OLYMPUS
ENVIRONMENTAL, INC.

April 13, 1998

Site 956
DeBodis

Mr. Robert M. Saville
ECS Claims Administrators, Inc.
P.O. Box 688
Exton, Pennsylvania 19341

Re: **Preliminary Site Investigation Report**
R.E. Powell Distributing, Inc.
100 West Main Street
Grandview, Washington
Olympus Work Order # 7545

Dear Mr. Saville:

Olympus Environmental, Inc. (Olympus) prepared this Preliminary Site Investigation Report for ECS Claims Administrators (ECS). ECS contracted Olympus, on behalf of Homestead Insurance Company, to perform a site investigation at the R.E. Powell property located in Benton County, Washington at 100 West Main Street in Grandview. This Preliminary Site Investigation Report includes soil and ground water sampling and analyses data collected during the advancement of GeoProbe borings.

WORK SCOPE AND BACKGROUND INFORMATION

During removal of an underground storage tank system in March 1995, petroleum hydrocarbon impacted soil was found beneath the fuel dispenser island at the R.E. Powell property (Facility). During a limited site investigation conducted in October 1995 by Sage Earth Sciences, Inc., soil and ground water samples were collected from hand-augered soil borings in areas adjacent to the dispenser island (Figure 1). Laboratory analysis of the soil samples did not detect benzene, toluene, ethylbenzene, or xylenes (BTEX) at concentrations exceeding Washington Department of Ecology (DOE) Model Toxics Control Act Method A Compliance Cleanup Levels for soil. Analyses of four samples detected total petroleum hydrocarbons as gasoline (TPH-G) at concentrations exceeding DOE Model Toxics Control Act Method A Compliance Cleanup Levels for soil. Ground water sampling and analyses collected during the 1995 investigation documented petroleum hydrocarbon impact to ground water.

ECS contracted with Olympus to perform site assessment activity to determine the nature and extent of petroleum hydrocarbons in soil and ground water at and adjacent to the Facility. Olympus' assessment includes the following completed and scheduled tasks:

- advancement of five GeoProbe soil borings to the east, north, and south of the dispenser island and collection of soil and ground water samples from each GeoProbe boring;

- installation of three monitoring wells on Facility property, with soil sample collection from well borings and ground water sample collection from each developed well;
- laboratory analysis of soil and ground water samples for BTEX and TPH-G;
- gauging of ground water elevations in the monitoring wells and determination of ground water flow direction and gradient; and
- submittal of a report presenting site data, with recommendations for future assessment or remedial actions.

GEOPROBE SOIL AND GROUND WATER SAMPLING

On February 19, 1998, Olympus mobilized to the Facility in preparation for GeoProbe sampling activities. Our field hydrogeologist met with representatives of the City of Grandview and Cascade Natural Gas to locate underground water, sewer, and natural gas lines. Underground electrical lines of Pacific Power and Light had been previously marked. All other notified parties reported that their respective utility lines were overhead or not present in the work area.

Olympus' subcontractor, Cascade Drilling, Inc. (Cascade) of Woodinville, Washington, mobilized to the Facility on February 20, 1998. Cascade, under the direction of Olympus, advanced four GeoProbe borings (GP-1, GP-2, GP-3, and GP-4) in Division and Main Streets and one boring (GP-5) to the south of the Facility building (Figure 1). The borings were advanced 15 to 20 feet below ground surface (BGS). Soil and ground water samples were collected at each boring location.

Two-foot soil cores were collected at five-foot intervals at each boring using a one-inch diameter hollow probe rod lined with a polyethylene sleeve. Each soil core was logged, and soil texture described according to procedures established in American Society for Testing and Materials (ASTM) Standard D 2488-84. Representative soil samples from the soil cores were field screened for volatile hydrocarbons using a Photovac TIP II photoionization detector (PID) calibrated to an isobutylene standard. Criteria for selection of soil samples for laboratory analyses included PID readings and degree of petroleum staining and/or odor. Based on these criteria, soil samples from 15 feet BGS at GP-1, GP-2, GP-3, GP-4, and GP-5 were submitted for laboratory analysis. To determine hydrocarbon impact below 15 feet a soil sample from 20 feet BGS at GP-5 was also submitted.

Soil texture at all boring locations and depths was a low plasticity silt with little to some fine sand (ML), with some one to six inch thick, well-graded, fine to medium-grained sand layers (SW). GeoProbe Boring Logs, including sample depths, recovery, and description, PID readings, and observations, are included in Attachment B.

Ground water in all GeoProbe borings was found at approximately 15 to 16 feet BGS. A ground water sample from each boring was submitted to the laboratory for analysis. Samples were collected by installing a two foot screened-steel GeoProbe ground water sampling point at 16 feet BGS, and using a peristaltic pump with dedicated polyethylene tubing to collect water through the sampling point. The screened sampling point was decontaminated between uses with a non-phosphate soap and water wash, a tap water rinse, and a final de-ionized water rinse.

SOIL AND GROUND WATER ANALYSES RESULTS

Soil and ground water samples collected for laboratory analysis were shipped, using chain of custody procedure, by overnight courier to North Creek Analytical Laboratory in Bothell, Washington. Samples were analyzed for TPH-G and BTEX using procedures established in SW-846 Method 8015M (modified) and SW-846 Method 8021B, respectively.

A summary of the GeoProbe soil sample analyses follows:

- Analysis of sample GP-1-15 (GeoProbe boring GP-1 at a depth of 15 feet BGS) detected concentrations of benzene at 1.33 milligrams per kilogram (mg/kg), toluene at 1.03 mg/kg, ethylbenzene at 8.66 mg/kg, xylenes at 40.2 mg/kg, and total petroleum hydrocarbons-gasoline (TPH-G) at 1,280 mg/kg.

- Analysis of sample GP-3-15 was non-detect for benzene and toluene at laboratory reporting limits (RL) of 0.250 mg/kg, and detected concentrations of ethylbenzene at 0.584 mg/kg, xylenes at 0.803 mg/kg, and TPH-G at 154 mg/kg.

- Analysis of sample GP-4-15 was non-detect for benzene and toluene (RL=0.500 mg/kg), and detected concentrations of ethylbenzene at 0.973 mg/kg, xylenes at 1.13 mg/kg, and TPH-G at 299 mg/kg.

- Analysis of sample GP-5-15 was non-detect for benzene and toluene (RL=2.50 mg/kg), and detected concentrations of ethylbenzene at 14.3 mg/kg, xylenes at 54.2 mg/kg, and TPH-G at 5,910 mg/kg.

- Analyses of samples GP-2-15 and GP-5-20 were non-detect for benzene, toluene, and ethylbenzene (RL=0.0500 mg/kg), xylenes (RL=0.100 mg/kg), and TPH-G (RL=5.00 mg/kg).

A summary of the GeoProbe ground water sample analyses follows:

- Analysis of sample GP-1-15W (GeoProbe boring GP-1 at a depth of approximately 15 feet BGS) detected concentrations of benzene at 1910 micrograms per liter (µg/l), ethylbenzene at 527 µg/l, xylenes at 40.2 µg/l, and TPH-G at 8,400 µg/l. Toluene was non-detect (RL=12.5 µg/l).

- Analysis of sample GP-2-15W detected concentrations of benzene at 5.26 µg/l, toluene at 2.49 µg/l, ethylbenzene at 1.76 µg/l, xylenes at 6.63 µg/l, and TPH-G at 77.7 µg/l.

- Analysis of sample GP-3-15W detected concentrations of benzene at 22.1 µg/l, toluene at 1.57 µg/l, ethylbenzene at 16.6 µg/l, xylenes at 22.3 µg/l, and TPH-G at 594 µg/l.

- Analysis of sample GP-4-15W detected concentrations of benzene at 92.0 µg/l, toluene at 3.88 µg/l, ethylbenzene at 72.0 µg/l, xylenes at 13.7 µg/l, and TPH-G at 1,220 µg/l.

- Analysis of sample GP-5-15W detected concentrations of benzene at 7.94 µg/l, toluene at 4.87 µg/l, ethylbenzene at 80.7 µg/l, xylenes at 113 µg/l, and TPH-G at 2,930 µg/l.

Table 1 presents the results of the soil and ground water sample analyses and Washington Department of Ecology Model Toxics Control Act Method A Compliance Cleanup Levels for soil and groundwater. Laboratory analytical reports, Olympus QA/QC Data Validation Reports, Chain of Custody Records, and Olympus Soil and Ground Water Sampling Information Forms are included in Attachment A.

DISCUSSION

The results of the GeoProbe investigation determined that subsurface soil and ground water surrounding the Facility have been impacted by petroleum hydrocarbons. Laboratory analyses of soil samples shows petroleum impacted soil extends to the east, north, and south of the Facility. Gasoline range hydrocarbons detected in the samples from GP-1, GP-3, GP-4, and GP-5 are at concentrations greater than DOE Model Toxics Control Act Method A Compliance Cleanup Levels (MTCA-CCL) for soil. MTCA-CCL for soil was exceeded for benzene at GP-1 and for xylenes at GP-1 and GP-5.

BTEX compounds and gasoline range hydrocarbons were detected in all ground water samples. Petroleum hydrocarbon impacted ground water extends to the east, north, and south of the Facility. Analysis of ground water samples collected from borings GP-1, GP-4, and GP-5 detected gasoline range hydrocarbons in concentrations greater than MTCA-CCL for ground water. MTCA-CCL for benzene was exceeded at all borings, for ethylbenzene in GP-1, GP-4, and GP-5, and for xylenes in GP-1, GP-3, and GP-5.

FUTURE SITE ACTIVITY

Scheduled assessment activity includes the advancement of three soil borings with monitoring well completions. Soil and ground water samples will be collected at each boring and well, respectively. Ground water elevation gauging will be used to determine ground water flow direction and gradient. The data from the soil boring and the monitoring well completions will be used to determine petroleum hydrocarbon concentrations in soil and ground water at the Facility and to identify possible source areas of petroleum hydrocarbons.

LIMITATIONS

Olympus performed the services documented in this report in a manner consistent with generally accepted principles and practices for the nature of the work completed in the same or similar localities, at the time the work was performed. No other warranty, express or implied, is made. Opinions contained in this report apply to conditions existing when the services were performed. All conclusions and recommendations are based on readily available and reasonably ascertainable information on site conditions at the time of the work and for the laws in effect at that time. We are not responsible for any changes in environmental standards, practices, or regulations subsequent to performance of services. This report is not meant to represent a legal opinion. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

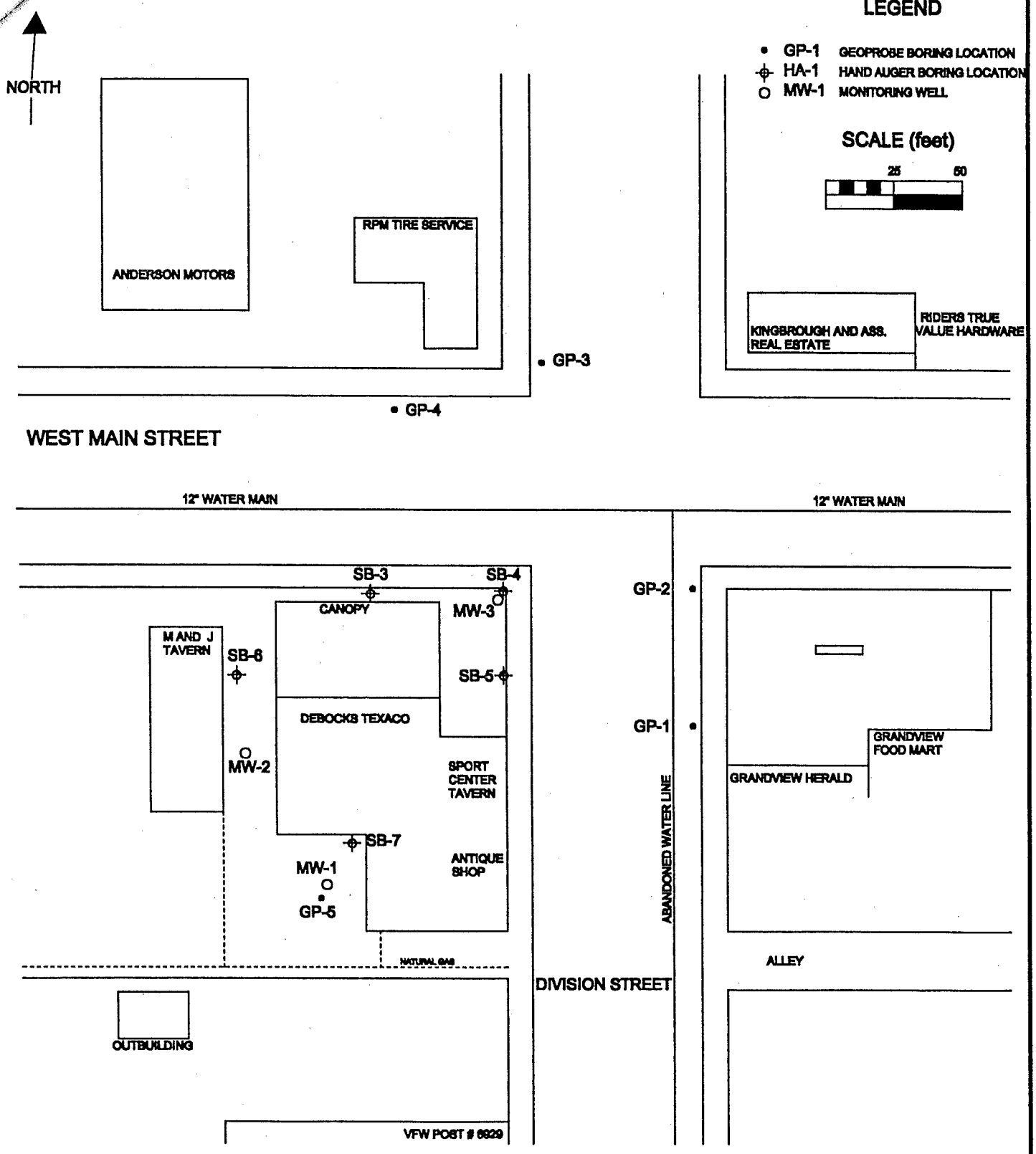
Thank you for allowing Olympus the opportunity to work with the ECS Claims Administrators on this project. Please feel free to contact me at (208) 376-5006, fax (208) 376-5091, at fedolyboi@rmci.net, or the above address should you have any questions or comments.

Sincerely,

Fritz Durham
Staff Hydrogeologist

Attachment

cc: Gary Christensen, R.E. Powell Distributing
file



OLYMPUS ENVIRONMENTAL, INC.	FACILITY SITE MAP R.E. POWELL DEBOCKS TEXACO 100 WEST MAIN GRANDVIEW, WASHINGTON	Design:	Drawn: FED		FIGURE 1
		Checked:	Date: 3/24/98		
		Approved:	Revision	By	Date
		Job No: 7545			
		CAD File: FED			
		Scale:			

TABLE 1 - GROUNDWATER AND SOIL SAMPLE ANALYSES
R.E. Powell Distributing, Inc.
Grandview, Washington

Field Information			Aromatic Volatile Organics: BTEX (SW-846 Method 8021B) and TPH-G (8015M)					
Sample Identification	Depth (feet)	Date	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	TPH-G (Total Gasoline Range Hydrocarbons) (µg/l)	Comments
Geoprobe Ground Water Analyses								
GP-1-15W	15	20-Feb-98	**1,910**	ND<12.5	**527**	**1,160**	**8,400**	
GP-2-15W	15	20-Feb-98	**5.26**	**2.49**	**1.76**	**6.63**	**77.7**	
GP-3-15W	15	20-Feb-98	**22.1**	**1.57**	**16.6**	**22.3**	**594**	
GP-4-15W	15	20-Feb-98	**92.0**	**3.88**	**72.0**	**13.7**	**1,220**	
GP-5-15W	15	20-Feb-98	**7.94**	**4.87**	**80.7**	**113**	**2,930**	
TB	-	20-Feb-98	ND<0.500	ND<0.500	ND<0.500	ND<1.00	ND<50.0	
Department of Ecology Model Toxics Control Act : Method A Compliance Cleanup Levels								
Ground Water Cleanup Levels (µg/l)			5	30	40	20	1,000	

Sample Identification	Depth (feet)	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	WTPH-G (Gasoline Range Hydrocarbons) (mg/kg)	Comments
Geoprobe Soil Analyses								
GP-1-15	15	20-Feb-98	**1.33**	**1.03**	**8.66**	**40.2**	**1,280**	
GP-2-15	15	20-Feb-98	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.100	ND<5.00	
GP-3-15	15	20-Feb-98	ND<.250	ND<.250	**0.584**	**0.803**	**154**	
GP-4-15	15	20-Feb-98	ND<0.500	ND<0.500	**0.973**	**1.13**	**299**	
GP-5-15	15	20-Feb-98	ND<2.50	ND<2.50	**14.3**	**54.2**	**5,910**	
GP-5-20	20	20-Feb-98	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.100	ND<5.00	
Sage Earth Sciences Hand Auger Soil Analyses								
(SB3) 0395-S3	10	24-Oct-95	ND<0.1	ND<0.1	ND<0.3	ND<0.1	ND<20.0	
(SB3) 0395-S4	15	24-Oct-95	ND<0.1	ND<0.1	**1.7**	**4.1**	**1800**	
(SB4) 0395-S7	10	24-Oct-95	ND<0.1	ND<0.1	ND<0.3	ND<0.1	**255**	
(SB5) 0395-S10	10	24-Oct-95	ND<0.1	ND<0.1	ND<0.3	ND<0.1	**117**	
(SB6) 0395-S13	10	24-Oct-95	ND<0.1	ND<0.1	ND<0.3	ND<0.1	ND<20.0	
(SB7) 0395-S16	10	24-Oct-95	ND<0.1	ND<0.1	ND<0.3	ND<0.1	ND<20.0	
(SB7) 0395-S17	12	24-Oct-95	ND<0.1	ND<0.1	ND<0.3	ND<0.1	**426**	
Department of Ecology Model Toxics Control Act : Method A Compliance Cleanup Levels								
Soil Cleanup Levels (mg/kg)			0.5	20.0	40.0	20.0	100	

Notes:
µg/l = micrograms per liter
mg/kg = milligrams per kilogram
ND = Not Detected at laboratory reporting limits
- = not analyzed or reported
Underlined values exceed DOE Method A Compliance Cleanup Levels

ATTACHMENT 1

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

7110 38th Drive SE
Lacey, Washington 98503

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 360-459-4670
Fax: 360-459-3432

May 3, 1996

Justin Bolles
GN Northern, Inc.
722 North 16th Ave., Ste. 31
Yakima, WA 98902

Dear Mr. Bolles:

Please find enclosed the data report for analyses conducted off-site May 2, 1996, for soil samples from the City of Grandview Project, Project No. 196-236-1, in Grandview, Washington. The soils were analyzed for Heavy Petroleum Hydrocarbons by WTPH-418.1.

The results of these analyses are summarized in the attached table. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to GN Northern for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/-accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

When analyses are taking place on-site with the mobile lab, the need for Field Blanks or Travel/Trip Blanks is eliminated. If there is going to be a delay before sample preparation for analysis, the sample is stored at 4° C.

ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

TPH-Heavy Fuel Hydrocarbons (EPA 418.1, WTPH-418.1)

Calibration plot values must produce a best fit line, with known values deviating from the plot by less than 10%. Prior to sample run, a blank, a calibration standard, and a method blank are run. One method blank per 10 samples is prepared. A sample duplicate is prepared for each 10 samples to be run per day.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

CITY OF GRANDVIEW
Grandview, Washington
GN Northern, Inc.
Project No.: 196-236-1

Heavy Petroleum Hydrocarbons in soil by WTPH-418.1

Sample Number	Date	TPH mg/kg
Meth. Blank	05/02/96	nd
05196 SP4	05/02/96	223
05196 SP5	05/02/96	363
05196 SP6	05/02/96	274
05196 SP6 Dup	05/02/96	320
Method Detection Limit		10

"nd" Indicates not detected at the listed detection limit.

teg TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES

CHAIN-OF-CUSTODY RECORD

CLIENT: GN - NORTHERN

ADDRESS: 722 N. 16TH Ave., Ste. 31 YAKIMA, WA 98902

PHONE (509) 248-9798 FAX: (509) 248-4220

CLIENT PROJECT #: 196-236-1 PROJECT MANAGER: Bolles

DATE: 5-1-96 PAGE 1 OF 1

PROJECT NAME: City of Grandview

LOCATION: Grandview, WA

COLLECTOR: Bolles DATE OF COLLECTION 5-1-96

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 601/8010	VOA 602/8020	VOA 624/8240	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH (8015 (diesel)	TPH 8015 (g & d)	PAH 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	WTPH 418.1	FIELD NOTES	Total Number of Containers	Laboratory Note Number
05196 SP4	—	8:35A	S	JAR															X			1	
05196 SP5	—	8:40A	S	JAR															X			1	
05196 SP6	—	8:50A	S	JAR															X			1	

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
	5-1-96/5:00P	PONY EXPRESS	
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
			1260 5-2-96

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL ● $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

PLEASE FAX RESULTS