ARCS

Site Assessment Report:

Underground Storage Tank Removal
&
Soil Remediation

Prepared for:

#100082
U8107

Pacific Pride Facility
(G&W Oil and Wood, Inc.)
903 West First Street
Cle Ellum, Washington 98922

On Behalf of:

James Oil Company, Inc.
666 Griffin Avenue
Enumclaw, Washington 98022

Date:

June 28, 1999

Prepared By:

Assessment and Remediation Consulting Services (ARCS)
475 SE Sycamore Lane
Issaquah, Washington 98027
(425) ~~837-0220~~ 443-7130

E. K. Ch

Eric K. Chapman, CHMM
Principal / Environmental Scientist

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Attachments

EXECUTIVE SUMMARY

This report documents the closure of four USTs at the Pacific Pride card lock fueling facility in Cle Elum, Washington. Two of the USTs were removed and the other two were closed in-place due to their location beneath an existing building.

Visual and olfactory indications of contamination were present in soils surrounding the diesel UST and beneath the fuel island area. Contaminated soils were excavated from these areas and stockpiled on site for treatment using landfarming and bioremediation techniques.

Analytical results of soil samples collected from the gasoline UST excavation, piping trench, and fuel island found that concentrations of gasoline-range TPH and BTEX were not detected. Diesel-range TPH was detected in the diesel UST excavation, but at concentrations that were below the Ecology clean up levels. Heavy oil was identified in soils collected from the base of the diesel UST excavation at concentrations that slightly exceed the Ecology cleanup levels.

The majority of contamination has been removed from the affected areas of the site. Ground water was not encountered in any of the excavations, the deepest of which was advanced to 12 feet bsg. Any remaining petroleum hydrocarbons in the soil will naturally attenuate, and should not pose any adverse risk to human health or the environment.

1.0 INTRODUCTION

This report documents the closure of four underground storage tanks (USTs) at the Pacific Pride facility located at 903 West 1st Street in Cle Elum, Washington. The USTs included two 6,000-gallon gasoline storage tanks, a 2,000-gallon gasoline storage tank, a 12,000-gallon diesel fuel tank. The site has been used as a card lock fueling facility for the past several years.

Presented in this report is a description of the methods used to remove the USTs, sample collection procedures, a summary of laboratory analytical results, and conclusions and recommendations. Included as attachments to this report are site diagrams, tank cleaning certificates, laboratory data sheets, and photographs.

1.1 Site Information

The subject site is located at 903 West 1st Street in Cle Elum, Washington (see Vicinity Map). The site is a Pacific Pride card lock fueling station operated by James Oil Company. The owner of the property is Mr. Wayne Hill, P.O. Box 369, Cle Elum, WA 98932.

Existing structures on the site at the time of the UST closures included an automotive garage/office building, a storage building, and a new card lock fueling facility with aboveground storage tanks. The property consists of several acres of land located on the north side of West 1st Street. The local topography slopes to the south/southeast toward the Yakima River.

One of the 6,000-gallon gasoline USTs and the 12,000-gallon diesel UST were located on the south side of the property, near the existing fence line. The other two USTs were located beneath the garage/office building, as indicated on the Site Diagram. The two USTs located beneath the building were closed in-place, and the other two tanks were removed. Each tank was connected to piping that lead to a central fueling island as indicated on the Site Diagram. Pumps and piping were removed as part of the UST closures.

1.2 UST Contractor and Site Assessor Information

Gator Foaming of Sumner, Washington supervised the UST closure activities. Ms. Elizabeth Carter of Gator Foaming was the on-site UST Decommissioning Supervisor. Eric Chapman of Assessment and Remediation Consulting Services (ARCS) conducted the UST site assessment activities and prepared this report (IFCI Certification # 32-US-32003003).

2.0 FIELD ACTIVITIES

This section describes the UST closure and site assessment activities conducted at the site. Notification to remove the tanks was sent to the Department of Ecology in December 1998. Permits to remove the tanks were obtained from the Kittitas County Department of Building and Fire Safety. Copies of the Ecology notification and local permits are presented in Attachment A.

2.1 Diesel and Gasoline UST Removals

The UST closures were conducted on May 18, 1999. Residual fuel remaining in the tanks was removed by Pacific Pride and then tanks were cleaned and rinsed by Coastal Tank Cleaning, Inc. A tank cleaning certificate is present in Attachment B. The two tanks scheduled for removal were then inerted using solid carbon dioxide (dry ice). Once the vapors inside of the tank were below the lower explosive limit, the tanks were removed.

The 6,000-gallon gasoline tank and 12,000-gallon diesel tank were both partially exposed, with approximately 2/3 of the tank buried below surface grade (see photographs). A track-mounted excavator was used to excavate soil from the north side of each tank to allow for removal. As soils were excavated, a photo-ionization detector (PID) was used to monitor organic vapors. No organic vapors were detected in soils excavated from the sides of the gasoline or diesel USTs. In addition, no staining or petroleum odors were observed in the excavated soils.

The USTs were removed using the excavator and placed on a level area near the excavations. The exteriors of the USTs were visually inspected for indications of holes or corrosion that may have allowed a release of product. No holes or excessive corrosion were observed on the exterior of either UST. The tanks were cut on site and the metal was later taken off-site for disposal.

Soil samples were collected from the base and sidewalls of the UST excavations as described in a later section of this report. No visual or olfactory indications of contamination were observed in the gasoline UST excavation. There were, however, indications of petroleum-contamination in the diesel UST excavation. A further discussion of the extent of contamination is discussed in a separate section of this report.

2.2 In-Place Closure of Gasoline USTs

The two gasoline USTs located beneath the west building were closed in-place by filling them with concrete slurry. Before the tanks were filled, residual fuel was removed and the tanks were cleaned and rinsed as described previously. Concrete slurry was then pumped into the tanks until they were completely filled. The fill neck and surrounding box of each tank were also filled with slurry. Site assessment activities conducted in support the in-place closures are described in Section 2.5.

2.3 Removal of Piping and Fuel Island

Each UST was connected to the former fuel island via underground piping. The piping from the gasoline UST located in the south side of the property was constructed of fiberglass. Piping connected to the other USTs was constructed of single-wall steel. All accessible piping was removed.

Piping from the two USTs that were closed in place was directed through an area that contained a septic drain field and underground utilities (electricity and water). The piping in this area was cut and left in place.

The fueling area consisted of a central island that included three pumps; two pumps for diesel and one for gasoline. There were also two satellite diesel pumps located on either side of the fueling pad (see Site Diagram). The ground surface in the fueling area was covered with asphalt and concrete.

Soils beneath the center island pumps and satellite pumps exhibited petroleum odors and staining. The contamination appeared to be limited to the area immediately surrounding and beneath the central fuel island, and directly beneath the satellite pumps. The contaminated material was excavated and stockpiled at a separate location on the property for remediation. Soil remediation activities are described in Section 2.4. Site assessment activities associated with the fuel island are described in section 2.5.

2.4 Soil Remediation Activities

Soils from the diesel fuel UST area and the fuel island were excavated until indications of contamination diminished. Excavated soils were monitored using a PID and visual observations. Once the limits of contamination were achieved, soil samples were collected from the affected areas and submitted for laboratory analysis, as described in Section 2.5.

The excavated soils were loaded into dump trucks and then stockpiled on plastic sheeting at a separate location on the property. Soils will be treated with a bioremediation material and land-farmed until contaminant concentrations meet the appropriate Model Toxics Control Act (MTCA) soil cleanup levels.

2.5 Site Assessment Activities

2.5.1 Gasoline Diesel UST Removals

ARCS personnel monitored soils excavated from around the gasoline and diesel USTs for organic vapors using a photo ionization detector (PID) calibrated to an isobutylene standard. Headspace readings of selected samples were measured by placing a portion of the sample into a resealable plastic bag and allowing the sample to warm for approximately 15 minutes. The probe of the PID was then inserted into the headspace of the plastic bag to measure vapors that accumulated above the soil. The PID measurements were recorded in a field notebook.

Headspace measurements of soil samples collected from the base and sidewalls of the excavation were also recorded. Based on PID measurements, no organic vapors were present in soil samples collected from the gasoline UST area.

Soils encountered in the excavations were characterized as gravelly sand with cobbles. The soil was dry to a depth of 6 to 7 feet, then became moist with finer-grained sands and some silt present. Ground water was not encountered at the final excavated depth of 12 feet bsg.

Low-level organic vapor concentrations were detected in soil samples collected from the base and south sidewall of the diesel UST excavation. Because diesel fuel has a lower volatility than gasoline, PID measurements are not as accurate for field screening. In addition, the contamination present in the soils exhibited odors more like used motor oil. There were also several used oil filters and oil containers observed discarded behind the tank, indicating that used motor oil may have been dumped in this area. Soils were excavated from the south sidewall and base of the excavation until petroleum odors and staining diminished. Ground water was not encountered in the excavation at the final depth of 12 feet bsg.

Discreet soil samples were collected from the base and sidewalls of each excavation. Samples were collected directly from the bucket of the excavator by pushing the laboratory-supplied sample container into the soil until it was filled. The sample container was then sealed, labeled and placed in an ice-filled cooler pending transport for analysis. Soil sampling locations are indicated on the Site Diagram. Laboratory methods and results are presented in Section 3.0.

2.5.2 In-Place Closure of Gasoline USTs

Soils near the in-place USTs closures were assessed by advancing test pits near the tanks. The test pits were completed using a track-mounted excavator. Soil samples collected from the test pits were screened for organic vapors using a PID and submitted for laboratory analysis.

The first test pit was advanced on the east side of the USTs, as indicated on the Site Diagram. At approximately 4 feet below surface grade (bsg), the excavator encountered an immovable object that may have been an underground utility, boulder, or one of the USTs. Because of known utilities located south and further east of the tanks, it was not possible to complete another test pit in the area.

The second test pit (GT2-TP) was completed on the north side of the USTs, approximately 2 feet from the fill tubes. The test pit was advanced to a depth of 8 feet bsg. A discreet soil sample was collected from between 7 and 8 feet bsg. No organic vapors were detected in the sample. One sample (GT2-TP-7) was submitted for laboratory analysis. The soil sample was collected following the procedure described previously. Laboratory analytical methods and results are presented in Section 3.0.

3.0 LABORATORY ANALYTICAL METHODS AND RESULTS

3.1 Laboratory Analytical Methods

Soil samples collected during the UST closures were analyzed by TEG Northwest of Bellevue, Washington. Samples collected from the gasoline UST excavation, piping trenches, fuel pump areas, and test pit were analyzed for gasoline-range total petroleum hydrocarbons (TPH-G) and benzene, toluene, ethyl benzene, and xylenes (BTEX) using Washington State Method WTPH-G and EPA Method 8021B, respectively.

Samples collected from the diesel UST excavation, piping trench, and beneath the fuel pumps were analyzed for diesel-range total petroleum hydrocarbons (TPH-D) using Washington State Method WTPH-D extended. Method WTPH-D extended identifies kerosene, jet fuel, diesel, fuel oil, and heavy oil. Soil analytical results are summarized in the following section. Laboratory data sheets and chain-of-custody documentation are presented in Attachment C.

3.2 Analytical Results

Analytical results of soil samples collected during the UST closures are summarized in the Table 1.

Table 1
Soil Analytical Results – James Oil

Sample ID	Description	Analysis Parameter (mg/kg)					
		TPH-D	TPH-G	Benzene	Toluene	Ethyl Benzene	Xylenes
GT1-Base-6	Gasoline tank 1 – excavation base at 6 feet bsg.	--[4]	nd[3]	nd	nd	nd	nd
GT1-SSW-5	Gasoline tank 1 – excavation south sidewall at 5 feet bsg.	--	nd	nd	nd	nd	nd
GT1-NSW-5	Gasoline tank 1 – excavation north sidewall at 5 feet bsg.	--	nd	nd	nd	nd	nd
GT1-ESW-5	Gasoline tank 1 – excavation east sidewall at 5 feet bsg.	--	nd	nd	nd	nd	nd
GDISP-8	Gasoline dispenser at 8 feet bsg.	--	nd	nd	nd	nd	nd
D1-DISP-8	Diesel dispenser #1 at 8 feet bsg.	nd	--	--	--	--	--

Table 1 – continued -

Sample ID	**Description**	TPH-D	TPH-G	Benzene	Toluene	Ethyl Benzene	Xylenes
D2-DISP-8	Diesel dispenser #2 at 8 feet bsg.	--	nd	nd	nd	nd	nd
DSDISP1-3	Diesel satellite dispenser #1 at 3 feet bsg.	--	nd	nd	nd	nd	nd
DSISP2-3	Diesel satellite dispenser #2 at 3 feet bsg.	nd	nd	nd	nd	nd	nd
DTWBASE-10	Diesel UST excavation west base at 10 feet bsg.	93	--	--	--	--	--
DTEBASE-10	Diesel UST excavation east base at 10 feet bsg.	67	--	--	--	--	--
DTESW-7	Diesel UST excavation east sidewall at 10 feet bsg.	nd	--	--	--	--	--
DTSSW-7	Diesel UST excavation south sidewall at 10 feet bsg.	160 / 360[5]	--	--	--	--	--
DTNSW-7	Diesel UST excavation north sidewall at 10 feet bsg.	58 / 86	--	--	--	--	--
DT-Trench-3	Diesel piping trench at 3 feet bsg.	nd	--	--	--	--	--
GT-Trench-3	Gasoline piping trench at 3 feet bsg.	--	nd	nd	nd	nd	nd
GT2-TP-7	Gasoline tank (in- place closures) test pit at 7 feet bsg.	--	nd	nd	nd	nd	nd
Laboratory Method Detection Limits[1]		20	5	0.05	0.05	0.05	0.05
Ecology Cleanup Levels[2]		200	100	0.5	40	20	20

Notes:

1 Laboratory method detection limits. See laboratory data sheets for additional information.

2 Ecology Model Toxics Control Act (MTCA) Method A Cleanup Levels – Soil (Chapter 173-360-740(2)(a)(i) WAC.

3 ND = Not detected at or above the laboratory method detection limits. See laboratory data sheets for detection limits.

4 -- = Not analyzed for specified parameter.

5 Results indicate concentrations of diesel (first number) and heavy oil identified in sample.

The laboratory analysis results indicate that gasoline-range TPH and BTEX was not detected in any of the samples submitted for analysis. Diesel-range TPH was detected in samples collected from the diesel UST excavation, but not above the Ecology Method A soil cleanup levels. However, heavy oil-range TPH was detected above the Method A cleanup levels in the sample collected from the south sidewall of the diesel UST excavation.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This report documents the closure of four USTs at the Pacific Pride card lock fueling facility in Cle Elum, Washington. Two of the USTs were removed and the other two were closed in-place due to their location beneath an existing building.

Visual and olfactory indications of contamination were present in soils surrounding the diesel UST and beneath the fuel island area. Contaminated soils were excavated from these areas and stockpiled on site for treatment using landfarming and bioremediation techniques.

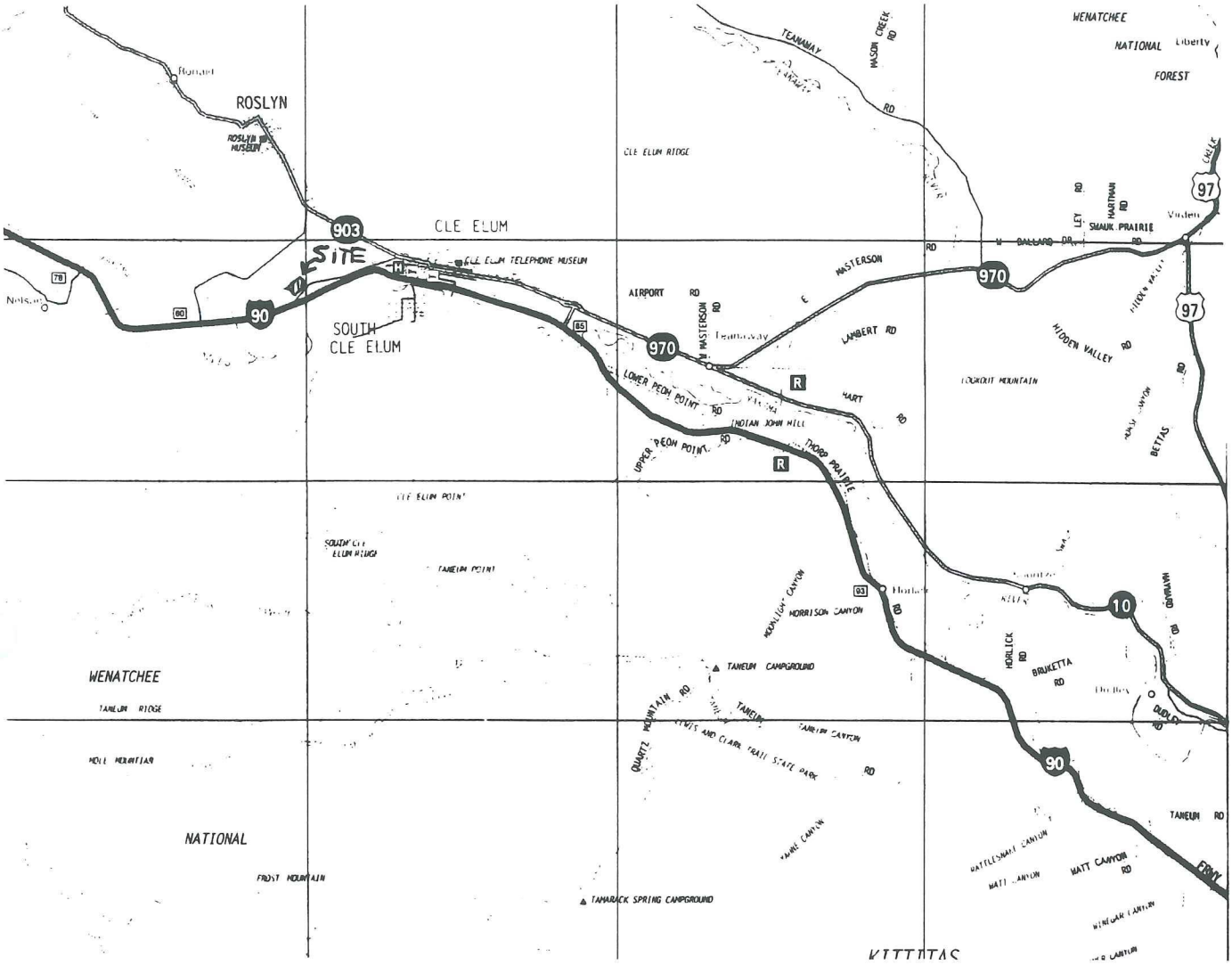
Analytical results of soil samples collected from the gasoline UST excavation, piping trench, and fuel island found that concentrations of gasoline-range TPH and BTEX were not detected. Diesel-range TPH was detected in the diesel UST excavation, but at concentrations that were below the Ecology clean up levels. Heavy oil was identified in soils collected from the base of the diesel UST excavation at concentrations that slightly exceed the Ecology cleanup levels.

The majority of contamination has been removed from the affected areas of the site. Ground water was not encountered in any of the excavations, the deepest of which was advanced to 12 feet bsg. Any remaining petroleum hydrocarbons in the soil will naturally attenuate with time, and should not pose any adverse risk to human health or the environment.

Contaminated soils removed from the excavation areas have been stockpiled and will be treated with a commercial bioremediation material and then landfarmed to reduce contaminant levels. The soils should be sampled in approximately three to six months to document the contaminant concentrations and determine if any further actions are necessary.

5.0 STANDARD LIMITATIONS

The work completed by ARCS in support of this project was conducted in accordance with professional standards applicable in the industry today. ARCS is not responsible for the methods or means utilized by the site owner or contractor, and we assume no liability for existing conditions at the site. With underground storage tank systems there is always the possibility of differing conditions outside of the areas investigated. The conclusions made in this report are based on the data collected at the time of the UST closures. This information should not be construed as legal advice.



N

Date: June 28, 1999

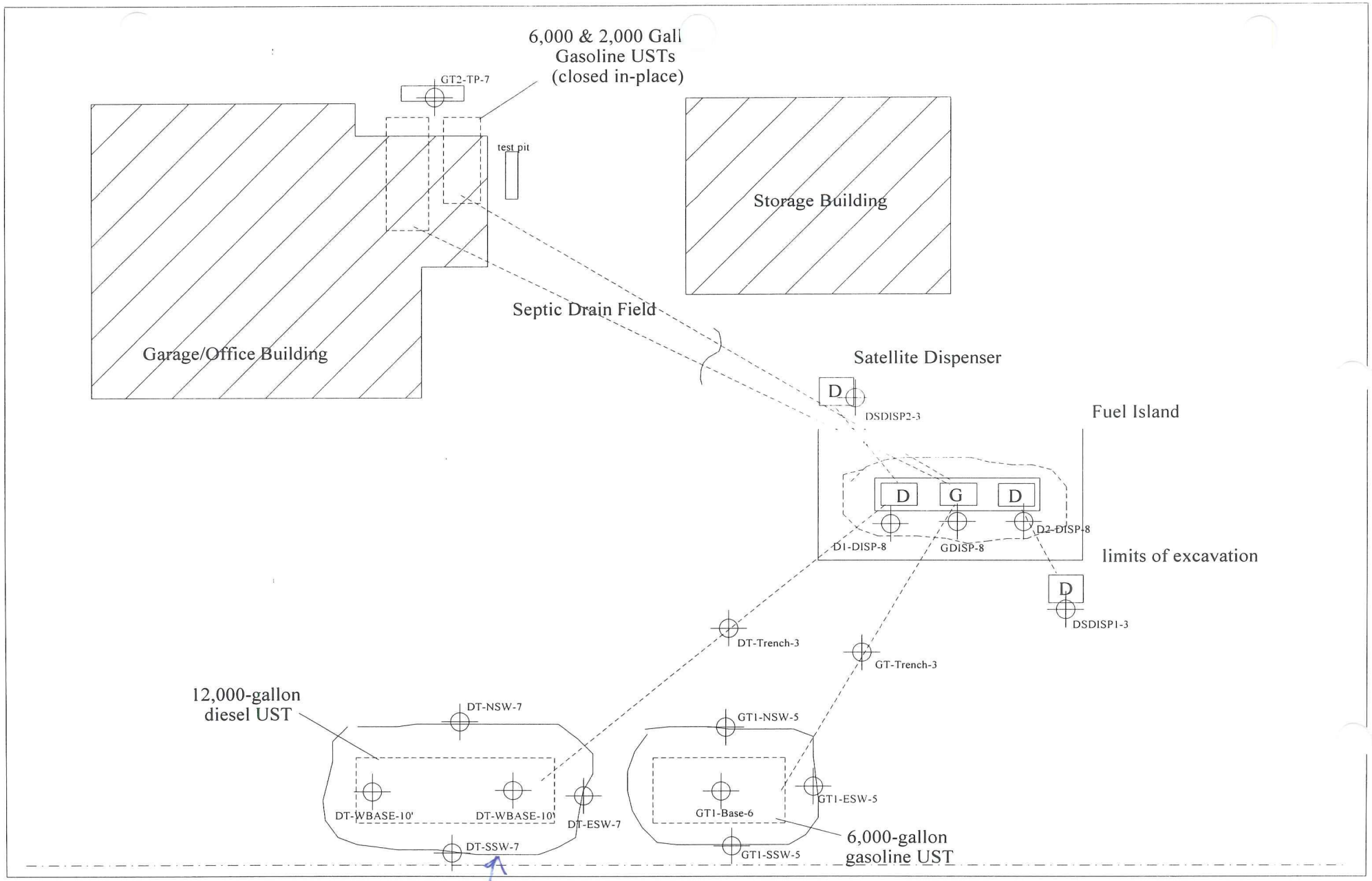
Assessment and Remediation
Consulting Services

Vicinity Map

James Oil Company
930 West First Street
Cle Elum, Washington

Source:

Thomas Brothers Map Company
Pacific Northwest Road Atlas
and Drivers Guide
1998



N

Date: June 28, 1999

Assessment and Remediation
Consulting Services (ARCS)

Site Diagram

James Oil Company
930 West First Street
Cle Elum, Washington

Legend:

GT1-ESW-5 Soil sampling location

Not Drawn to Scale

ATTACHMENT A

1-800-826-7716 DOE - DALE JENSEN

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK 30 DAY NOTICE

See back of form for instructions
Please ☑ the appropriate box

☐ Intent to Install ☒ Intent to Close ☐ Both

For Office Use Only
Owner # 49107
Site # 100062

SITE INFORMATION

Site ID Number (on invoice or available from Ecology if the tank is registered): 100062

Site/Business Name: G & W OIL & WOOD, INC.

Site Address: [illegible] ROAD, PO BOX 368 (Street)
Owner/Operator Telephone: ( )
CLE ELUM (City) WA (State) 98922 (Zip Code)

TANK INFORMATION

TANKS TO BE CLOSED

This section to be filled out ONLY if tanks are being removed

Tank ID	Projected Closure Date	Tank Capacity	Substance Stored	Date tank last used	Is there product in the tank? (yes/no)	If no, date tank was pumped
1	12/[illegible]/98	12,000	DIESEL	12/22/98	YES	12/22/98
2	[illegible]	6000	UNL GAS	[illegible]	YES	12/22/98
3	[illegible]	2000	UNL GAS	[illegible]	YES	[illegible]
4	[illegible]	6000	[illegible] GAS	[illegible]	YES	[illegible]
[illegible] to be [illegible] on 12/22						

TANKS TO BE INSTALLED

This section to be filled out ONLY if tanks are being installed

Tank ID	Approx. Install Date

TANK INSTALLATION TO BE PERFORMED BY (if known):

This section to be filled out ONLY if tanks are being installed

Service Provider: ______ Contact Name: ______
Telephone: ( ) ______
Address: ______ (Street) ______ (City) (State) (Zip Code)

RECEIVED DEC 21 1998 ECOLOGY

TANK PERMANENT CLOSURE TO BE PERFORMED BY (if known):

This section to be filled out ONLY if tanks are being removed

Service Provider: [illegible]
Contact Name: [illegible]
Telephone: [illegible]
Address: [illegible] (Street) P.O. Box
[illegible] (City) WA (State) 98[illegible] (Zip Code)

This form will be returned to the address below

UST OWNER/OPERATOR: MR. WAYNE KILL
MAILING ADDRESS: P.O. BOX 368 (Street)
CLE ELUM (City) WA (State) 98922 (Zip Code)

Once validated by Ecology, this form serves as your temporary permit for the tanks listed above.

Please type or print information

MAY 27 '99 12:44PM ... HILL LUMBER CO P.1/1

Pd 4/29/99

Gordy

KITTITAS COUNTY DEPARTMENT OF BUILDING & FIRE SAFETY

507 NANUM STREET, ROOM 2, ELLENSBURG, WA 98926
PHONE (509) 962-7604 FAX (509) 962-7682

PLAN REVIEW NUMBER

PERMIT NUMBER K.99-02048

APPLICATION FOR PERMIT

OWNER OF RECORD Wayne Hill
MAIL ADDRESS 903 W. 15th
Ellensburg WA 98926
PHONE NUMBER
SITE ADDRESS [illegible]
CONTRACTOR [illegible] LICENSE #
CONTACT NAME PHONE
FAX # F.D. #
SPECIFIC USE OF STRUCTURE Gas Station
ORIGINAL WORK Remove 2 fuel tanks
SQ FT OF PROJECT PROJECT HEIGHT
HEATING SYSTEM TYPE LOCATION

WORK SHALL COMMENCE WITHIN 180 DAYS FROM ISSUANCE OF PERMIT. WORK STOPPAGE FOR A PERIOD OF 180 DAYS OR MORE WILL REQUIRE PERMIT RENEWAL AT ONE HALF THE COST OF THE ORIGINAL PERMIT.

NOTE: THE PROPERTY OWNER OR AGENT IS REQUIRED TO PAY FOR THE FULL PLAN REVIEW FEE REGARDLESS OF PERMIT ISSUANCE. ADDITIONAL PLAN REVISIONS & PLAN REVIEW WILL BE CHARGED AT THE CURRENT HOURLY RATE (ONE HOUR MINIMUM).

PLEASE CHECK ONLY ONE BELOW

____ I AM THE OWNER OF THE ABOVE PROPERTY AND WILL PERSONALLY PERFORM THE ABOVE WORK.

____ I AM THE OWNER/CONTRACTOR OF/FOR THE ABOVE PROPERTY AND I WILL CONTRACT TO HAVE ALL OF THE ABOVE WORK PERFORMED BY LICENSED CONTRACTORS.

____ I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED I SHALL NOT EMPLOY ANY PERSON IN ANY MANNER SO AS TO BECOME SUBJECT TO THE WORKMEN'S COMPENSATION LAWS OF THE STATE OF WASHINGTON.

I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE ABOVE IS CORRECT. I AGREE TO COMPLY WITH ALL COUNTY ORDINANCES, STATE AND FEDERAL LAWS REGULATING BUILDING CONSTRUCTION AND USE. I FURTHER AGREE TO, AND HEREBY DO GRANT TO THE BUILDING DEPARTMENT, ITS OFFICERS, EMPLOYEES, AGENTS OR ANY OTHER PERSON PROPERLY DESIGNATED BY THE BUILDING OFFICIAL, A RIGHT TO ENTER ON THE PREMISES AS DESCRIBED FOR THIS PERMIT APPLICATION, FOR THE PURPOSE OF MAKING SUCH INSPECTIONS AND TESTS AS MAY BE REQUIRED TO ASCERTAIN FULL COMPLIANCE WITH THE ORDINANCES OF KITTITAS COUNTY AND LAWS OF THE STATE OF WASHINGTON.

DATE

SIGNATURE OF PERMIT APPLICANT / AGENT

I AM THE ☐ OWNER ☐ ARCHITECT ☐ ENGINEER ☐ CONTRACTOR

FOR BUILDING DEPT OFFICE USE ONLY

SITE PLAN SUBMITTED TO PLANNING (DATE)
APPROVED CRITICAL AREAS ATTACHED ☐ YES DATE:
SEPTIC/SEWER APPROVAL ATTACHED ☐ YES DATE:
WATER AVAILABILITY ATTACHED ☐ YES DATE:
ACCESS PERMIT APPROVAL ATTACHED ☐ YES DATE:

OTHER PERMITS REQUIRED PRIOR TO BUILDING PERMIT APPROVAL

VARIANCE	☐ YES	☐ ATTACHED	☐ NO
FLOOD PERMIT	☐ YES	☐ ATTACHED	☐ NO
CONDITIONAL USE PERMIT	☐ YES	☐ ATTACHED	☐ NO

AIRPORT FLIGHT ZONE: IS THE PROPOSED STRUCTURE TO BE LOCATED WITHIN/NEAR THE KITTITAS COUNTY AIRPORT RESTRICTION ZONE? ☐ YES ☐ NO

SNOW LOAD
ELEVATION____ IMO____ ITO____ Ce____ Pr____

PLUMBING PERMIT FEES		
FIXTURES/TRAPS		
WATER HEATER		
DRAIN/VENT REPAIR		
BACKFLOW PREVENTERS		
RAINWATER DRAIN SYSTEM		
MISC.		
TOTAL		
MECHANICAL PERMIT FEES		
FURNACE		
REPAIR HEATING/COOLING		
SEPARATE AIR HANDLING		
FIXED AIR COOLING		
VENT HOODS/VENTS		
GAS SERVICE OUTLET		
BOILERS		
MISC		
TOTAL		
FIRE SAFETY PERMIT FEES		
TANK - SIZE (2) Removal	120	—
FIRE SAFETY PLAN REVIEW		
FIRE PLACE OR APPLIANCE		
MISC		
TOTAL	120	—
OTHER FEES		
WA STATE BUILDING CODE FEE		
INVESTIGATION FEE		
PERMIT ISSUANCE FEE	20	—
MISC.		
MISC.		
TOTAL	20	—
BUILDING PERMIT FEES		
BUILDING PERMIT		
PLAN REVIEW		
ADDITIONAL PLAN REVIEW		
MISC		
MISC		
MISC.		
TOTAL		
TOTAL PERMIT FEES	140	—
<DEPOSIT>	0	
BALANCE DUE	140	—

TAX PARCEL # 20-15-27031-0006

UBC VALUATION $

ADDITIONAL COMMENTS:

ATTACHMENT B

223 02-CO-AS-71-20222

Phone (206) 624-9843
Fax No (206) 624 9766

Coastal Tank Cleaning, Inc.

3801 7th Avenue South, Seattle, Washington 98108

TO: James Oil Company

THIS LETTER IS TO CERTIFY THAT COASTAL TANK CLEANING, INC. HAS STRIPPED AND RINSED WITH SOAPY WATER THE BELOW LISTED TANKS IN ORDER TO ALLOW THE TANKS TO BE INERTED.

DATED THIS 16th DAY OF February, 1999

AUTHORIZED SIGNATURE: Michelle D. Hughes
Office Manager

1- 12,000 gallon diesel tank
2- 6,000 gallon gasoline tanks
1- 2,000 gallon gasoline tank

ATTACHMENT C

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

800 Sleater-Kinney SE, PMB #262
Lacey, Washington 98503-1127

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: **(360) 459-4670**
Fax: **(360) 459-3432**

June 2, 1999

Eric Chapman
ARCS
Assessment and Remediation Construction
475 SE Sycamore Lane
Issaquah, WA 98027

Dear Mr. Chapman:

Please find enclosed the analytical data report for the James Oil Project in Cle Ellum, Washington. Soil samples were analyzed for Diesel and Oil by NWTPH-Dx/Dx Extended, Gasoline by NWTPH-Gx, and BTEX by Method 8021B on May 19, 1999.

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 ARCS 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
Vice 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^{o} 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.

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number: S90519-2
Client: ARCS
Client Job Name: James Oil
Client Job Number: 99-27

Analytical Results

NWTPH-Gx / BTEX (8020)		MTH BLK	LCS	GT1-BASE-6	GT1-SSW-5	GT1-NSW-5
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99
Date analyzed	Limits	05/20/99	05/20/99	05/20/99	05/20/99	05/20/99
NWTPH-Gx, mg/kg						
Mineral spirits/Stoddard solvent	5.0	nd		nd	nd	nd
Gasoline	5.0	nd		nd	nd	nd
BTEX (8020), µg/kg						
Benzene	50	nd	86%	nd	nd	nd
Toluene	50	nd	86%	nd	nd	nd
Ethylbenzene	50	nd		nd	nd	nd
Xylenes	50	nd		nd	nd	nd
Surrogate recoveries:						
Trifluorotoluene		86%	87%	95%	94%	98%
Bromofluorobenzene		89%	96%	95%	93%	97%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number: S90519-2
Client: ARCS
Client Job Name: James Oil
Client Job Number: 99-27

Analytical Results

NWTPH-Gx / BTEX (8020)		GT1ESW-5	GDISP-8	DSDISP2-3	DSDISP2-3 DUPL	GTTRENCH-3
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99
Date analyzed	Limits	05/20/99	05/20/99	05/20/99	05/20/99	05/20/99
NWTPH-Gx, mg/kg						
Mineral spirits/Stoddard solvent	5.0	nd	nd	nd	nd	nd
Gasoline	5.0	nd	nd	nd	nd	nd
BTEX (8020), µg/kg						
Benzene	50	nd	nd	nd	nd	nd
Toluene	50	nd	nd	nd	nd	nd
Ethylbenzene	50	nd	nd	nd	nd	nd
Xylenes	50	nd	nd	nd	nd	nd
Surrogate recoveries:						
Trifluorotoluene		87%	87%	98%	94%	95%
Bromofluorobenzene		90%	85%	98%	99%	99%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S90519-2
Client:	ARCS
Client Job Name:	James Oil
Client Job Number:	99-27

Analytical Results			MS	MSD	RPD
NWTPH-Gx / BTEX (8020)		**GT2-TP-7**	**GT2-TP-7**	**GT2-TP-7**	**GT2-TP-7**
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	05/19/99	05/19/99	05/19/99	05/19/99
Date analyzed	Limits	05/20/99	05/20/99	05/20/99	05/20/99
NWTPH-Gx, mg/kg					
Mineral spirits/Stoddard solvent	5.0	nd			
Gasoline	5.0	nd			
BTEX (8020), µg/kg					
Benzene	50	nd	103%	105%	2%
Toluene	50	nd	104%	109%	5%
Ethylbenzene	50	nd			
Xylenes	50	nd			
Surrogate recoveries:					
Trifluorotoluene		95%	101%	94%	
Bromofluorobenzene		101%	99%	96%	

Data Qualifiers and Analytical Comments

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na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S90519-2
Client:	ARCS
Client Job Name:	James Oil
Client Job Number:	99-27

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	D1DISP-8	D2DISP-8	DSDISP1-3	DSDISP2-3	DUPL DSDISP2-3
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99
Date analyzed	Limits	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99
Moisture, %							
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd	nd	nd
Heavy oil	50	nd	nd	nd	nd	nd	nd
Surrogate recoveries:							
Fluorobiphenyl		93%	96%	96%	96%	97%	97%
o-Terphenyl		102%	101%	104%	108%	109%	110%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S90519-2
Client:	ARCS
Client Job Name:	James Oil
Client Job Number:	99-27

Analytical Results

NWTPH-Dx, mg/kg		DTWBASE-10	DTEBASE-10	DTESW-7	DTSSW-7	DTNSW-7
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99
Date analyzed	Limits	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99
Moisture, %		12%	12%	7%	12%	11%
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	93	67	nd	160	58
Heavy oil	50	nd	nd	nd	360	86
Surrogate recoveries:						
Fluorobiphenyl		96%	93%	92%	94%	93%
o-Terphenyl		115%	114%	113%	119%	117%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S90519-2
Client:	ARCS
Client Job Name:	James Oil
Client Job Number:	99-27

Analytical Results

NWTPH-Dx, mg/kg		TTRENCH-3
Matrix	Soil	Soil
Date extracted	Reporting	05/19/99
Date analyzed	Limits	05/19/99
Moisture, %		9%
Kerosene/Jet fuel	20	nd
Diesel/Fuel oil	20	nd
Heavy oil	50	nd
Surrogate recoveries:		
Fluorobiphenyl		98%
o-Terphenyl		114%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

teg TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES

S90519-2

CHAIN-OF-CUSTODY RECORD

CLIENT: ARCS

ADDRESS: 475 SE SYCAMORE LN ISSAQUAH, WA 98027

PHONE (425) 837-0220 FAX: - same -

CLIENT PROJECT #: 99-27 PROJECT MANAGER: Eric Chapman

DATE: 5-19-99 PAGE 1 OF 1

PROJECT NAME: JAMES O.1

LOCATION: Cle Elum, WA

COLLECTOR: Eric Chapman DATE OF COLLECTION 5/15/99

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) + BTEX	TPH 8015 (diesel)	TPH 8015 (g & d)	PAH 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	FIELD NOTES	Total Number of Containers	Laboratory Note Number
GT1-BASE-6	6'		S						X													
GT1-SSW-5	5'		S						X													
GT1-NSW-5	5'		S						X													
GT1-ESW-5	5'		S						X													
GDISP-8*	8'		S						X													
D1DISP-8	8'		S							X												
D2DISP-8	8'		S							X												
DSDISP1-3	3'		S							X												
DSDISP2-3	3'		S						X	X												
DTWBASE-10	10'		S							X												
DTEBASE-10	10'		S							X												
DTESW-7	7'		S							X												
DTSSW-7	7'		S							X												
DTNSW-7	7'		S							X												
DT-TRENCH-3	3'		S							X												
GTTRENCH-3	3'		S						X													
GT2-TP-7	7'		S						X													

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	5/19/99	1135 [signature]	5/19/99 1135
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

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:

~~48~~ HR T/A

5 Days

ATTACHMENT D

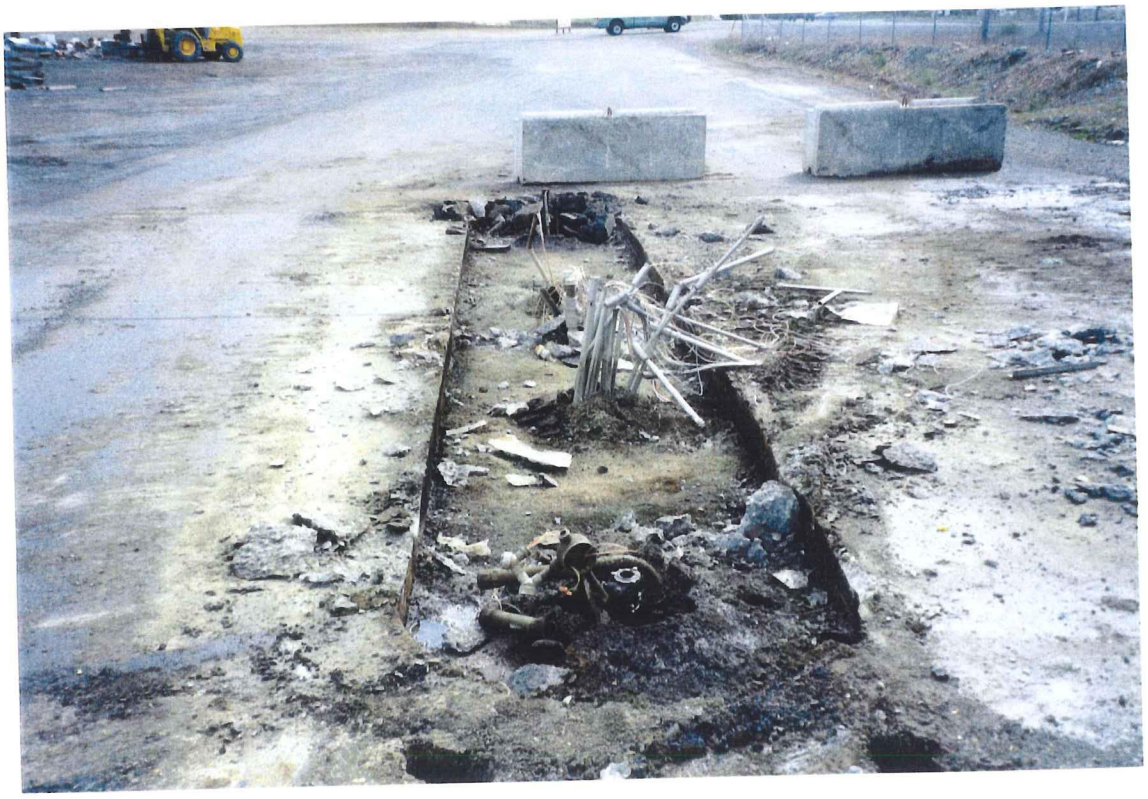
Photograph 1: View of gasoline and diesel USTs located on the east side of the property, looking west.

Photograph 2: View of the 6,000-gallon gasoline UST being removed from the excavation, looking west.

Photograph 3: View of the gasoline UST excavation after removal of the tank.

Photograph 4: View of the 12,000-gallon diesel UST after removal from the excavation, looking southwest.

Photograph 5: View of the fueling area looking northeast.



Photograph 6: View of the pump island, looking west..

Photograph 7: View of area excavated beneath the pump island, looking northwest.

Photograph 8: View of the area excavated beneath the pump island, looking east.

Photograph 9: View of the piping trenches for the gasoline and diesel USTs, looking southwest.

Photograph 10: View of the test pit completed near the in-place UST closures.