2.5 feet thick. The soil reportedly was spread out to aerate after it was excavated from around a diesel tank removed elsewhere on site.

Scope of Work

Sixteen sample collection points were identified on a three-dimensional grid using a random number generator (see Figure 2). Two soil samples were collected at each of the sixteen sampling points, and selected samples were composited and sent to Columbia Analytical Services (CAS) in Kelso, Washington for laboratory analysis. Samples submitted to CAS were analyzed for TRPH. The lab results are presented in this report.

Sampling Procedures

A post hole digger was used to dig to the required depth for sampling at each point. The two samples collected at each point were placed in clean sample jars by hand. New gloves were worn to collect each sample. The jars were labeled and placed in iced storage containers.

GEOPAC-L.614/CE:(wp)

Mr. Gordon Riseling
June 14, 1990
Page 2

Project W3901.01

Sample Selection For Laboratory Analysis

On return to SE/E's Portland office one sample from each sampling point was removed from the iced storage container and allowed to reach ambient room temperature. The concentration of the volatile organics in the headspace of each of these jars was measured with an Organic Vapor Analyzer (OVA). OVA readings are summarized in Table 1. Eight samples, representing a range of concentrations, were selected for compositing.

The eight selected samples were paired based on similar TRPH concentration (see Table 1). Each pair of samples was mixed in a clean stainless steel bowl. A single composite sample was taken from each pair of combined discrete samples. The composite samples were placed in clean jars, labeled, and placed in an iced cooler for shipment under chain of custody to CAS. Four composite samples were sent to the laboratory.

Lab Results

The four composite samples were tested at CAS for TRPH by U.S. Environmental Protection Agency (EPA) Method 418.1.

The highest concentration of TRPH detected in the four composite samples collected on May 24, 1990 was 3,680 ppm. Table 2 lists the results for all four of the composite samples.

We appreciate the opportunity to assist you with this project. Please call if you have any questions or if we can be of further assistance.

Respectfully submitted,

Sweet-Edwards/EMCON, Inc.



for Karin L. Burton
Environmental Sampler

Enc: Tables 1, 2, and 3

Table 1

Georgia Pacific Head Space Screening Data

Sample	OVA Reading (ppm above background)
GP-590-1	41
GP-590-2	86
GP-590-3	43
GP-590-4	50
GP-590-5	4
GP-590-6	20
GP-590-7	170
GP-590-8	280
GP-590-9	0
GP-590-10	23
GP-590-11	70
GP-590-12	300
GP-590-13	140
GP-590-14	380
GP-590-15	92
GP-590-16	200

Table 2

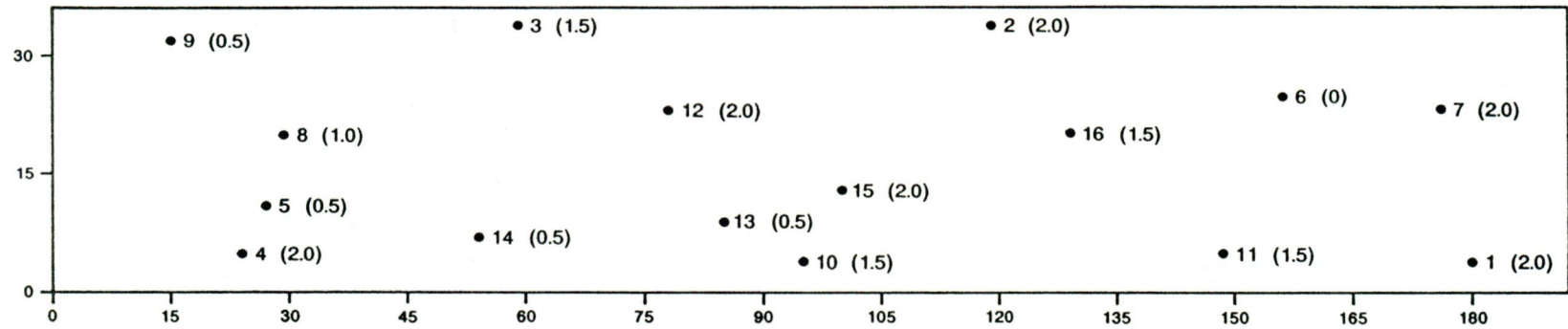
Georgia Pacific Sample Compositing Scheme

Discrete Sample Number	OVA Reading	Composite Sample Number
GP-590-1	41	GPC-0104
GP-590-4	5.0	
GP-590-6	20	GPC-0609
GP-590-9	0	
GP-590-13	140	GPC-1316
GP-590-16	200	
GP-590-12	300	GPC-1412
GP-590-14	380	

Table 3

Georgia Pacific Analytical Results

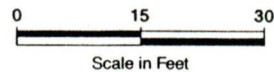
Composite Sample	Concentration (ppm)
GPC-0104	1410
GPC-0609	2260
GPC-1316	2320
GPC-1412	3680



LEGEND

• 1 Sample number

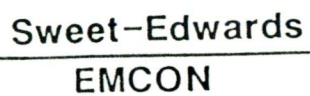
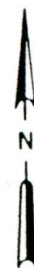
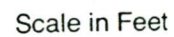
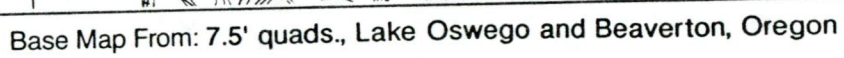
(0.5) Depth to sample from surface of pile



Sweet-Edwards
EMCON

DATE 6/90
DWN. CWS
APPR. _____
REVIS. _____
PROJECT NO.
W3901.01

GEORGIA PACIFIC
Tigard, Oregon
Random Number Generated Sampling Plot
FIGURE 2



DATE 6/90
DWN. VR
APPR. _____
REVIS. _____
PROJECT NO.
W3901.01

GEORGIA PACIFIC
Tigard, Oregon
Site Map

FIGURE 1

TELEPHONE USE REPORT

CALL FROM/TO: Marguerite Vest
 COMPANY/TITLE: Georgia Pacific
 PHONE NO.: 248-7342
 CITY: _____ COUNTY: _____

DATE: 3-12-93
 TIME: 4:23
 (Circle for filing)
 AQ Asbestos
 WQ OSS
 SW HW
 General Spill

SUMMARY OF CALL:

Discussed my letter of 2-18-93. She explained that ~~people at~~ ^{people at} Georgia-Pacific thought that the NFA for File # 34-91-079 ^{also} applied to File # 34-89-019 because all the tanks were next to each other. I asked her to check the addresses. I also explained that the NFA would have only applied to the tanks associated with that particular release. Re: the release into Ball Creek => no analyses were taken from the sediments. Told her to take samples so we have a new baseline for determining the next step. Asked her for a site map showing adjacent properties + the creek etc. She wanted to know what type of analyses required => TPH-D. Told her to write a letter to propose what they plan to do in light of what she's found out. Made arrangements to meet at sight on 3-26-93 for sampling.

RB3972 (2/86)

Signature
R. Legal

February 18, 1993

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

NORTHWEST REGION

MR STEVEN A PETRIN
GEORGIA PACIFIC CORPORATION
900 SW 5TH AVENUE
PORTLAND OR 97204

Re: File No. 34-89-019
Georgia Pacific Site
14410 SW 72nd Avenue
Tigard, OR 97224

Dear Mr. Petrin:

I have recently been assigned to follow-up on the cleanup activities at the Georgia Pacific site located at 14410 SW 72nd Avenue in Tigard, Oregon.

A review of your file indicates that a conditional "no further action" letter was issued on May 25, 1990. Additional activities required at that time included proper treatment or disposal for the stockpiled contaminated soils and quarterly monitoring of the contaminated sediments in Ball Creek for at least one year.

On June 15, 1990, the Department authorized disposal of approximately 600-1000 cubic yards of stockpiled contaminated soil, excluding the soils in the taller, rounded stockpile.

On November 7, 1990, the Department requested an outline of the monitoring program for the site, a report summarizing the results of the first round of sampling, and a report summarizing recent activities and a schedule for completing the treatment and/or disposal of the contaminated soils.

In your response dated November 16, 1990, you briefly described your monitoring program, stated that samples would be taken at 90 day intervals, and briefly described the treatment of the remaining soil stockpile by spread aeration. Analytical results were expected for the soil aeration by early December 1990.

To date, the Department has never received a report describing either the monitoring activities in Ball Creek or the soil treatment activities. By **March 18, 1993**, please submit the following information:

1. A written report describing all monitoring activities in Ball Creek since November 1990, including analytical results with Chain-of-Custody forms.
2. A written report describing the soil treatment



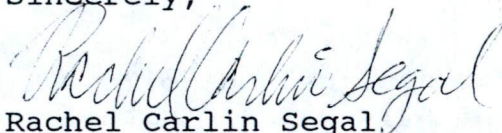
1500 SW First Avenue
Suite 750
Portland, OR 97201-5884
(503) 229-5263
DEQ-1

Mr. Steven A. Petrin
February 18, 1993
Page 2

activities since August 1990 which includes a site diagram with sample locations for the aerated soil. This report should also include analytical results with Chain-of-Custody forms. Additionally, a description of the disposition of the treated soil should be included.

This information will help us to complete our review of your cleanup activities. The Department appreciates your cooperation in complying with the underground storage tank regulations. If you have any questions, please call me at (503) 229-6385 x225.

Sincerely,

A handwritten signature in cursive script, reading "Rachel Carlin Segal".

Rachel Carlin Segal
UST Cleanup Specialist

cc: UST Cleanup Section, ECD

February 10, 1993

MR MEARL ROYSE
GEORGIA PACIFIC CORPORATION
14410 SW 72ND AVENUE
TIGARD OR 97224

Re: File No. 34-89-019
Georgia Pacific Site

Dear Mr. Royse:

I have recently been assigned to follow-up on the cleanup activities at the Georgia Pacific site located at 14410 SW 72nd Avenue in Tigard, Oregon.

A review of your file indicates that a conditional "no further action" letter was issued on May 25, 1990. Additional activities required at that time included proper treatment or disposal for the stockpiled contaminated soils and quarterly monitoring of the contaminated sediments in Ball Creek for at least one year.

On June 15, 1990, the Department authorized disposal of approximately 600-1000 cubic yards of stockpiled contaminated soil, excluding the soils in the taller, rounded stockpile.

On November 7, 1990, the Department requested an outline of the monitoring program for the site, a report summarizing the results of the first round of sampling, and a report summarizing recent activities and a schedule for completing the treatment and/or disposal of the contaminated soils.

In your response dated November 16, 1990, you briefly described your monitoring program, stated that samples would be taken at 90 day intervals, and briefly described the treatment of the remaining soil stockpile by spread aeration. Analytical results were expected for the soil aeration by early December 1990.

To date, the Department has never received a report describing either the monitoring activities in Ball Creek or the soil treatment activities. By **March 10, 1993**, please submit the following information:

1. A written report describing all monitoring activities in Ball Creek since November 1990, including analytical results with Chain-of-Custody forms.
2. A written report describing the soil treatment activities since August 1990 which includes a site diagram with sample locations for the



MR MEARL ROYSE
February 10, 1993
Page 2

aerated soil. This report should also include analytical results with Chain-of-Custody forms. Additionally, a description of the disposition of the treated soil should be included.

This information will help us to complete our review of your cleanup activities. The Department appreciates your cooperation in complying with the underground storage tank regulations. If you have any questions, please call me at (503) 229-6385 x225.

Sincerely,



Rachel Carlin Segal
UST Cleanup Specialist

cc: UST Cleanup Section, ECD

February 10, 1993

MR MEARL ROYSE
GEORGIA PACIFIC CORPORATION
14410 SW 72ND AVENUE
TIGARD OR 97224

Re: File No. 34-89-019
Georgia Pacific Site

Dear Mr. Royse:

I have recently been assigned to follow-up on the cleanup activities at the Georgia Pacific site located at 14410 SW 72nd Avenue in Tigard, Oregon.

A review of your file indicates that a conditional "no further action" letter was issued on May 25, 1990. Additional activities required at that time included proper treatment or disposal for the stockpiled contaminated soils and quarterly monitoring of the contaminated sediments in Ball Creek for at least one year.

On June 15, 1990, the Department authorized disposal of approximately 600-1000 cubic yards of stockpiled contaminated soil, excluding the soils in the taller, rounded stockpile.

On November 7, 1990, the Department requested an outline of the monitoring program for the site, a report summarizing the results of the first round of sampling, and a report summarizing recent activities and a schedule for completing the treatment and/or disposal of the contaminated soils.

In your response dated November 16, 1990, you briefly described your monitoring program, stated that samples would be taken at 90 day intervals, and briefly described the treatment of the remaining soil stockpile by spread aeration. Analytical results were expected for the soil aeration by early December 1990.

To date, the Department has never received a report describing either the monitoring activities in Ball Creek or the soil treatment activities. By **March 10, 1993**, please submit the following information:

1. A written report describing all monitoring activities in Ball Creek since November 1990, including analytical results with Chain-of-Custody forms.
2. A written report describing the soil treatment activities since August 1990 which includes a site diagram with sample locations for the



1500 SW First Avenue
Suite 750
Portland, OR 97201-5884
(503) 229-5263
DEQ-1

MR MEARL ROYSE
February 10, 1993
Page 2

aerated soil. This report should also include analytical results with Chain-of-Custody forms. Additionally, a description of the disposition of the treated soil should be included.

This information will help us to complete our review of your cleanup activities. The Department appreciates your cooperation in complying with the underground storage tank regulations. If you have any questions, please call me at (503) 229-6385 x225.

Sincerely,

A handwritten signature in cursive script, reading "Rachel Carlin Segal".

Rachel Carlin Segal
UST Cleanup Specialist

cc: UST Cleanup Section, ECD



TELEPHONE USE REPORT

CALL FROM/TO: Dean Scheel
COMPANY/TITLE: Georgia Pacific
PHONE NO.: 682-3153
CITY: Tigard COUNTY: Wash

DATE: 9/11/91

TIME: 4:40

(Circle for filing)

AQ Asbestos

WQ OSS

SW HW

General Spill

Georgia Pacific 34-89-19

SUMMARY OF CALL:

Johnson Controls is observing,
sheen in the storm seepage from the
side of the retaining wall. GP has done
some sampling through the wall - found
8800 ppm diesel in one sample.

They will try to evaluate extent/source
of it and get back with us.

They have moved to another
location and ^{will sell} ~~are~~ have sold the site.

We briefly discussed the past work.
Soils have been disposed of and they will
be completing the sediment sampling.

Loren Garrow

Signature



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

May 25, 1990

Mearl Royse
Georgia Pacific Corporation
14410 S.W. 72nd Avenue
Tigard, OR 97224

Re: UST - Washington County
Georgia Pacific Site

Dear Mr. Royse:

We have completed our review of the Olympus Environmental report of January 23, 1990 concerning the cleanup of diesel contaminated soils at the Georgia Pacific site at 14410 S.W. 72nd Avenue in Tigard. Based on the cleanup actions and the evaluation of the site by your consultant, Olympus Environmental, we concur with the cleanup steps taken and accept the proposal to leave the remaining contamination along Ball Creek in place as long as it remains undisturbed. We require no further actions at this time other than proper treatment or disposal of the stockpiled contaminated soils and some monitoring of contamination levels in the creek sediments.

This decision resulted from our evaluation and judgement based on the regulations and facts as we now understand them, including:

1. The tank and accessible contaminated soils have been removed and properly disposed of.
2. While there is still contamination above normal cleanup standards remaining along the creek, the contamination appears to have been removed to the extent reasonably achievable without working directly in the stream bed. We concur that allowing natural degradation of the hydrocarbons within the stream bed appears to pose less environmental hazard than would likely result from complete excavation of the bank and sediments.
3. The final sample results from the excavation area show less than the numeric cleanup standard of 500 parts per million (ppm) Total Petroleum Hydrocarbons (TPH). Although we are in a groundwater and surface water area, those standards and the final cleanup are judged to be appropriate.
4. With the elimination of the contaminant source, there is limited expected impact to the surface waters. The main concern would be that natural degradation does in fact occur over time. The monitoring discussed below should clarify this concern.
5. There is little concern that groundwater could be influenced by the contamination due to the direct discharge to the creek and because diesel fuel contains few soluble constituents.
6. Natural degradation appears capable of reducing the remaining contamination to near background levels without adverse impacts. We concur that no significant threat remains at this site that would require further active remediation at this time.

Mearl Royse
May 25, 1990
Page 2

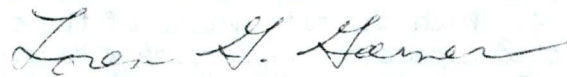
As discussed above, there have been some impacts to the creek from the release of the diesel at Georgia Pacific. It was the sheen on the creek that led to the discovery of the piping leak, and booms were in place on the creek for months while the source was being identified and eliminated. Normally, a portion of oil lost into surface waters adheres to soil particles and settles into the stream sediments. In Ball Creek this was confirmed by an unrelated investigation of the creek at the Ted Nelson property just down stream. The enclosed report shows diesel contamination in creek sediments as high as 930 ppm TPH. We have concluded that this contamination is attributable to the Georgia Pacific release and any future concerns it would pose would be Georgia Pacific's responsibility.

While we feel natural degradation can resolve the impacts to the stream, some monitoring is required to show degradation is occurring. Georgia Pacific should select at least three to four monitoring points along Ball Creek between the release point upstream and the culvert that goes under 72nd Avenue. The creek sediments at these points should be sampled at least quarterly for one full year to monitor diesel contamination levels. Please submit an outline of the monitoring program for this site, including a map of monitoring points, within 30 days. I would be pleased to discuss this requirement with you or your consultants.

As we recently discussed by phone, the stockpiled contaminated soils must be further characterized if they are being proposed for disposal at the Hillsboro landfill. We encourage you to proceed promptly with treatment or disposal of the soils and request a summary of your anticipated actions for these soils to be submitted within 30 days. Once the soils have been properly handled, a closure letter will be written for the site cleanup. The closure for monitoring of the creek sediments will depend on the results of the monitoring.

We thank you for your coordination and cleanup efforts throughout the remediation. If you have questions concerning these matters, please contact me at 229-6142.

Sincerely,



Loren G. Garner
Environmental Engineer
Northwest Region

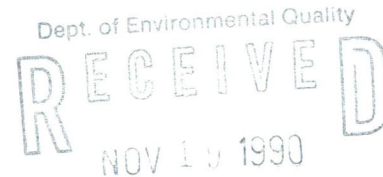
cc: ECD, UST Cleanup Section
Ron Robinson, Olympus Environmental
12019 N.E. Marx Street, Portland, OR 97220
Scott Mills, GeoEngineers
10170 S.W. Nimbus Avenue, Suite H1, Portland, OR 97223



Georgia-Pacific Corporation 14410 S.W. 72nd Avenue
Tigard, Oregon 97224
Telephone (503) 620-4203

November 16, 1990

Loren G. Garner
D.E.Q./N.W.R.
811 S.W. 6th
Portland Or. 97204



NORTHWEST REGION

Dear Mr. Garner:

First let me apologize for not responding to your letter of May 25, 1990. Somewhere between me, our maintenance superintendent and our supervisor who was handling our clean up we lost communications. Therefore each of us thought the other was responding in writing to your requests. Because of the extreme frustration and expense of the total project, let me assure you that we didn't intentionally drop the ball. In fact, I feel we followed the directions in your letter, but just didn't respond in writing. The following will address the issues in that letter.

1. In January, 1990 we established 3 points where we would monitor and maintain booms on Ball creek. We also installed 2 slotted observation wells. One well was placed on the lower and the other on the upper edge of the plume area of our spill. We have very religiously monitored these positions three times a week since that time. We have documented these inspections in a log. Since January 5th, we changed #1 boom 5 times, #2 boom 4 times and #3 boom 5 times. The last time all three were changed was on April 25th. Since then # 1 was changed on June 15th. Since that date we have had no evidence of any petroleum at all. We have selected these three booms and the two wells as the monitoring points you suggested in your letter of May 25th. A map identifying these specific locations is attached to this report. We also will continue monitoring and logging the results of those inspections.
2. Upon receipt of your approval of this monitoring plan, we will sample the sediments at each point and report the results of these samplings to your department. Then continue these samples at 90 day intervals until your department agrees to closure. We would appreciate some advise on the type of tests you desire.
3. Approximately 1,000 cubic yards of the contaminated soils

were spread and treated successfully. Sweet-Edwards tested these soils on May 24, 1990. The tests were reviewed by your department and on June 15, 1990 we received authorization for disposal at the Hillsboro Landfill. This was accomplished before the end of June by Northwest Envirotech, Inc. They also spread out the remaining soil from the stockpile that had not yet been treated. We treated this soil and between August 13 and 16, we turned and airiated it. We have monitored the condition of these soils and feel that it will be ready to be tested the first week of December. At that time we will have Sweet-Edmonds do another test and submit the results of these tests for your review. Hopefully they will be approved for disposal either at the Hillsboro Landfill or better yet as fill in the holes we create when we remove the remaining UST's on our property. This we hope to have completed before the end of the year.

We hope that we have answered all of your concerns. If not, please call me at 620-4203. We will be anxious for your reply and hopefully approval of these planned activities. We too are looking forward to resolution of these problems. Thanks for your help and patience.

Sincerely,



Mearl Royse
Manager



**NORTHWEST
ENVIROTECH, INC.**
ENVIRONMENTAL EXCAVATION

WE'RE CLEANING UP THE FUTURE

2002

JULY 6, 1990

GEORGIA-PACIFIC
14410 S.W. 72ND AVENUE
TIGARD, OREGON 97224

ATTENTION: GORDON RISELING

REFERENCE: CONTAMINATED SOIL REMOVAL

DISPOSAL OF SOIL AT HILLSBORO LANDFILL

27 LOADS @ 19 TCY = 513 TCY
28 LOADS @ 20 TCY = 560 TCY

TOTAL TRUCK CUBIC YARDS 1,073 @

EXTRA WORK

SPREADING OUT CONTAMINATED SOIL
FROM STOCK PILE
LOADER & OPERATOR 4.5 HR @

Dept. of Environmental Quality

RECEIVED

NOV 19 1990

NORTHWEST REGION

HILLSBORO LANDFILL TICKETS AVAILABLE UPON REQUEST.

TIGARD
(503) 620-1235
10380 S.W. Cascade Ave.
Tigard, OR 97223-4399

(800) 334-1235



PORTLAND
(503) 255-1235

HILLSBORO
(503) 640-1235

CONDITIONS UNDER WHICH TOOLS AND OTHER EQUIPMENT ARE RENTED

WARNING: Failure to promptly return rented property may result in criminal prosecution for a gross misdemeanor.

RENTAL RATES are based on one eight hour shift per 24 hour day. Additional hour usage will be billed at the base rate plus the additional hours used. Each additional shift will be charged at 50% of the base rental rate, except tractors. No option to purchase is contained herein.

TRANSPORTATION CHARGES and full responsibility for equipment from time same leaves Lessor's premises until returned, is assumed by Lessee.

DISCLAIMER OF WARRANTY: THERE ARE NO EXPRESSED WARRANTIES OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Description is for identification only. Lessor's liability is limited to repair of any defects in equipment which Lessor determines was defective under normal use. In no event shall Lessor's liability exceed the rental paid. Lessor will not be liable for direct, indirect, special, consequential or commercial damages, nor for injuries to persons or property. The foregoing shall be Lessee's sole and exclusive remedy.

The Lessee shall, at its own expense, keep each item of equipment insured, at its full replacement value, against all risk of loss or damage and shall, in addition, insure all equipment adequately to protect Lessor against any liability resulting from bodily injury, property damage or personal injury caused by an occurrence. Lessee, without exception, will name Lessor as an additional insured on all policies of Lessee while renting Lessor's equipment. In the event of any lapse or defect in insurance, Lessee agrees to assume all liability for above losses, damages and injuries.

All tools and other equipment are used at Lessee's risk. Conditions which prevent satisfactory operation of equipment do not relieve Lessee of his responsibility for rental charges.

Lessee assumes all responsibility for equipment while out of possession of Lessor, and promises to return such equipment to the Lessor in as good condition as it was at the effective date of the lease. Lessee shall be liable for any loss, theft, damage or destruction of the above leased property and to indemnify and save harmless Lessor from any liability resulting from the use of said articles.

All equipment lost or damaged beyond repair will be paid for by the Lessee at the regular replacement price and all damaged equipment which may be repaired will be repaired by the Lessor on return thereof and the cost of such repairs shall be paid by the Lessee. Accrued rental charges can not be applied against the purchase price or cost of repairs of such damaged or lost equipment. All cartage charges must be borne by Lessee.

Scheduled rental rates begin when equipment leaves our store and continue until returned thereto.

A cleaning charge will be made on items returned not clean.

I agree that all charges for rental, damage, cleaning or material will be paid, and that all attorney fees, court costs, collection fees or any expense involved in the collection of these charges, whether or not litigation is initiated, will be borne by me in the court of the county in which indebtedness is incurred.

RENTAL CONTRACT CLOSING INVOICE PAGE 1

GEORGIA PACIFIC CORP - TIGARD

14410 SW 72ND

TIGARD, OR 97224

TIGARD TRUCKING

AUG 21 REC'D

CONTRACT NUMBER : 98416

CONTRACT DATE : 08/13/90

TIME OUT : 09:00:00

RETURN DATE : 08/16/90

TIME IN : 11:16:19

SALES REP : STEVEN P

643-8611

P.O. NUMBER : P42167

ACCOUNT # : 643-8611

JOB SITE :

ITEM NAME	UNIT#	QTY	HOUR	METER	CHARGE			
MINIMUM	2 HRS	4 HRS	DAILY	WEEKLY	MONTHLY	PERMILE	METER	WEAR
LOADER SKID 1840	100-1-289	1	393.1					\$361.24
\$110.00	0.00	0.00	110.00	450.00	1100.00	0.00	13.75	0.00

turn + airtite soil

TOTAL RENT FEE \$361.24
DELIVERY CHARGES \$35.00

TOTAL AMOUNT \$396.24
LESS DEPOSIT \$0.00

AMOUNT DUE \$396.24
***** CHARGE *****

MESSAGE :
DEL TO SW 72ND. YD.

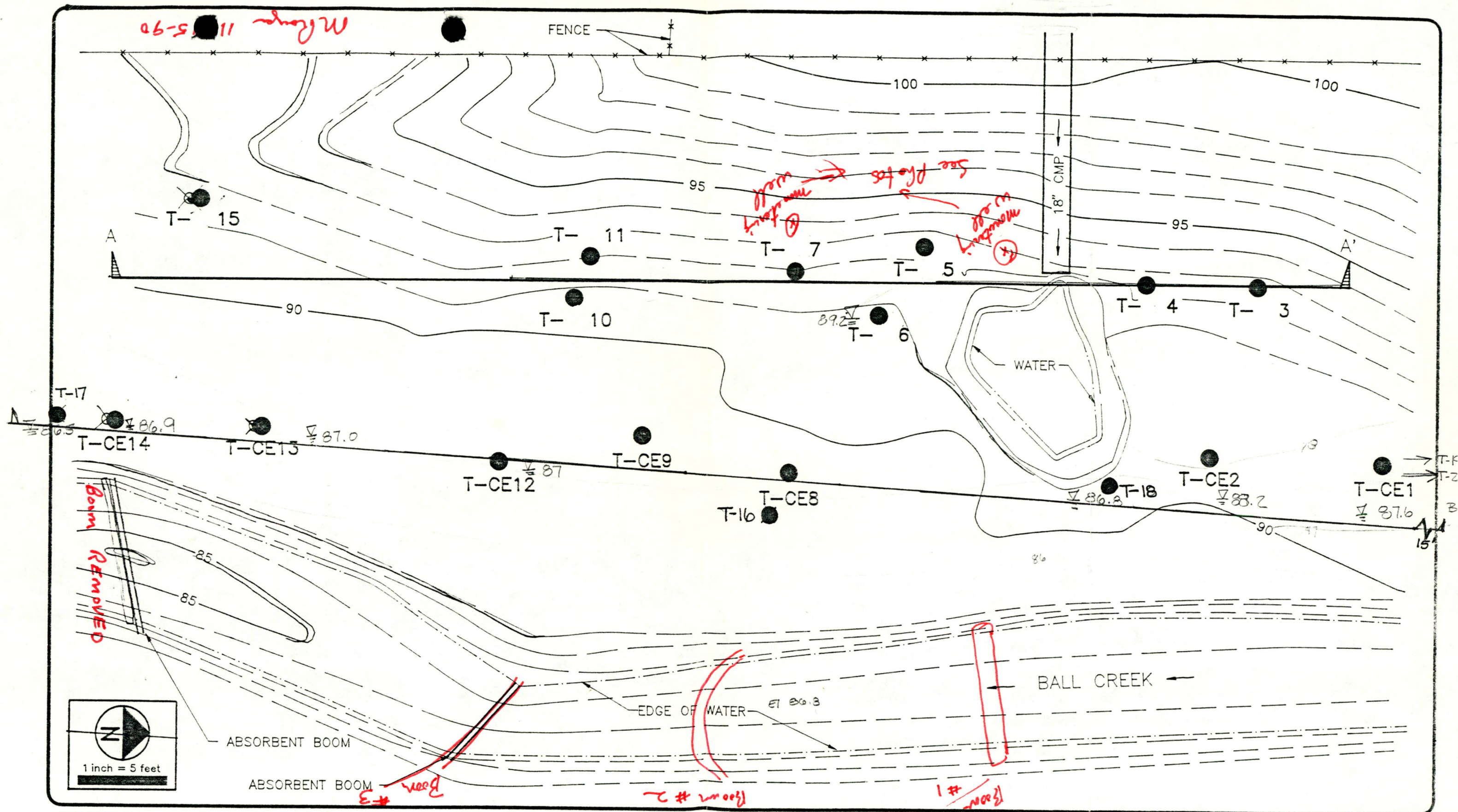
TERMS: NET 10th
A PAST DUE SERVICE CHARGE OF 1½% PER MONTH
WILL BE CHARGED ON ALL PAST DUE BALANCES.

I HAVE READ THIS ENTIRE CONTRACT AND AGREE TO ALL CONDITIONS HEREIN.

Lessee
Signature X

Print
Name X

CUSTOMER INVOICE PAY FROM THIS COPY



DRAWN: B. SAGATO
 DESIGNED: N. EAST
 CHECKED: N. EAST

PROJECT NO.: 257 GI 11
 REMSED: _____
 REMSED: _____



DAVID J. NEWTON ASSOCIATES
 INCORPORATED

GEORGIA PACIFIC
 BALL CREEK

DATE MAY, 1989
 FIGURE 1

Dept. of Environmental Quality

RECEIVED

NOV 19 1990

NORTHWEST REGION

11-14-90

Boom 1

BALL CREEK

NORTH



Boom 2



Boom 3



SOUTH



①

MONITORING WELLS

→ SOUTH

DNT PILE AREA



①

↑

↓



This Pile Has been
Turned after being
Spread.



DNT PILE FOR AMBINATION



Sweet-Edwards/EMCON, Inc.

P.O. Box 1648
Tualatin, Oregon 97062
(503) 624-7200
FAX (503) 620-7658

June 15, 1990
Project W3901.01

Mr. Loren Garner
Environmental Engineer
Department of Environmental Quality
811 S.E. Sixth
Portland, Oregon 97204

Re: Georgia Pacific - Tigard

Dear Loren:

I have enclosed a copy of our letter report on the Georgia Pacific Site in Tigard. As discussed in the report, all TRPH concentrations were less than 4,000 parts per million. In addition, no fee product was observed by Sweet-Edwards/EMCON, Inc.'s (SE/E) representative during sample collection.

Please let me know as soon as possible whether or not DEQ will authorize disposal of these soils at the Hillsboro Landfill.

Sincerely,

Sweet-Edwards/EMCON, Inc.

Kent Mathiot
Director of Geology

dp

GEOPAC-L.615/DP:0(wp)



Sweet-Edwards/EMCON, Inc.

P.O. Box 1648
Tualatin, Oregon 97062
(503) 624-7200
FAX (503) 620-7658

June 14, 1990
Project W3901.01

Mr. Gordon Riseling
Georgia Pacific
14410 SW 72nd
Tigard, OR 97224

Re: Soil Sampling at Georgia Pacific Property in Tigard, Oregon

Dear Mr. Riseling:

We are pleased to submit this letter report describing the May 24, 1990 sampling of the soil stockpiled at the Georgia Pacific property in Tigard, Oregon (see Figure 1).

Background

The stockpiled soil was sampled by Sweet-Edwards/EMCON, Inc. (SE/E) at Georgia Pacific's request. The stockpile, located on the east side of the property, is approximately 195 feet long by 36 feet wide, and 2.5 feet thick. The soil reportedly was spread out to aerate after it was excavated from around a diesel tank removed elsewhere on site.

Scope of Work

Sixteen sample collection points were identified on a three-dimensional grid using a random number generator (see Figure 2). Two soil samples were collected at each of the sixteen sampling points, and selected samples were composited and sent to Columbia Analytical Services (CAS) in Kelso, Washington for laboratory analysis. Samples submitted to CAS were analyzed for TRPH. The lab results are presented in this report.

Sampling Procedures

A post hole digger was used to dig to the required depth for sampling at each point. The two samples collected at each point were placed in clean sample jars by hand. New gloves were worn to collect each sample. The jars were labeled and placed in iced storage containers.

GEOPAC-L.614/CE:(wp)

Mr. Gordon Riseling
June 14, 1990
Page 2

Project W3901.01

Sample Selection For Laboratory Analysis

On return to SE/E's Portland office one sample from each sampling point was removed from the iced storage container and allowed to reach ambient room temperature. The concentration of the volatile organics in the headspace of each of these jars was measured with an Organic Vapor Analyzer (OVA). OVA readings are summarized in Table 1. Eight samples, representing a range of concentrations, were selected for compositing.

The eight selected samples were paired based on similar TRPH concentration (see Table 1). Each pair of samples was mixed in a clean stainless steel bowl. A single composite sample was taken from each pair of combined discrete samples. The composite samples were placed in clean jars, labeled, and placed in an iced cooler for shipment under chain of custody to CAS. Four composite samples were sent to the laboratory.

Lab Results

The four composite samples were tested at CAS for TRPH by U.S. Environmental Protection Agency (EPA) Method 418.1.

The highest concentration of TRPH detected in the four composite samples collected on May 24, 1990 was 3,680 ppm. Table 2 lists the results for all four of the composite samples.

We appreciate the opportunity to assist you with this project. Please call if you have any questions or if we can be of further assistance.

Respectfully submitted,

Sweet-Edwards/EMCON, Inc.



for Karin L. Burton
Environmental Sampler

Enc: Tables 1, 2, and 3

Table 1

Georgia Pacific Head Space Screening Data

Sample	OVA Reading (ppm above background)
GP-590-1	41
GP-590-2	86
GP-590-3	43
GP-590-4	50
GP-590-5	4
GP-590-6	20
GP-590-7	170
GP-590-8	280
GP-590-9	0
GP-590-10	23
GP-590-11	70
GP-590-12	300
GP-590-13	140
GP-590-14	380
GP-590-15	92
GP-590-16	200

Table 2

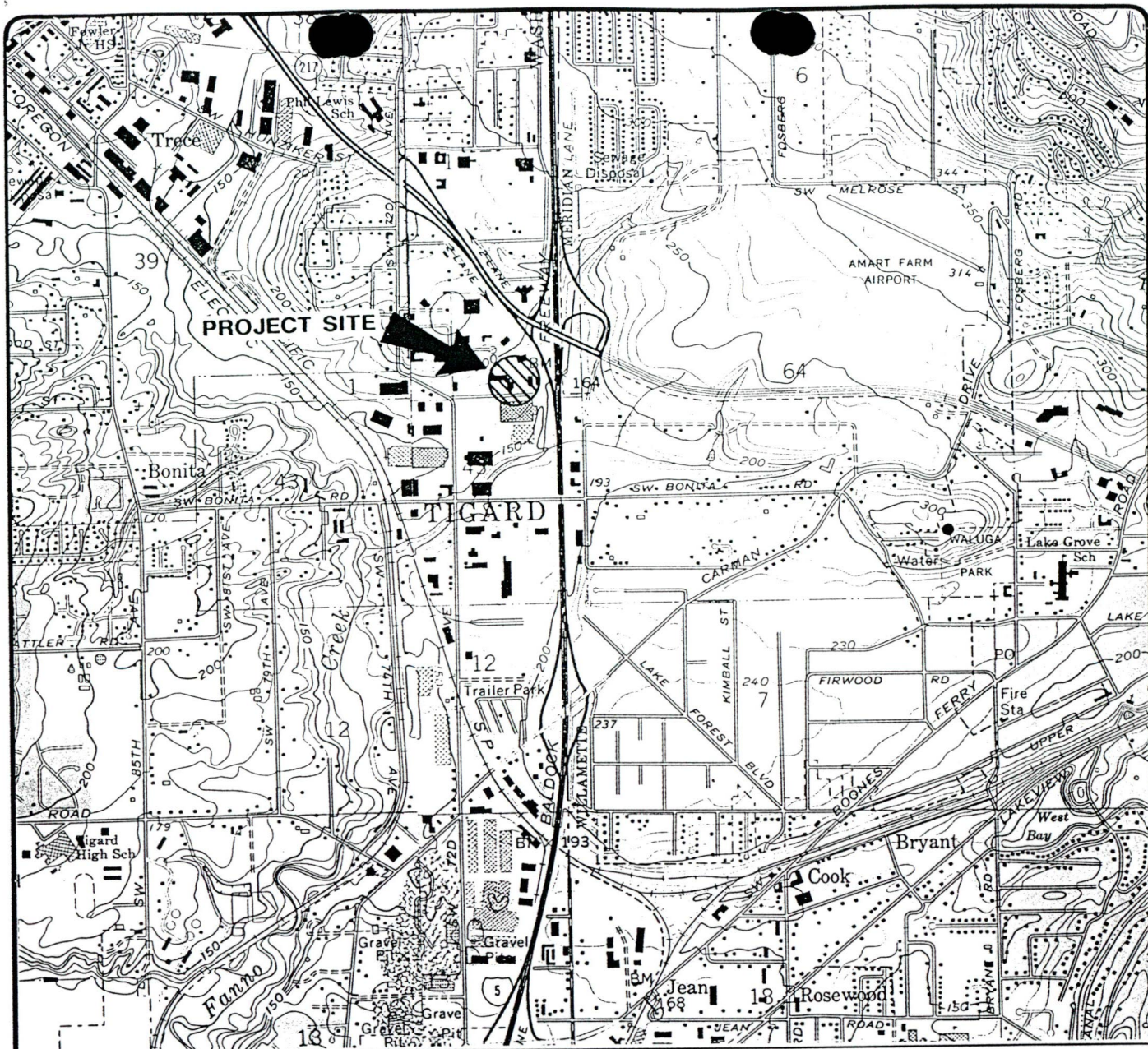
Georgia Pacific Sample Compositing Scheme

Discrete Sample Number	OVA Reading	Composite Sample Number
GP-590-1	41	GPC-0104
GP-590-4	5.0	
GP-590-6	20	GPC-0609
GP-590-9	0	
GP-590-13	140	GPC-1316
GP-590-16	200	
GP-590-12	300	GPC-1412
GP-590-14	380	

Table 3

Georgia Pacific Analytical Results

Composite Sample	Concentration (ppm)
GPC-0104	1410
GPC-0609	2260
GPC-1316	2320
GPC-1412	3680



Base Map From: 7.5' quads., Lake Oswego and Beaverton, Oregon



0 2000 4000

Scale in Feet



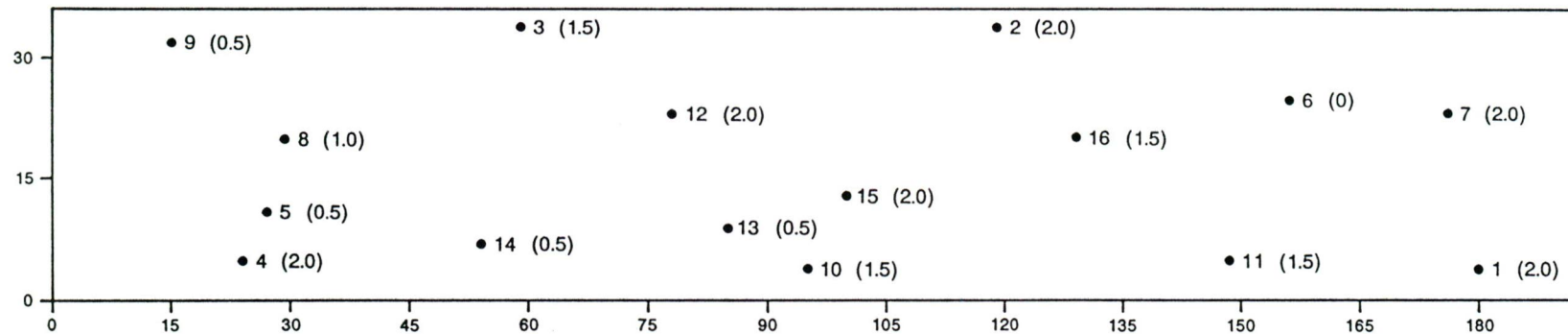
Sweet-Edwards
EMCON

DATE 6/90
DWN. *VT*
APPR. _____
REVIS. _____
PROJECT NO.
W3901.01

GEORGIA PACIFIC
Tigard, Oregon

Site Map

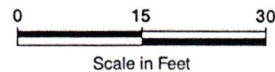
FIGURE 1



LEGEND

• 1 Sample number

(0.5) Depth to sample from surface of pile



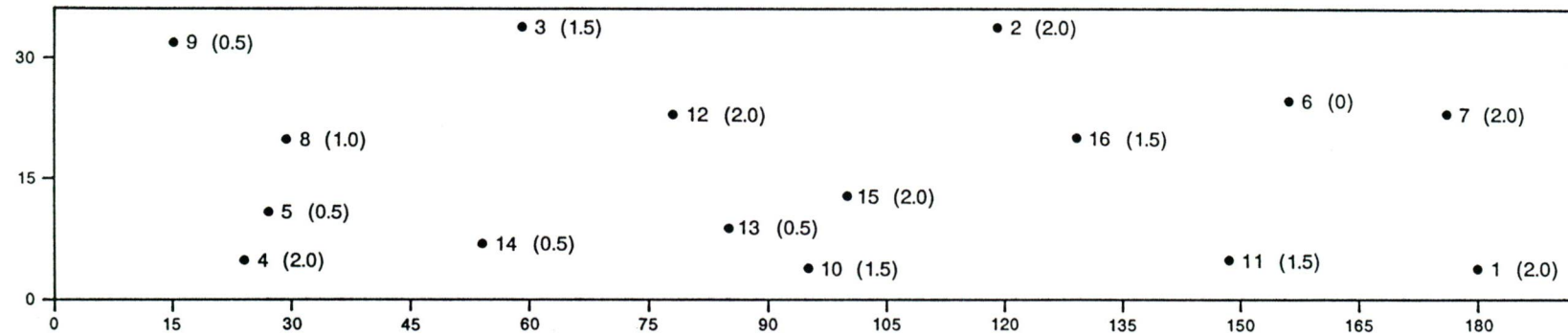
Sweet-Edwards
EMCON

DATE 6/90
DWN. CWS
APPR. _____
REVIS. _____
PROJECT NO.
W3901.01

GEORGIA PACIFIC
Tigard, Oregon

Random Number Generated Sampling Plot

FIGURE 2



LEGEND

• 1 Sample number

(0.5) Depth to sample from surface of pile

0 15 30
Scale in Feet



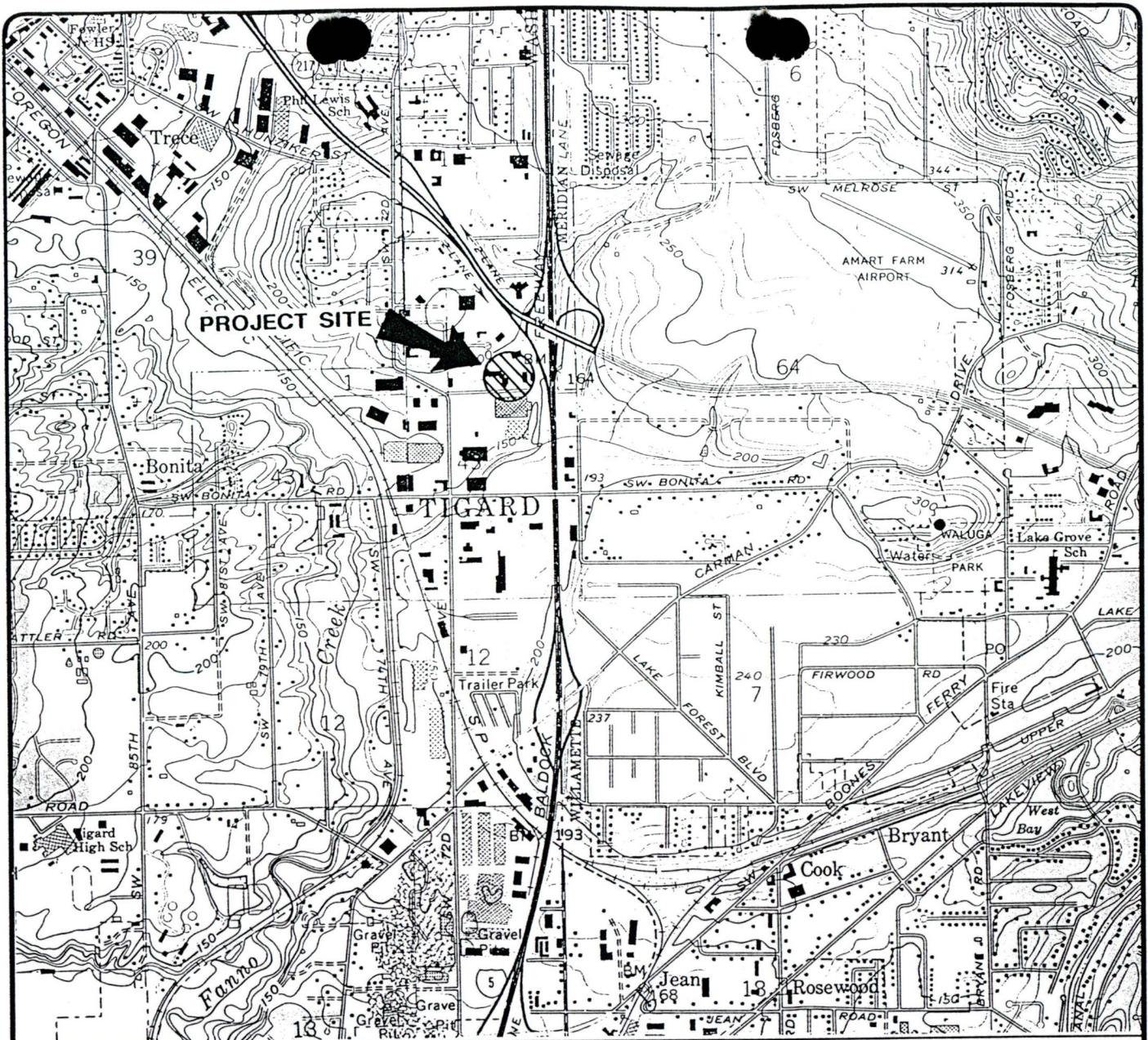
Sweet-Edwards
EMCON

DATE 6/90
DWN. CWS
APPR.
REVIS.
PROJECT NO.
W3901.01

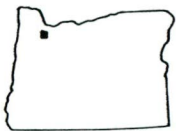
GEORGIA PACIFIC
Tigard, Oregon

Random Number Generated Sampling Plot

FIGURE 2

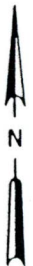


Base Map From: 7.5' quads., Lake Oswego and Beaverton, Oregon



0 2000 4000

Scale in Feet



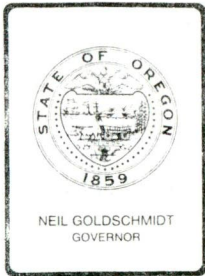
Sweet-Edwards
EMCON

DATE 6/90
DWN. *VR*
APPR. _____
REVIS. _____
PROJECT NO.
W3901.01

GEORGIA PACIFIC
Tigard, Oregon

Site Map

FIGURE 1



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

May 25, 1990

Mearl Royse
Georgia Pacific Corporation
14410 S.W. 72nd Avenue
Tigard, OR 97224

Re: UST - Washington County
Georgia Pacific Site

Dear Mr. Royse:

We have completed our review of the Olympus Environmental report of January 23, 1990 concerning the cleanup of diesel contaminated soils at the Georgia Pacific site at 14410 S.W. 72nd Avenue in Tigard. Based on the cleanup actions and the evaluation of the site by your consultant, Olympus Environmental, we concur with the cleanup steps taken and accept the proposal to leave the remaining contamination along Ball Creek in place as long as it remains undisturbed. We require no further actions at this time other than proper treatment or disposal of the stockpiled contaminated soils and some monitoring of contamination levels in the creek sediments.

This decision resulted from our evaluation and judgement based on the regulations and facts as we now understand them, including:

1. The tank and accessible contaminated soils have been removed and properly disposed of.
2. While there is still contamination above normal cleanup standards remaining along the creek, the contamination appears to have been removed to the extent reasonably achievable without working directly in the stream bed. We concur that allowing natural degradation of the hydrocarbons within the stream bed appears to pose less environmental hazard than would likely result from complete excavation of the bank and sediments.
3. The final sample results from the excavation area show less than the numeric cleanup standard of 500 parts per million (ppm) Total Petroleum Hydrocarbons (TPH). Although we are in a groundwater and surface water area, those standards and the final cleanup are judged to be appropriate.
4. With the elimination of the contaminant source, there is limited expected impact to the surface waters. The main concern would be that natural degradation does in fact occur over time. The monitoring discussed below should clarify this concern.
5. There is little concern that groundwater could be influenced by the contamination due to the direct discharge to the creek and because diesel fuel contains few soluble constituents.
6. Natural degradation appears capable of reducing the remaining contamination to near background levels without adverse impacts. We concur that no significant threat remains at this site that would require further active remediation at this time.

Mearl Royse
May 25, 1990
Page 2

As discussed above, there have been some impacts to the creek from the release of the diesel at Georgia Pacific. It was the sheen on the creek that led to the discovery of the piping leak, and booms were in place on the creek for months while the source was being identified and eliminated. Normally, a portion of oil lost into surface waters adheres to soil particles and settles into the stream sediments. In Ball Creek this was confirmed by an unrelated investigation of the creek at the Ted Nelson property just down stream. The enclosed report shows diesel contamination in creek sediments as high as 930 ppm TPH. We have concluded that this contamination is attributable to the Georgia Pacific release and any future concerns it would pose would be Georgia Pacific's responsibility.

While we feel natural degradation can resolve the impacts to the stream, some monitoring is required to show degradation is occurring. Georgia Pacific should select at least three to four monitoring points along Ball Creek between the release point upstream and the culvert that goes under 72nd Avenue. The creek sediments at these points should be sampled at least quarterly for one full year to monitor diesel contamination levels. Please submit an outline of the monitoring program for this site, including a map of monitoring points, within 30 days. I would be pleased to discuss this requirement with you or your consultants.

As we recently discussed by phone, the stockpiled contaminated soils must be further characterized if they are being proposed for disposal at the Hillsboro landfill. We encourage you to proceed promptly with treatment or disposal of the soils and request a summary of your anticipated actions for these soils to be submitted within 30 days. Once the soils have been properly handled, a closure letter will be written for the site cleanup. The closure for monitoring of the creek sediments will depend on the results of the monitoring.

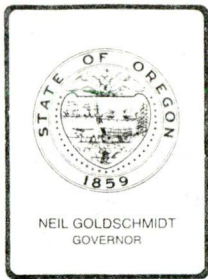
We thank you for your coordination and cleanup efforts throughout the remediation. If you have questions concerning these matters, please contact me at 229-6142.

Sincerely,



Loren G. Garner
Environmental Engineer
Northwest Region

cc: ECD, UST Cleanup Section
Ron Robinson, Olympus Environmental
12019 N.E. Marx Street, Portland, OR 97220
Scott Mills, GeoEngineers
10170 S.W. Nimbus Avenue, Suite H1, Portland, OR 97223



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

May 24, 1990

Scott V. Mills
GeoEngineers
10170 S.W. Nimbus Avenue, Suite H1
Portland, OR 97223

Re: UST - Washington County
Ted Nelson Property /
Georgia Pacific Site

Dear Mr. Mills:

We have reviewed your report of May 11, 1990 concerning the diesel contamination found in Ball Creek sediments adjacent to the 8.22 acre Ted Nelson Property at 14280 S.W. 72nd in Tigard. This letter summarizes the position and intentions of the Department concerning your findings.

It is our judgement that the diesel fuel contamination in the sediments and banks of Ball Creek is the result of the diesel release at the Georgia Pacific Site just upstream. The contamination source has been cleaned up at Georgia Pacific to the satisfaction of the present Department rules. Some residual contamination remains near the creek, where it was inaccessible without excavating directly in the creek bed.

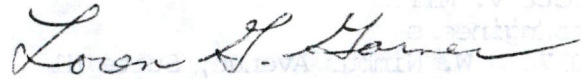
Based on the available information, it appears that natural degradation of the remaining diesel in the creek sediments poses less environmental harm than would result from excavation of the stream banks and sediments. Accordingly, we are tasking Georgia Pacific to monitor the creek sediments for at least one year, with the recommendation of quarterly sampling at several monitoring points along the stream. The results of this monitoring will dictate what additional work, if any, will be needed along the creek.

In any case, it appears that future concerns with this diesel contamination would be the responsibility of Georgia Pacific. We do not envision any situation under which the Department would expect the down stream property owners to take independent actions for contamination originating from this identified source.

Scott V. Mills
May 24, 1990
Page 2

We appreciate your coordination on this matter. Please contact me at 229-6142 with any questions.

Sincerely,



Loren G. Garner
Environmental Engineer
Northwest Region

cc: ECD, UST Cleanup Division
Mearl Royse
Georgia Pacific
14410 S.W. 72nd Avenue
Tigard, OR 97224

May 11, 1990

Spieker Partners
5285 Southwest Meadows Road, Suite 131
Lake Oswego, Oregon 97034

Attention: Mr. John B. Souther, Jr.

Report
Limited Geoenvironmental Sampling
Proposed Commercial Development
8.22 Acre Parcel
A.T. Nelson Property
Tigard, Oregon
File No. 1192-064-P01

INTRODUCTION AND SCOPE

This letter report presents the results of our limited geoenvironmental sampling on the A.T. Nelson property located in Tigard, Oregon. The site encompasses 8.22 acres and is currently undeveloped. The A.T. Nelson property is bounded on the north by Ball Creek, the east by Interstate 5, the south by Bonita Road, and the west by the Ted Nelson Company buildings. The location of the site is shown in Figure 1.

The purpose of this limited geoenvironmental sampling was to explore specific potential releases of contamination which were identified in our Phase I Environmental Site Assessment (ESA) report dated April 11, 1990 and to evaluate the environmental impact of these releases to the subject property. The scope of our services is outlined in our Confirming Agreement dated April 6, 1990 which authorized both geotechnical engineering services and this limited geoenvironmental sampling. The scope of services for the limited geoenvironmental sampling is as follows:

1. Sample the soil encountered above the ground water in two of the test pits excavated for the geotechnical subsurface exploration, and analyze those samples for total petroleum hydrocarbons (TPH).

Samples with TPH concentrations greater than 40 ppm also were tested for the presence of diesel fuel and gasoline.

2. Sample the sediments in Ball Creek at two locations and analyze the samples for TPH. Samples with TPH concentrations greater than 40 ppm also were tested for diesel fuel and gasoline.
3. Sample the sediments in Ball Creek at two locations and analyze the samples for total chromium.

BACKGROUND INFORMATION

The subject property is vacant and generally grass covered. The surface of the site and the surrounding area is flat or gently sloping toward the north and west. Ball Creek, which flows southwest toward Fanno Creek, roughly follows the site's northern boundary. The creek discharges into a 90-inch-diameter corrugated steel culvert located near the northwest property corner. Geological literature and our subsurface explorations completed during this investigation indicate that the site is underlain by silty sand and sandy silt which in turn is underlain by gravel deposits at depths greater than 20 feet. Ground water occurs at depths ranging between 5 and 15 feet below the ground surface. Based on surface topography, the direction of shallow ground water movement is expected to be toward the south or southwest.

Businesses surrounding the properties are generally commercial and light industrial.

As part of a presale evaluation of the property, GeoEngineers completed an ESA in the spring of 1990 to assess the environmental liability associated with potential subsurface contamination on the property from on-site and off-site sources. The results of the ESA were presented in a letter report dated April 11, 1990. The ESA consisted of a site reconnaissance, interviews, and review of selected available records. Based on the results of the ESA, three off-site sources of contamination were identified

Spieker Partners
May 11, 1990
Page 3

that present a potential risk of environmental impact to the property.
These include:

1. A confirmed release of gasoline from a leaking underground storage tank (UST) at the Texaco service station located northeast of the site.
2. A confirmed release of Number 2 diesel fuel into the surface water and sediments of Ball Creek at the Georgia-Pacific trucking facility located north of the site. Oregon Department of Environmental Quality (DEQ) records indicate that a significant quantity of contaminated soil was removed from the banks of Ball Creek just upstream of the subject property during remediation of the Georgia-Pacific spill.
3. A confirmed release of chromium from the dispersion of chromic acid into the air and discharge of wash water into Ball Creek via the storm drains from the Gerber Legendary Blades facility located immediately north of the site.

The risk of on-site contamination from the gasoline release at the Texaco service station was determined to be low because Ball Creek probably forms a hydrologic barrier between the release site and the subject property. A moderate risk was assigned to both the chromium and diesel releases because both discharges probably entered Ball Creek (which crosses the subject property). In addition, fallout from the chromium release may have settled on the northwest corner of the site near the area of release.

A sampling plan was developed to explore these specific releases and to evaluate their potential impact on the subject property. The following paragraphs summarize the results of the additional geoenvironmental services.

SOIL SAMPLING AND ANALYSIS

The limited geoenvironmental sampling was performed concurrently with the geotechnical subsurface exploration conducted on April 18 through April 20, 1990. The geotechnical subsurface exploration consisted of the excavation of 17 test pits. On-site contamination of gasoline from the Texaco service station was explored by sampling and analyzing soil from test pits located near the confirmed release. During the initial field investigation, diesel contamination was discovered in the sediments of Ball Creek. Additional sampling and laboratory analyses were authorized on April 19, 1990 to explore the extent of the diesel contamination along the banks and in the sediments of the creek. Chromium contamination was explored by obtaining surface bank and sediment samples in or near Ball Creek.

The test pits and sample locations along Ball Creek were excavated by W.G. Moe & Sons using a John Deere 410 backhoe. The locations of the test pits and samples are shown on the Site Plan, Figure 2. Prior to obtaining samples, all sampling equipment was cleaned by washing with a detergent solution and rinsed with distilled water. All samples were field screened for signs of petroleum contamination. Field screening methods are described in Attachment A.

The samples selected for laboratory testing were placed in chemically clean containers and held on ice until they could be delivered to the analytical laboratory. The samples were delivered to Pacific Environmental Laboratory, Inc. of Beaverton, Oregon under chain-of-custody procedures. The chain-of-custody sheets and the laboratory test results from Pacific Environmental Laboratory, Inc. are contained in Attachment B.

DISCUSSION

GASOLINE RELEASE

The test pit and sample locations were selected to explore subsurface contamination in areas on-site judged to have the highest probability for impact by gasoline from the confirmed off-site source. The migration of

gasoline contamination to the site from the Texaco service station would occur as gasoline constituents in the ground water or as nearly pure product floating on the ground water table.

A soil sample for TPH analysis was obtained from test pit TP-2 to evaluate the possible occurrence of gasoline contamination in the soils located immediately above the ground water table. The depth at which the sample was obtained approximately corresponds to the ground water surface. Test pit TP-2 is located at the northeast corner of the site relatively near the location of the confirmed release. TPH was not detected in the soil sample obtained from TP-2. In addition, no evidence of petroleum contamination was observed during field screening of the samples obtained from test pits located near the east property line.

Information obtained from the DEQ records indicates that the leaking UST at the Texaco service station has been removed and a product recovery system is currently operating. In addition, the DEQ records indicate that no gasoline constituents have been detected in ground water samples obtained from a recently installed monitoring well located on the west side of the Texaco service station site (between the service station and the subject site). Finally, Ball Creek, which is located between the Texaco service station and the subject site, may act as a hydrologic barrier to the migration of contamination. Based on the above information including our field observations, analytical testing and DEQ records, it is our opinion that the risk of on-site of contamination from the confirmed gasoline release is low.

DIESEL RELEASE INTO BALL CREEK

The occurrence of on-site contamination from the confirmed release of diesel fuel into Ball Creek was initially explored by obtaining a sediment sample of the stream bottom near the northeast corner of the site where Ball Creek enters the property. Sediment sample SS-1 revealed a slight sheen during field screening and a TPH concentration of 930 ppm. Additional

analysis identified the hydrocarbon as Number 2 diesel. As mentioned previously, additional sampling and laboratory analyses were authorized to explore the extent of diesel contamination in the creek banks and bottom sediments. A total of 17 bank and sediment samples were obtained along Ball Creek at the locations shown on the Site Plan, Figure 2.

Bank samples were obtained by excavating up to 18 inches into the bank using a backhoe and obtaining samples at 6 inch increments of depth. Sediment samples were generally obtained in the upper 6 inches of soil at the bottom of the creek. All bank and sediment samples were evaluated for petroleum contamination using field screening methods. Moderate sheen was observed in bank samples SB-3 and SB-4 obtained near the culvert at depths of 6 and 12 inches; no sheen was observed in bank sample SB-5 obtained at a depth of 18 inches. Slight sheen was noted in the sample obtained 6 inches into the bank at location F-1. No evidence of petroleum contamination was observed during field screening of the remaining creek bank samples.

Laboratory TPH on samples SB-3 and SS-3, located near the entrance to the culvert, were 100 and 360 ppm, respectively. Additional fuel fingerprint analyses on SB-3 was inconclusive. The results of field screening and laboratory analyses are summarized on Table 1.

Based on the results of the field and laboratory investigation, some diesel contamination of the sediments and banks of Ball Creek have resulted from the confirmed diesel spill at the Georgia-Pacific trucking facility. The field exploration indicates that the diesel contamination is not extensive, and, in general, does not penetrate the banks or bottom sediments of Ball Creek more than 18 inches. Field sampling and screening of bank and sediment deposits indicated that the diesel contamination is minor at many sample locations along Ball Creek.

Loren Garner with the DEQ was notified on April 20 and May 7, 1990 of the diesel contamination in the creek banks and sediments and presented with a verbal summary of the field and laboratory results. Mr. Garner stated

Spieker Partners
May 11, 1990
Page 7

that DEQ will not require removal of the contaminated soils in Ball Creek, but will allow the diesel contamination to remain in place and degrade naturally. DEQ's position is that manual removal of the contamination could significantly damage the stream environment and short-term water quality. Mr. Garner stated that Georgia-Pacific would be required to complete quarterly monitoring of the creek sediments for at least one year to confirm natural degradation of the diesel. Georgia-Pacific may be required to complete additional monitoring and possible remediation of the contamination after one year depending on the rate of natural degradation. Mr. Garner stated that he would prepare a letter summarizing DEQ's position.

CHROMIUM RELEASE

The occurrence of chromium contamination on-site was explored by collecting a surface soil sample (HS-1) in the northwest corner of the property near the location of the confirmed release of chromic acid from Gerber Legendary Blades. A second soil sample (SS-2) was obtained from the sediments of Ball Creek downstream of the discharge outlet from a storm water sewer that drains the parking lot located at Gerber. Chromium was not detected in either soil sample.

CONCLUSIONS

These geoenvironmental services did not detect contamination from the confirmed releases of gasoline at the Texaco service station and chromic acid at Gerber Legendary Blades at the locations sampled. The sampling locations were selected specifically to represent the areas on the subject property judged to have the highest potential for contamination from these two releases.

Our investigation indicated that the confirmed release of diesel fuel from Georgia-Pacific has caused some contamination of the banks and sediments of Ball Creek along the north property line of the subject site. However, it is our opinion that the environmental liability associated with the diesel contamination is low because the field investigation indicates

Spieker Partners
May 11, 1990
Page 8

that the contamination is probably not extensive. DEQ has stated that they will allow the diesel contamination to remain in place to degrade naturally rather than requiring active remediation by removal of the contaminated soils. Finally, DEQ identified Georgia-Pacific as the responsible party and is requiring Georgia-Pacific to conduct quarterly monitoring of the sediments to confirm natural degradation of the contamination.

LIMITATIONS

This letter report has been prepared for use by Spieker Partners. This report can be made available to lenders, to other parties interested in this site, and to regulatory agencies. This report is not intended for use by others and the information contained herein is not applicable to other sites.

The conclusions contained in this report are based on field observations and chemical analytical data from a limited number of sampling locations. There is always the potential that areas of undetected contamination may exist on or beneath the portions of the site that were not explored or sampled.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No other conditions, express or implied, should be understood.

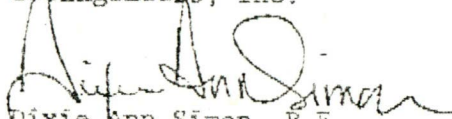
- o o o -

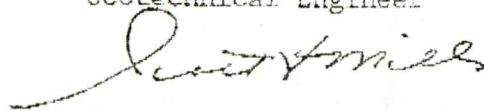
Spieker Partners
May 11, 1990
Page 9

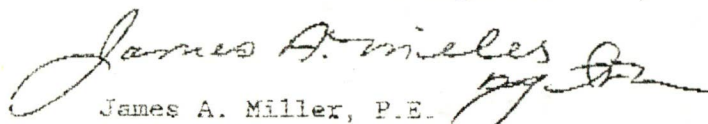
Please call if you have any questions regarding this report, or other aspects of this project.

Yours very truly,

GeoEngineers, Inc.


Dixie Ann Simon, P.E.
Geotechnical Engineer


Scott V. Mills, P.E.
Senior Geotechnical Engineer


James A. Miller, P.E.
Principal

JAM:SVM:DAS:plg

Three copies submitted

Attachments

cc: Mr. Loren Garner
ODEQ - Northwest Region

TABLE 1
SUMMARY OF ANALYTICAL DATA

Sample Number	Date Sampled	Type of Sample	Field Screening Results		TPH(a) (ppm)	Gasoline(b) (ppm)	Diesel(b) (ppm)	Chromium(c) (ppm)	General Location
			Headspace Vapors (ppm)	Shoon Test					
TP-2	4/18/90	Soil	<100	NS	ND	--	--	--	Northeast corner
TP-14	4/19/90	Soil	<100	NS	7	--	--	--	North central
SS-1	4/18/90	Sediment	260	SS	930	ND	210	--	Near dam
SS-2	4/18/90	Sediment	<100	SS	--	--	--	ND	Near culvert
SS-5	4/19/90	Sediment	<100	MS	360	ND	ND	--	Near culvert
HS-1	4/18/90	Sediment	<100	NS	--	--	--	ND	Near surface drain outlet
SB-1	4/19/90	Soil	<100	NS	--	--	--	--	Near dam
SB-2	4/19/90	Soil	<100	NS	--	--	--	--	Near dam
SB-3	4/19/90	Soil	<100	MS	100	ND	ND	--	Near culvert, 6 in. into bank
SB-4	4/19/90	Soil	<100	MS	--	--	--	--	Near culvert, 12 in. into bank
SB-5	4/19/90	Soil	<100	NS	--	--	--	--	Near culvert, 18 in. into bank
T-1-6	4/20/90	Soil	<100	NS	--	--	--	--	80 ft. east of culvert, 6 in. into bank
T-1-12	4/20/90	Soil	<100	NS	--	--	--	--	80 ft. east of culvert, 12 in. into bank
T-2-6	4/20/90	Soil	<100	SS	--	--	--	--	160 ft. east of culvert, 6 in. into bank
T-2-12	4/20/90	Soil	<100	NS	--	--	--	--	160 ft. east of culvert, 12 in. into bank
T-3-6	4/20/90	Soil	<100	NS	--	--	--	--	240 ft. east of culvert, 6 in. into bank
T-3-12	4/20/90	Soil	<100	NS	--	--	--	--	240 ft. east of culvert, 12 in. into bank
T-4-6	4/20/90	Soil	<100	NS	--	--	--	--	330 ft. east of culvert, 6 in. into bank
T-4-12	4/20/90	Soil	<100	NS	--	--	--	--	330 ft. east of culvert, 12 in. into bank
T-5-6	4/20/90	Soil	<100	NS	--	--	--	--	20 ft. west of dam, 6 in. into bank
T-5-12	4/20/90	Soil	<100	NS	--	--	--	--	20 ft. west of dam, 12 in. into bank

Notes:

"--" Indicates "not tested"

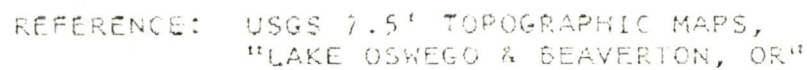
"ND" indicates "not detected"

"ppm" indicates "parts per million"

(a) "TPH" indicates "total petroleum hydrocarbons". Analysis by EPA Method 418.1.

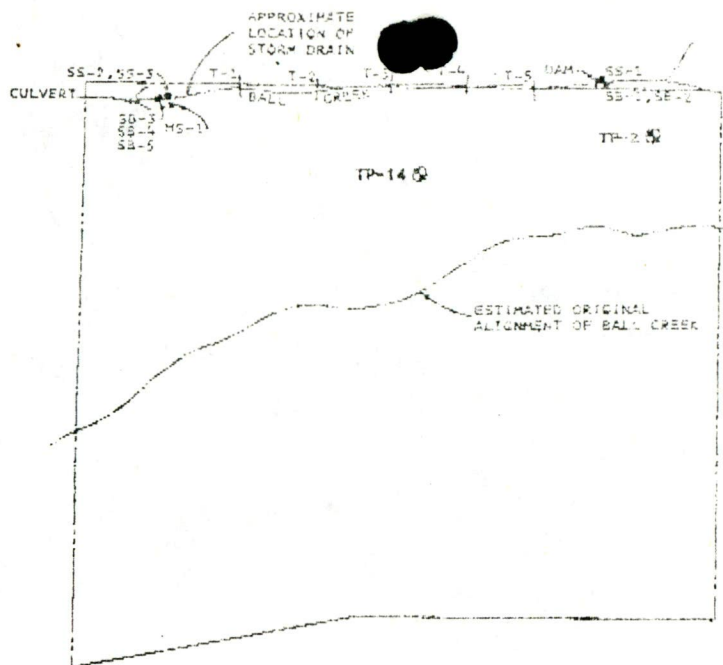
(b) Analysis by OR DEQ-HCID

(c) Analysis by EPA Method 1310, 7190.

[illegible]

VICINITY MAP

FIGURE 1



EXPLANATION:

- HS-1* SURFACE SAMPLE LOCATION AND NUMBER
- SS-1* SEDIMENT SAMPLE LOCATION AND NUMBER
- SB-1* SOIL BANK SAMPLE LOCATION AND NUMBER
- T-1/ EXPLORATION INTO CREEK BANK
- TP-25* TEST PIT LOCATION AND NUMBER

GeoEngineers

SITE PLAN

FIGURE 2

ATTACHMENT A

ATTACHMENT A

FIELD SCREENING

Soil samples from the creek bank and creek bottom sediments were screened for signs of petroleum contamination. Field screening results are used as a general guideline to delineate areas of potential petroleum-related contamination in soils. In addition, screening results are used to aid in the selection of soil samples for chemical analysis. The field screening methods employed included: 1) visual examination, 2) sheen testing, and 3) headspace vapor testing using a Bacharach TLV Sniffer calibrated to hexane.

Visual screening consisted of inspecting the soil for the presence of stains indicative of fuel-related contamination. Visual screening is generally more effective in detecting the presence of heavier petroleum hydrocarbons such as motor oil or when hydrocarbon concentrations are high. Sheen screening and headspace vapor screening are more sensitive methods which have been effective in detecting residual fuel hydrocarbon at levels less than regulatory cleanup guidelines.

Sheen testing involves placing soil in water and observing the water surface for signs of sheen. Sheens are classified as follows:

NS = No Sheen	No visible sheen on the water surface.
SS = Slight Sheen	Light colorless sheen, spread is irregular, not rapid; film dissipates rapidly.
MS = Moderate Sheen	Light to heavy film, may have some color or iridescence, globular to stringy; spread is irregular to flowing.
HS = Heavy Sheen	Heavy colorful film with iridescence; stringy, spread is rapid; sheen flows off the sample; most of water surface is covered.

Headspace vapor screening involves placing a soil sample in a plastic sample bag. Air is captured in the bag and the bag is shaken to expose the soil to the air trapped in the bag. The probe of a Bacharach TLV Sniffer is used to puncture the bag, the instrument withdraws the air in the bag, and the TLV Sniffer records the concentrations of combustible vapor in the air removed from the sample headspace. The TLV Sniffer records concentrations in parts per million (ppm) and is calibrated to hexane. The TLV Sniffer is designed to quantify combustible gas concentrations in the range between 100 and 10,000 ppm. There is no direct relation between headspace vapor measurements and results that could be obtained by laboratory analysis of a soil sample.

Field screening results are site specific. The results vary with temperature, soil type, type of contaminant and soil moisture content.

ATTACHMENT B



PACIFIC
Environmental
Laboratory Inc.

3405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 644-0660
FAX # (503) 644-2202

April 23, 1990

GeoEngineers
10170 S.W. Nimbus Ave., H-01
Portland, OR 97223

Attn: Dixie Simon

RE: JOB #1192
PEL #90-1057

Enclosed is the lab report for your samples which were received on April 19, 1990.

I. Sample Description

Two Soil Samples

The samples were received under a chain of custody.

The samples were received in containers consistent with EPA protocol.

II. Quality Control

No project specific QC was requested. In-house QC data is available upon request.

III. Analytical Results

Test methods may include minor modifications of published methods such as detection limits or parameter lists. Solid and waste samples are reported on an "as received" basis unless otherwise noted.

Compounds not detected are listed under results as ND.

Sincerely,

Philip Nerenberg
Philip Nerenberg
President

Kim Hughes
Kim Hughes
Chemist
GeoEngineers

APR 25 1990

Routing

File



PEL REPORT NUMBER: 90-1057
CLIENT: GeoEngineers
JOB REFERENCE: 1192
DATE: April 23, 1990
ITEMS: Two Soil Samples

METHOD: Total Petroleum Hydrocarbons per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
SB-3	100
TP-14(3)	7
Lab Blank	ND
Detection Limit	5

METHOD: Hydrocarbon I.D. by GC/FID
Results in mg/kg (ppm)
Carbon Range: C₆-C₂₄

<u>Sample I.D.</u>	<u>Hydrocarbon</u>	<u>Detection Limit</u>
SB-3	ND	20
Lab Blank	ND	10



9465 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 644-0660
FAX # (503) 644-2202

April 23, 1990

GeoEngineers
10170 S.W. Nimbus, H-01
Portland, OR 97223

Attn: Dixie Simon

Re: JOB #1192-063-B01
PEL #90-1041

Enclosed is the lab report for your samples which were received on April 18, 1990.

I. Sample Description

Four Soil Samples

The samples were received under a chain of custody.

The samples were received in containers consistent with EPA protocol.

II. Quality Control

No project specific QC was requested. In-house QC data is available upon request.

III. Analytical Results

Test methods may include minor modifications of published methods such as detection limits or parameter lists. Solid and waste samples are reported on an "as received" basis unless otherwise noted.

Compounds not detected are listed under results as ND.

Sincerely,

Philip Nerenberg
Philip Nerenberg
President

Kim Hughes
Kim Hughes
Chemist
GeoEngineers

APR 25 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐



PEL REPORT NUMBER: 90-1041
CLIENT: GeoEngineers
JOB REFERENCE: 1192-063-B01
DATE: April 23, 1990
ITEMS: Four Soil Samples

METHOD: Total Petroleum Hydrocarbons per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
SS-1	930
TP-2(2)	ND
Lab Blank	ND
Detection Limit	5

METHOD: Hydrocarbon I.D. by GC/FID
Results in mg/kg (ppm)
Carbon Range: C₆-C₂₄

<u>Sample I.D.</u>	<u>Hydrocarbon</u>	<u>Carbon Range</u>	<u>Detection Limit</u>
SS-1	210	C ₉ -C ₂₂ *	70

* Similar to #2 diesel.

METHOD: E.P. Toxicity per EPA 1310, 7190
Results in mg/L (ppm)

<u>Sample I.D.</u>	<u>Chromium</u>
SS-2	ND
HS-1	ND
Lab Blank	ND
Detection Limit	0.1



PACIFIC
Environmental
Laboratory, Inc.

9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 644-0660
FAX # (503) 644-2202

April 25, 1990

GeoEngineers
10170 SW Nimbus Ave. E-01
Portland, OR 97223

Attn: Dixie Simon

Re: JOB #1192-064-P01
PEL #90-1094

Enclosed is the lab report for your sample which was received on April 23, 1990.

I. Sample Description

One Soil Sample

The sample was received under a chain of custody.

The sample was received in a container consistent with EPA protocol.

II. Quality Control

No project specific QC was requested. In-house QC data is available upon request.

III. Analytical Results

Test methods may include minor modifications of published methods such as detection limits or parameter lists. Solid and waste samples are reported on an "as received" basis unless otherwise noted.

Compounds not detected are listed under results as ND.

Sincerely,


Howard Holmes
Lab Manager


Robert Jones
Chemist

GeoEngineers

APR 26 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐



PEL REPORT NUMBER: 90-1094
CLIENT: GeoEngineers
JOB REFERENCE: 1192-064-P01
DATE: April 25, 1990
ITEM: One Soil Sample

METHOD: Total Petroleum Hydrocarbons per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
SS-3	360
Lab Blank	ND
Detection Limit	5



PACIFIC
ANALYTICAL
LABORATORY ^{ATT: Dixie}

9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 644-0800

GeoEngineers
CHAIN OF CUSTODY RECORD

RUSH

YES ☒

NO ☐

Proj. No. <u>064</u> <u>1192-064-001</u>		Project Name <u>A.T. Nelson</u>		P.O. Number		Sampler <u>W. Stephen Lewis</u>		No. of Containers	BTEX 502/8020	BTEX, VPH 3810 Modified	Gasoline 8015 Modified	TPH (IR) 413.1	Oil & Grease 413.1	EP TOX	Cd, Cr, Pb only	EP TOX	Metals (3)	PCB's	508/8080	Chlor. Solv. 501/8010	Flashpoint 1010	EP TOX	Chromium only	HClD > 40ppm
Site No.	Date	Time	Cont.	Grav	Station Location																			
SS-1	4/18	1615			Ball Creek							X												X
TP-2(2)	4/18	1600			TP-2 4.0 feet							X												X
SS-2	4/18	1630			Ball Creek																	X		
HS-1	4/18	1635			Bohls																	X		
ALL SAMPLES WILL BE DISPOSED OF 30 DAYS AFTER RECEIPT																								
Relinquished by: (Signature) <u>W. Stephen Lewis</u>		Date Time <u>4/18/90</u> <u>5:25</u>		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)								
Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)								
Relinquished by: (Signature)		Date Time <u>4/18/90</u> <u>5:25</u>		Received for Laboratory by: (Signature) <u>Marnette Lindland</u>		Remarks <u>HClD on one sample if > 40ppm by 418.1</u>																		



GeoEngineers
CHAIN OF CUSTODY RECORD

RUSH
YES ☒ NO ☐

[illegible]



GeoEngineers
CHAIN OF CUSTODY RECORD

RUSH
YES ☒ NO ☐

[illegible]



11330 S.W. Clay Street
Sherwood, Oregon 97140
(503) 682-2341
Fax (503) 682-5853

May 8, 1990

Ms. Judith Johndahl
D. E. Q.
811 SW 6th Ave
Portland, Oregon 97204



NORTHWEST REGION

Dear Ms. Johndahl:

Pursuant to our conversation, I am writing to request permission to dispose of 2,000 cubic yards of soil in the Hillsboro Oregon Landfill.

This soil is contaminated with diesel fuel as a result of an underground storage tank leak. This soil was generated at Georgia Pacific Corporation, 14410 SW 72nd. Ave., Tigard, Oregon. EPA ID. #ORD 000 773 986.

Please review the attached analytical data and let me know if this acceptable at the Hillsboro land fill. If you have any questions please call me at 503-682-2341.

Sincerely,

A handwritten signature in dark ink, appearing to read "Rick Bagan".

Rick Bagan

Enclosures



A Subsidiary of Riedel Environmental Services, Inc.

"Imagineering A Cleaner World"

PEL REPORT NUMBER: 89-1804
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2647
DATE: December 26, 1989
ITEMS: Three soil samples

Dept. of Environmental Quality

RECEIVED
MAY 08 1990

METHOD:

TPH per EPA 418.1
Results in mg/kg (ppm)

NORTHWEST REGION

Sample I.D.

TPH

1E	24 - west side
2E	210 - middle
3E	360 - creek side
Lab Blank	ND
Detection Limit	5

RECEIVED
MAY 08 1990



CHAIN OF CUSTODY RECORD

NORTHWEST REGION

[illegible]

PEL REPORT NUMBER: 89-1405
CLIENT: Olympus Environmental
JOB REFERENCE: GP Tigard
DATE: November 1, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
#1	53 - fill material for tank hold
#2	330 - contaminated soil to stay on site
#3	33 - sample from tank hole
Lab Blank	ND
Detection Limit	5

Dept. of Environmental Quality
RECEIVED
MAY 08 1990

NORTHWEST REGION



Pacific
Environmental
Laboratory, Inc.

9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 644-0660

CHAIN OF CUSTODY RECORD

RUSH

YES ☒ NO ☐

Proj. No.		Project Name		P.O. Number		Sampler	
GP TIGARD		SAME AS NUMBER		RON ROBINSON		RON ROBINSON	
Sta. No.	Date	Time	Comp.	Grid	Station Location	No. of Containers	TESTS
#1	10/31	11:40am	✓		SAMPLE #1	1	ETEX 602/8020
#2	10/31	11:45am	✓		#2	1	ETEX, VPH 3810 Modified
#3	10/31	11:55	✓		#3	1	Gasoline 8015
							TPH (IR) 418.1
							Oil & Grease 413.1
							EP TOX
							Cd, Cr, Pb only
							EP TOX
							Metals (2)
							PCB's
							208/8080
							Chlor. Solv.
							501/8010
							Flashpoint
							1010

ALL SAMPLES WILL BE
DISPOSED OF 30 DAYS
AFTER RECEIPT

Relinquished by: (Signature)

[Signature]

Relinquished by: (Signature)

Date Time

10/31

12:45pm

Date Time

Received by: (Signature)

Received by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

Date Time

Date Time

Received by: (Signature)

Received by: (Signature)

PEL REPORT NUMBER: 89-1535
CLIENT: Olympus Environmental
JOB REFERENCE: GP Tigard
DATE: November 22, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

Sample I.D.

TPH

#1	ND	- east test hole	} test holes 30' upgrade (north) of old drain line
#2	ND	- west test hole	
#3	520	- effluent of drain	
Lab Blank	ND		
Detection Limit	5		



Olympus

9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 344-0660

CHAIN OF CUSTODY RECORD

RUSH

YES ☐ NO ☒

[illegible]

PEL REPORT NUMBER: 89-1659
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2647
DATE: December 11, 1989
ITEMS: Ten soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

Sample I.D.

TPH

1A

ND

2A

ND

3A

ND

4A

410

5A

490

1B

50

2B

200

3B

ND

4B

ND

5B

2,500

Lab Blank

ND

Detection Limit

5

} Oil water separator hole after
excavation of contaminates

- clay pipe residue 10 cubic yards only

RUSH

YES [

NO 1-

Proj No.		Project Name		CHAIN OF CUSTODY RECORD																YES ☐	NO ☒
P.O. Number		Sampled																			
Sia. No.	Date	Time	Comp.	Grav.	DITCH LINE Station Location	No. of Containers	BTEX 602/8020	BTEX, VPH 3810 Modified	Gasoline 8015	TPH (IR) 418.1	Oil & Grease 413.1	EP TOX	Cd, Cr, Pb only	EP TOX	Metals (g)	PCB's 608/8080	Chlor. Solv. 601/8010	Flashpoint 1010			
1A	11/28	9:45			Surface South Wall	1															
2A		10:00			Depth 6' South Wall	1															
		10:05			✓ 9'	1															
		10:10			✓ 11'	1															
5A		10:15			✓ 13' Bottom of Clay Pipe O/W Sep. Hole	1															
1B	12/1/87	10:20	✓		North Wall O/W Hole	1															
2B		10:20	✓		O/W Sep. Hole (1st point)	1															
3B		10:50			South Wall Depth 5'-0"	1															
B		10:05			South Wall Depth 10'-7"	1															
B		13:17			Clay Pipe outside @ 125'																
					upgrade of O/W Sep.	1															
B		13:50			Grid from below clay pipe @ 125' down																
3		15:00	✓		Clay Pipe wrapping and soil from below @ 145' from O/W Sep.	1															

Relinquished by: [Signature]

Date Time: 2/1/89

Received by: [Signature]

Date Time:

Relinquished by: [Signature]

Date Time:

Received by: [Signature]

Date Time:

PEL REPORT NUMBER: 89-1715
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2649
DATE: December 15, 1989
ITEMS: Three soil samples

METHOD:

TPH per EPA 418.1
Results in mg/kg (ppm)

Sample I.D.

TPH

1C
1D
2D
Lab Blank
Detection Limit

39,000
8
480
ND 5

✓ pipe effluent 12 cubic yards only



RUSH

YES ☐ NO ☒

CHAIN OF CUSTODY RECORD

Proj No.		Project Name					
P.O. Number		Sampler					
89-2647		Georgia Pacific					
89-2647		Ron Robinson					
Sit. No.	Date	Time	Comp.	Grid	Station Location	No. of Containers	
1C	12/6	10:30am		✓	Soil pipe offshoot (S. directly)	1	
1D	12/7	12:02pm		✓	60' incline of creek (S. side) @ soil pipe	1	
2D	12/7	12:05		✓	60' incline of creek (S. South of oil pipe) (S. side)	1	

ALL SAMPLES WILDED BY DISPOSED AFTER 30 DAYS

Relinquished by: [Signature]

Date Time: 12/7 12:55 PM

Received by: [Signature]

Date Time:

Relinquished by: [Signature]

Date Time:

Received by: [Signature]

Date Time:



**NORTHWEST
ENVIROTECH, INC.**
ENVIRONMENTAL EXCAVATION

WE'RE CLEANING UP THE FUTURE

Dept. of Environmental Quality
RECEIVED
MAY 10 1990

NORTHWEST REGION

Dept. of Environmental Quality
RECEIVED
MAY 10 1990

NORTHWEST REGION

May 9, 1990

Department of Environmental Quality
811 S.W. 6th
Portland, Oregon 97204

Attention: Judy Johndohl

Reference: Contaminated Soil Removal

Dear Judy:

I would like to apply for a permit to take approximately 1,500 yards of diesel contaminated soil to the Hillsboro Landfill. This soil came from and is stockpiled at the Georgia-Pacific site at 14410 S.W. 72nd Avenue in Tigard.

I am enclosing copies of the sampling and chain of custody records as well as the laboratory results from this project. The contamination originated from a diesel tank that was used for fueling trucks.

According to the laboratory results, the TPH levels would allow this material to be disposed of into the Hillsboro Landfill. The one exception would be the 3,900 TPH detection level.

Unfortunately, the contractor doing the excavation did not separate this high level TPH material into a separate pile. However, they did keep it all in the one tall pile along with some of the other not so contaminated soil. I am enclosing two pictures of the site in hopes it will make my explanation more clear.

D.E.Q.
May 9, 1990
Page 2

Georgia-Pacific Corporation would like to get their site cleaned up as soon as possible. We would like permission to haul the low-long pile to the landfill and then take the necessary steps to deal with the small amount of heavily contaminated soil in the tall-round pile.

Thank you for your prompt attention in this matter. If you have any questions, please call me.

Sincerely,

NORTHWEST ENVIROTECH, INC.
(ENVIREX, INC.)



Milt Schweppe

MS/mg

enclosures



"Low-hong" pile

42015 N N N-12



42013 N N N-1 C

"Tall - Round" pole



Georgia-Pacific Corporation *Pulp & Paper Transport Division*
14410 SW 72nd Avenue
Tigard, Oregon 97224
Telephone (503) 620-4203

Dept. of Environmental Quality
RECEIVED
JAN 26 1990

January 24, 1990

D.E.Q./N.W.R.
811 S.W. 6th
Portland Or. 97204
ATTN: Loren Garner

NORTHWEST REGION

Dear Mr. Garner:

Per your instructions during our telecon this afternoon, please find enclosed a copy of the wrap up report we have received from Olympus Environmental, Inc.

This report outlines the procedures taken during the site remediation of the Georgia Pacific diesel spill which occurred in February, 1989.

The pictures mentioned in the report did not copy legibly and are not included. However, they are filed with our copy should you wish to look at them when and if you decide to return for an observation of the site.

We sincerely appreciate your visits made to our complex and the recommendations that helped us proceed toward a proper resolution to our problem. After you review the report, we welcome your return for a follow up review should you feel it necessary.

Again, thanks for your help.

Very Truly Yours,

Mearl Royse
Manager



January 23, 1990

Dept. of Environmental Quality
RECEIVED
JAN 26 1990

Mr. Mearl H. Royse
Manager Western Region
Pulp & Paper Transport Division
Georgia-Pacific Corporation
14410 S.W. 72nd Avenue
Tigard, OR 97223

NORTHWEST REGION

Dear Mr. Royse:

The following outlines the procedures taken by Olympus Environmental during the site remediation of the Georgia Pacific diesel spill, such procedures having commenced on November 13, 1989.

Please feel free to call me in regards to any question pertaining to this report as well as the disposition of discussed soils.

Sincerely,

Ronald G. Robinson
Project Manager

RGR:1hr

encls.

Environmental & Hazardous Waste Services

Kent, WA Portland, OR Helena, MT

12019 N.E. Marx Street • Portland, Oregon 97220 • (503) 252-5039

GEORGIA-PACIFIC CORPORATION
Diesel Spill

OBJECTIVE: Remove existing drain pipe extending from faulty oil water separator to discharge point at Ball Creek. Approximate length is one hundred thirty feet. In the course of excavation, we will determine the exact source of the diesel contamination, the medium which it traveled, and the extent of migration.

Photo number one shows heavily contaminated discharge point.

Photo number two shows 15" cement drain pipe exposed approximately 15 feet west of effluent point. As can be seen by the photograph, the drain pipe and surrounding soils are relatively clean compared to the amount of contamination found in the creek bank. Further excavation exposed diesel contaminated soils and free product at a depth of 15 feet. This was nine feet lower than the suspect drain pipe (also see photo number three).

To prevent further flushing action from existing drain system, we went back to the oil water separator and installed a new drain system around the contaminated areas (see photo numbers 4, 5, 6, and 7). In order to confirm a clean route for the new drain, two test holes were dug, samples were taken, and analyses performed. Lab results confirmed no diesel migration north of existing drain pipe. Lab report number PEL 89-1535.

First lab work performed on soil from the diesel tank excavation. There were three composite samples taken for analysis. Sample number one represented proposed fill material. Sample number two represented suspected heavily contaminated material. Sample number three was a composite of the existing tank hole. See enclosed lab report as material represented by sample number one was used as fill material on top of three feet of clean 4", 5", 6" rock. Lab report number PEL 89-1405.

Once the new drain was installed and operational, removal of the oil water separator and contaminated soil was completed (see photo numbers 8 through 13). Lab report number PEL 89-1659. Samples 1B, 2B, 3B and 4B, represent the oil water separator hole. The combination of lab analyses, tightness of the clay soils, and being ten feet above the water table, backfilling of said excavation was recommended and approved by Loren Gardner of the State of Oregon Department of Environmental Quality.

With the source of contamination identified and removed, we went back to the effluent of the old drain line to determine the extent of contamination and the vehicle through which the diesel moved.

At approximately sixteen feet deep (nine feet below the oil water separator drain) we found an eight inch clay soil pipe directly in line with the old drain system. This soil pipe was full of diesel and was found to discharge directly into Ball Creek, in line but below the oil water separator drain (see photo numbers 14 through 18).

This was the source of contamination. This pipe had been installed well over twenty five years ago and was unbeknownst to the people who installed the oil water separator and drain system. When the oil water separator failed in operation, diesel spilled over and out into the surrounding ground. Over the years, the diesel followed its path of least resistance and flowed through the clay soil pipe to the creek bank. Also, over the years as the bank shifted, so too did the soil pipe, allowing diesel and drain water to flow freely along the creek bank, resulting in substantial subsurface soil contamination, hidden from view (see photo numbers 19 through 22).

By leaving a dyke to protect the creek, we excavated approximately five hundred yards of heavily contaminated soil. See lab report number PEL 89-1715, sample 1C. Sample of contaminated soil at effluent of the soil pipe showed 39,000 parts per million total petroleum hydrocarbons. Sample 1D of same report was taken sixty feet up the soil pipe line as well as sample 2D, taken sixty feet up line and south, proved the majority of product flowed down the soil pipe. Again, due to the tightness of soils surrounding the pipe, the migration was minimized and kept the diesel to the immediate area in and around the soil pipe.

Excavation proceeded down the creek bank until the end of the diesel plume was found. At this point, more samples were taken (see photo numbers 23 through 28).

Lab report number PEL 89-1804, photo number 28, shows the end of the diesel plume. We could not have excavated any further without contaminating the creek. Visual, olfactory, and lab results all indicated the end of contamination.

Clean 4", 5", and 6" rock was used to backfill and stabilize the creek bank as well as allow a natural flushing for the 18" dyke left unexcavated. This approach was discussed with and approved by Loren Gardner of the State of Oregon Department of Environmental Quality. Also installed were two slotted observation wells left for future viewing of subsurface water (see photo numbers 29 through 33). Ball Creek will be protected by three lines of oil absorbent boom as the flushing process continues. Georgia Pacific personnel have been trained to install and monitor the creek maintenance as discussed with and approved by Loren Gardner of the D.E.Q.

The remaining problem is the approximate two thousand yards of diesel contaminated soil. These soils can be dealt with several ways.

Disposal: This would require acceptance at a local landfill. Costs would be approximately \$45.00 to \$50.00 per ton plus transportation.

Landfarming: This would require aeration of soils with the aid of a tiller or disc type piece of machinery. Relatively inexpensive compared to landfill disposal but in our climate and considering the extent of contamination, this process would take time and space as the soils would need to be spread no deeper than eighteen inches deep.

Enhanced biodegradation would expedite the treatment time considerably. But, in order to achieve optimum results, attention to the process is a necessity. The cost is higher than landfarming due to the cost of the microbial consortia and the labor involved to work the soil but the time involved to treat is vastly reduced.

Olympus Environmental has been and is presently involved in all three soil treatment/disposal alternatives and is prepared to discuss these options available to you.

PEL REPORT NUMBER: 89-1535
CLIENT: Olympus Environmental
JOB REFERENCE: GP Tigard
DATE: November 22, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

Sample I.D.

TPH

#1	ND - east test hole	} test holes 30' upgrade (north) of old drain line
#2	ND - west test hole	
#3	520 - effluent of drain	
Lab Blank	ND	
Detection Limit	5	



Olympus

RUSH

9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 844-0660

CHAIN OF CUSTODY RECORD

YES ☐NO ☒[illegible]

PEL REPORT NUMBER: 89-1405
CLIENT: Olympus Environmental
JOB REFERENCE: GP Tigard
DATE: November 1, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
#1	53 - fill material for tank hold
#2	330 - contaminated soil to stay on site
#3	33 - sample from tank hole
Lab Blank	ND
Detection Limit	5



CHAIN OF CUSTODY RECORD

RUSH

YES ☒

NO ☐

Proj No.		Project Name /																
P.O. Number	Sampler																	
Sta. No.	Date	Time	Comp	Gauß	Station Location	No. of Containers	BTEX 602/8020	BTEX VPH 3810 Modified	Gasoline 8015	TPH (IR) 418.1	Oil & Grease 413.1	EP TOX	Cd,Cr,Pb only	EP TOX Metals (8)	PCE'S 608/8080	Chlor. Solv. 601/8010	Flashpoint 1010	VOL
#1	10/31	11:40am	✓		SAMPLE #1	1				✓								
#2	10/31	11:45am	✓		✓ #2	1				✓								
#3	10/31	11:55	✓		✓ #3	1				✓								
ALL SAMPLES WILL BE DISPOSED OF 30 DAYS AFTER RECEIPT																		
Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)		
		10/31 12:45pm																
Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)		
Relinquished by: (Signature)		Date Time		Received for Laboratory by:				Remarks										
		10/31 12:45		Philip Nerenberg														

PEL REPORT NUMBER: 89-1659
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2647
DATE: December 11, 1989
ITEMS: Ten soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>	
1A	ND	
2A	ND	
3A	ND	
4A	410	
5A	490	
1B	50	} Oil water separator hole after excavation of contaminates
2B	200	
3B	ND	
4B	ND	
5B	2,500	
Lab Blank	ND	
Detection Limit	5	

PEL REPORT NUMBER: 89-1715
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2649
DATE: December 15, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
1C	39,000
1D	8
2D	480
Lab Blank	ND
Detection Limit	5



PACIFIC
environmental
laboratory inc.

TOTAL 135.00

9405 S.W. Nimbus Ave., Beaverton, OR 97005 (503) 844-0660

CHAIN OF CUSTODY RECORD

RUSH
YES ☐ NO ☒

Proj. No. 89-2647		Project Name Georgia Pacific		P.O. Number 89-2647		Sampler Ron Robinson												
Sta. No.	Date	Time	Comp.	Grid	Station Location	No. of Containers	BTEX 602/8020	BTEX, VPH 2810 Modified	Gasoline 8015	TPH (IR) 418.1	Oil & Grease 413.1	EP TOX	Cd, Cr, Pb only	EP TOX	Metals (8)	PCB's 508/8030	Chlor. Solv. 501/8010	Flashpoint 1010
1C	12/6	10:30am	✓		Soil pipe offshoot (5' deep)	1				✓								
1D	12/7	12:07pm	✓		60' upline of creek (5' deep) @ soil pipe	1				✓								
2D	12/7	12:05	✓		60' upline of creek 6' South of soil pipe (5' deep)	1				✓								
ALL SAMPLES WILL BE DISPOSED OF 30 DAYS AFTER RECEIPT																		
Relinquished by: (Signature) <i>[Signature]</i>		Date/Time 12/7 3:55 PM		Received by: (Signature)		Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Relinquished by: (Signature)		Date/Time		Received by: (Signature)								
Relinquished by: (Signature)		Date/Time 12/7/89 3:55		Received for Laboratory by: <i>[Signature]</i>		Remarks PEI # 89-1715												

PEL REPORT NUMBER: 89-1804
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2647
DATE: December 26, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
1E	24 - west side
2E	210 - middle
3E	360 - creek side
Lab Blank	ND
Detection Limit	5



CHAIN OF CUSTODY RECORD

Client/Project Name <i>Georgia Pacific</i>			Project Location <i>Tigard, Oregon</i>			ANALYSES					
Work Order No. <i>89-2647</i>			Field Logbook No.								
Sampler (Signature) <i>[Signature]</i>			Chain of Custody Tape No.								

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	418.1 TPH						
<i>1E</i>	<i>12/15/89</i>	<i>10:35am</i>	<i>1E WEST OF CREEK</i>	<i>SOIL</i>	☒						
<i>2E</i>	<i>12/15/89</i>	<i>10:40am</i>	<i>2E MIDDLE OF EXCAV.</i>	<i>SOIL</i>	☒						
<i>3E</i>	<i>12/15/89</i>	<i>10:45am</i>	<i>3E CREEK SIDE OF EXCAV.</i>	<i>SOIL</i>	☒						
						ALL SAMPLES WILL BE DISPOSED OF 30 DAYS AFTER RECEIPT					

Relinquished by: (Signature) <i>[Signature]</i>			Date <i>12/15/89</i>	Time <i>1:02pm</i>	Received by: (Signature) <i>[Signature]</i>			Date <i>12-18</i>	Time <i>1300</i>
Relinquished by: (Signature) <i>[Signature]</i>			Date <i>12/18/89</i>	Time <i>1500</i>	Received by: (Signature) <i>Marnetta Lundland</i>			Date <i>12/18/89</i>	Time <i>3:02pm</i>
Relinquished by: (Signature)			Date	Time	Received by: (Signature)			Date	Time

Comments:

ANALYTICAL LABORATORY

PEI# 89-1804



CHAIN OF CUSTODY RECORD

RECEIVED

MAY 10 1990

RUSH

YES ☒

NO ☐

NORTHWEST REGION

[illegible]

PEL REPORT NUMBER: 89-1405
CLIENT: Olympus Environmental
JOB REFERENCE: GP Tigard
DATE: November 1, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
#1	53 - fill material for tank hold
#2	330 - contaminated soil to stay on site
#3	33 - sample from tank hole
Lab Blank	ND
Detection Limit	5



PACIFIC
environmental
laboratory inc.

Olympus

9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 844-0660

CHAIN OF CUSTODY RECORD

RUSH

YES ☐

NO ☒

Proj. No.		Project Name		P.O. Number		Sampler		No. of Containers	BTEX 302/8020	BTEX, VPH 3510 Modified	Gasoline 9015	TPH (IR) 418.1	Oil & Grease 413.1	EP TOX	Cd, Cr, Pb only	EP TOX	Metals (8)	PCB's 408/8080	Chlor. Solv. 501/8010	Flashpoint 1010
Sta. No.	Date	Time	Comp.	Grain	Station Location															
1	11/14	10:30			30' UPGRADE EXT. DRAIN (E)	1														
2	11/14	11:07			30' UPGRADE EXT. DRAIN (W)	1														
3	11/14	10:00			EFFLUENT EXT. DRAIN	1														
ALL SAMPLES WILL BE DISPOSED ON 30 DAYS AFTER RECEIPT																				
Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)										
Ron Robinson		11/14 2:38																		
Relinquished by: (Signature)		Date Time		Received by: (Signature)		Relinquished by: (Signature)		Date Time		Received by: (Signature)										

PEL REPORT NUMBER: 89-1535
CLIENT: Olympus Environmental
JOB REFERENCE: GP Tigard
DATE: November 22, 1989
ITEMS: Three soil samples

METHOD:

TPH per EPA 418.1
Results in mg/kg (ppm)

Sample I.D.

TPH

#1
#2
#3

Lab Blank

Detection Limit

ND - east test hole }
ND - west test hole }
520 - effluent of drain
ND

5

test holes 30' upgrade
(north) of old drain line

CHAIN OF CUSTODY RECORD

RUSH

YES ☐

NO ☒

Proj. No.		Project Name		P.O. Number		Sample		Station Location		No. of Containers		BTEX		BTEX, VPH		Gasoline		TPH (IP)		Oil & Grease		EP TOX		Cd, Cr, Pb only		EP TOX		Metals (9)		PCB's		Chlor. Solv.		Flashpoint	
Sta. No.	Date	Time	Comp.	Grid	DITCH LINE																														
69-2647					Georgia Pacific																														
69-2647					Ken Robinson																														
1A	11/28	9:45			Surface South Wall	1																													
2A		10:00			Depth 6' South Wall	1																													
3A		10:05			9' ✓ ✓	1																													
4A		10:10			11' ✓ ✓	1																													
5A		10:15			13' Bottom of Clay Pipe	1																													
					O/W Sep. Hole																														
1B	12/1/89	10:20	✓		North Wall O/W hole	1																													
2B		10:20	✓		O/W Sep. Hole (up point well)	1																													
3B		10:30			South Wall Depth 5' 0"	1																													
4B		10:05			South Wall Depth 10' 7"	1																													
5B		13:17			Clay Pipe inside @ 125'																														
					upgrade of O/W Sep.	1																													
6B		13:50			Drill hole below clay pipe @ 125' from O/W																														
7B		15:00	✓		Clay Pipe wrapping and soil	1																													
					from below @ 125' from O/W																														
					8' Sep.																														

Relinquished by: (Signature)

Relinquished by: (Signature)

Date Time

2/1/89

Date Time

Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

Date Time

Date Time

Date Time

Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

PEL REPORT NUMBER: 89-1659
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2647
DATE: December 11, 1989
ITEMS: Ten soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>	
1A	ND	
2A	ND	
3A	ND	
4A	410	
5A	490	
1B	50	} Oil water separator hole after excavation of contaminates
2B	200	
3B	ND	
4B	ND	
5B	2,500	
Lab Blank	ND	
Detection Limit	5	



TOTAL 135.00

RUSH

YES ☐

110

8405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 844-0660

CHAIN OF CUSTODY RECORD

Proj. No.		Project Name		No. of Containers		BTEX		BTEX, VEH		Gasoline		TPH (IR)		Oil & Grease		EP TOX		Cd, Cr, Pb only		EP TOX		Metals (6)		PCB's		Chlor. Solv.		Flashpoint	
Sta. No.	Date	Time	Comp.	Grid	Station Location		602/8020	3810 Modified	8015	418.1	413.1																		
1C	12/6	10:30am		✓	Soil pipe offshoot (5' away)	1				✓																			
1D	12/7	12:02pm		✓	60' upline creek (15' S.P.) @ oil pipe	1				✓																			
2D	12/7	12:05		✓	60' upline of creek 6' south of oil pipe (15' S.P.)	1				✓																			

ALL SAMPLES WILL BE
 DISPOSED OF 30 DAYS
 AFTER RECEIPT

Relinquished by: *[Signature]*
 Date/Time: 12/7 12:55 PM

Received by: *[Signature]*
 Date/Time:

Relinquished by: *[Signature]*
 Date/Time:

Received by: *[Signature]*
 Date/Time:

PEL REPORT NUMBER: 89-1715
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2649
DATE: December 15, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
1C	39,000
1D	8
2D	480
Lab Blank	ND
Detection Limit	5

ROY ROBINSON



Client/Project Name		Project Location		ANALYSES																
Work Order No.		Field Logbook No.																		
Sampler (Signature)		Chain of Custody Tape No.																		
Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample																
1E	12/1/89	10:35am	1E WEST OF CREEK	SOIL	✓															
2E	12/1/89	10:40am	2E MIDDLE OF EXCAV.	SOIL	✓															
3E	12/1/89	10:45am	3E CREEK SIDE OF EXCAV.	SOIL	✓															
					ALL SAMPLES WILL BE DISPOSED OF TO E.A.A. AFTER RECEIPT															
Relinquished by: (Signature)			Date	Time	Received by: (Signature)			Date	Time											
Relinquished by: (Signature)			Date	Time	Received by: (Signature)			Date	Time											
Relinquished by: (Signature)			Date	Time	Received by: (Signature)			Date	Time											
Comments:					ANALYTICAL LABORATORY															

PEL REPORT NUMBER: 89-1804
CLIENT: Olympus Environmental
JOB REFERENCE: 89-2647
DATE: December 26, 1989
ITEMS: Three soil samples

METHOD: TPH per EPA 418.1
Results in mg/kg (ppm)

<u>Sample I.D.</u>	<u>TPH</u>
1E	24 - west side
2E	210 - middle
3E	360 - creek side
Lab Blank	ND
Detection Limit	5

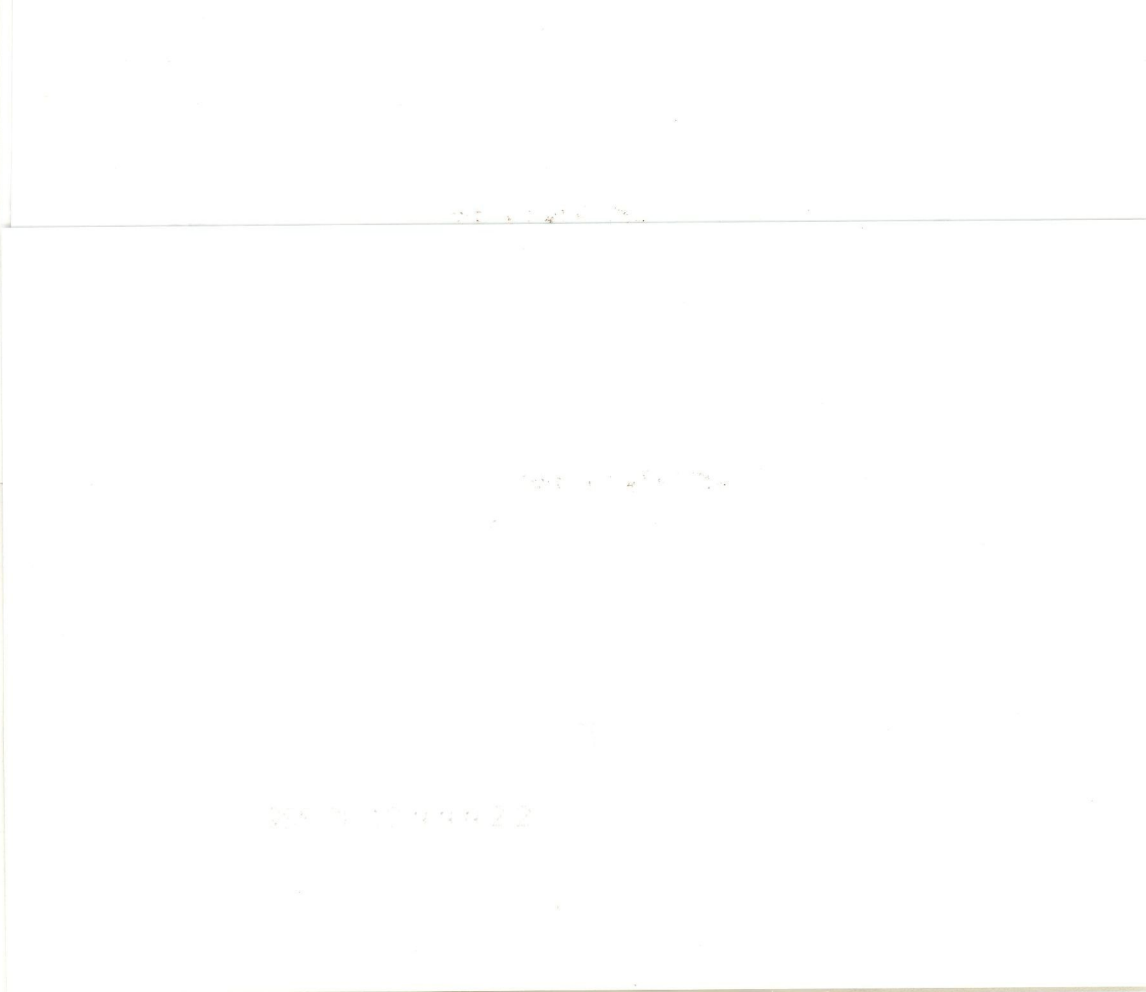




255 20 12 4 4 3 2







DEQ EMERGENCY RESPONSE FORM

NORTHWEST REGION SPILL # B-1

PERSON RECEIVING REPORT

NAME: JOHN TAYLOR

PHONE NO.: 229 6961

WHEN RECEIVED

DATE: 1 Feb 89 TIME: 0900

EMD INCIDENT NO. 89 095
(If no EMD contact, see REVERSE)

PERSON REPORTING SPILL

NAME: ABBY KERSHAW

COMPANY/AGENCY: EMD

PHONE NO.: -

ON SCENE CONTACT PERSON:

NAME: ED TEUSCHER

COMPANY/AGENCY: GEORGIA-PACIFIC / TIGARD

PHONE NO.: 620 4203

WHERE/WHEN SPILL OCCURRED

LOCATION: GEORGIA-PACIFIC TRUCK FACILITY
ON 72ND IN TIGARD

WASH? Y

DATE: 1 Feb TIME: 8:50

MATERIAL(S) DESCRIPTION AND QUANTITY

DIESEL FUEL, UNKNOWN QUANTITY
(LATER ESTIMATE @ 5-25 GALLONS)

POTENTIAL FOR FURTHER SPILLAGE?
Y (N)

IF YES, DESCRIBE: _____

 AQ RCRA UST X WQ
 NON-RCRA HW

THREAT TO PUBLIC WATERS? (Y) N

IF YES, DESCRIBE: SPILL DRAINED TO
BALL CREEK

THREAT TO PUBLIC SAFETY Y (N)

IF YES, DESCRIBE: _____

HOW SPILL OCCURRED

(INFO FROM E. TEUSCHER ON 2Feb): OVERFILL OF TRUCK
DIESEL TANK, DRIVER WASHED DOWN, APPARENTLY TO
CONCEAL SPILL; DRIVER NOT DETERMINED YET -
OVERNIGHT-TYPE OCCURRENCE

RESPONSE ACTION INITIATED:

1. IS SITE SECURED FOR SAFETY? Y N

BY WHOM _____

2. CONTAINMENT STEPS TAKEN BOOMS IN CREEK,

PAD IN CATCH BASIN

3. SPILLER NOTIFIED

ASSUMED CLEANUP RESPON.

CONTACT NAME & NO. _____

4. CLEANUP CREW AND EQUIPMENT (Y) N

ON SCENE
IF NOT, EXPECTED ARRIVAL _____

5. OTHER PUBLIC AGENCIES RESPONDING
IF NO POLICE OR FIRE, SEE REVERSE

6. NOTIFICATION(S): _____

7. IS A PUBLIC ANNOUNCEMENT Y (N)
NEEDED?

8. SITE VISIT CONDUCTED? Y (N)

1Feb ACTION TAKEN:

9:00 - Phoned Teuscher, not in @ scene
Call back: - spill discovered by eddy upon
arrival @ work in morning
- unknown source, amount
- absorbent booms in stream, pad in catch basin
- Champro contacted, on the way
3:45 - Teuscher phoned (msg.) cleanup continuing

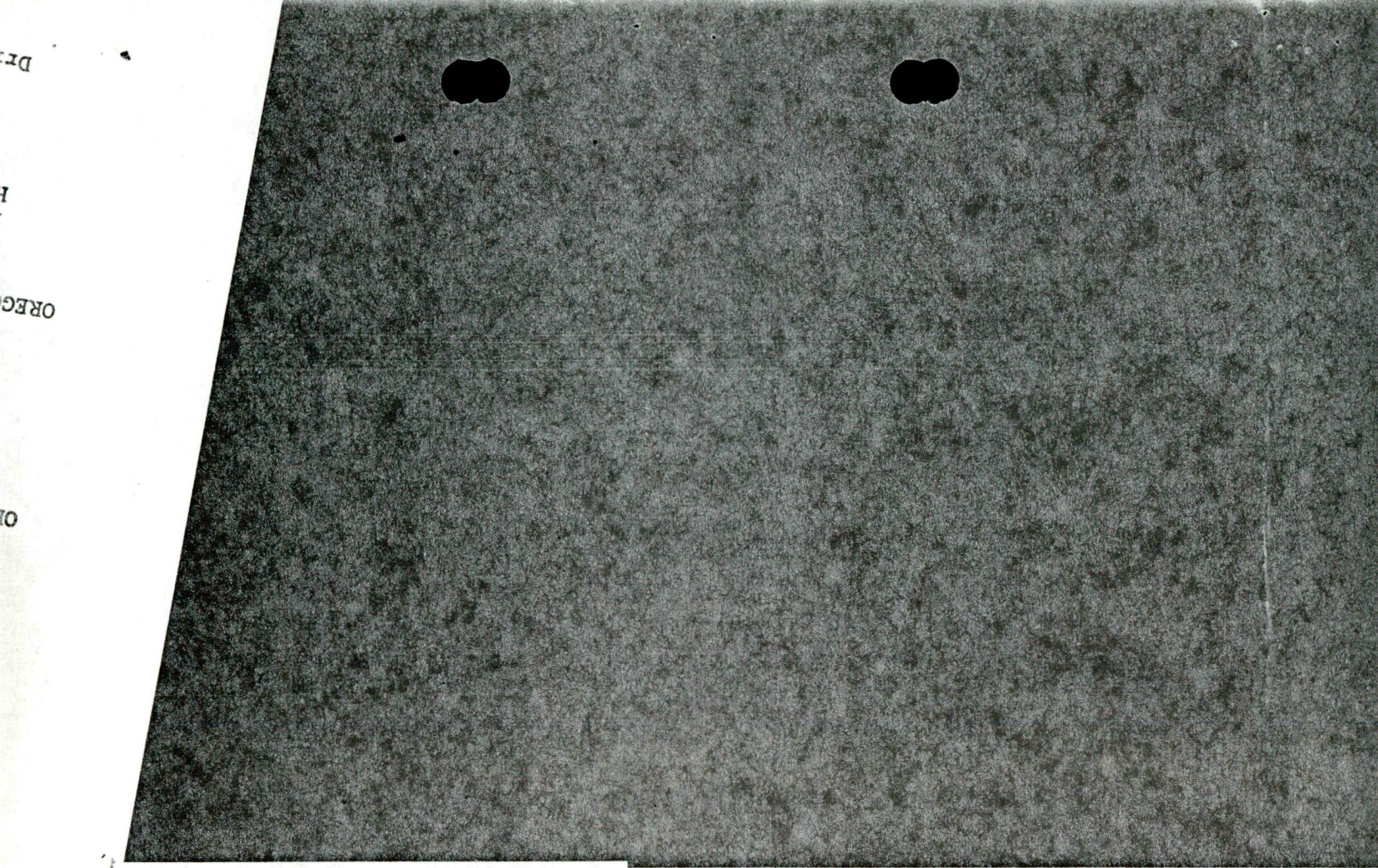
2Feb: 11:45

- cleanup est. @ 95%, continuing
- 2 booms remain in stream, to be removed
Friday or Monday
- spill from fuel island, tank overfill
- est. 5-25 gal.
- will submit report when cleanup complete
- neighbor businesses (Gorbary Williams) contacted

GO303 (1/88)

cc: Hazardous Materials Section
Regional Operations
Public Affairs
Hazardous Waste Section
(HW Related)
Water Quality (WQ Related)
Air Quality (AQ Related)

See Wash Co - "Georgia Pacific"
Last file for cleanup



OREG

70



While You Were Out

To QKT (B-1)
Date 2-6-89 Time 9:31

Ed Teacher called
of GP
Phone 620-4203

- | | |
|---|---|
| ☒ Telephoned | ☐ In person |
| ☒ Please call | ☐ Wants to see you |
| ☐ Will call again | ☐ Returned your call |

Message 10:45 DIESEL FROZEN IN CK., STILL
CONTAINED BEHIND 2 BOOMS // RON ROBINSON
FROM CHEMPRO WILL VACUUM WHEN THAWED;
CREW ON STANDBY
WILL CALL AGAIN WHEN CLEANUP COMPLETE

Taken by JB JE Taylor

the release is not valid; no further action needed.

valid.

irred, but not of a hazardous substance.

ardous substance has been confirmed through ^{telephone} written-
pection by DEQ/other agency.
known or suspected.

a diminimus quantity.

s occurred and consisted of:
o visible sheen or odor; no sample taken
ackground and sample results have been received.
rred, but no sampling was done.
up occurred and more work is needed.

r environmental impacts remain or have the potential to

sfactory (Some trace soil contamination may remain).

RELEASE EVALUATION

Responsible Party GEORGIA PACIFIC EMD No. 89 095
Substance Released DIESEL FUEL Quantity ?
Date of Release 1 FEB 89 Location G-P TRUCK YARD, 72ND IN TRARD
Inspector JK TAYLOR / LG GARNER

SUBSEQUENT INVESTIGATION HAS SHOWN LUST SITUATION. SPILL PREVIOUSLY THOUGHT TO BE OVERFILL OF TRUCK TANK.

I have reviewed the attached complaint or spill report on the above reported release and have determined that:

Validate Information

☐ The information on the release is not valid; no further action needed.

☒ The information is valid.

Confirm Release

☐ A release has occurred, but not of a hazardous substance.

☒ A release of a hazardous substance has been confirmed through ^{telephone} ~~written~~ report or site inspection by DEQ/other agency.
communications w/ on-site environmental coordinator

☐ Other releases are known or suspected.

☐ The release was of a diminimus quantity.

Evaluate Cleanup

☐ Remedial action has occurred and consisted of:

☐ Cleanup to no visible sheen or odor; no sample taken

☐ Cleanup to background and sample results have been received.

☐ Cleanup occurred, but no sampling was done.

☒ Partial cleanup occurred and more work is needed.

Assess Impact

☐ No public health or environmental impacts remain or have the potential to occur because:

☐ Cleanup satisfactory (Some trace soil contamination may remain).

☐ Remote location and small quantity released.

☐ No waterways near

☐ No groundwater impact likely.

☒ Other cleanup in process

Assess Impact (continued)

- ☒ Potential for health or environmental impact remains due to:
- ☐ Surface water impact occurred and users are nearby.
 - ☐ Groundwater impact is known or likely.
 - ☐ Surface water impact and wildlife nearby.
 - ☐ Location not remote.
 - ☒ Other LUST
-

Site Visit

- ☐ A site visit was conducted by DEQ.
- ☐ A site visit was conducted by another public official.
- ☒ No site visit occurred.

Other Regulatory Actions

- ☐ Site has DEQ permit or approval (AQ, WQ, SW, or HW).
- ☐ Site has had no prior DEQ involvement.
- ☒ Other releases have occurred and have been investigated by DEQ.
- ☐ EPA has had involvement on current or past releases.

Further Action Needed

- ☐ Additional documentation
- ☒ Additional cleanup (to background or matrix levels).
- ☐ Additional review of site history or data, including other releases.
- ☐ Additional evaluation of health, welfare or environmental impacts.
- ☒ Additional information on extent of release.
- ☐ Map or sketch of release area.

Secondary Assessment

- ☐ A secondary assessment is recommended for this release.
- ☒ A secondary assessment is not recommended.

* Use this are for a sketch of the site or further description of work needed at the site.

JK Taylor
10 Feb 89

89-19

*** MUST BE SUBMITTED 30 DAYS IN ADVANCE OF DECOMMISSIONING ***
NOTICE OF UNDERGROUND STORAGE TANK
PERMANENT DECOMMISSIONING

NWR
sent 1-4-91

Facility

Name Georgia-Pacific
 Address 14410 SW 72nd Ave
Tigard, Oregon 97223
 Phone 620-4203
 Facility ID Number 5976 *

Tank Owner

Name Georgia Pacific Corporation
 Address 14410 SW 72nd Ave
Tigard, OR 97223
 Phone 620-4203

Permanent Decommissioning Performed By:

Company O'Sullivan Construction Phone (503) 682-0275
 Scheduled Date for Permanent Decommissioning 30 days 2/3/90
 Method to be used: Removal ☒ In-Place ☐ Fill Material ☐

Tanks to be Decommissioned

Tank ID#	*PERMIT #	Tank Size	Last Product Stored
2	EKAT	15000	Diesel
3	EKBK	2000	Used Oil
4	EKBA	3000	Gasoline
5	AHBEH	3000	Motor Oil

Are the decommissioned tanks to be replaced by new underground storage tanks? Yes ☐ No ☒
 If yes, please submit a new permit application containing information on the new tanks.

Where and how will the old tanks be disposed?

Scrap Name CLIFF KOPPE Location VANCOUVER, WA
 Landfill Name _____ Location _____
 Stored Name _____ Location _____
 Other Comment _____

Signature Chad Walker Date 1/3/90

Return Completed Form To:

Department of Environmental Quality
 UST Program - Decommissioning Notice
 811 SW Sixth Ave.
 Portland, Oregon 97204

For Information: (503) 229-5559 or Toll Free in Oregon 1-800-452-4011 *

Department of Environmental Quality
RECEIVED
 JAN 4 1991
 UST Compliance Section