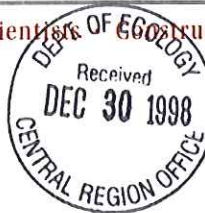




Northern, Inc.

• Consulting Engineers • Environmental Scientists • Construction Materials Testing



December 28, 1998

Mr. Mark Peterschmidt
Washington State Department of Ecology
15 West Yakima Avenue, Ste. 200
Yakima, Washington 98902

722 No. 16th Ave., Ste. 31
Yakima, WA 98902
(509) 248-9798
Fax (509) 248-4220

6713 W. Clearwater, Ste. F
Kennewick, WA 99336
(509) 734-9320
Fax (509) 734-9321

13501 100th Ave. N.E., Ste. 5238
Kirkland, WA 98034
(425) 825-0327
Fax (425) 825-0328

81006 Hwy. 395 No.
Hermiston, OR 97838
(541) 564-0991
Fax (541) 564-0928

**RE: Letter Report of Free Product Recovery, Sportland Mini-mart Texaco Service
Station Site, Cle Elum, Washington (Site ID# 002200)**

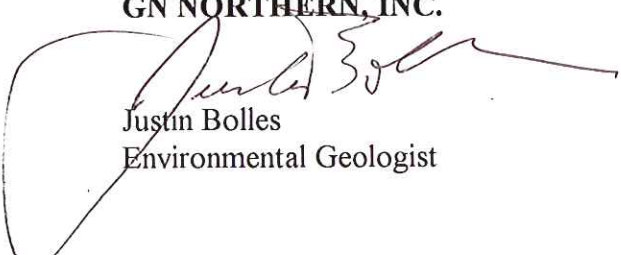
Dear Mr. Peterschmidt:

On behalf of Mr. Jeff Anderson, GN Northern, Inc. (GN Northern) is pleased to provide the following report of free product recovery for the Sportland Mini-mart Texaco service station located at 4400 Bullfrog Road in Cle Elum, Washington. The report describes free product recovery at the site from the dates of November 3 thru December 3, 1998. Prior activities conducted at the site are published in GN Northern documents 198-334.RPT (*Report of Underground Storage Tank Site Assessment*) and 198-344-1.RPT (*Report of Soil / Groundwater Characterization Assessment*). Two copies of document 198-334.RPT were provided to the Washington State Department of Ecology (WDOE) - Underground Storage Tank Section in Olympia, Washington, on October 26, 1998. Two copies of document 198-334-1.RPT were submitted to you at WDOE's Central Region office in Yakima, Washington, on November 19, 1998.

If you have any questions regarding the information provided to date, please do not hesitate to contact our Kennewick, Washington, office at (509) 734-9320.

Sincerely,

GN NORTHERN, INC.


Justin Bolles
Environmental Geologist

Attachment: Letter Report of Free Product Recovery (2 copies)

cc: Mr. Jeff Anderson (Sportland Mini-mart Texaco)
Project File



• Consulting Engineers • Environmental Scientists • Construction Materials Testing

December 28, 1998

Mr. Jeff Anderson
Sportland Mini-mart Texaco
4400 Bullfrog Road
Cle Elum, WA 98922

GN Northern Report No. 98-334-2.RPT

722 No. 16th Ave., Ste. 31
Yakima, WA 98902
(509) 248-9798
Fax (509) 248-4220

6713 W. Clearwater, Ste. F
Kennewick, WA 99336
(509) 734-9320
Fax (509) 734-9321

13501 100th Ave. N.E. Ste. 5238
Kirkland, WA 98034
(425) 825-0327
Fax (425) 825-0328

81006 Hwy. 395 N
Hermiston, OR 97838
(541) 564-0991
Fax (541) 564-6928

RE: Letter Report of Free Product Recovery, Sportland Mini-mart Texaco Service Station Site, Cle Elum, Washington (Site ID# 002200)

Dear Mr. Anderson:

GN Northern, Inc. (GN Northern) is pleased to provide the following letter report describing free product recovery activities at the Sportland Mini-mart Texaco service station site located at 4400 Bullfrog Road in Cle Elum, Washington (Figure 1, Attachment 1). Project activities were conducted in accordance with our unit price agreement dated October 21, 1998.

Background Information

The Sportland Mini-mart Texaco service station facility was constructed approximately 15 to 20 years ago. Based on our discussions with Mr. Anderson, only leaded and unleaded gasoline have been dispensed at the site. Two previously used steel 10,000-gallon underground storage tanks (USTs), one covered pump island, and associated equipment were removed during UST decommissioning activities in late-September 1998. Several weeks earlier, a petroleum hydrocarbon release in the vicinity of the dispenser pump island was discovered by Joe Hall Construction of Selah, Washington, during new UST installation and equipment upgrade activities. Concentrations of total petroleum hydrocarbons in soil and groundwater samples collected near the dispenser pump island exceeded Model Toxics Control Act (MTCA) Method A cleanup levels. The results of the UST site assessment revealed that the removed tanks had not leaked.

Subsequent soil and groundwater characterization was performed between the dates of October 6 and 8, 1998, to further evaluate the release. Five borings were completed at the site using a drill rig equipped with a tubex system. Following the completion of boring and soil sampling activities, monitoring wells were constructed in the borings in accordance with Washington State Department of Ecology (WDOE) guidelines (Figure 2, Attachment 1). Selected soil and groundwater samples were submitted to Transglobal Environmental Geosciences Northwest, Inc. (TEG), a WDOE approved laboratory in Lacey, Washington, for total petroleum hydrocarbons as gasoline (TPH-G) analysis by Method NWTPH-G and benzene, toluene, ethylbenzene, and xylenes (BTEX) analysis by Environmental Protection Agency (EPA) Method 8020. Analytical

Mr. Jeff Anderson
December 28, 1998
Page 2

laboratory test results revealed that gasoline range petroleum hydrocarbons were present in soil and groundwater samples collected from the monitoring well MW-3 and MW-5 locations. Contaminant concentrations in the soil samples were below MTCA Method A cleanup levels. After conditions had stabilized, about 2.2 feet and 0.45 foot of free product was measured in MW-3 and MW-5, respectively using a Heron H.01L interface/water level meter.

The full extent of lateral contamination could not be determined by the assessments performed to date. The vertical extent of the release in the unsaturated zone appears to be limited by surface fluctuations of the groundwater table at depths ranging between 14 and 23 feet below ground surface (BGS). The petroleum hydrocarbon plume has spread in northeast-southwest directions from the former dispenser pump island following the release. Based on a series of weekly groundwater table measurements conducted between the dates of November 3 and December 3, 1998, the direction of groundwater flow was calculated to be toward the south and the Yakima River. At the time of our second round of groundwater sampling on December 3, 1998, the product plume had not reached MWs-1, 2, and 4. Table 1 (Attachment 2) summarizes groundwater sampling data.

Free Product Recovery

The goals of liquid hydrocarbon recovery are to remove as much free product as possible while establishing controls over continued subsurface migration. Following our soil and groundwater characterization assessment, GN Northern installed a flexible axial peristaltic (FAP) pump in MW-3. The pump's skimming device is designed to float with the inlet just above the water/product interface. Since the top of the float is immersed in product, only product is removed by the FAP pump. In practice, however, some groundwater is also removed with the free product. The removed product was discharged, via subsurface tubing, to a 600-gallon polyethylene recovery tank located south of the on-site snowmobile storage shed. Technical data for the FAP pump and recovery equipment is located in the project file.

Approximately 300-gallons of free product and dissolved phase hydrocarbons in water were pumped to the recovery tank during the month of operation (November 3 thru December 3, 1998). Free product recovery was discontinued on December 3, 1998, due to the rapid rise in groundwater levels at the site. Our last well gauging measurements on December 3, 1998, revealed that the groundwater table had risen 9 feet in MW-3 and 5 feet in MW-5, in both cases above the zone of major contamination and level of free product. Extreme changes in the groundwater table elevation can transfer free product outside the well to residual liquids, thereby making the detection of free liquid hydrocarbons difficult to impossible.

Mr. Jeff Anderson
December 28, 1998
Page 3

Free Product and Well Development Water Disposal

GN Northern contacted Philip Services Corporation (Philip Services) in Renton, Washington, regarding the disposal of recovered free product and well development water stored on-site. Philip Services is a well recognized national recycling firm specializing in the treatment of petroleum hydrocarbon contaminated materials. The cost for disposing of the generated materials will range between \$1,200.00 to \$1,500.00. An EPA identification number must be established for the site, because of the quantity of material requiring disposal [approximately 400-gallons (includes recovered free product and well development water)]. We have contacted WDOE and requested that the appropriate forms and paperwork be provided to our office for completion. Once the EPA identification number has been established, Philip Services can initiate the material pick-up and disposal process.

Conclusions and Limitation

Although the full extent of petroleum hydrocarbon contamination in soil and groundwater has not been determined at the site, it appears that initial free product recovery efforts in MW-3 were effective in the removal of approximately 300-gallons of free product and dissolved phase hydrocarbons in water. GN Northern recommends that additional well gauging be performed on a regular basis to evaluate the fluctuating groundwater table at the site and free product levels in MWs-3 and 5. Free product recovery should be re-initiated if significant amounts of product return to the monitoring wells when groundwater levels begin to fall. Quarterly groundwater sampling should be performed to monitor water quality at the site over an annual cycle and to evaluate the potential movement of the contaminant plume. Under WAC 173-340-350, a state remedial investigation/feasibility study is required to develop and evaluate sufficient information regarding a site to enable the selection of a long term cleanup action under WAC 173-340-360. Our site characterization and activities performed to date have addressed the initial steps of the remedial investigation/feasibility study process, but additional characterization will be required before the selection of a permanent cleanup action can be determined.

This work was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. GN Northern observed a degree of care and skill generally exercised by other consultants under similar circumstances and conditions. GN Northern's findings and conclusions must be considered not as scientific certainties, but as opinions based on our professional judgement concerning the significance of the data gathered during the course of monitoring. Other than this, no warranty is implied or intended.


We appreciate the opportunity to continue to assist you with this project. If you have any questions regarding the information provided, please do not hesitate to contact our Kennewick,

Mr. Jeff Anderson
December 28, 1998
Page 4


Washington, office at (509) 734-9320.

Sincerely,

GN NORTHERN, INC.



Justin Bolles
Environmental Geologist

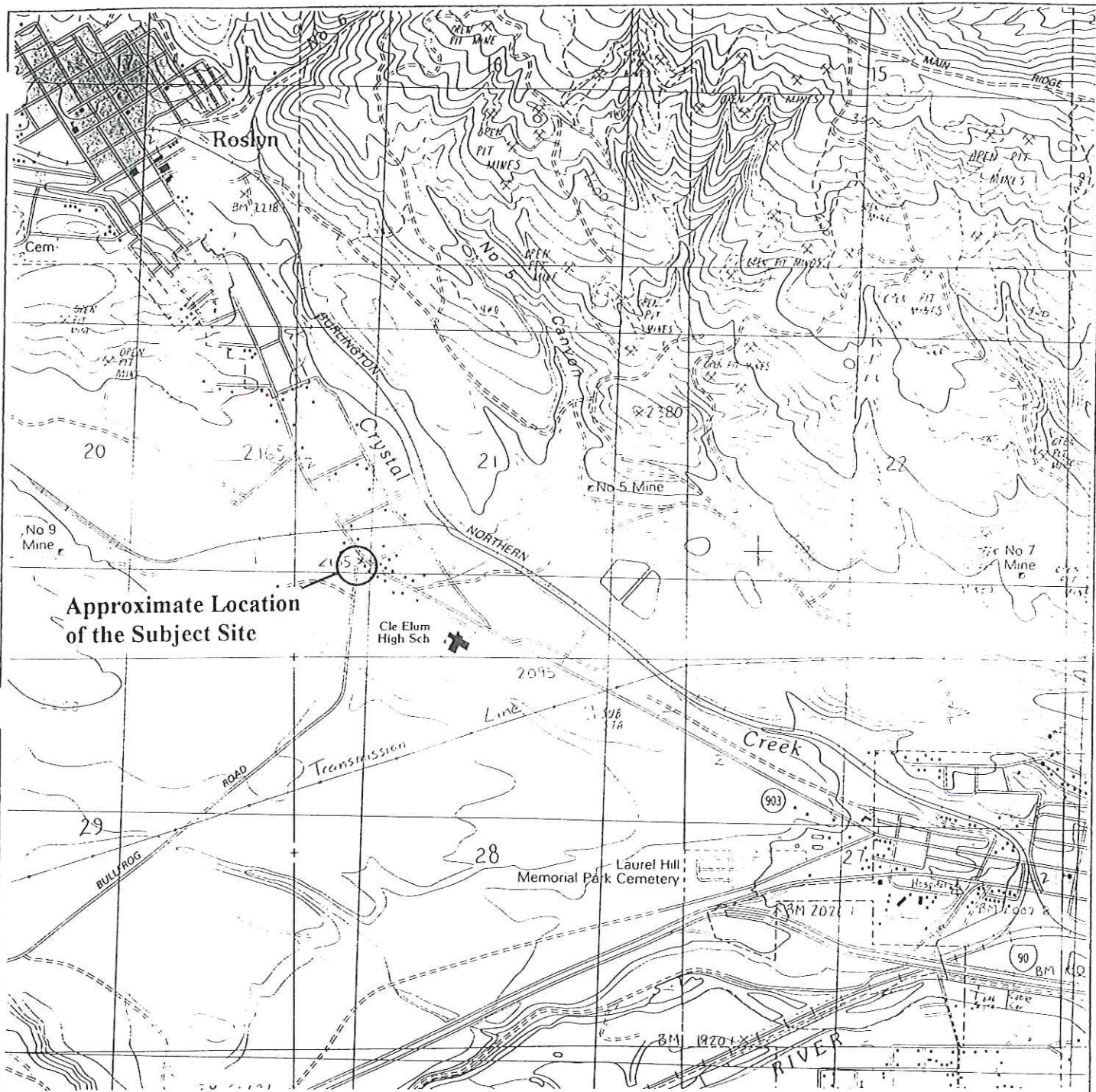


Gerald Harper
Environmental Program Manager

Attachments: Attachment 1 - Figures
Attachment 2 - Tables
Attachment 3 - Analytical Laboratory Test Results and Chain-of Custody
Documentation

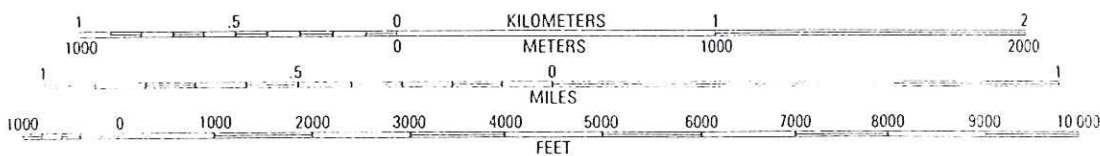
cc: Mr. Mark Peterschmidt - (WDOE - Central Region)

ATTACHMENT - 1



Approximate Location
of the Subject Site

SCALE 1:24 000



CONTOUR INTERVAL 40 FEET



Northern, Inc.

Job No.
198-334-2

Site Location Map
USGS 7.5 Minute Series (Cle Elum Quadrangle)
Free Product Recovery
Anderson Texaco Site
Cle Elum, Washington

DATE:
1984

DRAWN BY:
JB

REVIEWED BY:
GH

SCALE:
As Shown

FIGURE NO
1

SEC. 21, T. 20 N., R. 15 E., W.M.



SCALE: 1"=50'

MW 1
2134.85
SIGN

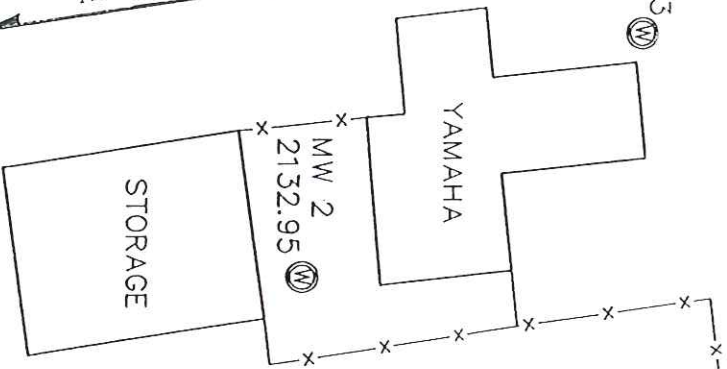
SPORTLAND
MINI-MART

MW 5
2132.93

MW 3
2134.44

NEW
PUMP
ISLANDS

Approximate Direction of Groundwater Flow
November 3 thru December 3, 1998.



MW 4
2134.29
2134.06

ELEVATION DATUM NAVD '88
BASED ON KITITAS CO.
"STN. 0066 1993"
ELEV. 2097.4

ELEVATIONS TAKEN TO
BLACK MARK ON 2" PVC



10-26-98

Figure No. 2

ATTACHMENT - 2

Table 1

*Summary of Groundwater Monitoring Data
Sportland Mini-mart Texaco*

Well ID Elevation (TOC)	Date	DTW (feet)	WTE (feet)	DTP (feet)	PE (feet)	TPH-G (ug/l) ¹	Benzene (ug/l) (B)	Toluene (ug/l) (T)	Ethylbenzene (ug/l) (E)	Xylenes (ug/l) (X)
MW-1 2134.85	10/07/98	21.90	2112.95	N/A	N/A	ND	ND	ND	ND	ND
	10/20/98	21.10	2113.75	N/A	N/A	NS	NS	NS	NS	NS
	11/03/98	20.81	2114.04	N/A	N/A	NS	NS	NS	NS	NS
	11/10/98	20.08	2114.77	N/A	N/A	NS	NS	NS	NS	NS
	11/17/98	17.18	2117.67	N/A	N/A	NS	NS	NS	NS	NS
MW-2 2132.95	10/07/98	20.95	2112.00	N/A	N/A	ND	ND	ND	ND	ND
	10/20/98	21.75	2111.20	N/A	N/A	NS	NS	NS	NS	NS
	11/03/98	21.23	2111.72	N/A	N/A	NS	NS	NS	NS	NS
	11/10/98	21.02	2111.93	N/A	N/A	NS	NS	NS	NS	NS
	11/17/98	19.58	2113.37	N/A	N/A	NS	NS	NS	NS	NS
MW-3 2134.44	10/07/98	16.37	2118.07	TPTU	TPEU	213,500	2,720	17,200	25,000	5,700
	10/20/98	22.60	2111.84	20.40	2114.04	NS	NS	NS	NS	NS
	11/03/98	22.95	2111.49	22.41	2112.03	NS	NS	NS	NS	NS
	11/10/98	21.29	2113.15	19.83	2114.61	NS	NS	NS	NS	NS
	11/17/98	16.02	2118.42	15.25	2119.19	NS	NS	NS	NS	NS
MW-4 2134.06	10/07/98	Dry	NM	N/A	N/A	NS	NS	NS	NS	NS
	10/20/98	Dry	NM	N/A	N/A	NS	NS	NS	NS	NS
	11/03/98	24.62	2109.44	N/A	N/A	NS	NS	NS	NS	NS
	11/10/98	24.38	2109.68	N/A	N/A	NS	NS	NS	NS	NS
	11/17/98	23.55	2110.51	N/A	N/A	NS	NS	NS	NS	NS
MW-5 2132.93	10/07/98	18.49	2114.44	TPTU	TPEU	NS	NS	NS	NS	NS
	10/20/98	19.25	2113.68	18.80	2114.13	NS	NS	NS	NS	NS
	11/03/98	19.39	2113.54	18.88	2114.05	NS	NS	NS	NS	NS
	11/10/98	19.16	2113.77	18.82	2114.11	NS	NS	NS	NS	NS
	11/17/98	18.15	2114.78	18.07	2114.86	NS	NS	NS	NS	NS

Table 1 - Continued
Summary of Groundwater Monitoring Data
Sportland Mini-mart Texaco

Well ID Elevation (TOC)	Date	DTW (feet)	WTE (feet)	DTP (feet)	PE (feet)	TPH-G (ug/l)	Benzene (ug/l) (B)	Toluene (ug/l) (T)	Ethylbenzene (ug/l) (E)	Xylenes (ug/l) (X)
MW-1 2134.85	11/24/98 12/03/98	14.69 13.58	2120.16 2121.27	N/A N/A	N/A N/A	NS ND	NS ND	NS ND	NS ND	NS ND
MW-2 2132.95	11/24/98 12/03/98	17.62 17.01	2115.33 2115.94	N/A N/A	N/A N/A	NS ND	NS ND	NS ND	NS ND	NS ND
MW-3 2134.44	11/24/98 12/03/98	13.95 13.98	2120.49 2120.46	13.92 N/A	2120.52 N/A	NS NS	NS NS	NS NS	NS NS	NS NS
MW-4 2134.06	11/24/98 12/03/98	21.88 21.29	2112.18 2112.77	N/A N/A	N/A N/A	NS ND	NS ND	NS ND	NS ND	NS ND
MW-5 2132.93	11/24/98 12/03/98	16.35 14.28	2116.58 2118.65	16.32 N/A	2116.61 N/A	NS NS	NS NS	NS NS	NS NS	NS NS

Notes: 1 = micrograms per liter (ug/l).

TOC = Top of Casing.

DTW = Depth to Groundwater.

WTE = Groundwater Table Elevation.

DTP = Depth to Product.

PE = Product Elevation.

TPTU = True Product Thickness Unknown.

TPEU = True Product Elevation Unknown.

N/A = Not applicable (free product not encountered).

NS = Not Sampled.

ND = Indicates compound not detected at the listed method detection limit.

Method Detection Limits: TPH-G (100.0 ug/l), Benzene (1.0 ug/l), Toluene (1.0 ug/l), Ethylbenzene (1.0 ug/l), and Xylenes (1.0 ug/l).

Model Toxics Control Act (MTCA) Method A cleanup level: TPH-G (1,000.0 ug/l), Benzene (5.0 ug/l), Toluene (40.0 ug/l), Ethylbenzene (30.0 ug/l), and Xylenes (20.0 ug/l).

ATTACHMENT - 3

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

October 12, 1998

Gerry Harper
GN Northern, Inc.
6713 West Clearwater Ave., Suite F
Kennewick, WA 99336

Dear Mr. Harper:

Please find enclosed the analytical data report for the Anderson Texaco Project in Cle Elum, Washington. Soil and water samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8020 on October 9, 1998.

The results of these analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. The invoice for this work has been sent to your Yakima office for payment. A copy of the invoice is enclosed for your records.

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
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 4⁰ 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-Gasoline, TPH-Diesel

(Gasoline and/or Diesel, Modified EPA 8015, NWTPH-Gx and NWTPH-Dx)

A check standard is run at the beginning of the day. 1) A close standard is run at the end of the day. 2) Both open and close standards must be within 15% of the continuing calibration curve value. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135% unless high sample concentrations interfere with the determination of the recovery percentage. A duplicate sample is run at a rate of 1 per 10 samples. At least 1 method blank is run per 20 samples analyzed.

Purgeable Volatile Aromatics
(BTEX, EPA 602/8020)

A check standard is run at the beginning of the day. The check standard is run at the end of the day. Both open and close standards must be within 15% of the continuing calibration curve value. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135% unless high sample concentrations interfere with the determination of the recovery percentage. At least 1 method blank is run per day.

ANDERSON TEXACO PROJECT

Cle Elum, Washington

GN Northern, Inc.

Project No.: 198-334-1

Gasoline (NWTPH-Gx), & BTEX (EPA 8020) Analyses for Water

Sample Number	Date Analyzed	Benzene ug/l	Toluene ug/l	Eth Benz ug/l	Xylene ug/l	Gasoline ug/l	Recovery (%)
Meth. Blank	10/09/98	nd	nd	nd	nd	nd	105
MW-1	10/09/98	nd	nd	nd	nd	nd	100
MW-1 Dup.	10/09/98	nd	nd	nd	nd	nd	92
MW-2	10/09/98	nd	nd	nd	nd	nd	108
MW-3	10/09/98	2720	17200	25000	5700	213500	83
Detection Limits		1	1	1	1	100	

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

"int" Indicates that interferences prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

Page 2

ANDERSON TEXACO PROJECT

Cle Elum, Washington

GN Northern, Inc.

Project No.: 198-334-1

Gasoline (NWTPH-Gx) & BTEX (EPA 8020) Analyses for Soils

Sample Number	Date Analyzed	Benzene mg/kg	Toluene mg/kg	Eth Benz mg/kg	Xylene mg/kg	Gasoline mg/kg	Recovery (%)
Meth. Blank	10/09/98	nd	nd	nd	nd	nd	105
MW-1	10/09/98	nd	nd	nd	nd	nd	89
MW-2	10/09/98	nd	nd	nd	nd	nd	105
MW-3	10/09/98	nd	nd	0.13	0.1	25	100
MW-4	10/09/98	nd	nd	nd	nd	nd	105
MW-5	10/09/98	nd	nd	nd	nd	14	105
Detection Limits		0.05	0.05	0.05	0.05	10	

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

"int" Indicates that interferences prevent determination.



TRANSGLOBAL
ENVIRONMENTAL
GEOSCIENCES

CHAIN-OF-CUSTODY RECORD

CLIENT: GN Northern, Inc. DATE: 10-7-98 PAGE 1 OF 1

ADDRESS: 6713 W. Clearwater Ave., Suite F PROJECT NAME: Anderson Texaco

PHONE: 509/734-9320 FAX: 509/734-9321 LOCATION: 4400 Bullfrog Rd., Cle Elum, WA

CLIENT PROJECT #: 198-334-1 PROJECT MANAGER: Gerald Hunter COLLECTOR: Bolles / J. Ryland DATE OF COLLECTION: 10-6-98

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)	PAH 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	PH	ASBESTOS	FIELD NOTES	Total Number of Containers	Note Number
MW-1		1300	water	VOA water vial																	3	
MW-2		1300																			3	
MW-3		1300																			3	
MW-4																					3	
MW-5																					3	
MW-1 @ 15'	15'	1700	Soil	Glass Jar																	1	
MW-2 @ 15'	15'	1535																			1	
MW-3 @ 15'	15'	0930																			1	
MW-4 @ 15'	15'	1350																			1	
MW-5 @ 17'	17'	1600																			1	

RELINQUISHED BY (Signature) [Signature] DATE/TIME 10-8-98 3:00P RECEIVED BY (Signature) UPS DATE/TIME 10-8-98 3:55P

RELINQUISHED BY (Signature) [Signature] DATE/TIME 10-8-98 3:00P RECEIVED BY (Signature) [Signature] DATE/TIME 10-8-98 3:55P

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS 15

CHAIN OF CUSTODY SEALS Y/N/A Y

SEALS INTACT? Y/N/A Y

RECEIVED GOOD COND./COLD Y

NOTES:

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ \$2.00 each ☐ Return ☐ Pickup

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

December 7, 1998

Justin Bolles
GN Northern, Inc.
6713 West Clearwater Ave., Suite F
Kennewick, WA 99336

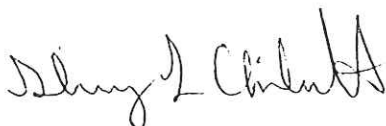
Dear Mr. Bolles:

Please find enclosed the analytical data report for the Sportland Mini-Mart Project in Cle Elum. Water samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8020 on December 7, 1998.

The results of these analyses are summarized in the attached tables. The invoice for this work has been sent to your Yakima office for payment. A copy of the invoice is enclosed for your records.

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,



Sherry L. Chilcutt
Senior Chemist

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-Gasoline, TPH-Diesel

(Gasoline and/or Diesel, Modified EPA 8015, NWTPH-Gx and NWTPH-Dx)

A check standard is run at the beginning of the day. 1) A close standard is run at the end of the day. 2) Both open and close standards must be within 15% of the continuing calibration curve value. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135% unless high sample concentrations interfere with the determination of the recovery percentage. A duplicate sample is run at a rate of 1 per 10 samples. At least 1 method blank is run per 20 samples analyzed.

Purgeable Volatile Aromatics
(BTEx, EPA 602/8020)

A check standard is run at the beginning of the day. The check standard is run at the end of the day. Both open and close standards must be within 15% of the continuing calibration curve value. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135% unless high sample concentrations interfere with the determination of the recovery percentage. At least 1 method blank is run per day.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

SPORTLAND MINI-MART PROJECT

Cle Elum, Washington

G N Northern, Inc.

Project No.: 198-334-2

Gasoline (NWTPH-Gx), & BTEX (EPA 8020) Analyses for Water

Sample Number	Date Analyzed	Benzene ug/l	Toluene ug/l	Eth Benz ug/l	Xylene ug/l	Gasoline ug/l	Recovery (%)
Meth. Blank	12/07/98	nd	nd	nd	nd	nd	97
MW-1	12/07/98	nd	nd	nd	nd	nd	87
MW-1 Dup.	12/07/98	nd	nd	nd	nd	nd	110
MW-2	12/07/98	nd	nd	nd	nd	nd	114
MW-4	12/07/98	nd	nd	nd	nd	nd	96
Detection Limits		1	1	1	1	100	

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

"int" Indicates that interferences prevent determination.

CHAIN-OF-CUSTODY RECORD

[illegible]