REPORT OF FINDINGS: CONTAMINATED SOIL REMOVAL / SITE CHARACTERIZATION

Former Town Pump Station
521 E. Jewitt Avenue
White Salmon, Washington

Conducted for:

Williams and Taylor Construction
3410 NW 264th Avenue
Hillsboro, Oregon 97124

Project Number: 572-34124

July 8, 1994

Professional Service Industries, Inc.

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CENTRAL REGION OFFICE

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1.0 EXECUTIVE SUMMARY

The former Town Pump station facility is located at 521 E. Jewitt Avenue in White Salmon, Washington. (See Figure 1) The site served as an operating service station until 1992. Currently it is utilized as a sailboard manufacturing shop. No petroleum hydrocarbon products are currently dispensed from the site. A single underground storage tank (UST) was located at the west end of the building and was decommissioned by removal in 1992. Four other UST's located across E. Jewitt Avenue to the north have supplied petroleum hydrocarbon products to the site by gravity feed lines in the past. These product lines have been cut off.

Petroleum hydrocarbon contamination in the soil at this site has been documented since April of 1989 when gasoline contaminated water was reported seeping into a trailer park located directly south and downgradient of the site. In 1992 the one UST identified at the site was removed and evidence of petroleum hydrocarbon contamination was noted by Washington Department of Ecology (WDOE) personnel monitoring the removal of the tank.

As a result of site observations made from 1989 to 1992, WDOE entered negotiations with the present owners of the site and issued Enforcement Order No. DE94TC-C161 requiring the cleanup of petroleum contaminated soils at the site and a Site Characterization pursuant to WAC 173-340-450 (4) (6) be performed.

In May through June of 1994 accessible petroleum contaminated soils were removed by the owner under the supervision of Mr. Mike Taylor, of Williams and Taylor Construction. Contaminated soil was encountered on the site directly in front of the former Town Pump building north to the right-of-way (R.O.W.) of E. Jewitt Avenue; east of the building beneath the existing concrete slab; and in soils south of the building at the base of the concrete retaining wall separating the former Town Pump site from the trailer park down-gradient from the site. (See Figure 2)

After excavation, petroleum contaminated soils with concentrations above the Method A Cleanup Standards remain beneath the building; along the perimeter of the building and south side of the base of the retaining wall where slope requirements restricted excavation; beneath E. Jewitt Avenue to the north; and in the front yard of the residence to the west of the site. Contamination was left in these areas to avoid compromising the structural integrity of either buildings or roads.

The excavated soils which had been impacted by petroleum hydrocarbons reflected several distinct contaminant plumes.

The area off of the NE corner of the garage contained soils contaminated primarily by heavy oils. It is believed that the source of this contamination was a drain line which was located and found broken approximately 6 feet off the corner of the garage. It appears that waste oil from the garage was discharged to this line. This line was observed within the garage below the hydraulic lift as an open drain. The line exited the building beneath the slab and ran NE to a point where it disappeared beneath E. Jewitt Avenue. The contamination resulting from the rupture of this line appeared to be limited to area between the garage and E. Jewitt and did not extend beneath E. Jewitt Avenue. The final discharge point of this line is unknown as the excavation did not encroach in the E. Jewitt Avenue R.O.W.

A second distinct plume of soil contamination was observed around fill pipes which entered the site from beneath E. Jewitt Avenue from the north. It is believed that these pipes originate from the tank complex located on the hill above the site and north of E. Jewitt Avenue. Two lines were noted entering the site. Analysis of samples taken from stained soil surrounding these lines revealed gasoline, diesel and heavy oil contamination. All contaminated soils from this plume that were observed south of E. Jewitt Avenue were removed from the site. Staining in the north wall of the excavation after completion of this phase of the project indicates the contamination from this plume does exist beneath E. Jewitt Avenue and possibly to the site to the north of E. Jewitt Avenue where the contamination is thought to originate.

A third distinct plume of soil contamination was noted entering the site from the NW corner of the excavation and also from beneath E. Jewitt Avenue. This plume of soil contamination was observed to be 2-3 feet in thickness with a lower depth of approximately 11 feet. Both gasoline and diesel contaminants were detected in this soil. This contamination was excavated to the furthest feasible extent. Contamination from this plume extends from the NW corner of the excavation into the front yard of the existing residence and then beneath E.Jewitt Avenue. The excavation was not pursued into the residential lot for safety concerns. In addition, the contamination also proceeds to some extent between the residential structure and the Town Pump station and goes beneath the Town Pump station.

A fourth area of contamination was identified which may not be totally distinct and may be contributed to by the third identified plume. This plume consists of an approximately 1-2 foot layer of gasoline contaminated soil which was observed directly on and above the basalt bedrock and extended around the station and south to an area of the base of the stations retaining wall in the downslope trailer park. This plume was excavated and removal from the site with the exception of those soils beneath the building and out approximately 6 feet from the building walls. This area was not excavated in order to maintain the structural integrity of the facility. In addition contaminated soil was excavated and removed from the area of the trailer park with the exception of those soils within approximately 3 feet of the base of the retaining wall. The source of this contamination is believed to be leaking pipes leading to and beneath the old dispenser isle of the station.

It is estimated that approximately 60-70 cubic yards of petroleum contaminated soils were left beneath the former Town Pump station and the sloped buffer zone surrounding the station.

It is estimated that 20-25 cubic yards of petroleum contaminated soils were left at the base of the retaining wall in the trailer park to the south of the former Town Pump station.

It is recognized that some petroleum contaminated soils still remain on the south side of E. Jewitt Avenue in the front of the residential lot to the west of the Town Pump station. An estimate of the amount of contaminated soil left in this area has not been calculated.

No evidence of groundwater was noted in the excavation for the duration of this project. The excavation proceeded to basalt bedrock in most areas. No soil layers which appeared impermeable were encountered and the observed top of the basalt bedrock was highly fractured leading to the conclusion that it is unlikely that perched groundwater would collect at the site. Past experiences with water seeps in the downslope trailer park appear to be related to a broken water main on E. Jewitt Avenue which has been repaired by the City of White Salmon.

In conclusion, those petroleum contaminated soils which were potentially impacted from activities on the former Town Pump site have been removed with the exception of those areas which are inaccessible due to the structure on the property.

In addition, petroleum contaminated soils have been removed from the downslope trailer park south of the former Town Pump site with the exception of those areas at the base of the retaining wall separating the station site from the trailer park.

An uncalculated amount of petroleum contaminated soil which appears to originate from sources other then the former Town Pump station still exist in the front yard of the residence west of the site and beneath E. Jewitt Avenue northwest of the site.

At the completion of excavation activities all soils had been transported to and stored in a lined bermed cell at Professional Pavers at Hood River, Oregon and will be utilized for asphalt mix.

Based upon the observations drawn in this report the following recommended actions are concluded.

Any future spread of contaminants from impacted soil left beneath the station can be limited by control of surface runoff and rainwater at the site. It is recommended that the site be paved in order to accomplish this goal.

The small amount of impacted soil at the base of the retaining wall in the trailer park should be covered with a "boulder garden" to discourage any future disturbance of the soil by tenants of the trailer park.

Any future site characterization work required at the residence west of the site should be associated with the site north of E. Jewitt Avenue as contaminated soils in this area appear to have been impacted by activities other than those at the Town Pump site.

Other than these actions no further work is recommended for this site.

Should this station be demolished in the future, impacted soils beneath the structure should be removed and disposed of properly.

2.0 INTRODUCTION

2.1 General

This report presents the findings of PSI Project # 572-34124 which provides for underground site characterization services at the former Town Pump facility located at 521 E. Jewitt Avenue (SH 141) in White Salmon, Washington. This report also serves to meet the requirements of paragraph 4.1 (a) (6) of Enforcement Order No. DE 94TC-C161 issued by the State of Washington Department of Ecology on March 16, 1994. This order can be located as Appendix B of this report.

2.2 Authorization

Authorization to perform this work was given in the form of a signed proposal P93124 dated April 20, 1993 between PSI and Mr. Mike Taylor of Williams and Taylor Construction, Inc.

2.3 Purpose/Scope of Services

The purpose of the investigation was to perform site characterization activities associated with a documented release of petroleum hydrocarbons from both known and potentially unknown UST's at the Town Pump site. These services include the following tasks:

1) Complete a workplan for the removal of petroleum contaminated soils from the site area south of E. Jewitt Avenue.

2) Determine whether or not UST's other than that previously decommissioned exist beneath or adjacent to the garage of the Town Pump site.

3) Collect samples as applicable for site closure.

4) Prepare a Site Characterization Report pursuant to WAC 173-340-450 (4) (b) for submittal to the Washington Department of Ecology regional office in Yakima Washington.

2.4 Quality Assurance/Quality Control (QA/QC)

All sampling and testing was performed in general accordance with EPA and State of Washington Department of Ecology approved methodologies. These methods are described in the PSI environmental analytical QA/QC program. This program is in compliance with various regulatory agency policies and guidelines.

3.0 PROJECT BACKGROUND

3.1 Site Location/Topography

The former Town Pump facility is located at 521 E. Jewitt Avenue (SH 141) in White Salmon, Washington. Refer to Figure 1, Vicinity Map, for the location of the site. The elevation of the site is approximately 560 feet above mean sea level. The site is located on the USGS White Salmon Quadrangle 7.5 minute series.

The subject site consist of a former service station with a small attached garage. Refer to Figure 2, Site Plan for the location of site structures. Currently the building is being utilized by a sailboard manufacturer. The site is located on a flat area created by fill behind a concrete retaining wall on the south side of E. Jewitt Avenue. The natural slope gradient is approximately 20% and is generally sloping from northwest to southeast with the Columbia River being at the southern terminus of this slope approximately 2400 feet away.

3.2 Geologic Conditions

The site is situated on a steep slope which has been leveled for construction of the station by construction of a downslope retaining wall which created a fill basin which was subsequently filled. Therefore actual site conditions have been impacted by the construction of the station.

The natural slope trend to the southeast and this is reflected by the depth in which bedrock is encountered. The bedrock surface consist of fractured basalt of the Yakima Group of Columbia River Basalt. The layer which lies directly on top of the basalt is a yellow orange silty clay which is indicative of weathered basalt. Materials above this approximate 1 foot layer of silty clay appears to be non-native fill material. Refer to Figure 6, Site Cross Section.

Basalt on site is encountered at 6.5 - 7.0 feet at the west end of the excavation and 10.5 - 11.0 feet at the east end of the excavation.

In the trailer park south of the site where a natural slope exists basalt bedrock was encountered at 2.5 - 4.0 feet in test pits.

No groundwater was encountered during this project, and no well defined confining layers were noted which would provide a trap for perched groundwater.

3.3 Site History

The following site history was taken from "Statement of Facts" of Enforcement Order No. DE 94TC - C161:

- The Department of Ecology, Central Regional Office, received a complaint on April 4, 1989 that gasoline was escaping from the Town Pump site in White Salmon. Fire Chief Pete Bently, White Salmon Fire Department, found the pipes at the site to be leaking gasoline. The gasoline was reported to be traveling through the ground water beneath the site and flowing into the backyard of adjacent trailer sites, owned by the same partners that own Town Pump.

- In a followup site visit on April 28, 1989 Ecology personnel found evidence to confirm that a release of petroleum products had occurred.

- On May 24, 1989 Ecology spoke with Mr. Randall Johnson, co-owner of the site, to recommend remedial procedures to him.

- On March 19, 1991 Ecology performed a Site Hazard Assessment. Results of the Site Hazard Assessment indicated that levels of hazardous substances exceeded MTCA cleanup levels and the site was found to rank a 1 (one).

- On August 21, 1991 Ecology sent an initial Potentially Liable Party (PLP) status letter to Mr. Johnson. This letter requested Mr. Johnson to provide information regarding other PLPs that might exist for this site.

- On December 13, 1991 Ecology mailed Mr. Osborne and Mr. Harp, co-owners of the site, proposed PLP status letters.

- On January 28, 1992 PLP final determination letters were sent to Lyle Harp, Kurt Osborne, and Randall Johnson, the three partners, hereinafter known as the "Respondents", with the statement that they were all PLPS.

- On March 23, 1992 Ecology received a letter from Mr. Osborne stating that he had signed a contract with North West Construction (NW Construction) to start an independent cleanup.

- On March 23, 1992 Ecology called NW Construction who stated their contract was to remove one UST. NW Construction was not aware the site was contaminated and were not contracted to perform a site cleanup or an RI/FS.

- On April 9 and 10, 1992 NW Construction removed on UST at the site. Ecology monitored the removal of the tank. During the removal evidence of extensive petroleum contamination at the site was identified, also evidence of possible additional USTs was found.

- On May 13, 1992 Ecology issued Agreed Order No. DE92TC-C323, requiring a remedial investigation/feasibility study (RI/FS) at the Site.

- On October 19, 1992 Ecology approved the RI/FS workplan submitted by the Respondents' consultant.

- The Respondents terminated their contract with the consultant who had submitted the approved workplan.

- Discussions on amending Agreed Order No. DE 92TC-C323 began on November 29, 1993 and ended on March 11, 1994.

3.4 Description of Adjacent Properties

The former Town Pump site is located in an area occupied primarily by residential units with some mixed commercial properties.

Immediately north of the site across E. Jewitt Avenue is a currently vacant property which at one time served as the location for a bulk petroleum product distributor. Four USTs still exist on the hillside above the area where dispensers and a canopy once stood. Underground fuel lines still exist beneath E. Jewitt Avenue originating from this property and terminating at the former Town Pump site.

To the west of the former Town Pump site is a single family residence belonging to Mr. Kurt Osborne, owner of the former Town Pump site.

To the south of the former Town Pump site is a trailer park belonging to Mr. Kurt Osborne, owner of the former Town Pump site. Currently no trailer occupies the lot immediately south and below the existing retaining wall, however occupancy is scheduled in the very near future.

To the east of the former Town Pump site a steep slope exists which drops into the aforementioned trailer park to the south of the site.

4.0 PREVIOUS FIELD INVESTIGATIONS

4.1 March 1991 Site Hazard Assessment/WDOE

On March 19, 1991, subsequent to the observation of a release of petroleum products being reported by the White Salmon Fire Department, the Washington DOE performed a Site Hazard Assessment pursuant to the ranking method identified in the state's Toxics Cleanup Program. During this investigation subsurface contamination of soils were noted in soil borings. Also noted was surface water contamination in the trailer park directly south of the former Town Pump site. As a result of this assessment it was found that the potential level of hazardous substances at the site exceeded MTCA cleanup levels. A copy of this assessment can be located as Appendix C of this report.

4.2 April 1992 UST Decommissioning/NW Construction

On April 10, 1992, NW Construction of Battleground Washington removed a 2000-gallon UST which was located at the west side of the existing structure. DOE representatives were present at the site during this activity. Tank closure documents indicate the tank was last used to store gasoline. Petroleum contamination was encountered during the decommissioning process. Laboratory results indicated diesel contamination existed in the area of the UST while gasoline contamination was noted in the soil beneath product lines and the dispenser island. Groundwater was not encountered during this excavating activity. No effort was made to determine the extent of contamination during this activity and no contaminated soil was removed from the site. A copy of the decommissioning report can be found in Appendix D of this report.

4.3 June 1992 Site Survey/PLSA Engineering

On June 4, 1992, PLSA Engineering commenced a site survey to better determine the requirements for a Remedial Investigation/Feasibility Study for the former Town Pump site. This investigation was concluded prior to conclusion. An abbreviated report of findings was issued on June 9, 1992. A copy of this survey can be found as Appendix E of this report.

4.4 May 1994 Contaminated Soil Excavation/Owner

In May 1994, as a result of the finalization of Enforcement Order No. DE 94TC 0 C161 the owners of the former Town Pump site commenced the excavation and removal of petroleum contaminated soils from properties south of E. Jewitt Avenue. Excavation equipment was supplied by Professional Pavers of Hood River, Oregon and the site supervisor was Mr. Mike Taylor, of Williams of Taylor Construction of Hillsboro, Oregon.

During excavation several distinct areas of contamination were discovered on the site. Refer to Figure 5 for details.

Waste oil contamination was noted northeast of the garage from a depth of approximately 4.0 feet to the top of the basalt bedrock at 10.0 feet. This contamination appeared to originate from the waste discharge line noted leaving the NE corner of the garage running to the NE. This line had been broken when discovered. The southwest end of the line was observed in the garage beneath an existing hydraulic lift. The line disappeared to the NE beneath the E. Jewitt Avenue R.O.W. with it's terminating point unknown at this time. Soils from this area were fully excavated and disposed of.

It was earlier reported that waste oil contamination detected in borings drilled at the site may have eminated from an unidentified UST on the site. No tank was discovered during this phase of excavation and it is believed that this contamination was a result of the broken discharge line and not a previously undiscovered waste oil tank.

As the excavation proceeded from the east side of the site to the west a layer of gasoline contamination soil was encountered directly above the basalt bedrock. This plume thins to the east and south (downslope) and the source is believed to be the previously decommissioned gasoline UST and associated product lines which exist on the site. This contaminating was excavated where possible, however the plume does go beneath the station. Contaminated soils were left beneath the station and in a zone around the station of approximately 6 - 8 feet. This zone was left unexcavated to assure that the integrity of the building foundation was maintained during the project.

It is believed that a previously broken water main on E. Jewitt Avenue was responsible for some flushing out of gasoline contaminants in the trailer park south and downgradient from the station. Some gasoline contaminated soils were encountered in the trailer park approximately to the base of the retaining wall separating the station from the trailer park. These gasoline contaminated soils were excavated and removed from the trailer park with the exception of those within approximately 3.0 feet of the downslope side of the retaining wall which were left unexcavated to assure that the integrity of the retaining wall was maintained during the project.

A third area of contamination was excavated from around product lines observed entering the site from beneath E. Jewitt Avenue. It is assumed that these lines are associated with the fueling station upgradient and north of E. Jewitt Avenue. Four UST's are still noted at this site north of the Town Pump site. These lines were cut as they left the E. Jewitt Avenue R.O.W. where they were observed continuing beneath the street to the north.

The fourth area of petroleum contaminated soil was encountered to the northwest of the station entering the site from the north and west. This plume thins to the south and east. This plume is located directly above the basalt bedrock which is found at approximately 6.5 - 7.0 feet at the west end of the excavation. Contaminated soil in this area was

excavated to the west until it encroached into the front yard of the adjacent residence and to the north until it encroached on the E. Jewitt Avenue R.O.W.

It is believed that this plume originates at the fueling station to the north of E. Jewitt Avenue. An earlier investigation identified a heating oil tank in the front yard of the adjacent residence to the west which could have contributed to soil contamination in this area, but the soil staining observed was not of the dark variety often associated with heavy oils and the analytical data indicated no heavy oils in soil samples taken from this plume.

None of the excavated soils were stored on-site during this project. All contaminated soil was transported by truck to Professional Pavers of Hood River, Oregon. Final soil disposition will be as an asphalt plant mix.

5.0 SITE CHARACTERIZATION

5.1 Subsurface Soil Sampling

Representative soil samples, selected on the basis of field observations, photoionization detector (PID) measurements and lithology were collected in minimal-headspace glass jars with Teflon-lined lids, chilled, and transported with attendant Chain-of-Custody to PSI Analytical Laboratories in Deer Park, Texas or North Creek Analytical Laboratories in Portland, Oregon for hydrocarbon analysis. Select soil samples were analyzed for TPH-G (gasoline-range hydrocarbons), TPH-D (diesel range hydrocarbons) and BTEX utilizing the Washington DOE-approved methods. The results of analyses and waste oil characterization are included in Tables 1, 2, 3 and 4. Refer to Appendix A for copies of the official Laboratory Reports and Chain-of-Custody Records.

5.2 Analysis of Subsurface Soil Conditions

Petroleum contaminated soils have been identified at the former Town Pump site. The majority of the soils have been removed. The following observations were made towards the characterization of the site.

A distinct plume of soil contamination was observed around fill pipes which entered the site from beneath E. Jewitt Avenue from the north. It is believed that these pipes originate from the tank complex located on the hill above the site and north of E. Jewitt Avenue. Two lines were noted entering the site. Analysis of samples taken from stained soil surrounding these lines revealed gasoline, diesel and heavy oil contamination. All contaminated soils from this plume observed south of E. Jewitt Avenue were removed from the site. Staining in the north wall of the excavation after completion of this phase of the project indicates the contamination from this plume does exist beneath E. Jewitt Avenue and possibly to the site to the north of E. Jewitt Avenue where the contamination is thought to originate.

A distinct plume of soil contamination was noted entering the site from the NW corner of the excavation and also from beneath E. Jewitt Avenue. This plume of soil contamination was observed to be 2-3 feet in thickness with a lower depth of approximately 11 feet. Both gasoline and diesel contaminants were detected in this soil. This contamination was excavated to the furthest feasible extent. Contamination from this plume extends from the NW corner of the excavation into the front yard of the existing residence and then beneath E.Jewitt Avenue. The excavation was not pursued into the residential lot for safety concerns. In addition, the contamination also proceeds to some extent between the residential structure and the Town Pump station and goes beneath the Town Pump station.

A plume area of contamination which may not be totally distinct was identified throughout the site. This plume consists of an approximately 1-2 foot layer of gasoline contaminated soil which was observed directly on and above the basalt bedrock and extended around the station, and south to an area of the base of the stations retaining wall in the downslope trailer park. This plume was excavated and removal from the site with the exception of those soils beneath the building and out approximately 6 feet from the building walls. This area was not excavated in order to maintain the structural integrity of the facility. See Table 1 for results of soil sampling of the former Town Pump site. See Table 4 for the characterization of gasoline impacted soils.

In addition contaminated soil was excavated and removed from the area of the trailer park with the exception of those soils within approximately 3 feet of the base of the retaining wall. The source of this contamination is believed to be leaking pipes leading to and beneath the old dispenser isle of the station. See Table 2 for results of soil sampling at the trailer park.

The area off of the NE corner of the garage contained soils contaminated primarily by heavy oils. It is believed that the source of this contamination was a drain line which was located and found broken approximately 6 feet off the corner of the garage. It appears that waste oil from the garage was discharged to this line. This line was observed within the garage below the hydraulic lift as an open drain. The line exited the building beneath the slab and ran NE to a point where it disappeared beneath E. Jewitt Avenue. The final discharge point of this line is unknown as the excavation did not encroach in the E. Jewitt Avenue R.O.W. See Table 3 for the characterization of waste oil contaminated soils from this plume.

Site observations and analytical results of collected soil samples indicate that final closure soil samples from the base of the excavation and from the north and east sidewalls of the excavation are below applicable Method A Cleanup Standards for petroleum hydrocarbons with the exception of a small area surrounding product lines entering the site from beneath E. Jewitt Avenue to the north.

After excavation, petroleum contaminated soils with concentrations above the Method A Cleanup Standards remain in the following areas south of E. Jewitt Avenue.

Beneath the former Town Pump Station an estimated 60-70 cubic yards of soil primarily impacted by gasoline remain. This area also includes an unexcavated zone of 6-8 feet around the building. These impacted soils remain in place in order to maintain the structural integrity of the facility.

Approximately 20-25 cubic yards of soil primarily impacted by gasoline remain in a strip on the downslope side of the base of the retaining wall separating the station from the trailer park. This soil was left in place in order to maintain the structural integrity of the retaining wall.

An undetermined amount of soil impacted by both gasoline and diesel remain in the front yard of the residence to the west of the station. It appears that this contaminant plume originates on a property other than the Town Pump site and most likely north of E. Jewitt Avenue.

5.3 Analysis of Groundwater Conditions

No groundwater was encountered during this project. As noted, the excavation was completed to basalt bedrock. Previously documented water seeps downslope of the site in the trailer park occurred during a broken water main event and are assumed to be associated with this event.

No well defined confining layers were observed above the basalt bedrock. The top of the basalt bedrock was weathered and highly fractured, therefore the geologic components necessary to create a perched water table are not evidenced at the site.

Domestic water production in this area is primarily from brecciated zones located between lava flows which are at a minimum of 50 feet below ground level. Domestic water service on the site and in the trailer park is provided by the City of White Salmon.

No known impact to groundwater was observed during this project. Impacted soils that remain on the site are not in direct contact with known water bearing zones.

6.0 REGULATORY FACTORS

6.1 Washington Department of Ecology Cleanup Standards

The primary statue governing cleanup of releases from UST sites in Washington is the Model Toxic Control Act (MTCA), Chapter 70.105D of the Revised Code of Washington (RCW). As implemented by Part VII of Chapter 173-340 WAC, three methods are available for establishing cleanup levels for leaking underground storage tank (LUST) sites. Method A Tables provide conservative cleanup standards applicable to most routine soil and groundwater cleanup actions.

Where Method A Cleanup Standards are not appropriate (at large, complex sites or where multiple contaminant types are present), Method B establishes a matrix evaluation procedure which is designed to be protective of site groundwater. At sites where neither Method A or B are technically feasible, a site-specific risk assessment may be performed to establish Method C Cleanup Standards.

For the former Town Pump site, the Method A Cleanup Standards apply for the following reasons:

1) UST system history and data collected during the UST decommissioning and soil excavation phases conducted to date indicate that only petroleum hydrocarbons have been released at the subject site.

2) Impacted soil from activities south of E. Jewitt Avenue appear to be limited to the vicinity of the site with the exception of small amounts of contaminated soil left at the base of the retaining wall in the trailer park.

3) Contaminated soil left unexcavated due to the structural considerations applicable to the building and retaining wall is not in contact with groundwater.

The Method A Cleanup Standards for soil and groundwater are presented in Table 5 below.

TABLE 5
WASHINGTON DEPARTMENT OF ECOLOGY
METHOD A CLEANUP STANDARDS

Hazardous Substance		Cleanup Level	
		Soil	Groundwater
Total Petroleum Hydrocarbons	Gasoline	100 ppm	1 ppm
	Diesel & Heavy Oils	200 ppm	1 ppm
Benzene		500 ppb	5 ppb
Toluene		40,000 ppb	40 ppb
Ethylbenzene		20,000 ppb	30 ppb
Xylenes		20,000 ppb	20 ppb
Total Lead		255 ppm	5 ppb

NOTES: PPM - Parts Per Million (mg/kg or mg/1)
PPB - Parts Per Billion (ug/kg or ug/1)

7.0 CONCLUSIONS

As a result of the excavation project of May - June 1994 all accessible petroleum impacted soils were removed from the former Town Pump site and adjacent trailer park to the south. These soils included those impacted by activities on the site as well as those impacted by activities from other sites.

As documented in Section 5.2 of this report some soils which were inaccessible were left in place at the conclusion of this project. In addition an undetermined quantity of soils were left in place on the residential lot west of the site as the impact on these soils did not reflect activity from the former Town Pump site.

Gasoline noted in impacted soils beneath the building appears to be aged base upon low VOA readings and low levels of BTEX in soil. Therefore remediation by conventional means beneath structures, ie. soil vapor extraction, would be considered to have a minimal impact on contaminant reduction.

The possibility of a waste oil tank on the east side of the station which was documented in a earlier investigation was investigated. No such tank was located.

Groundwater at the site was not observed and is not expected to play a role in any future spread of contaminant on the site.

8.0 RECOMMENDATIONS

Based upon the observations drawn in this report the following recommended actions are concluded.

Any future spread of contaminants from impacted soil left beneath the station can be limited by control of surface runoff and rainwater at the site. It is recommended that the site be paved in order to accomplish this goal.

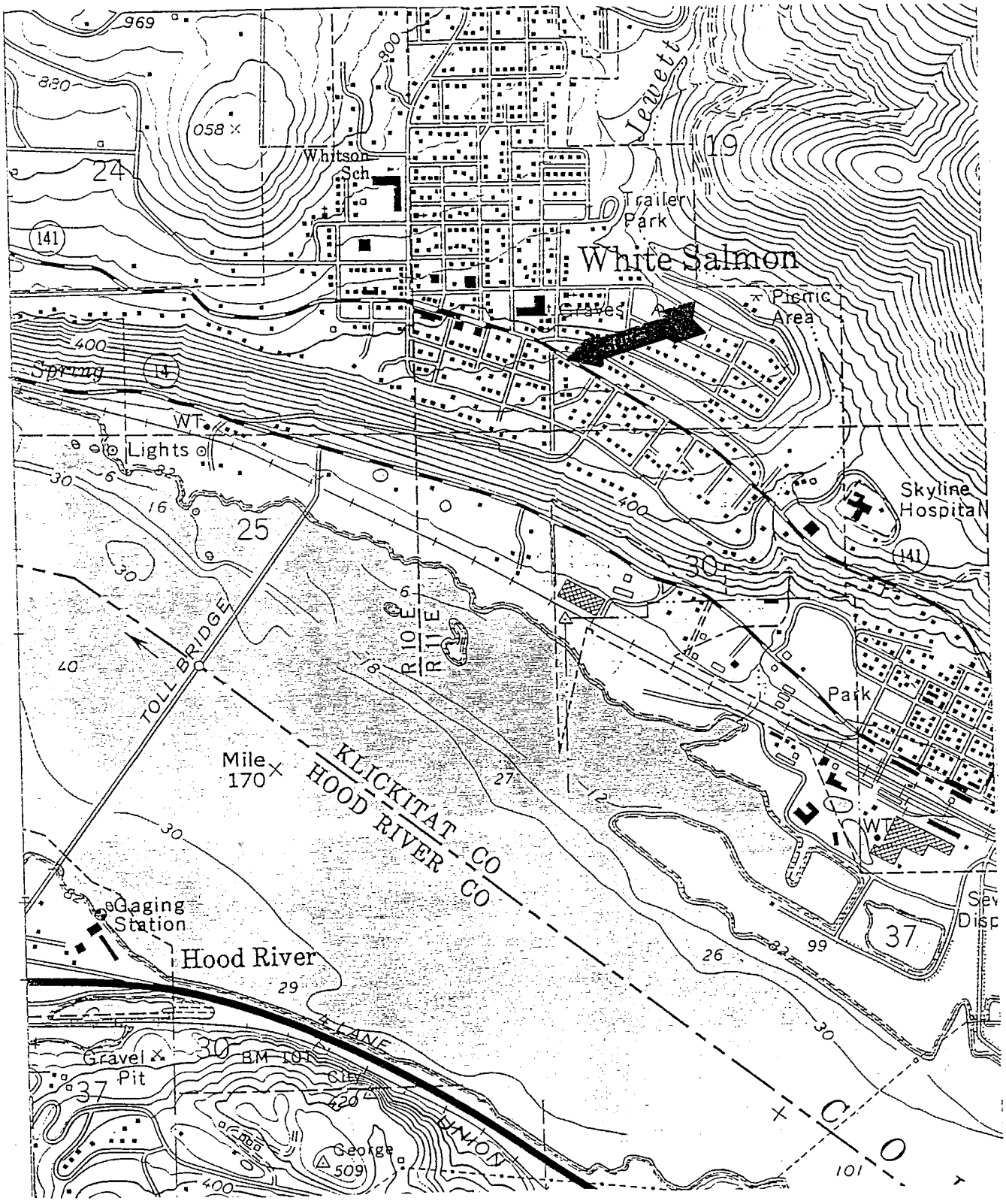
The small amount of impacted soil at the base of the retaining wall in the trailer park should be covered with a "boulder garden" to discourage any future disturbance of the soil by tenants of the trailer park.

Any future site characterization work required at the residence west of the site should be associated with the site north of E. Jewitt Avenue as contaminated soils in this area appear to have been impacted by activities other than those at the Town Pump site.

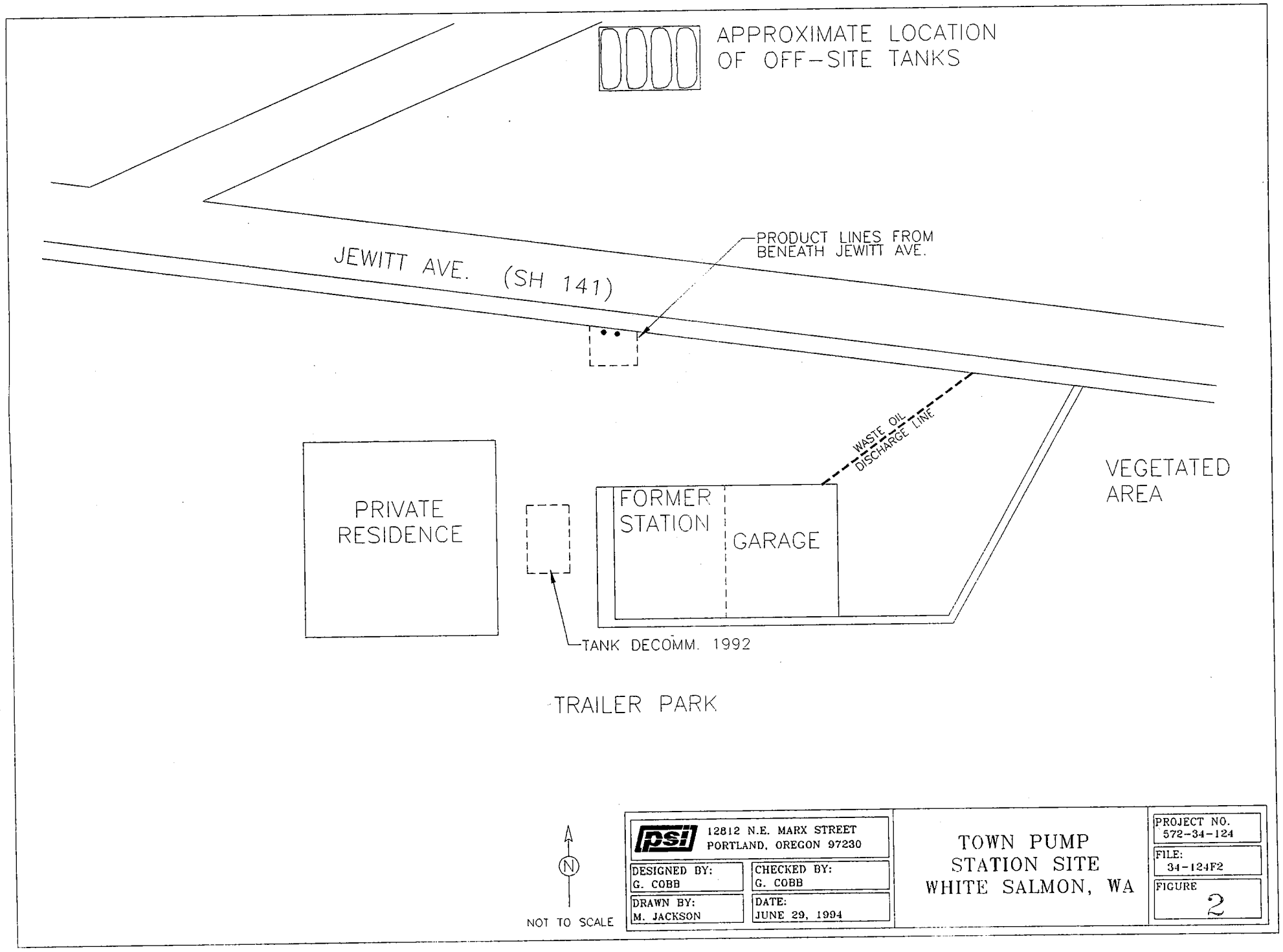
Other than these actions no further work is recommended for this site.

Should this station be demolished in the future, impacted soils beneath the structure should be removed and disposed of properly.

FIGURES



psi 12812 N.E. MARX STREET PORTLAND, OREGON 97230		TOWN PUMP SITE VICINITY MAP WHITE SALMON, WA	PROJECT NO. 572-34-121
DESIGNED BY: G. COBB	CHECKED BY: G. COBB		FILE: TP1
DRAWN BY: C. GEERTSON	DATE: JUNE 29, 1994		FIGURE 1



psi 12812 N.E. MARX STREET PORTLAND, OREGON 97230		TOWN PUMP STATION SITE WHITE SALMON, WA
DESIGNED BY: G. COBB	CHECKED BY: G. COBB	PROJECT NO. 572-34-124
DRAWN BY: M. JACKSON	DATE: JUNE 29, 1994	FILE: 34-124F2
		FIGURE 2

TABLE 1
ANALYTICAL RESULTS COLLECTED DURING SOIL EXCAVATION
MAY-JUNE 1944 TOWN PUMP/WHITE SALMON, WASHINGTON

SAMPLE ID	LOCATION DEPTH (FEET)	WTPH-G (PPM)	WTDH-D (PPM)	418.1 (PPM)
REGULATORY LIMIT		100	200	200
S-1	Not Analyzed	-	-	-
S-2	Not Analyzed	-	-	-
S-3	N. Wall/E. Center 4.0 Feet	N.D.	N.D. "DET"	**1800**
S-4	East Lobe/Center 4.0 Feet	N.D.	N.D.	N.D.
S-5	East Lobe/Center 8.5 Feet	**2400**	N.D.	N.D.
S-6	NE Corner Bldg 5.0 Feet	N.D.	N.D.	N.D.
S-7	N. Wall/Center 4.0 Feet	N.D.	N.D.	N.D.
S-8	South Wall/Center 4.0 Feet	**300**	N.D.	N.D.
S-9	South Wall/Center 3.0 Feet	**380**	**1300**	N.D.
S-16	North Wall/W. End 7.0 Feet	N.D.	N.D.	N.D.
S-17	N. Wall/Product Lines 3.0 Feet	**400**	89	100
S-18	West Wall/Center 7.5 Feet	final **1700** "ND" 2700 LR	final **5500** 24000	N.D. "DET" → "ND"
S-19	North Wall/Center 7.5 Feet	N.D	N.D.	N.D.
S-20	North Wall/E. End 8.0 Feet	N.D.	N.D.	N.D.
S-21	East Wall/N. End 8.0 Feet	N.D.	N.D.	N.D.

NOTES:

N.D. - Not Detected
PPM - Parts Per Million

See Laboratory Reports for Method Detection Limits
Values in bold face are above applicable regulatory limits

TABLE 2
ANALYTICAL RESULTS COLLECTED DURING SOIL EXCAVATION
JUNE 1994 - TRAILER PARK/WHITE SALMON, WASHINGTON

SAMPLE ID	LOCATION DEPTH (FEET)	WTPH-G (PPM)	WTPH-D (PPM)	418.1 (PPM)
REGULATORY LIMIT		100	200	200
S-10	Trailer Park Test Pit 1	**5900**	N.D.	N.D.
S-11	Trailer Park Test Pit 2	**7600**	N.D.	N.D.
S-12	Trailer Park Test Pit 3	N.D.	N.D.	N.D.
S-13	Trailer Park Test Pit 4	N.D.	N.D.	N.D.
S-14	Trailer Park Test Pit 5	**1100**	N.D.	N.D.
S-15	Trailer Park Test Pit 6	N.D.	N.D.	N.D.
S-24	Trailer Park Excavation South Wall/West End	N.D.	N.D.	N.D.
S-25	Trailer Park Excavation South Wall/East End	N.D.	N.D.	N.D.

NOTES: N.D. - Not Detected
PPM - Parts Per Million

See Laboratory Reports for Method Detection Limits
Values in boldface are above applicable regulatory limits

TABLE 3
CHARACTERIZATION OF WASTE OIL CONTAMINATED SOILS
MAY 1994 - TOWN PUMP/WHITE SALMON, WASHINGTON

SAMPLE ID	LOCATION DEPTH (FEET)	418.1 (PPM)	TCLP 1311.6010 (PPM)	EPA 8240 (PPB)	FLASHPT.
S-3	N. Wall/Center East 3.5 Feet	1800	-	-	-
S-4	E. Lobe/Center 4.0 Feet	N.D.	Cr - N.D. Cu - N.D. Pb - N.D. Zn - 0.95	B - 100 T - N.D. E - 30 X - 320	150

NOTES:
N. D. - Not Detected
PPM - Parts Per Million
PPB - Parts Per Billion

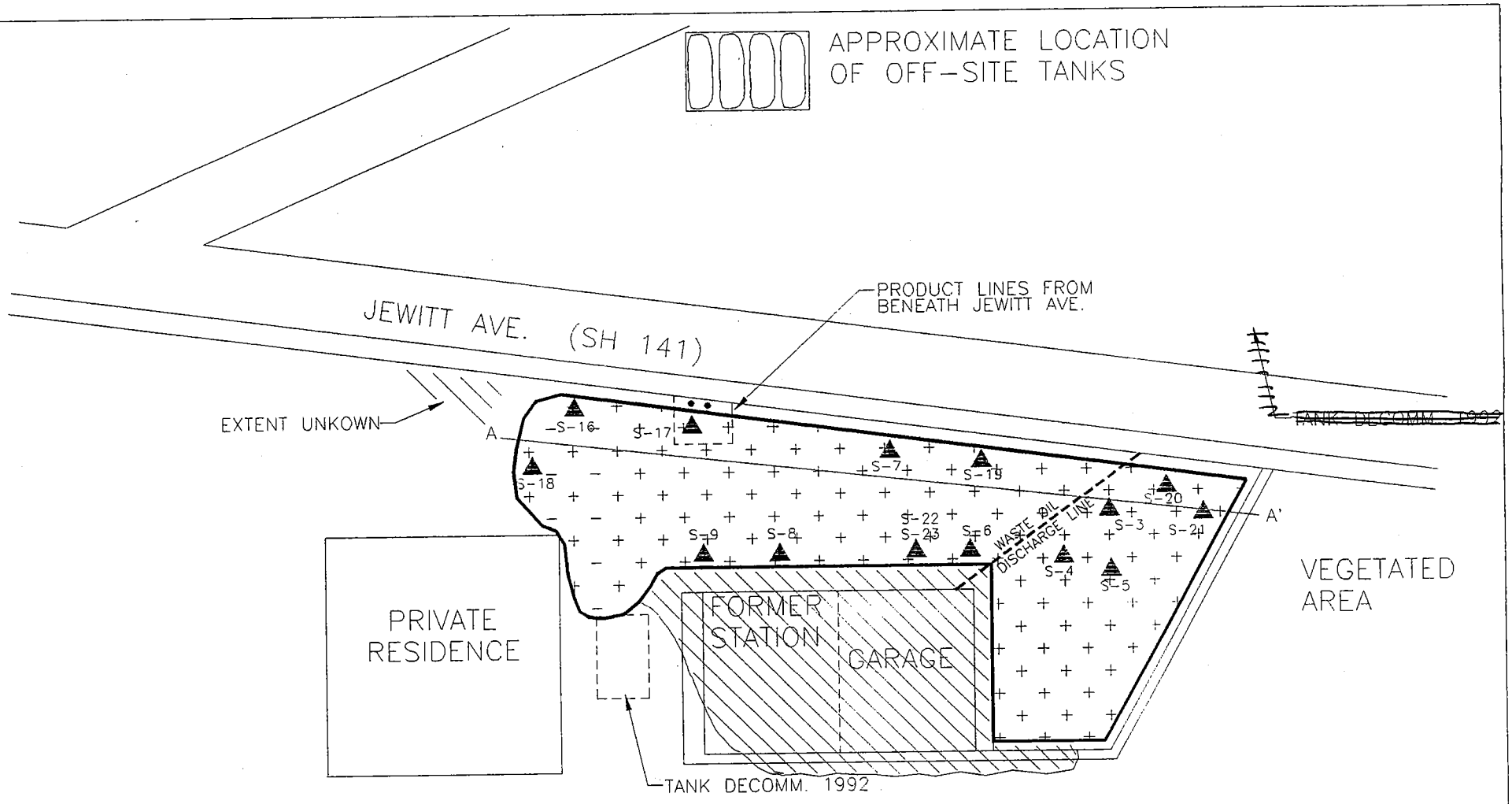
See Laboratory Reports for Method Detection Limits

TABLE 4
CHARACTERIZATION OF GASOLINE CONTAMINATED SOILS
JUNE 1994 - TOWN PUMP/WHITE SALMON, WASHINGTON

SAMPLE ID	LOCATION DEPTH (FEET)	BENZENE (PPB)	TOLUENE (PPB)	E-BENZENE (PPB)	XYLENE (PPB)	LEAD (PPM)
REGULATORY LIMITS		500	40,000	20,000	20,000	250
S-22	Beneath Bldg/Center 4.0 Feet	N.D.	63	37	230	-
S-23	Beneath Bldg/Center 4.0 Feet	-	-	-	-	73.3

NOTES:
N.D. - Not Detected
PPM - Parts Per Million
PPB - Parts Per Billion

See Laboratory Reports for Method Detection Limits



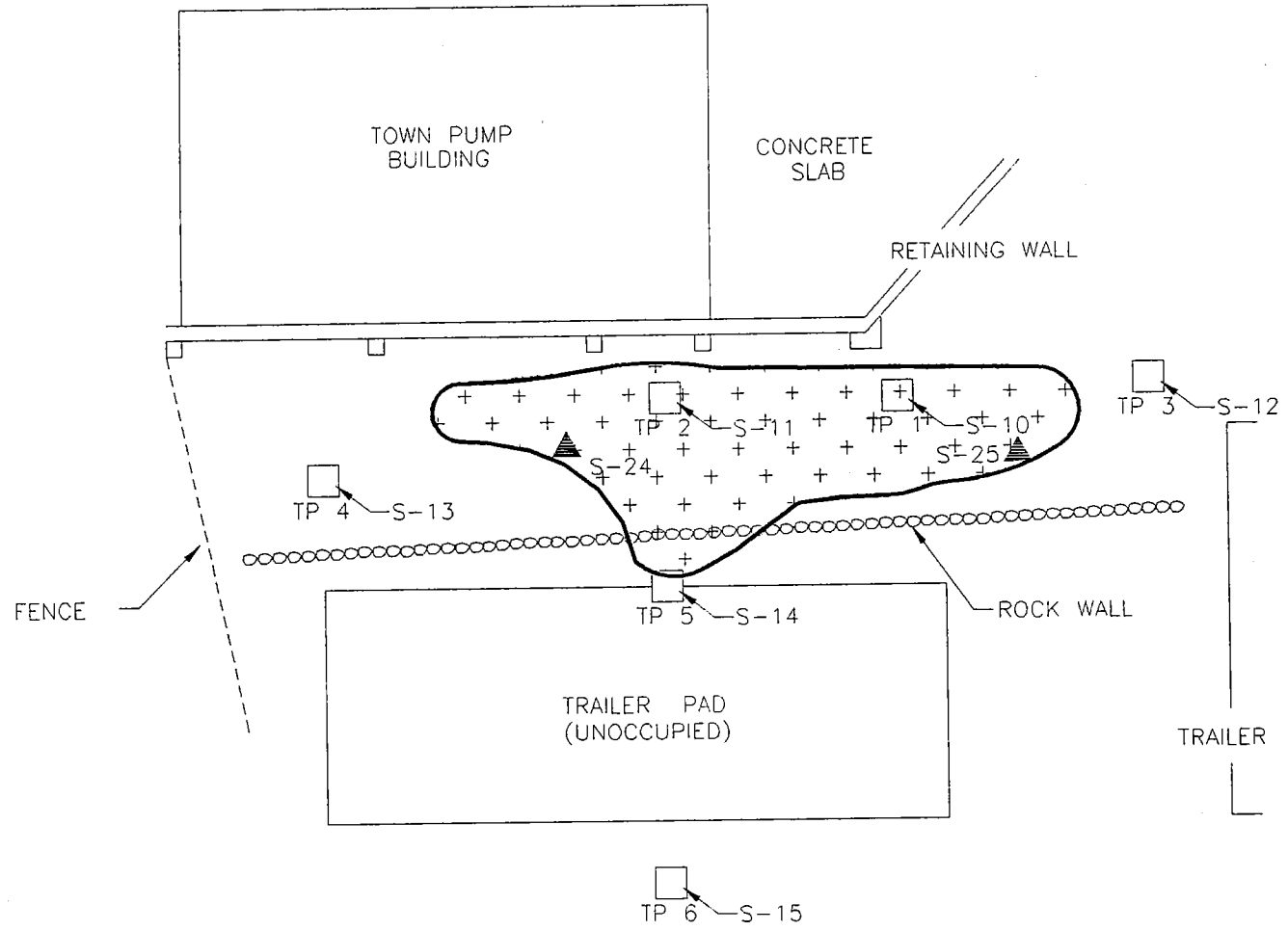
LEGEND

- ▲ SOIL SAMPLE LOCATIONS
- EXTENT OF CONTAMINATION LEFT UNEXCAVATED
- EXTENT OF EXCAVATED SOIL

NOT TO SCALE

NOTE: SOIL SAMPLE RESULTS CAN BE FOUND IN TABLE 1.

psi 12812 N.E. MARX STREET PORTLAND, OREGON 97230		TOWN PUMP SOIL SAMPLE LOCATIONS STATION SITE WHITE SALMON, WA
DESIGNED BY: G. COBB	CHECKED BY: G. COBB	PROJECT NO. 572-34-124
DRAWN BY: C. GEERTSON	DATE: JUNE 29, 1994	FILE: TP2
		FIGURE 3



TEST PIT SAMPLE RESULTS		
S-10	WTPH-G	5900ppm
S-11	WTPH-G	7600ppm
S-12	N.D.	
S-13	N.D.	
S-14	WTPH-G	1100ppm
S-15	N.D.	

EXCAVATION CLOSURE SAMPLE RESULTS	
S-24	N.D.
S-25	N.D.

LEGEND	
+	EXTENT OF EXCAVATION
▲	SOIL SAMPLE LOCATION

NOT TO SCALE

psi 12812 N.E. MARX STREET PORTLAND, OREGON 97230

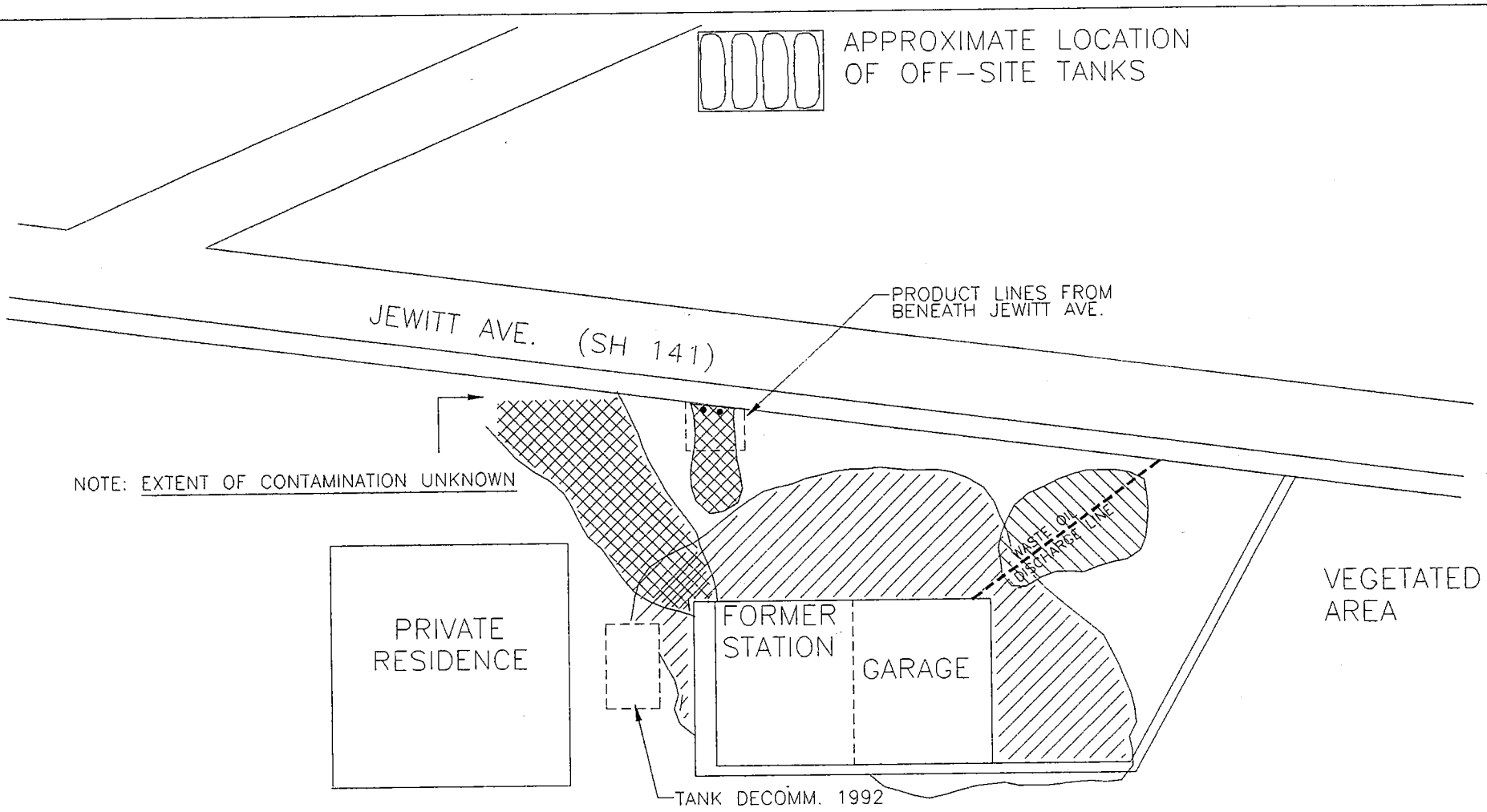
DESIGNED BY: G. COBB	CHECKED BY: G. COBB
DRAWN BY: M. JACKSON	DATE: JUNE 29, 1994

TOWN PUMP SOIL SAMPLES TRAILER PARK WHITE SALMON, WA

PROJECT NO. 572-34-124

FILE: 34-124F4

FIGURE 4



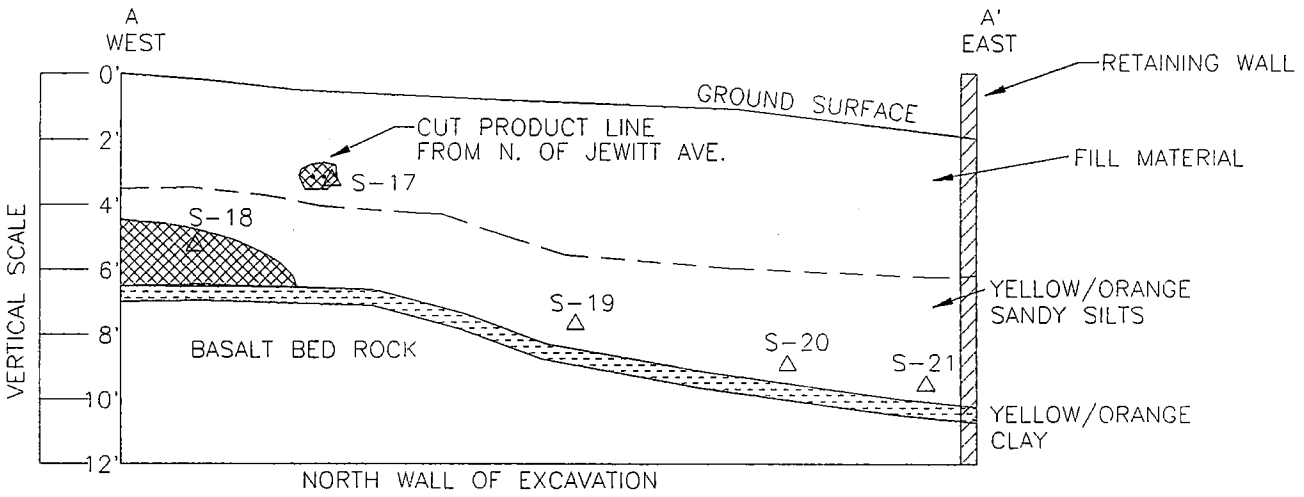
LEGEND

- AREAL EXTENT OF WASTE OIL CONTAMINATION
- AREAL EXTENT OF GASOLINE CONTAMINATION
- AREAL EXTENT OF GASOLINE/DIESEL CONTAMINATION

N

NOT TO SCALE

psi 12812 N.E. MARX STREET PORTLAND, OREGON 97230		TOWN PUMP STATION SITE AREAL EXTENT OF SOIL CONTAMINATION WHITE SALMON, WA
DESIGNED BY: G. COBB	CHECKED BY: G. COBB	PROJECT NO. 572-34-124
DRAWN BY: M. JACKSON	DATE: JUNE 29, 1994	FILE: 34-124F5
		FIGURE 5



LEGEND	
	PETROLEUM CONTAMINATED SOIL
G.	GASOLINE
D.	DIESEL
N.D.	NON DETECT

0' 5' 10' 15' 20' 25'

HORIZONTAL SCALE

SAMPLE RESULTS		
S-17	WTPH-G	100ppm
	WTPH-D	89ppm
	418.1	100ppm
S-18	WTPH-G	1,700ppm
	WTPH-D	5,500ppm
S-19	N.D.	
S-20	N.D.	
S-21	N.D.	

N

psi 12812 N.E. MARX STREET PORTLAND, OREGON 97230

DESIGNED BY: G. COBB	CHECKED BY: G. COBB
DRAWN BY: C. GEERTSON	DATE: JUNE 29, 1994

TOWN PUMP
SITE CROSS SECTION
TRAILER PARK
WHITE SALMON, WA

PROJECT NO. 572-34-124

FILE: TP4

FIGURE 6

Appendix A
Laboratory Reports and Chain-of-Custody Documentation

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

June 3, 1994

Professional Service Industries, Inc.
12812 N.E. Marx Street
Portland, OR 97230

Attention: Gil Cobb

RE: JOB #
P.O.#
PROJECT - TOWN PUMP

Enclosed are test results for your samples received in this lab on May. 24, 1994. For your reference, these analyses have been assigned our PEL # 94-1330.

Solid samples are reported on a dry weight basis except for Oregon DEQ Fuels Methods and where otherwise noted.

Please call if you have any questions.

Respectfully,

Howard Holmes
Project Manager

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

TCLP per EPA 1311, 6010
Results In mg/L (ppm)

Client: Professional Service Industries, Inc.
Project: TOWN PUMP
Received: 05/24/1994

PEL Number: 94-1330
Matrix: soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Prepped	Date Analyzed
S-4	Chromium	ND	0.020	05/23/94	05/25/94	05/26/94
	Copper	ND	0.10			
	Lead	ND	0.20			
	Zinc	0.95	0.50			
Method Blank	Chromium	ND	0.020			
	Copper	ND	0.10			
	Lead	ND	0.20			
	Zinc	ND	0.50			

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

Volatile Organic Compounds per EPA 8240
Results In ug/kg (ppb)

Client: Professional Service Industries, Inc.
Project: TOWN PUMP
Received: 05/24/1994

PEL Number: 94-1330
Matrix: soil

Sample Name	Analyte	Result	MRL
S-4 *[1]	Acetone	ND	50
	Acrolein	ND	1000
	Acrylonitrile	ND	50
	Benzene	100	10
	Bromodichloromethane	ND	10
	Bromoform	ND	10
	Bromomethane	ND	50
	2-Butanone	ND	38
	Carbon Disulfide	ND	10
	Carbon Tetrachloride	ND	10
	Chlorobenzene	ND	10
	Chloroethane	ND	50
	Chloroform	ND	10
	Chloromethane	ND	50
	Dibromochloromethane	ND	10
	Dibromomethane	ND	10
	1,4-Dichloro-2-butene	ND	50
	1,2-Dichlorobenzene	ND	10
	1,3-Dichlorobenzene	ND	10
	1,4-Dichlorobenzene	ND	10
	Dichlorodifluoromethane	ND	25
	1,1-Dichloroethane	ND	10
	1,2-Dichloroethane	ND	10
	1,1-Dichloroethene	ND	10
	cis-1,2-Dichloroethene	ND	10
	trans1,2Dichloroethene	ND	10
	1,2-Dichloropropane	ND	10
	cis-1,3-Dichloropropene	ND	10
	trans1,3Dichloropropene	ND	10
	Ethyl Methacrylate	ND	10
	Ethylbenzene	30	10
	2-Hexanone	ND	25
	Iodomethane	ND	10
	4-Methyl-2-pentanone	ND	25
	Methylene Chloride	ND	25
	Styrene	ND	10
	1,1,2,2-Tetrachloroethane	ND	10
	Tetrachloroethene	ND	10
	Toluene	ND	10
	1,1,1-Trichloroethane	ND	10
	1,1,2-Trichloroethane	ND	10
	Trichloroethene	ND	10

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

Volatile Organic Compounds per EPA 8240
Results In ug/kg (ppb)

Client: Professional Service Industries, Inc.
Project: TOWN PUMP
Received: 05/24/1994

PEL Number: 94-1330
Matrix: soil

Sample Name	Analyte	Result	MRL
S-4 *[1] (continued)	Trichlorofluoromethane	ND	10
	1,2,3-Trichloropropane	ND	10
	Vinyl Acetate	ND	25
	Vinyl Chloride	ND	25
	Xylenes (total)	320	10
	Date Prepped	05/24/94	
	Date Analyzed	05/24/94	

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

Volatile Organic Compounds per EPA 8240
Results In ug/kg (ppb)

Client: Professional Service Industries, Inc.
Project: TOWN PUMP
Received: 05/24/1994

PEL Number: 94-1330
Matrix: soil

Sample Name	Analyte	Result	MRL
Method Blank	Acetone	ND	10
	Acrolein	ND	200
	Acrylonitrile	ND	10
	Benzene	ND	2.0
	Bromodichloromethane	ND	2.0
	Bromoform	ND	2.0
	Bromomethane	ND	10
	2-Butanone	ND	7.5
	Carbon Disulfide	ND	2.0
	Carbon Tetrachloride	ND	2.0
	Chlorobenzene	ND	2.0
	Chloroethane	ND	10
	Chloroform	ND	2.0
	Chloromethane	ND	10
	Dibromochloromethane	ND	2.0
	Dibromomethane	ND	2.0
	1,4-Dichloro-2-butene	ND	10
	1,2-Dichlorobenzene	ND	2.0
	1,3-Dichlorobenzene	ND	2.0
	1,4-Dichlorobenzene	ND	2.0
	Dichlorodifluoromethane	ND	5.0
	1,1-Dichloroethane	ND	2.0
	1,2-Dichloroethane	ND	2.0
	1,1-Dichloroethene	ND	2.0
	cis-1,2-Dichloroethene	ND	2.0
	trans1,2Dichloroethene	ND	2.0
	1,2-Dichloropropane	ND	2.0
	cis-1,3-Dichloropropene	ND	2.0
	trans1,3Dichloropropene	ND	2.0
	Ethyl Methacrylate	ND	2.0
	Ethylbenzene	ND	2.0
	2-Hexanone	ND	5.0
	Iodomethane	ND	2.0
	4-Methyl-2-pentanone	ND	5.0
	Methylene Chloride	ND	5.0
	Styrene	ND	2.0
	1,1,2,2-Tetrachloroethane	ND	2.0
	Tetrachloroethene	ND	2.0
	Toluene	ND	2.0
	1,1,1-Trichloroethane	ND	2.0
	1,1,2-Trichloroethane	ND	2.0
	Trichloroethene	ND	2.0

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

Volatile Organic Compounds per EPA 8240
Results In ug/kg (ppb)

Client: Professional Service Industries, Inc.
Project: TOWN PUMP
Received: 05/24/1994

PEL Number: 94-1330
Matrix: soil

Sample Name	Analyte	Result	MRL
Method Blank (continued)	Trichlorofluoromethane	ND	2.0
	1,2,3-Trichloropropane	ND	2.0
	Vinyl Acetate	ND	5.0
	Vinyl Chloride	ND	5.0
	Xylenes (total)	ND	2.0

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

WTPH-HCID per Washington State DOE
Results In mg/kg (ppm)

Client: Professional Service Industries, Inc.
Project: TOWN PUMP
Received: 05/24/1994

PEL Number: 94-1330
Matrix: soil

Sample Name	Analyte	Result	MRL
S-3	Diesel	DET	50
	Gasoline	ND	20
	Heavy/Bunker	DET	100
	Date Prepped	05/25/94	
	Date Analyzed	05/26/94	
S-4	Diesel	ND	50
	Gasoline	ND	20
	Heavy/Bunker	ND	100
	Date Prepped	05/25/94	
	Date Analyzed	05/26/94	
Method Blank	Diesel	ND	50
	Gasoline	ND	20
	Heavy/Bunker	ND	100

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

TPH-418.1M per Washington State DOE
Results In mg/kg (ppm)

Client: Professional Service Industries, Inc.
Project: TOWN PUMP
Received: 05/24/1994

PEL Number: 94-1330
Matrix: soil

Sample Name	Analyte	Result	MRL	Date Prepped	Date Analyzed
S-3	TPH	1800	25	05/31/94	05/31/94
Method Blank	TPH	ND	25		

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

Flashpoint (PMCC)
Results In Degrees F

Client: Professional Service Industries, Inc.
Project: TOWN PUMP
Received: 05/24/1994

PEL Number: 94-1330
Matrix: soil

Sample Name	Analyte	Result	MRL	Date Prepped	Date Analyzed
S-4	No Flash to	150		05/25/94	05/25/94

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

SURROGATE RECOVERIES (%)

Client: Professional Service Industries, Inc.
Project: TOWN PUMP

PEL Number: 94-1330
Received: 05/24/1994

Sample Name	Analyte	Result	Control Limits
Volatile Organic Compounds per EPA 8240			
S-4	4-Bromofluorobenzene	98	74-121
	1,2-Dichloroethane-d4	100	70-121
	Toluene-d8	101	81-117
WTPH-HCID per Washington State DOE			
S-3	4-Bromofluorobenzene	86	50-150
	1-Chlorooctadecane	97	50-150
S-4	4-Bromofluorobenzene	86	50-150
	1-Chlorooctadecane	90	50-150

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

NORTH CREEK ANALYTICAL
(Formerly Pacific Environmental Laboratory, Inc.)
9405 S.W. Nimbus Ave. • Beaverton, OR 97005 • (503) 643-9200 • FAX # (503) 644-2202

COMMENTS

Client: Professional Service Industries, Inc.
Project: TOWN PUMP

PEL Number: 94-1330
Received: 05/24/1994

1. Detection limit is raised due to dilution necessary for analysis.

CHAIN OF CUSTODY RECORD

PACIFIC ENVIRONMENTAL LABORATORY INC.
9405 S.W. Nimbus Ave.
Beaverton, OR 97005
(503) 644-0660
Fax (503) 644-2202

COMPANY PSI
PROJECT NAME Town Pump
LAB PROJECT NUMBER 94-1330
PROJECT MANAGER Gil Cobb
PROJECT NUMBER
COLLECTED BY Gil Cobb
P.O. NUMBER
RUSH ☒ YES ☐ NO

COMMENTS

IF SAMPLE IS LIQUID & HAS SEDIMENT OR PARTICULATE, SHALL WE:
_____ Test Filtrate Only?
_____ Mix Sample by Shaking?
_____ Test Particulate Only?

IF SAMPLE IS MULTI-PHASED, SHALL WE:
_____ Test Each Phase separately?
_____ Test only ONE Phase? Which Phase?
_____ Mix All Phases by Shaking?

PEL NO.	SAMPLE I.D.	DATE	TIME	PRESERV.	MATRIX: SOIL	MATRIX: WATER	MATRIX: OTHER	NUMBER OF CONTAINERS	TPH - HCID ~~EXTRACTABLES~~ WTPH	QUANT. IF DETECTED (Y)	TPH - Gasoline OAR/DEQ	TPH - Diesel OAR/DEQ	TPH - 418.1 Modified OAR/DEQ	8015M - Gas	8015M - Diesel	TPH 418.1	BTEX 602/8020	Halogenated Volatiles 601/8010	Volatiles 624/8240	Semivolatiles 625/8270	PCB's 608/8080	Chlorinated Pesticides 608/8080	TCLP ~~(8) Metals~~ only 2 of Cr, Pb	Flashpoint	REMARKS
	S-3	5/23	10 30	NO	X			1	X	X															
	S-4	5/23	2 30	NO	X			3	X	X									X				X	X	

RELINQUISHED BY	COMPANY	DATE/TIME	RECEIVED BY	COMPANY
Gil Cobb	PSI	5/24 7 55 Am	Sara McClurg	PEL
RELINQUISHED BY	COMPANY	DATE/TIME	RECEIVED BY	COMPANY
RELINQUISHED BY	COMPANY	DATE/TIME	RECEIVED BY	COMPANY

Note: Samples are discarded 30 days after receipt unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Professional Service Industries, Inc.

JUN 1 4 1994

ANALYTICAL REPORT

TESTED FOR: PROFESSIONAL SERVICE INDUSTRIES, INC.
12812 N.E. Marx St.
Portland, OR 97230

ATTN: GIL COBB

PSI REPORT # 214-10030-01-O

FINAL REPORT

DATE: JUNE 8, 1994

****

PROJECT: White Salmont; #572-
DATE RECEIVED: June 4, 1994
SAMPLE MATRIX: Soil
METHODOLOGY EMPLOYED: WTPH-HCID, WTPH-G, WTPH-D

PSI LAB #		CLIENT SAMPLE ID
406183	-	S-5, 06/03/94, 1257
406184	-	S-6, 06/03/94, 1259
406185	-	S-7, 06/03/94, 1303
406186	-	S-8, 06/03/94, 1307
406187	-	S-9, 06/03/94, 1313

Results Begin on Page Two

DILUTION FACTOR CRITERIA

Whenever one or more components in a sample are in excess of the method's calibration, dilution is appropriate. Accordingly, the new detection limit = Dilution Factor x Method Detection Limit.

Xinhua Chen 6/8/94

Respectfully submitted,
XINHUA CHEN, Ph.D., ORGANICS SUPERVISOR

PROFESSIONAL SERVICE INDUSTRIES, INC.

WTPH-HCID per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmont; #572-
Received: 06/04/94

PSI Report Number: 214-1O030-01-O
Page 2 of 5
Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-5	Diesel	ND	50	06/06/94	06/06/94	DA
06/03/94, 1257	Gasoline	DET	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 127						
S-6	Diesel	ND	50	06/06/94	06/06/94	DA
06/03/94, 1259	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 127						
S-7	Diesel	ND	50	06/06/94	06/06/94	DA
06/03/94, 1303	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 117						
S-8	Diesel	ND	50	06/06/94	06/07/94	DA
06/03/94, 1307	Gasoline	DET	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 121						
S-9	Diesel	DET	50	06/06/94	06/07/94	DA
06/03/94, 1313	Gasoline	DET	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 127						

MRL Method Reporting Level
ND None Detected at or above the method reporting level
DET Detected

WTPH-G per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmont
Received: June 4, 1994

PSI Report Number: 214-1O030-01-O

Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-5 06/03/94, 1257	Gasoline	2400	200	06/06/94	06/07/94	VT
Surrogate Recovery (%): 4-Bromofluorobenzene 109						
S-8 06/03/94, 1307	Gasoline	300	200	06/06/94	06/07/94	VT
Surrogate Recovery (%): 4-Bromofluorobenzene 85						
S-9 06/03/94, 1313	Gasoline	380	100	06/06/94	06/07/94	VT
Surrogate Recovery (%): 4-Bromofluorobenzene 93						
Analytical Blank	Gasoline	ND	20	06/06/94	06/07/94	VT
Surrogate Recovery (%): 4-Bromofluorobenzene 96						

MRL Method Reporting Level

WTPH-D per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmont
Received: June 4, 1994

PSI Report Number: 214-1O030-01-O

Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
*S-9 06/03/94, 1313	Diesel	1300	250	06/07/94	06/07/94	DA
Surrogate Recovery (%): Terphenyl-d14 85						
Analytical Blank	Diesel	ND	25	06/07/94	06/07/94	DA
Surrogate Recovery (%): Terphenyl-d14 94						

MRL Method Reporting Level
*Sample exhibited a matrix interference.

WTPH-G and WTPH-D per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmont
Received: June 4, 1994

PSI Report Number: 214-1O030-01-O
Page 5 of 5
Matrix: Soil

Sample Name	Analyte	Recovery (%)	Date Extracted	Date Analyzed	Analyst
Matrix Spike	Gasoline	102	06/06/94	06/07/94	VT
Surrogate Recovery (%): 4-Bromofluorobenzene 92					
Matrix Spike	Diesel	85	06/07/94	06/07/94	DA
Surrogate Recovery (%): Terphenyl-d14 93					

CHAIN OF CUSTODY RECORD

PSI Professional Service Industries, Inc.

PROJECT NAME	REPORT TO	INVOICE TO
PROJECT NUMBER	PROJECT MANAGER	ADDRESS
P.O. NUMBER	ADDRESS	CITY / STATE / ZIP
REQUIRED DUE DATE	CITY / STATE / ZIP	ATTENTION
SAMPLES TO LAB VIA	TELEPHONE / FAX	TELEPHONE
NUMBER OF COOLERS	REPORT VIA: VERBAL FAX / U.S. MAIL/OVERNIGHT	

LABORATORY SUBMITTED TO:

- ☑ 6913 Hwy. 225, Deer Park, TX 77536, (713) 479-8307
- ☐ 4820 W. 15th Street, Lawrence, KS 66049, (800) 548-7901
- ☐ 6056 Ulmerton Road, Clearwater, FL 34620, (813) 531-1446
- ☐ 850 Poplar Street, Pittsburgh, PA 15220, (412) 922-4000

TRANSFER NUMBER	RELINQUISHED BY DATE / TIME	ACCEPTED BY DATE / TIME	SEAL NUMBER
	6/3/99 3:30	6/4 12:00	
		Plumb 6-5-99 4:00	

LABORATORY USE ONLY

SAMPLE CUSTODIAN	DATE / TIME

LABORATORY USE ONLY

FIELD SERVICES	Y/N $
SHIPPING	Y/N $

LABORATORY USE ONLY

ANALYTICAL DUE DATE	
REPORT DUE DATE	
INORGANIC	Sect _____ Row _____
ORGANIC	Sect _____ Row _____
PSI PROJECT NAME	
PSI PROJECT #	
PSI BATCH #	

PARAMETER LIST

SAMPLE IDENTIFICATION	DATE / TIME	COMP-C GRAB-B	SOIL-S WATER-W WASTE-X	LAB USE ONLY LAB NUMBER	NUMBER OF CONTAINERS	TPH HCL	BTEX
S-5	6/3		S	406183	1	X	
S-6	6/3		S	406184	1	X	
S-7	6/3		S	406185	1	X	
S-8	6/3		S	406186	1	X	
S-9	6/3		S	406187	1	X	
Trip	6/3		W		4		X

ADDITIONAL REMARKS _____ SAMPLER'S SIGNATURE _____

Professional Service Industries, Inc.

ANALYTICAL REPORT

TESTED FOR: PROFESSIONAL SERVICE INDUSTRIES, INC.
12812 N.E. Marx St.
Portland, OR 97230

PSI REPORT # 214-10030-02-O

ATTN: GIL COBB

DATE: JUNE 20, 1994

****

PROJECT: White Salmon; #572-34-124
DATE RECEIVED: June 15, 1994
SAMPLE MATRIX: Soil
METHODOLOGY EMPLOYED: WTPH-HCID, WTPH-G, WTPH-D

PSI LAB #		CLIENT SAMPLE ID
406670	-	S-10, 06/14/94
406671	-	S-11, 06/14/94
406672	-	S-12, 06/14/94
406673	-	S-13, 06/14/94
406674	-	S-14, 06/14/94
406675	-	S-15, 06/14/94
406676	-	S-16, 06/14/94
406677	-	S-17, 06/14/94
406678	-	S-18, 06/14/94

DILUTION FACTOR CRITERIA

Whenever one or more components in a sample are in excess of the method's calibration, dilution is appropriate. Accordingly, the new detection limit = Dilution Factor x Method Detection Limit.

Xinhua Chen 6/20/94

Respectfully submitted,
XINHUA CHEN, Ph.D., ORGANICS SUPERVISOR

PROFESSIONAL SERVICE INDUSTRIES, INC.

WTPH-HCID per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon; #572-34-124
Received: June 15, 1994

PSI Report Number: 214-1O030-02-O
Page 2 of 6
Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-10	Diesel	ND	50	06/15/94	06/16/94	DA
06/14/94	Gasoline	DET	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 81						
S-11	Diesel	ND	50	06/15/94	06/16/94	DA
06/14/94	Gasoline	DET	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 90						
S-12	Diesel	ND	50	06/15/94	06/16/94	DA
06/14/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 86						
S-13	Diesel	ND	50	06/15/94	06/16/94	DA
06/14/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 94						
S-14	Diesel	ND	50	06/15/94	06/16/94	DA
06/14/94	Gasoline	DET	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 89						

MRL Method Reporting Level
ND None Detected at or above the method reporting level

WTPH-G and WTPH-D per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon, #572-34-124
Received: June 15, 1994

PSI Report Number: 214-1O030-02-O

Matrix: Soil

Sample Name	Analyte	Recovery (%)	Date Extracted	Date Analyzed	Analyst
Matrix Spike	Gasoline	116	06/16/94	06/16/94	DA
Surrogate Recovery (%): 4-Bromofluorobenzene 82					
Matrix Spike	Diesel	82	06/16/94	06/17/94	DA
Surrogate Recovery (%): Terphenyl-d14 98					

WTPH-G per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon, #572-34-124
Received: June 15, 1994

PSI Report Number: 214-1O030-02-O

Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-15	Diesel	ND	50	06/15/94 PG	06/16/94	DA
06/14/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 87						
S-16	Diesel	ND	50	06/15/94 PG	06/16/94	DA
06/14/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14 88						
S-17	Diesel	ND	50	06/15/94 PG	06/16/94	DA
06/14/94	Gasoline	DET	20			
	Heavy/Bunker	DET	100			
Surrogate Recovery (%): Terphenyl-d14 80						
*S-18	Diesel	ND	50	06/15/94 PG	06/16/94	DA
06/14/94	Gasoline	DET	20			
	Heavy/Bunker	DET	100			
Surrogate Recovery (%): Terphenyl-d14 129						

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* Sample exhibited a matrix interference

WTPH-G per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon, #572-34-124
Received: June 15, 1994

PSI Report Number: 214-1O030-02-O
Page 4 of 6
Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-10 06/14/94	Gasoline	5900	200	06/16/94	06/17/94	DA
Surrogate Recovery (%): 4-Bromofluorobenzene 120						
S-11 06/14/94	Gasoline	7600	200	06/16/94	06/18/94	DA
Surrogate Recovery (%): 4-Bromofluorobenzene 108						
*S-14 06/14/94	Gasoline	1100	100	06/16/94	06/18/94	DA
Surrogate Recovery (%): 4-Bromofluorobenzene 80						
*S-17 06/14/94	Gasoline	400	100	06/16/94	06/18/94	DA
Surrogate Recovery (%): 4-Bromofluorobenzene 116						
*S-18 06/14/94	Gasoline	2700	200	06/16/94	06/18/94	DA
Surrogate Recovery (%): 4-Bromofluorobenzene 118						
Analytical Blank	Gasoline	ND	20	06/16/94	06/18/94	DA
Surrogate Recovery (%): 4-Bromofluorobenzene 103						

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* Sample exhibited a matrix interference

WTPH-D per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon, #572-34-124
Received: June 15, 1994

PSI Report Number: 214-1O030-02-O

Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-17	Diesel	89	50	06/16/94	06/17/94	DA
06/14/94	Heavy/Bunker	100	100			
Surrogate Recovery (%):	**Terphenyl-d14**	85				
S-18	Diesel	24000	5000	06/16/94	06/17/94	DA
06/14/94	Heavy/Bunker	ND	10000			
Surrogate Recovery (%):	**Terphenyl-d14**	79				
Analytical Blank	Diesel	ND	50	06/16/94	06/17/94	DA
	Heavy/Bunker	ND	100			
Surrogate Recovery (%):	**Terphenyl-d14**	108				

MRL Method Reporting Level
ND None Detected at or above the method reporting level

RUSH

CHAIN OF CUSTODY RECORD

psi Professional Service Industries, Inc.

PROJECT NAME: WHITE SALMON	REPORT TO: C.I Cobb	INVOICE TO: K. MYGARD
PROJECT NUMBER: 732-34-1-54	PROJECT MANAGER: C.I Cobb	ADDRESS: 1212 NE MAPX
P.O. NUMBER:	ADDRESS: 1212 NE MAPX	CITY / STATE / ZIP: PORTLAND, OR 97232
REQUIRED DUE DATE: RUSH	CITY / STATE / ZIP: PORTLAND, OREGON, 97232	ATTENTION: K. MYGARD
SAMPLES TO LAB VIA: FED EX	TELEPHONE: 503/254-8418	TELEPHONE: 503/254-8418
NUMBER OF COOLERS: 1	FAX:	
	REPORT VIA: VERBAL FAX / U.S. MAIL/OVERNIGHT	

LABORATORY SUBMITTED TO:

- ☒ 6913 Hwy. 225, Deer Park, TX 77536, (713) 479-8307
- ☐ 4820 W. 15th Street, Lawrence, KS 66049, (800) 548-7901
- ☐ 6056 Ulmerton Road, Clearwater, FL 34620, (813) 531-1446
- ☐ 850 Poplar Street, Pittsburgh, PA 15220, (412) 922-4000

LABORATORY USE ONLY

ANALYTICAL DUE DATE:

REPORT DUE DATE:

INORGANIC: Sect ___ Row ___ ORGANIC: Sect ___ Row ___

PSI PROJECT NAME:

PSI PROJECT #:

PSI BATCH #:

FIELD SERVICES Y/N $:

SHIPPING Y/N $:

TRANSFER NUMBER	RELINQUISHED BY DATE / TIME	ACCEPTED BY DATE / TIME	SEAL NUMBER
	Michael Kaiser 6/14/94 3.00	[illegible] 6/15/94 1908	

LABORATORY USE ONLY

SAMPLE CUSTODIAN: DATE / TIME:

PARAMETER LIST

SAMPLE IDENTIFICATION	DATE / TIME	COMP-C GRAB-B	SOIL-S WATER-W WASTE-X	LAB USE ONLY LAB NUMBER	NUMBER OF CONTAINERS	GTPH-HCID	QUANT IFNES/CP
S-10	6/14/94	B	S	406670	1	X	X
S-11	6/14/94	B	S	406671	1	X	X
S-12	6/14/94	B	S	406672	1	X	X
S-13	6/14/94	B	S	406673	1	X	X
S-14	6/14/94	B	S	406674	1	X	X
S-15	6/14/94	B	S	406675	1	X	X
S-16	6/14/94	B	S	406676	1	X	X
S-17	6/14/94	B	S	406677	1	X	X
S-18	6/14/94	B	S	406678	1	X	X

USE WASHINGTON PROTOCOLS

ADDITIONAL REMARKS: USE WASHINGTON PROTOCOLS

SAMPLER'S SIGNATURE:

RUSH

PSI A 600 10 (1)

Professional Service Industries, Inc.

ANALYTICAL REPORT

TESTED FOR: PSI/OREGON
12812 N.E. Mary St.
Portland, Or 97230

PROJECT: White Salmon

PROJECT #: 572-34-124

ATTN: Gill Cobb

LAB#: 406782

DATE: June 23, 1994

REPORT #214-1o030-03-I

****

Date Received: June 17, 1994
Sample Identification: One soil sample labeled below.
Methodology Employed: See Below

		Results	Method #	Performed by
Sample ID: S-23 Grab 06/16/94; lab# 406782				
Lead	mg/kg	73.3	SW 6010	LO 06/21/94, 1430

Q.A. DATA

Parameter	Mdl	Blank	Orig.	Dup.	Rpd %	Amount Spiked	Spike Rec %
Lead	2.90	<2.90	58.6	51.1	13	57.1	103

Respectfully submitted,
James Rhubottom, Jr., Inorganic Supervisor

PROFESSIONAL SERVICE INDUSTRIES, INC.

6/23/94

CHAIN OF CUSTODY RECORD

PSI Professional Service Industries, Inc.

PROJECT NAME: WHITE SALMON	REPORT TO: G.I Cobb	INVOICE TO: K. NYGAARD
PROJECT NUMBER: 572-34-124	PROJECT MANAGER: G.I Cobb	ADDRESS: 12812 NE MARX
P.O. NUMBER:	ADDRESS: 12812 NE MARX	CITY / STATE / ZIP: PORTLAND OR 97230
REQUIRED DUE DATE: RUSH 5/23 per G.I.	CITY / STATE / ZIP: PORTLAND, OR 97230	ATTENTION: K. NYGAARD
SAMPLES TO LAB VIA: FEDEX	TELEPHONE: 503/254-5918	TELEPHONE: 503/254-5918
NUMBER OF COOLERS: 1	FAX	
	REPORT VIA: VERBAL FAX / U.S. MAIL/OVERNIGHT	

LABORATORY SUBMITTED TO:

- ☒ 6913 Hwy. 225, Deer Park, TX 77536, (713) 479-8307
- ☐ 4820 W. 15th Street, Lawrence, KS 66049, (800) 548-7901
- ☐ 6056 Ulmerton Road, Clearwater, FL 34620, (813) 531-1446
- ☐ 850 Poplar Street, Pittsburgh, PA 15220, (412) 922-4000

TRANSFER NUMBER	RELINQUISHED BY / DATE / TIME	ACCEPTED BY / DATE / TIME	SEAL NUMBER
	Michael Kan 6/16/94 3:00	C. Guzzino 6-17-94/920A.M.	

LABORATORY USE ONLY

SAMPLE CUSTODIAN: | DATE / TIME:

LABORATORY USE ONLY

FIELD SERVICES Y/N $

SHIPPING Y/N $

LABORATORY USE ONLY

ANALYTICAL DUE DATE

REPORT DUE DATE

INORGANIC Sect Row | ORGANIC Sect Row

PSI PROJECT NAME

PSI PROJECT #

PSI BATCH #

PARAMETER LIST

SAMPLE IDENTIFICATION	DATE / TIME	COMP-C GRAB-B	SOIL-S WATER-W WASTE-X	LAB USE ONLY LAB NUMBER	NUMBER OF CONTAINERS	WTPH-HCID	BTEX 8240	LEAD 239.2	TCLP 6010
S-19	6/16/94	B	S	406778	1	X			
S-20	6/16/94	B	S	406779	1	X			
S-21	6/16/94	B	S	406780	1	X			
S-22	6/16/94	B	S	406781	1		X		
S-23	6/16/94	B	S	406782	1			X	
S-24	6/16/94	B	S	406783	1	X			
S-25	6/16/94	B	S	406784	1	X			
S-18	6/	B	S	406785	1	X			

Sample for badly crushed oz.

Sample for badly crushed oz.

Sample for badly crushed oz.

ADDITIONAL REMARKS: QUANTIFY HCIDS PER WASHINGTON PROTOCOLS IF NECESSARY

SAMPLER'S SIGNATURE:

PSI A 3P 10 (I)

JUN 23 '94 08:38PM PSI DEEP PARK HIHLITICHL P.3

Professional Service Industries, Inc.

ANALYTICAL REPORT

TESTED FOR: PROFESSIONAL SERVICE INDUSTRIES, INC.
12812 N.E. Marx St.
Portland, OR 97230

PSI REPORT # 214-10030-03-O

FINAL REPORT

ATTN: GIL COBB

DATE: JUNE 28, 1994

****

PROJECT: White Salmon; #572-34-124
DATE RECEIVED: June 4, 1994
SAMPLE MATRIX: Soil
METHODOLOGY EMPLOYED: WTPH-HCID

PSI LAB #		CLIENT SAMPLE ID
406778	-	S-19, 06/16/94
406779	-	S-20, 06/16/94
406780	-	S-21, 06/16/94
406781	-	S-22, 06/16/94
406782	-	S-23, 06/16/94
406783	-	S-24, 06/16/94
406784	-	S-25, 06/16/94
406785	-	S-18

Results Begin on Page Two

DILUTION FACTOR CRITERIA

Whenever one or more components in a sample are in excess of the method's calibration, dilution is appropriate. Accordingly, the new detection limit = Dilution Factor x Method Detection Limit.

Xinhua Chen 6/28/94

Respectfully submitted,
XINHUA CHEN, Ph.D., ORGANICS SUPERVISOR

PROFESSIONAL SERVICE INDUSTRIES, INC.

WTPH-HCID per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon; #572-34-124
Received: 06/17/94

PSI Report Number: 214-1O030-03-O
Page 2 of 8
Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-19	Diesel	ND	50	06/21/94	06/23/94	DA
06/16/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14	*74*					
S-20	Diesel	ND	50	06/21/94	06/23/94	DA
06/16/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14	*86*					
S-21	Diesel	ND	50	06/21/94	06/23/94	DA
06/16/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14	*78*					
S-24	Diesel	ND	50	06/21/94	06/23/94	DA
06/16/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14	*77*					
S-25	Diesel	ND	50	06/21/94	06/23/94	DA
06/16/94	Gasoline	ND	20			
	Heavy/Bunker	ND	100			
Surrogate Recovery (%): Terphenyl-d14	*66*					

MRL Method Reporting Level
ND None Detected at or above the method reporting level
DET Detected

WTPH-HCID per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon; #572-34-124
Received: 06/17/94

PSI Report Number: 214-1O030-03-O
Page 3 of 8
Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-18	Diesel	DET	50	06/21/94	06/23/94	DA
	Gasoline	DET	20			
	Heavy/Bunker	ND	100			

Surrogate Recovery (%): Terphenyl-d14 96

MRL Method Reporting Level
ND None Detected at or above the method reporting level
DET Detected

BTEX BY SW 8020
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon; #572-34-124
Received: 06/17/94

PSI Report Number: 214-1O030-03-O
Page 4 of 8
Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-22	MTBE	ND	4.0	06/17/94	06/24/94	VT
06/16/94	Benzene	ND	4.0			
	Toluene	63	4.0			
	Ethylbenzene	37	4.0			
	Total Xylenes	230	4.0			
Surrogate Recovery (%): 4-Bromofluorobenzene 113						
Analytical Blank	MTBE	ND	0.1	06/17/94	06/23/94	VT
	Benzene	ND	0.1			
	Toluene	ND	0.1			
	Ethylbenzene	ND	0.1			
	Total Xylenes	ND	0.1			
Surrogate Recovery (%): 4-Bromofluorobenzene 109						

MRL Method Reporting Level
ND None Detected at or above the method reporting level
DET Detected

BTEX BY SW 8020

Client: PSI/OREGON
Project: White Salmon; #572-34-124
Received: 06/17/94

PSI Report Number: 214-1O030-03-O
Page 5 of 8
Matrix: Soil

Sample Name	Analyte	Recovery (%)	Date Extracted	Date Analyzed	Analyst
Matrix Spike	MTBE	84	06/17/94	06/24/94	VT
	Benzene	72			
	Toluene	74			
	Ethylbenzene	72			
	Total Xylenes	71			

Surrogate Recovery (%): 4-Bromofluorobenzene 77

WTPH-G per WASHINGTON DOE
Results in mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon: #572-34-124
Received: 06/17/94

PSI Report Number: 214-1O030-03-O

Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-18	Gasoline	1700	1000	06/17/94	06/24/94	VT
Surrogate Recovery (%): 4-Bromofluorobenzene 104						
Analytical Blank	Gasoline	ND	20	06/17/94	06/23/94	VT
Surrogate Recovery (%): 4-Bromofluorobenzene 83						

MRL Method Reporting Level

WTPH-D per WASHINGTON DOE
Results In mg/kg(ppm)

Client: PSI/OREGON
Project: White Salmon: #572-34-124
Received: 06/17/94

PSI Report Number: 214-1O030-03-O
Page 7 of 8
Matrix: Soil

Sample Name	Analyte	Result	MRL	Date Extracted	Date Analyzed	Analyst
S-18*	Diesel	5500	2500	06/27/94	06/28/94	DA
Surrogate Recovery (%): Terphenyl-d14 *						
Analytical Blank	Diesel	ND	25	06/27/94	06/28/94	DA
Surrogate Recovery (%): Terphenyl-d14 83						

MRL Method Reporting Level
*Matrix interference

WTPH-G per WASHINGTON DOE

Client: PSI/OREGON
Project: White Salmon: #572-34-124
Received: 06/17/94

PSI Report Number: 214-1O030-03-O
Page 8 of 8
Matrix: Soil

Sample Name	Analyte	Recovery (%)	Date Extracted	Date Analyzed	Analyst
Matrix Spike	Gasoline	81	06/17/94	06/24/94	VT

Surrogate Recovery (%): 4-Bromofluorobenzene 86

Appendix B
Enforcement Order No. DE 94TC-C1616

SB

RECEIVED
APR 0 6 1994
Ans'd.....

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
106 South 6th Ave. • Yakima, Washington 98902-3387 • (509) 575-2490

March 16, 1994

CERTIFIED MAIL
P 371 103 067

Mr. Lyle Harp
2675 D Highway
Hood River OR 97031

CERTIFIED MAIL
P 371 103 068

Mr. Randall Johnson
1396 Methodist Road
Hood River OR 97031

CERTIFIED MAIL
P 371 103 069

Mr. Kurt Osborne
PO Box 1174
Hood River OR 97031

Dear Sirs:

RE: Enforcement Order No. DE 94TC-C161

Enclosed please find Enforcement Order No. DE 94TC-C161 for the Town Pump site in White Salmon in Klickitat County, Washington. This Order supersedes Agreed Order No. DE 92TC-C323 issued to the Respondents listed above by the Department of Ecology under the authority of the Model Toxics Control Act.

Sincerely,

Anthony W. Grover
Section Manager
Toxics Cleanup Program
Central Region

AWG:SB:vw
g:covlt.co

cc: Steve Thielie, AAG, Olympia
Ron Shultz, Attorney
Hanemann, Bateman, Jones & Raymond

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by:	)	ENFORCEMENT ORDER No. DE 94TC-C161

Mr. Lyle Harp
2675 D Highway
Hood River, Oregon 97031

Mr. Kurt Osborne
Post Office Box 1174
Hood River, Oregon 97031

Mr. Randall Johnson
1396 Methodist Road
Hood River, Oregon 97031

To: Town Pump
521 East Jewett Boulevard
White Salmon, Washington 98672

I.

Jurisdiction

This Enforcement Order ("Order") is issued pursuant to the authority of RCW 70.105D.050(1).

II.

Statement of Facts

Ecology makes the following Findings of Fact, without admission of such facts by Lyle Harp, Kurt Osborne, and Randall Johnson.

2.1 The Department of Ecology (Ecology), Central Regional Office, received a complaint on April 4, 1989 that gasoline was escaping from the Town Pump site in White Salmon. Fire Chief Pete Bently, White Salmon Fire Department, found the pipes at the site to be leaking gasoline. The gasoline was reported to be traveling through the ground water beneath the site and flowing into the backyard of adjacent trailer sites, owned by the same partners that own Town Pump.

2.2 In a followup site visit on April 28, 1989 Ecology personnel found evidence to confirm that a release of petroleum products had occurred.

2.3 On May 24, 1989 Ecology spoke with Mr. Randall Johnson, co-owner of the site, to recommend remedial procedures to him. Mr. Johnson never responded.

2.4 On March 19, 1991 Ecology performed a Site Hazard Assessment. Results of the Site Hazard Assessment indicated that levels of hazardous substances exceeded MTCA cleanup levels and the site was found to rank a 1 (one).

2.5 On August 21, 1991 Ecology sent an initial Potentially Liable Party (PLP) status letter to Mr. Johnson. This letter requested Mr. Johnson to provide information regarding other PLPs that might exist for this site. Mr. Johnson did not reply with any further information about PLPs.

2.6 On December 13, 1991 Ecology mailed Mr. Osborne and Mr. Harp, co-owners of the site, proposed PLP status letters.

2.7 On January 28, 1992 PLP final determination letters were sent to Messrs. Lyle Harp, Kurt Osborne, and Randall Johnson, the three partners, hereinafter known as the "Respondents", with the statement that they were all PLPS.

2.8 On March 23, 1992 Ecology received a letter from Mr. Osborne stating that he had signed a contract with North West Construction (NW Construction) to start an independent cleanup.

2.9 On March 23, 1992 Ecology called NW Construction who stated their contract was to remove one UST. NW Construction was not aware the site was contaminated and were not contracted to perform a site cleanup or an RI/FS.

2.10 On April 9 and 10, 1992 NW Construction removed one UST at the site. Ecology monitored the removal of the tank. During the removal evidence of extensive petroleum contamination at the site was identified, also evidence of possible additional USTs was found.

2.11 On May 13, 1992, Ecology issued Agreed Order No. DE 92TC-C323, requiring a remedial investigation/feasibility study (RI/FS) at the Site.

2.12 On October 19, 1992, Ecology approved the RI/FS workplan submitted by the Respondents' consultant.

2.13 The Respondents terminated their contract with the consultant who had submitted the approved workplan.

2.14 Discussions on amending Agreed Order No. DE 92TC-C323 began on November 29, 1993 and ended on March 11, 1994.

III.

Ecology Determinations

3.1 The Respondents are "owners" as defined in RCW 70.105D.020(6) of a "facility" as defined in RCW 70.105D.020(3).

3.2 The facility is known as the Town Pump site, is located at 521 East Jewett Boulevard, White Salmon, Washington, and includes the area impacted by a release(s) of a hazardous substance(s) from the underground storage tank system located there and extending to the north of the Town Pump site.

3.3 The substances found at the facility as described above are "hazardous substances" as defined in RCW 70.105D.020(5).

3.4 Based on the presence of hazardous substances at the facility and all factors known to Ecology, there is a release or threatened release of hazardous substances from the facility, as defined in RCW 70.105D.020(10).

3.5 By letter dated January 28, 1992 Ecology notified Messrs. Randall Johnson, Lyle Harp, and Kurt Osborne of their status as "potentially liable persons" under RCW 70.105D.040 after notice and opportunity for comment.

3.6 Pursuant to RCW 70.105D.030(1) and 70.105D.050, Ecology may require potentially liable persons to investigate or conduct other remedial actions with respect to the release or threatened release of hazardous substances, whenever it believes such action to be in the public interest.

3.7 Based on the foregoing facts, Ecology believes the remedial action required by this Order is in the public interest.

3.8 This Order supersedes Agreed Order No. DE 92TC-C323, which has not been complied with.

IV.

Work to be Performed

Based on the foregoing Facts and Determinations, it is hereby ordered that the Respondents take the following remedial actions and that these actions be conducted in accordance with Chapter 173-340 WAC (Model Toxics Control Act Cleanup Regulation) and Chapter

173-360 WAC (Underground Storage Tank Regulations) unless otherwise specifically provided for herein.

4.1 The Respondents shall plan, conduct, and finance the following Interim Remedial Actions:

a. Upon issuance of this Order, as amended, the Respondents shall:

1) Within two (2) calendar weeks submit the completed workplan for removal of petroleum contaminated soils (PCS) which pose a threat to human health and the environment, from that portion of the facility located south of E. Jewett Blvd. This includes the area occupied by the former Town Pump gas station, the embankment, and the area in the trailer park where petroleum seepage has come to be located. This workplan shall include proposed plans for management and treatment or disposal of removed PCS.

2) Within two (2) calendar weeks of Ecology's written approval of the above workplan, removal of PCS from the area referred to above shall commence.

3) During removal of PCS, the Respondents shall ensure that practicable attempts are made to determine whether or not previously reported underground waste oil storage tanks are located beneath or adjacent to the former garage area of the Town Pump building. Ecology expects that PCS removal and transport activities should be completed within four (4) calendar weeks of commencement.

4) The excavated area shall be restored to grade so as to minimize potential threat to human health, no later than one (1) calendar week from the date of substantial completion of PCS excavation activities.

5) Upon receipt, copies of all laboratory analytical reports for samples collected shall be forwarded to Ecology, along with a sample location map and applicable chain of custody forms.

6) Within four (4) calendar weeks of substantial completion of PCS removal, a draft Site Characterization Report shall be submitted to Ecology. This report shall include the information listed under WAC 173-340-450(4)(b). Status Report information, listed in

450(4)(b)(i), is not required to be included in this report.

7) Within three (3) calendar weeks of receipt of Ecology's comments on the draft Site Characterization Report, a final Site Charcterization Report incorporating Ecology's comments shall be submitted to Ecology. In the event that Ecology has no comments on the draft report, then it shall be accepted as the final report.

8) Within eight (8) calendar weeks of Ecology's approval of the final Site Characterization Report, a workplan for the decommissioning, removal, and assessment of that portion of the underground storage tank (UST) system located on the north side of E. Jewett Blvd., shall be submitted. All UST decommissioning, removal, and assessment activities shall be conducted in accordance with the Underground Storage Tank Regulations of Washington state, Chapter 173-360 WAC, and the Ecology guidance document entitled "Guidance for Site Checks and Site Assessments for Underground Storage Tanks (revised October 1992)."

i. If, during UST removal and assessment activities, it is determined that a release of a hazardous substance(s) has contaminated the soil or ground water, then site assessment activities shall at that time be replaced with site characterization activities. Site assessment data collected prior to discovery of a hazardous substance release may be incorporated into the Site Characterization Report. The workplan shall allow for this contingency, along with proposed plans for management and treatment or disposal of contaminated soil, should it be encountered.

9) Within two (2) calendar weeks of receipt of Ecology's comments on the workplan, a revised workplan shall be submitted to Ecology.

10) Within two (2) calendar weeks of Ecology's approval of the workplan, UST system decommissioning, removal and assessment activities shall commence at the site. It is expected that these activities should be completed within two (2) calendar weeks.

i) If UST removal or assessment activities reveal that soil or ground water has been contaminated by a hazardous substance(s) release which poses a threat to human health and the environment, the Respondents shall remove, manage, and treat or dispose of the contaminated soil, as approved by Ecology, and complete characterization of the site. Ecology expects these activities should be completed within a total of four (4) calendar weeks from commencement of UST removal activities.

ii) The excavated area shall be restored to grade so as to minimize potential threat to human health, no later than one (1) calendar week from the date of substantial completion of contaminated soil removal activities.

11) A draft Site Assessment or Site Characterization Report, as appplicable, shall be submitted to Ecology within four (4) calendar weeks of substantial completion of UST removal and assessment or characterization activities.

12) Within three (3) calendar weeks of receipt of Ecology's comments on the draft report, a final Site Assessment or Characterization Report, as applicable, shall be submitted to Ecology. In the event that Ecology has no comments on the draft report, then it shall be accepted as the final report.

4.2 After completion and final acceptance of results of the Interim Remedial Actions conducted under subsection 4.1 above, Ecology shall determine whether or not additional information regarding the extent of or threat posed by the facility is necessary. This determination will be provided to the Respondents in writing.

In the event that such information is determined to be necessary, the Respondents shall fulfill those requirements for a Remedial Investigation/Feasibility Study (RI/FS) which apply to the facility and need to be addressed, as determined by Ecology. A specific list of these requirements shall be provided to the Respondents by Ecology.

a. Upon notification from Ecology, the Respondents shall:

1) Within four (4) calendar weeks, a workplan addressing those RI/FS requirements listed shall be submitted to Ecology.

2) Within two (2) calendar weeks of receipt of Ecology's comments on the workplan, a revised workplan shall be submitted to Ecology.

3) Within two (2) calendar weeks of Ecology's approval of the workplan, activities necessary to complete the RI/FS shall commence, and shall be completed within eight (8) calendar weeks, at which time the draft RI/FS Report shall be submitted to Ecology.

4) Within three (3) calendar weeks of receipt of Ecology's comments on the draft report, a final RI/FS Report shall be submitted to Ecology. In the event that Ecology has no comments on the draft report, then it shall be accepted as the final report.

V.

Terms and Conditions of Order

5.1. Definitions Unless otherwise specified, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms used in this Order.

5.2. Public Notices RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that the Order is inadequate or improper in any respect.

5.3. Remedial Action Costs The Respondents shall pay to Ecology costs incurred by Ecology pursuant to this Order. These costs shall include work performed by Ecology or its contractors for investigations, remedial actions, and Order preparation, oversight and administration. Ecology costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). The Respondents shall pay the required amount within ninety (90) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general description of

work performed will be provided upon request. Itemized statements shall be prepared quarterly. Failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges.

5.4. Designated Project Coordinators The project coordinator for Ecology is:

Susan Burgdorff (509) 454-7835
Washington State Department of Ecology
Central Regional Office
106 South 6th Avenue
Yakima, WA 98902-3387

The project coordinator for the Respondents is:

Mr. Randall Johnson (503) 386-1227
1396 Methodist Road
Hood River, OR 97031

The project coordinator(s) shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communications between Ecology and the Respondents, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the project coordinator(s). Should Ecology or the Respondents change project coordinator(s), written notification shall be provided to Ecology or the Respondents at least ten (10) calendar days prior to the change.

5.5. Performance All work performed pursuant to this Order shall be under the direction and supervision, as necessary, of a professional engineer or hydrogeologist, or similar expert, with appropriate training, experience and expertise in hazardous waste site investigation and cleanup. The Respondents shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors to be used in carrying out the terms of this Order, in advance of their involvement at the Site. The Respondents shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order and shall ensure that all work undertaken by such agents, contractors, and subcontractors will be in compliance with this Order.

Except when necessary to abate an emergency situation, the Respondents shall not perform any remedial actions at the

Town Pump site outside that required by this Order unless Ecology concurs, in writing, with such additional remedial actions.

WAC 173-340-400(7)(b)(i) and WAC 173-340-430(7) require that "construction" performed on the Site must be under the supervision of a professional engineer registered in Washington.

5.6. Access Ecology or any Ecology authorized representative shall have the authority to enter and freely move about the Site at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting samples as Ecology or the project coordinator may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by the Respondents. When entering the Site under Chapter 70.105D RCW, Ecology shall provide reasonable notice prior to entering the Site unless an emergency prevents notice. Ecology shall allow split or replicate samples to be taken by the Respondents during an inspection unless doing so interferes with Ecology's sampling. The Respondents shall allow split or replicate samples to be taken by Ecology and shall provide seven (7) days notice before any sampling activity.

5.7. Public Participation The Respondents shall prepare and/or update a public participation plan for the site. Ecology shall maintain the responsibility for public participation at the site. The Respondents shall help coordinate and implement public participation for the site.

5.8. Retention of Records The Respondents shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the date of completion of the work performed pursuant to this Order, all records, reports, documents, and underlying data in its possession relevant to this Order. Should any portion of the work performed hereunder be undertaken through contractors or agents of the Respondents, a record retention requirement meeting the terms of this paragraph shall be required of such contractors and/or agents.

5.9. Dispute Resolution The Respondents may request Ecology to resolve disputes which may arise during the implementation of this Order. Such requests shall be in writing and directed to the signatory, or his/her successor(s), to this Order. Ecology resolution of the dispute shall be binding and final. The Respondents are not relieved of any requirement of this Order

during the pendency of the dispute and remains responsible for timely compliance with the terms of the Order unless otherwise provided by Ecology in writing.

5.10 Reservation of Rights Ecology reserves all rights to issue additional orders or take any action authorized by law in the event or upon the discovery of a release or threatened release of hazardous substances not addressed by this Order, upon discovery of any factors not known at the time of issuance of this Order, in order to abate an emergency, or under any other circumstances deemed appropriate by Ecology.

Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances from the Town Pump site.

In the event Ecology determines that conditions at the Site are creating or have the potential to create a danger to the health or welfare of the people on the Site or in the surrounding area or to the environment, Ecology may order the Respondents to stop further implementation of this Order for such period of time as needed to abate the danger.

5.11 Transference of Property No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by the Respondents without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to transfer of any legal or equitable interest the Respondents may have in the Site or any portions thereof, the Respondents shall serve a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in such interest. At least thirty (30) days prior to finalization of any transfer, the Respondents shall notify Ecology of the contemplated transfer.

5.12 Compliance with Other Applicable Laws All actions carried out by the Respondents pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements.

VI.

Satisfaction of this Order

The provisions of this Order shall be deemed satisfied upon the Respondents' receipt of written notification from Ecology that the Respondents have completed the remedial activity required by this Order, as amended by any modifications, and that all other provisions of this Enforcement Order have been complied with.

VII.

Enforcement

7.1. Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and Orders related to the Site.

C. In the event the Respondents refuse, without sufficient cause, to comply with any term of this Order, the Respondents will be liable for:
(1) up to three times the amount of any costs incurred by the state of Washington as a result of its refusal to comply; and
(2) civil penalties of up to $25,000 per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under Chapter 70.105D.060 RCW.

Effective date of this Order: MAR 17 1994

Anthony W. Grover
Section Manager
Toxics Cleanup Program
Central Regional Office

AWG:SB:vw
g:tpump.dco

Appendix C
March 1991 Site Hazard Assessment/WDOE

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
TOXICS CLEANUP PROGRAM

SITE HAZARD ASSESSMENT DATA COLLECTION SUMMARY SHEETS
FOR
WASHINGTON RANKING METHOD

Site Name: Former Town Pump Station

Location: 520 East Jewitt Ave., White Salmon, WA

Site owner/operator: Randall & Linda Johnson

Address: 1396 Methodist Road, Hood River, OR 97031

Any other known PLP(s): Mr. Norman ~~Johnson~~ Watson (in files, DG) SB (previous owner)
(Lessees: Sherry & Mark Morin-4 years - prior Bill Moonie - 18 years)
Address:

Site Number:

Date(s) of field site hazard assessment: 4-20-91

Samples or field measurements: X soil
X surface water
air
ground water

(Attach copies of pertinent sampling and analytical data, as well as all other supporting documentation.)

Photographs: None

Weather: Clear, 70° F, Winds Calm

Lead inspector: Rick Horner

Other inspectors: Bill Rohrer

Signature:

PART I: Hazardous Substances

NOTE: Page numbers (e.g. SW-2) shown in parentheses thoughout this checklist refer to the WARM Scoring Manual. WK- numbers refer to pages of the new scoring sheets (not those in the scoring manual).

A. LIST

List hazardous substances, known or suspected (check k or s), currently at the property, or that have been previously(check c or p) at the property (WK-2,3):

Hazardous Substance	K	S	C	P	Quantity	Units
1. Lead (soil)					68.2	mg/kg (dry basin)
2. Toluene (soil)					300	ug/kg
3. Benzene (soil)					1,500	ug/kg
4. Xylene - total (soil)					122,000	ug/kg
5. Ethylbenzene (soil)					16,000	ug/kg
6. Toluene (water)					250	ug/kg
7. Benzene (water)					800	ug/kg
8. Xylene - total (water)					1,000	ug/kg
9.						

Additional?_____(list on attachment)

By which routes are these available?

Number(from above)	Surface Water	Air	Groundwater
1. 1-5			X
2. 6-8	X		
3.			
4.			
5.			
6.			
7.			
8.			
9.			

B. SOURCES

Check those known or observed (WK-3):

_____ drums or other containers
_____ electrical transformers
_____ above ground tanks
X _____ below ground tanks
_____ ponds, pits, or other impoundments
X _____ pipelines (other than water, sewer, or gas)
X _____ floor drains
_____ exterior drains for rainwater, surface waters, spills, etc.
_____ other? Identify: _____

C. INDICATORS

Check those known or observed:

X _____ discolored soils
_____ disturbed soils
X _____ discolored standing water
X _____ unusual or noxious odors
X _____ sick or dead vegetation
_____ groundwater monitoring wells
_____ other? Identify: _____

If any are checked in B or C, explain details including exact locations (identify location on a map or drawing).

Additional information: five total underground storage tanks (USTs) for fuel (regular and unleaded) one UST in garage bay - possibly for waste oil - noted discolored soil with petroleum odor during drilling - sheen on standing water next to dog house on adjoining property - bare spots where leak was first discovered.

PART II: Releases

A. KNOWN OR SUSPECTED RELEASES

List those hazardous substances identified (by number) in I.A. which are known, or suspected, to have been released (WK-2,3):

Substance (#)	Quant.Released	Units	Medium released to
1-5	Approx. 208,000	ug/kg	Soil
6-8	2,050	ug/kg	Surface Water

Additional information/reference?

B. SOURCES AND IMPACTS (Pages SW-5,6; A-9,10; GW-6,7)

List those hazardous substances identified (by number) in II.A. and identify the source and impact:

Substance No.	Source	Impacts/affects To	Area
1-5	USTs	Soil	Approx. 1940 sq. ft.
6-8	Probably USTs through a ground seep	Surface Water	0.56 sq. ft.

Additional information/reference?

III. Migrat. . Potential

A. CONTAINMENT--LANDFILLS (SW-7; A-12; GW-8,9)

Present? No How many?_____

Check those that apply:

1. _____An engineered, maintained run-on/run-off control system
2. _____An engineered/maintained cover without ponding
3. _____Unmaintained run-on/runoff control system or cover
4. _____No run-on/runoff control or no cover
5. _____Uncontaminated soil cover greater than 6" thick
6. _____Uncontaminated soil cover less than 6" thick
7. _____Contaminated soil used as cover
8. _____A functioning vapor collection system
9. _____Mixing or agitation used
10. _____No liner
11. _____Single clay or compacted soil liner (permeability_____cm/sec)
12. _____Single synthetic liner (permeability_____cm/sec)
13. _____Double liner system (permeability_____cm/sec)
14. _____Leachate collection system, maintained and functioning
15. _____Leachate collection system, unknown condition or not functioning
16. _____Liquid wastes <u>may</u> have been disposed of
17. _____Liquid wastes <u>were</u> disposed of in landfill
18. _____Reliable evidence <u>no</u> liquid wastes were disposed

Additional comments: _____

B. CONTAINMENT--SURFACE IMPOUNDMENTS (SW-7,8; A-13; GW-10,11)

Present No How many?_____

Check those that apply:

1. _____The dike is apparently sound
2. _____The dike is regularly inspected and maintained
3. _____There is evidence of failure, erosion, slumping, or release of contents
4. _____Two feet of freeboard maintained automatically
5. _____The freeboard is manually controlled so that there is at least 2 feet of freeboard
6. _____Evidence of insufficient freeboard (<2 ft.)
7. _____A maintained cover
8. _____Unmaintained cover, no cover
9. _____No liner
10. _____Single synthetic liner
11. _____Single clay or compacted soil liner
12. _____Double liner
13. _____Working leak detection system
14. _____Evidence of loss of fluid (other than by evaporation)

Additional comments:_____

C. CONTAINMENT--DRUMS AND SMALL CONTAINERS (SW-9; A-11; GW-11)

Present No How many?_____

Check those that apply:

1. _____No functional containment
2. _____There is secondary containment capacity for the total volume of containers
3. _____There is secondary containment with capacity for at least 110% ofvolume of the largest container
4. _____The secondary containment is less than 110% of the volume of the largest container
5. _____The containers are stored in single, or double layers on pallets,or in racks
6. _____The containers are stored in an unstable manner
7. _____Some containers are open or have visible liquid
8. _____Some containers are leaking
9. _____Containers are protected from weather
10. _____Containers showing deterioration
11. _____Containment surface is impervious
12. _____Containment surface has cracks or semi-permeable
13. _____No base material/permeable base such as gravel/base materials unknown
13. _____Containment is regularly inspected and maintained
14. _____Evidence of containment failure

Additional comments:_____

D. CONTAINMENT--STORAGE TANKS (SW-9; A-11; GW-11)

Present? Yes How many? 5-fuel
1-possibly waste oil

Check those that apply:

1. ____ Secondary containment with a capacity of 110% of the volume of the tanks

2. ____ Secondary containment at least 50% of the volume of all tanks

3. ____ Containment system with capacity for at least 10% of volume of containers or tanks

4. X No containment, or less than 10% capacity

5. ____ Tank volumes maintained

6. ____ Automatic controls used for volume maintenance

7. X Tanks are covered

8. ____ Uncovered tanks have aeration, mixing, or heating of tank contents

9. ____ Containers sealed, protected

10. X Containers sealed, not protected

11. ____ Containers deteriorated

12 X Containers leaking

13. Record the #s of above which apply only to above ground tank ____

14. Record the #s of above which apply only to below ground tanks All

15. Record the #s of above which apply to both above and below ground tanks: All

Additional comments Noted release to soil and perched groundwater zone to document that the containers were leaking.

E. CONTAINMENT--WASTE PILES (SW-10; A-13; GW-12,13)

Present? No How many?_____

Check those that apply:

1. _____Waste pile is outside, no protecting structure

2. _____Waste pile is outside, in open structure with roof

3. _____Waste pile is outside, with partial or unmaintained cover

4. _____Waste pile is outdoors, with maintained cover

5. _____No cover is present

6. _____Waste pile is fully enclosed, intact building

7. _____There is an engineered run-on/run-off control

8. _____The run-on/run-off is maintained

9. _____Run-on/runoff control present, unknown condition

10. _____No run-on/runoff control system present, or unknown if present

11. _____Liner or base present; _____Not present.

12. _____Single clay or compacted soil liner

13. _____Single synthetic liner

14. _____Double liner

15. _____Maintained, functioning leachate collection system

16. _____Leachate collection system;____Unknown condition; or _____Not functioning.

Additional comments_____

F. CONTAINMENT--SPILLS, DISCHARGES, AND CONTAMINATED SOIL (SW-10,11; A-13,14; GW-13)

Check those that apply:

1. _____ Spill, discharge, or contaminated soil only in the subsurface at the site--including dry wells, drain fields, leaking underground storage tanks

2. _____ Soil contamination that has been covered partially excavated and filled with at least 6 inches of clean soil

3. _____ Soil contamination that has been covered or partially excavated and filled with less than 6 inches of clean soil

4. _____ Uncontaminated soil cover >2 feet thick

5. _____ No cover; or _____ Cover <2 feet, but > 6" thick

6. _____ Spill, discharge, or contaminated soil present at the surface in an area with maintained run-on/run-off control

7. _____ Spill, discharge, or contaminated soil present at the surface in an area with unmaintained run-on/run-off controls?

8. X Spill, discharge, or contaminated soil present at the surface with no run-on/run-off control or unknown controls?

9. _____ Contaminated soil has been disturbed or excavated and stored above grade

10. _____ A functioning vapor recovery system

11. X No vapor recovery system

Additional comments: Very minor odor noted in soil removed from bottom at area where water was ponded on the adjoining property.

G. CONTAINM :--SITE CHARACTERISTICS
(SW-11,12; A-6; GW-14; WK-5,6,8)

1. How would you evaluate the site soils? Circle predominant textural class.

_____ Sand, gravel, sandy gravel, well-graded sand, well-graded gravel, gravelly sand, gravelly sand loam, silty sandy loam?

_____ Poorly-graded sands with fines, silt-sand mixtures, loam, silt loam, sandy silt loam, clayey sand, clay sand loam?

X Clayey sands, sand-clay mixtures, clayey gravels, clay-sand-gravel mixtures, inorganic silts, clayey silt loam, silty clay loam, porous rock outcrop, (sandy silty clay), sandy clay loam?

_____ Clay (organic and inorganic), clay loam, rock outcrop, peat, peaty clay?

Is the above based on personal observation, lab analysis, or professional judgement by a soil expert? (circle)

2. Total annual precipitation= 17.6 in./yr (SW-12; WK-5)

3. Max. 2-yr/24-hr precip.= 1.9 inches (SW-14; WK-5)

4. Net precipitation (see 2.2, GW-13)= 8 in. (WK-9)

5. Is the site not in a flood plain? X (SW-14; WK-5)
Is the site in a 500 year flood plain? _____
Is the site in a 100 year flood plain? _____

6. What is the terrain slope to the nearest surface water?
20.5 % (SW-14,15; WK-6)

7. What is the subsurface hydraulic conductivity?
10^{-6} cm/sec (GW-14; WK-9)

8. What is the vertical depth from the deepest point of known contamination to ground water? 0-25 feet (estimate) (GW-15; WK-9)

Additional comments: _____

IV. Targets

A. DISTANCE TO SURFACE WATER (SW-16; WK-6)

1. What surface water(s) (lake, stream, river, pond, bay, etc.) is/are within 10,000 feet (downgradient) of the site?

Name	Dist.-ft.	Obs.	Meas.
Columbia River	2,375		X (topo map)
Intermittent Stream	2,375		X (topo map)

None? _____. Comments _____

2. What drinking water intakes are within 2 miles of the site? (all lake intakes, river intakes downstream only) (SW-12; WK-6)

None? X

Source	Location	Pop. Served

3. How much acreage (anywhere) is irrigated by surface water intakes (downstream only) or wells(anywhere) within 2 miles of the site? (SW-16; GW-18; WK-6,9)

None? _____

SURFACE WATER: Acres 93 acres (1600 acres max.)

Source(s) Unn Spring, Columbia River, Jewett Creek ;

GROUNDWATER: Acres 60 (4500 acres max.)

Source(s) Wells

4. What is the distance to the nearest fishery resource (total of overland distance plus downgradient distance)? (SW-17; WK-6)

Over 10,000 feet?____ Distance if less than 10,000 feet? 2375 ft. Columbia River

5. What are the names of, and the distances to, the nearest sensitive environments (total of overland distances plus downgradient distances)? (SW-18; A-15; WK-6)

Over 10,000 feet?____ Names and distances if less than 10,000 feet: Columbia River (2375 ft)

(Parks are not downgradient)

6. Is the aquifer a federally-designated sole source aquifer? No (GW-16; WK-9)

7. Is the ground water used for: (GW-16; WK-9)

- X private supply
- X public supply
- X irrigation of human food crops or livestock
- ____ non-food (human) vegetation
- ____ not used due to natural contaminants
- ____ ground water not used, but usable

8. Distance to nearest drinking water well? 1300-2600 feet (GW-17; WK-9)

9. Is there an alternate source available to groundwater for private or public water supply? (WK-9) No Best Professional Judgement

10. Population served by drinking water wells within 2 miles? 146 (GW-17; WK-9)
Public Water Supply: 41 Private Well: 35 x 3 = 105

11. Distance to the nearest population? <1000 feet (A-15, 16; WK-8)

12. Population within one-half mile radius? 1260 (A-16; WK-8)

Additional comments: ____

ATTACHMENT I

SHA DCSS

TOWN PUMP STATION

1.0 INTRODUCTION

d its subcontractor, DPRA Incorporated, conducted a Site Hazard
at the former Town Pump site in White Salmon, Washington. The
A in accordance with WAC 173-340-320) is to provide sufficient sampling
ronmental information to:

ıfirm or rule out that a release of a hazardous substance has occurred;

ıtify the hazardous substance and provide some information regarding the
nt and concentration of the substance;

ıtify site characteristics that could result in the substance entering and
ving through the environment; and

luate the potential for the threat to human health and the environment.

is then used to compute a score using the Washington Ranking Method
u y level of the site relative to other State Superfund sites.

s a brief description of the site's environmental setting in Section 2.0, a
te management practices and previous investigations conducted at the site in
mary of field activities completed under this work assignment in Section
references in Section 5.0. Attachments include the following materials: (1)
mmary Sheets (DCSS), (2) Photograph log, (3) Soil boring and monitoring
notes, (5) Nearby well logs, (6) Analytic results, and (9) Chain-of-custody

ounty,
from Hood
t overlies a thin
(Exhibit 2.2).
r residuum
ne in age.
permeability is
SHA field
weathered zone in
ed. The depth of
ot appear to be
ater flow is based

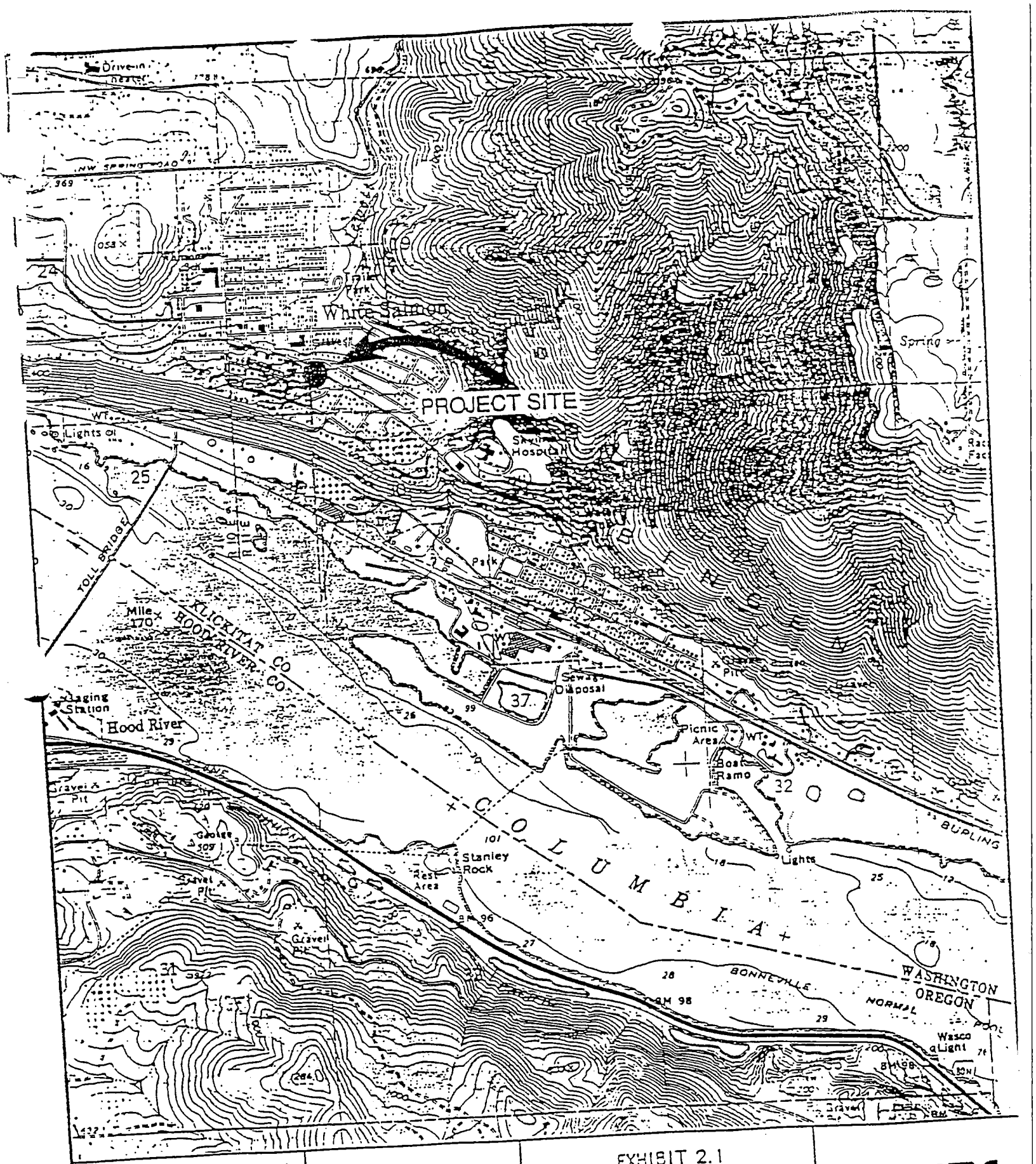
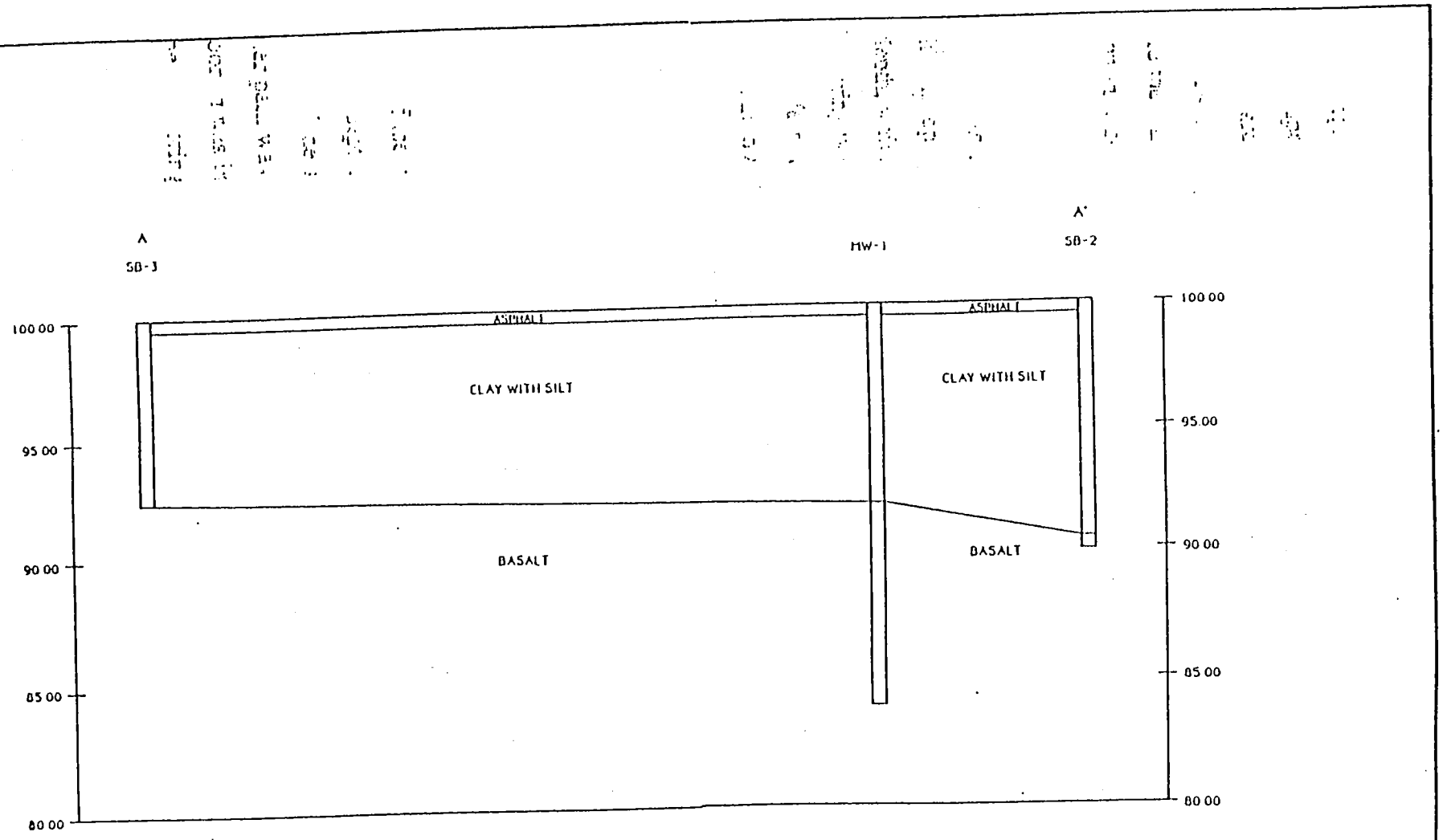


EXHIBIT 2.1
TOPOGRAPHIC MAP

TOWN PUMP
WHITE SALMON, WA

GPRA

PROJECT NO.: 3751.007



SCALE
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 4'

EXHIBIT 2.2
GEOLOGIC CROSS SECTION
MAP OF SITE

TOWN PUMP STATION
WHITE SALMON, WA

OPRA

PROJECT NO. 17

...e Exhibit 4.1 for location of sections.

3.0 WASTE MANAGEMENT PRACTICES AND PREVIOUS INVESTIGATIONS

The leaking of fuel from tank(s) at the Town Pump station was first discovered in March 1989 by City of White Salmon workers. Contamination from leaking underground storage tanks (USTs) was discovered because groundwater with a gasoline sheen and odor was emanating from the hillside behind (south) the station. There were five USTs which may have contributed contamination from the former Town Pump station. These USTs included one 2,000 gallon-capacity (on-site) tank and four 4,000-gallon capacity tanks up the hill on the north side of Jewitt Avenue (off-site). The site was inspected several times during 1989 by WDOE personnel. A soil gas survey on May 11, 1989, indicated that "hot spots" existed on both sides of Jewitt Avenue. The highest recorded reading was 1,065 parts per million (ppm) near Jewitt Avenue between the on-site and off-site USTs. Another "hot spot" existed near the on-site UST and near the seep on the hillside.

4.0 SUMMARY OF SHA FIELD ACTIVITIES

Field activities related to the former Town Pump station included the following: drilling three soil borings in positions believed to be downgradient of the major "hot spots" found during the soil gas survey; setting a monitoring well in one boring to collect groundwater in the perched zone if there is sufficient flow to sample in the future (Exhibit 4.1); obtaining a surface water sample from the ponded water down the slope area where the hillside seep was noted; obtaining a surface soil sample from the bottom of the depression in which the water ponded; and sampling monitoring wells at the Horsethief Landfill.

The drilling of the three soil borings and placement of the monitoring well was completed on April 20, 1990. The borings were advanced to a depth coinciding with the top of the basalt except the first boring (SB-1) which was advanced to 16 feet. This depth, which was approximately 7.5 feet into the basalt, was sufficient for setting a monitoring well with a ten-foot screen. The depth of the other borings was 10 feet for SB-2 and 7.5 feet for SB-3. A soil sample was obtained from each boring for analyses of BTEX, petroleum hydrocarbons, and lead (Exhibit 4.2). The soil sample designations are as follows:

- TPB-01-007.0S for SB-1;
- TPB-02-007.0S for SB-2; and
- TPB-03-007.0S for SB-3.

A monitoring well was installed in boring SB-1. The depth of the base of the monitoring well is 15 feet with the bottom of the screen interval coinciding with this depth. The top of the screen is at 5 feet. These depths were chosen to insure that the top of the screen always remained above the depth of the perched water zone. The sand filter pack was placed from the base of the boring to a depth of 3 feet. The remainder of the boring was backfilled with Portland Cement and a flush-grade monument was installed over the monitoring well. The

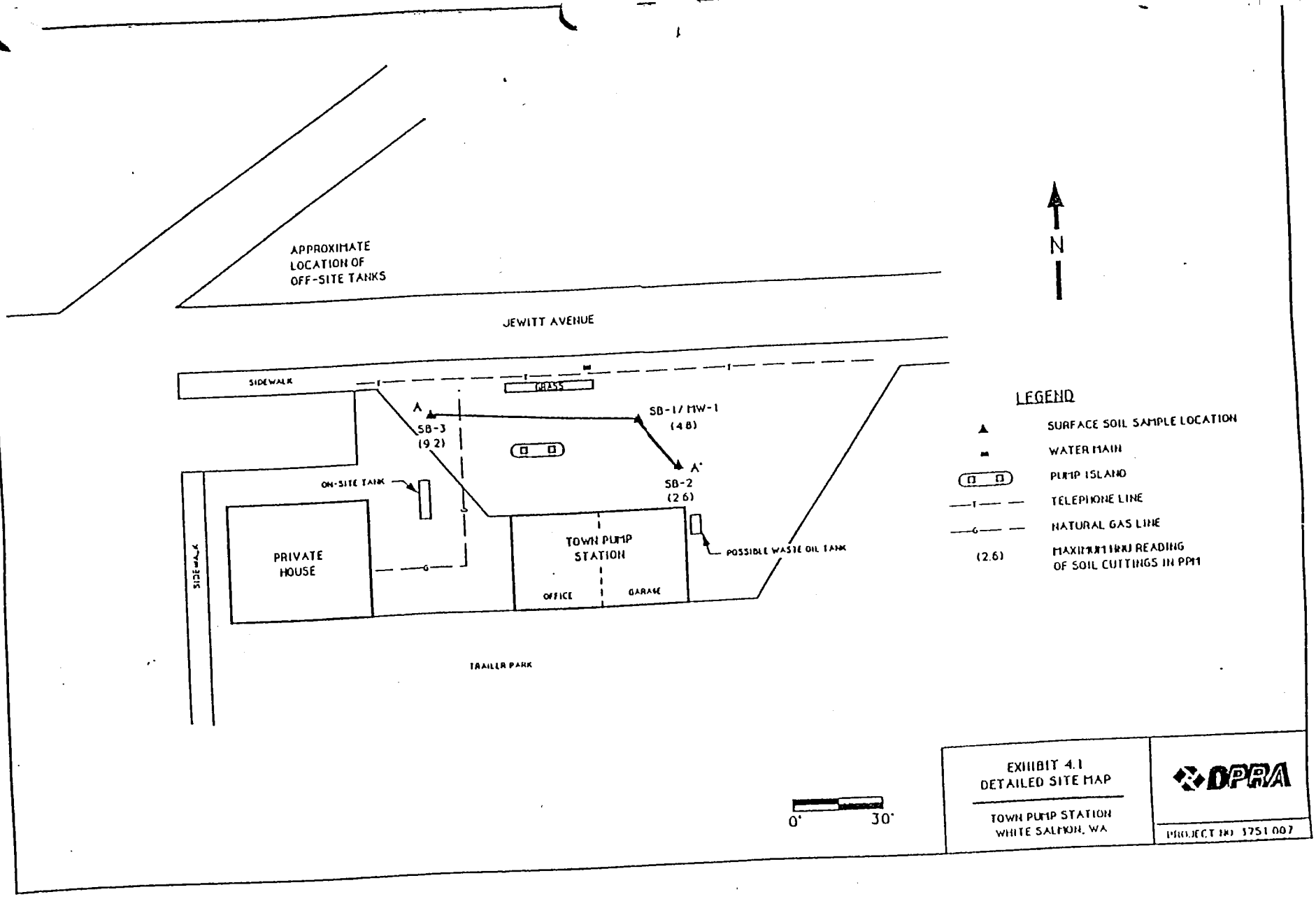

APPROXIMATE
LOCATION OF
OFF-SITE TANKS
JEWITT AVENUE
SIDEWALK
GRASS
A
SB-3
(9.2)
SB-1/MW-1
(4.8)
A'
SB-2
(2.6)
ON-SITE TANK
PRIVATE
HOUSE
TOWN PUMP
STATION
OFFICE
GARAGE
POSSIBLE WASTE OIL TANK
SIDEWALK
TRAILER PARK
N
LEGEND
SURFACE SOIL SAMPLE LOCATION
WATER MAIN
PUMP ISLAND
TELEPHONE LINE
NATURAL GAS LINE
(2.6)
MAXIMUM HNU READING
OF SOIL CUTTINGS IN PPM
0'
30'
EXHIBIT 4.1
DETAILED SITE MAP
TOWN PUMP STATION
WHITE SALMON, WA
DPRA
PROJECT NO. 3751.007

EXHIBIT 4.2
ANALYTIC SUMMARY

TOWN PUMP
White Salmon, Washington

GROUNDWATER CHEMICAL ANALYSIS SUMMARY

Sample Identification	Sample Date	Benzene (ug/l)	Ethyl-benzene (ug/l)	Toluene (ug/l)	Xylenes (ug/l)	TPH as gasoline (mg/l)	TPH as diesel/fuel oil (mg/l)	TPH as hydraulic/lube oil (mg/l)	Lead (ug/l)
TPW-01-001	4/20/91	800	---	250	1000	37	---	---	59
TPW-01-001 Duplicate	4/20/91	---	---	---	---	---	---	---	68
HLW-002	4/20/91	---	---	---	---	---	---	---	---
HLW-003	4/20/91	---	---	---	---	---	---	---	---
HLW-007 Duplicate	4/20/91	---	---	---	---	---	---	---	---
HLS-001W	4/20/91	---	---	---	---	---	---	---	---

SOIL CHEMICAL ANALYSIS SUMMARY

Sample Identification	Sample Date	Benzene (ug/kg)	Ethyl-benzene (ug/kg)	Toluene (ug/kg)	Xylenes (ug/kg)	TPH as gasoline (mg/kg)	TPH as diesel/fuel oil (mg/kg)	TPH as hydraulic/lube oil (mg/kg)	Lead (mg/kg)
TPB-01-007	4/20/91	---	---	---	---	---	---	---	7.8
TPB-02-007	4/20/91	1500E	1200E	300	5400E	760	58	43	68.2
TPB-03-007	4/20/91	---	360	---	1400	---	930	---	7.5
~~TPB-01-001~~	4/20/91	370E	10	130	63	1200	---	---	30.9
TPB-03-007 Duplicate	4/20/91	---	---	---	---	---	---	---	7.3
BLANK	4/20/91	---	---	---	---	---	---	---	---

--- = analyzed but not detected
na = not analyzed
ug/l = micrograms per liter - equivalent to parts per billion (ppb)
mg/l = milligrams per liter - equivalent to parts per million (ppm)
ug/kg = micrograms per kilogram - equivalent to parts per billion (ppb)
mg/kg = milligrams per kilogram - equivalent to parts per million (ppm)
TPH = Total Petroleum Hydrocarbons
E = compound exceeds instrument calibration range - estimated value
J = value is estimated because less method quantitation reporting limit

other soil borings were backfilled with bentonite chips to a depth of 0.5 feet below the asphalt surface and topped off with Portland Cement.

A surface water sample and surface soil sample were also obtained on April 20, 1991. The surface water sample (TPW-01-001.0W) was obtained from an area of standing water behind a dog house, located adjacent to the area where the petroleum contaminated seep emanated from the hillside. There was a light sheen on the standing water. The sample was collected by submerging each bottle into the water with the opening to the bottle kept below the surface of the water. The bottles were allowed to fill and then capped with a teflon-lined lid. The samples were submitted to Weyerhaeuser Laboratory for analysis of volatile organic compounds (including BTEX), petroleum hydrocarbons, and lead. The sample for lead was preserved with nitric acid. A surface soil sample was obtained from the point of intersection of the standing body of water and the underlying soil. The surface soil was removed from the bottom of the ponded area using a decontaminated stainless steel spoon. The soil was placed in a glass jar with a teflon-lined lid. The surface soil sample was designated TPS-01-001.0S and was submitted for analysis of BTEX, petroleum hydrocarbons, and lead.

Monitoring well samples were obtained from two wells at the Horsethief Landfill. These samples (HLW-002 and HLW-003) were submitted to Weyerhaeuser Laboratory for analysis of volatile organic compounds (including BTEX), petroleum hydrocarbons, and lead. An attempt was made to sample a third monitoring well at the site, but the pump did not work and no sample was collected.

5.0 REFERENCES

1. Environmental Complaint Form, from Wes Lewis (White Salmon Utilities) to WDOE, April 1, 1989, 1 page.

2. Initial Site Visit Report, Dan Locke and Dave George of WDOE, April 28, 11989, 2 pages.

3. Second Site Visit Report, Dave George of WDOE, May 1, 1989, 2 pages.

4. Telephone Report, from Dave George of WDOE to Randall & Linda Johnson, owners of the station, May 23, 1989, 1 page.

5. Information Request Letter, from Dave George of WDOE to Randall & Linda Johnson, owners of the station, February 9, 1990, 2 pages.

6. Telephone Report, from Bob Swackhammer of WDOE to Linda Johnson, site owner, November 6, 1990, 1 page.

7. Soil Conservation Service, Klickitat County.

8. State of Washington Water Rights Information System Database.

9. State of Washington Public Water Supply Database.

10. Washington Department of Ecology UST Database.

DPRA E-1500 First National Bank Bldg. 332 Minnesota Street St. Paul, Minnesota 55101 612-227-

LOG OF TEST BORINGS

PROJECT NAME: TOWN PUMP STATION	PROJECT NUMBER: 3751.007
LOCATION: WHITE SALMON, WASHINGTON	
BORING NUMBER: SB-1/MW-1	SURFACE ELEVATION:

Sample No. or Time	Sample Type	Recovery (inches)	Moisture	N	PID Reading (ppm)	USCS Symbol	Depth (feet)	DESCRIPTION	Geologic Origin
								0.5 Asphalt	FILL
							5	Dark Gray to Olive Green, Medium Plastic, CLAY WITH SILT	FINE ALLUVIUM OR WEATHERED BASALT
1	SS	18		5/27/50	4.8	CL		Perched Zone	
								Weathered Zone	
							10	BASALT	
							15		
								END OF BORING @ 16.0'	
							20	Attachment III	
								Soil Boring/well logs	
							25		
							30		
							35		

WATER LEVEL MEASUREMENTS (feet)

Date	Time	Sampled Depth	Casing Depth	Cave-in Depth	Water Level
4/20/91			16.0'		ND

START 4/20/91 COMPLETION 4/20/91 @

Drilling Method AIR HAMMER

Backfill Method INSTALL WELL

Field Representative R.O.H.

DPRA E-1500 First National Bank Bldg. 332 Minnesota Street St. Paul, Minnesota 55101 612-227-6500

LOG OF TEST BORINGS

PROJECT NUMBER: 3751.007

PROJECT NAME: TOWN PUMP STATION

LOCATION: WHITE SALMON, WASHINGTON

SURFACE ELEVATION:

BORING NUMBER: SB-2

Sample No. or Time	Sample Type	Recovery (inches)	Moisture	N	PID Reading (ppm)	USCS Symbol	Depth (feet)	DESCRIPTION	Geologic Origin
								FILL	
								0.5 Asphalt	
								Dark Gray to Olive Green, Medium Plastic, CLAY WITH SILT	FINE ALLUVIUM OR WEATHERED ROCK
							5		
1	SS	18	W	5/0/N	2.6	CL		Perched Zone	
								Weathered Zone	
							10	BASALT	
								END OF BORING @ 10.0'	
							15		
							20		
							25		
							30		
							35		

WATER LEVEL MEASUREMENTS (feet)

Date	Time	Sampled Depth	Casing Depth	Cave-in Depth	Water Level
4/20/91			10.0'		ND

START 4/20/91 COMPLETION 4/20/91 @

Drilling Method AIR HAMMER

Backfill Method BENTONITE CHIPS

Field Representative R.O.H.

DPRA E-1500 First National Bank Bldg. 332 Minnesota Street St. Paul, Minnesota 55101 612-227-6500

LOG OF TEST BORINGS

PROJECT NAME: TOWN PUMP STATION	PROJECT NUMBER: 3751.007
LOCATION: WHITE SALMON, WASHINGTON	
BORING NUMBER: SB-3	SURFACE ELEVATION:

Sample No. or Time	Sample Type	Recovery (inches)	Moisture	N	PID Reading (ppm)	USCS Symbol	Depth (feet)	DESCRIPTION	Geologic Origin
								0.5 Asphalt	FILL
							5	Dark Gray to Olive Green, Medium Plastic, CLAY WITH SILT	FINE ALLUVIUM OR WEATHERED ROCK
1	GRAB	18	M	13/11 R	9.2	CL		Weathered Zone BASALT END OF BORING @ 7.5'	
							10		
							15		
							20		
							25		
							30		
							35		

WATER LEVEL MEASUREMENTS (feet)

Date	Time	Sampled Depth	Casing Depth	Cave-in Depth	Water Level
4/20/91			7.5'		ND

START 4/20/91 COMPLETION 4/20/91 @

Drilling Method AIR HAMMER

Backfill Method BENTONITE CHIPS

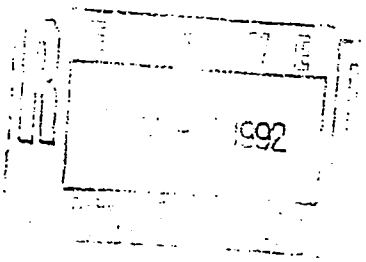
Field Representative R.O.H./W.L.M.R.

Appendix D
April 1992 UST Decommissioning Report/NW Construction

UST DECOMMISSIONING SUMMARY / SITE ASSESSMENT

TOWN PUMP STATION
321 E. Jewett Avenue
Klickitat County
White Salmon, Wa.

April 22, 1992



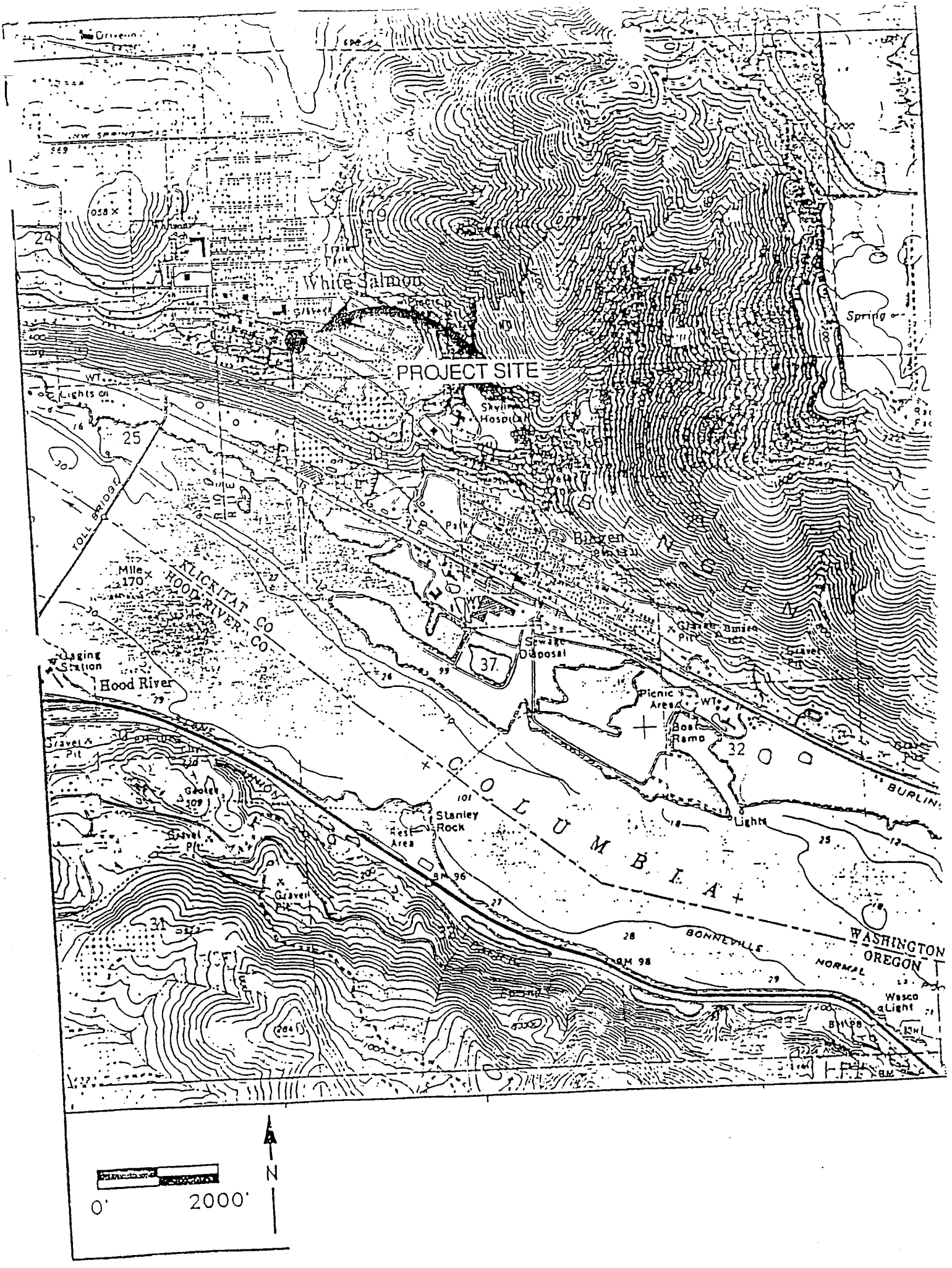
Prepared For:

Mr. Kurt Osborne
Hood River, Oregon

Prepared By:

Northwest Construction
30903 NE 152nd Avenue
Battle Ground, Wa 98604
Bus (206) 687-2040
FAX (206) 687-0332

Site Manager: Darryl Becker


PROJECT SITE
White Salmon
Bingen
Hood River
Stanley Rock
COLUMBIA
WASHINGTON
OREGON
Skyline Hospital
Sewage Disposal
Picnic Area
Boat Ramp
Rest Area
Lights
Wasco Light
Spring
TOLL BRIDGE
KLICKITAT CO
HOOD RIVER CO
Mile 170
Logging Station
Gravel Pit
Glacier Bmico Pit
BONNEVILLE
NORMAL
0'
2000'
N

THIRTY DAY NOTICE WAIVER

This is a notice to confirm that a Thirty Day Notice Waiver has been granted to North West Construction for the decommissioning and closure of a 1000 gallon gasoline UST that is to be performed at Town Pump, located in White Salmon, Wa.

All closure activities will be performed according to WAC 173-360-385 - 173-360-399.

Randy Holman

Randy Holman

Investigating Officer
Tank Program Unit
Toxic Cleanup Section

UNDERGROU. STORAGE TANK
30 Day Notice of Intent to Close/Decommission Tanks

The purpose of this form is to provide the Department of Ecology with notice of intent to close/decommission an UST. It must be received 30 days prior to the closure activities. It must be signed and dated by either the owner/operator of the UST to be closed or his/her authorized representative. (This could be the firm contracted to do the work.) Ecology will notify the identified person of the earliest date closure/decommissioning activities may commence.

For questions on completing this form please call (206) 459-6293.

Please type or use ink.

The completed checklist should be mailed to:

Underground Storage Tank Section
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504-8711

RECEIVED
MAY - 5 1992
DEPARTMENT OF ECOLOGY
CENTRAL REGIONAL OFFICE

1. TANK OWNER AND LOCATION

UST Owner/Operator: MR. Kurt Osborne

Owners Mailing Address: P.O.Box 1174 (Street / P.O. Box)

Hood River, (City) Oregon (State) 97031 (ZIP Code)

Telephone: (509 493-2225

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

Site/Business Name: Town Pump Station

Site Address: 555 Jewitt Blvd. (Street) Klickitat (County)

White Salmon (City) Washington (State) (ZIP Code)

2. TANK PERMANENT CLOSURE TO BE PERFORMED BY (If known)

Firm: N.W. Construction General Contracting Inc.

Address: 22317 N.E. 72nd Ave. (Street / P.O. Box)

Battle Ground, (City) Washington (State) 98604 (ZIP Code)

Telephone: (206 687-2040 Contact Name: Darryl Becker

3. TANK INFORMATION

Tank Identification	Approx. Closure Date	Tank Capacity (gallons)	Tank Age (years)	Last Substance Stored

4. SIGNATURE OF TANK OWNER/OPERATOR OR AUTHORIZED REPRESENTATIVE

Kurtis Osborne (Signature) Partner/Owner (Title) 4/8/92 (Date)

ECY 101-150 11/90

UNDERGROUND STORAGE TANK
Permanent Closure/Change-In-Service Checklist

The purpose of this form is to certify the proper closure/change-in-service of underground storage tank (UST) systems. These activities must be conducted in accordance with Chapter 173-360 WAC. Washington State UST rules require the tank owner or operator to notify Ecology in writing 30 days prior to closure or change-in-service of tanks. This must be done by completing the 30 Day Notice form (ECY 010-155).

This Permanent Closure Checklist shall be completed and signed by a Licensed Decommissioning Supervisor. The supervisor shall be on site when all tank permanent closure/change-in-service activities are being conducted. The firm which employs the licensed supervisor shall also be licensed by the Washington State Department of Ecology as a Service Provider. If any of the activities listed below have been supervised by a different licensed supervisor, a separate checklist must be filled out and signed by the licensed supervisor performing those activities.

For further information about completing this form, please contact the Department of Ecology UST Program.

A separate checklist must be completed for each UST system (tank and associated piping), except that UST systems at one site may be reported together by completing page 2 of this form separately for each system. The completed checklist should be mailed to the following address within 30 days of the completion of the closure or change-in-service.

Underground Storage Tank Section
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504-8711

1. UST SYSTEM OWNER AND LOCATION

Site Owner/Operator: Kurt Osborne

Owners Address: P.O. Box 1174 (Street / P.O. Box)

Hood River (City) Oregon (State) 97031 (ZIP-Code)

Telephone: (503 493-2225

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

Site/Business Name: Town Pump

Site Address: 555 Jewitt BLVD (Street) Klickitat (County)

White Salmon (City) Washington (State) 98628 (ZIP-Code)

2. TANK PERMANENT CLOSURE/CHANGE-IN-SERVICE PERFORMED BY:

Firm: N.W. Construction General Contracting Inc License Number: Soooo61

Address: 22317 N.E. 72nd Ave. (Street / P.O. Box)

Battle Ground (City) Washington (State) 98604 (ZIP-Code)

Telephone: (206 687-2040

Licensed Supervisor: Jim Veach - Brenda Fairbanks Decommissioning License Number: W000152

This page must be completed separately for each tank permanently clo ' (decommissioned) or change-in-service at the site. For ad nal tanks you may photocopy this form or to completing.

3. TANK CLOSURE/CHANGE-IN-SERVICE INFORMATION

1. Tank ID Number (as registered with Ecology): _____ 2. Year installed: _____

3. Tank capacity in gallons: 2,000 gallon 4. Date of last use: _____

5. Last substance stored: gasoline 6. Date of closure/change-in-service: 4/9/92

7. Type of closure: Closure with Tank Removal [X] In-place Closure [ ] Change-in-Service [ ]

8. If in-place closure is used, the tank has been filled with the following substance: _____

9. If change-in-service, indicate new substance stored in tank: _____

10. Local permit(s) (if any) obtained from: N/A

Always contact local authorities regarding permit requirements.

11. Has a site assessment been completed? Yes [X] No [ ]

Unless an external release detection system is operating at the time of closure or change in service, and a report is provided as specified in WAC 173-360-390, a site assessment must be conducted. This site assessment must be conducted by a person registered with the Department of Ecology to perform site assessments. Results of the site assessment must be included with the Site Assessment Checklist (ECY 010-158).

4. CHECKLIST

Each item of the following checklist shall be initialed by the licensed supervisor whose signature appears below.

	Yes	No	NA*
1. Has all liquid been removed from product lines?	DB		
2. Has all product piping been capped or removed?	DB		
3. Have all non-product lines been capped or removed?	DB		
4. Have all liquid and accumulated sludges been removed from the tank?	DB		
5. Has the tank been properly purged or inerted?	DB		
6. Have the drop tube, fill pipe, gauge pipe, pumps and other tank fixtures been removed?	DB		
7. Have all tank openings been plugged or capped? NOTE: One plug should have 1/8 inch vent hole.	DB		
8. Have all sludges removed from the tank been designated and disposed of in accordance with the state of Washington's dangerous waste regulations (Chapter 173-303 WAC)?	DB		DB
9. If removed, was tank properly labeled and disposed of in accordance with all applicable local, state and federal regulations?	DB		

*Item not applicable

I hereby certify that I have been the licensed supervisor present on site during the above listed permanent closure activities and to the best of my knowledge they have been conducted in compliance with all applicable state and federal laws, regulations and procedures pertaining to underground storage tanks.

Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

April-13-92 Brenda L Fairbanks

Date Signature of Licensed Supervisor

5. ADDITIONAL REQUIRED SIGNATURES

April-13-92 _____

Date Signature of Licensed Service Provider (firm) Owner or Authorized Representative

_____ _____

Date Signature of Tank Owner or Authorized Representative

UNDERGR ND STORAGE TANK
Site Check/Site Assessment Checklist

The purpose of this form is to certify the proper investigation of an UST site for the presence of a release. These activities shall be conducted in accordance with Chapter 173.360 WAC. A description of the various situations requiring a site check or site assessment is provided in the guidance document for UST site checks and site assessments.

This Site Check/Site Assessment Checklist shall be completed and signed by a person registered with the Department of Ecology to perform site assessments.

Two copies of the results of the site check or site assessment should be included with this checklist according to the reporting requirements in the guidance document for UST site checks and site assessments.

For further information about completing this form, please contact the Department of Ecology UST Program.

The completed checklist should be mailed to the following address:

Underground Storage Tank Section
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504-8711

1. UST SYSTEM OWNER AND LOCATION

UST Owner/Operator: Kurt Osborne

Owners Address: P.O. Box 1174 (Street)

Hood River (City) Oregon (State) 97031 (ZIP-Code) (P.O. Box)

Telephone: (503 493-2225

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

Site/Business Name: Town Pump

Site Address: 555 Jewitt BLVD (Street) Klickitat (County)

White Salmon (City) Washington (State) 98628 (ZIP-Code)

2. SITE CHECK/SITE ASSESSMENT CONDUCTED BY:

Registered Person: Darryl Becker

Address: 30903 N.E. 152nd Ave (Street)

Battle Ground (City) Washington (State) 98604 (ZIP-Code) (P.O. Box)

Telephone: (206 687-2040

3. TANK INFORMATION

1. Tank ID Number (as registered with Ecology): _____
2. Year installed: _____
3. Tank capacity in gallons: 2,000
4. Last substance stored: gasoline

4. REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT

Check one:

_____ Investigate suspected release due to on-site environmental contamination

_____ Investigate suspected release due to off-site environmental contamination

_____ Extend temporary closure of UST system for more than 12 months

_____ UST system undergoing change-in-service

_____ UST system permanently closed-in-place

X UST system permanently closed with tank removed

_____ Required by Ecology or delegated agency for UST system closed before December 22, 1988

_____ Other (describe): _____

5. CHECKLIST

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.

	Yes	No
1. Has the site check/site assessment been conducted according to applicable procedures specified in the UST site check/site assessment guidance issued by the Department of Ecology?	DB	
2. Has a release from the UST system been confirmed? *NOTE: Owners/operators must report all confirmed releases to the Department of Ecology or delegated agency within 24 hours.*	DB	
3. Are the results of the site check/site assessment enclosed with this checklist? *NOTE: Two copies of the site check/site assessment results must be submitted to the Department of Ecology according to the reporting requirements specified in the UST site check/site assessment guidance.*	DB	

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

April 10th 92
Date

Signature of Person Registered with Ecology

6. OWNER'S SIGNATURE

Date

Signature of Tank Owner or Authorized Representative

EXECUTIVE SUMMARY

N.W. Construction was retained by Mr. Kurt Osborne of Hood River, Oregon to decommission one 2000 gallon underground storage tank on his property in White Salmon, WA. This site is known as Town Pump. All work performed at the site during the decommissioning of this UST was observed by two DOE representative from the agencies central offices.

The UST was located at 521 E. Jewett Avenue, White Salmon, Wa. All work was completed in accordance with local, state and federal UST regulations, along with typical industry protocols.

Field observation of the UST excavation zone made by Northwest Construction during the tank removal indicated obvious contamination was present. However, the contamination present was not of the nature consistent with the reported use of the decommissioned UST. Laboratory analysis revealed that diesel and not gasoline was the contaminate. This is not in keeping with the reported use of the decommissioned tank. Subsequent excavation for the removal of the piping and pumps revealed high levels of gasoline contamination. High levels of contamination have been documented by lab analysis in the soils beneath the three former pumps.

Following the removal of the UST, all recovered liquids, 4 inches from the UST, one gallon of a watery liquid from a broken supply line and additional quantities from the supply line to the three pumps were disposed from with a licensed disposal firm.

Enclosed with this summary of job activities is a copy of all laboratory analysis, chains of custody, applicable disposal receipts, site and sampling location maps.

INTRODUCTION

During the dates of April 9 - 10, 1992, Northwest Construction was on site performing the contracted services as agreed upon with Mr. Kurt Osborne, the removal of one 2000 gallon UST. All work performed was completed within contractual agreements and was performed consistent with local, State and Federal regulations for UST decommissioning and industry protocols.

LICENSES/PERMITS

N.W. Construction, the project manager and decommissioning supervisors are licensed by the Washington State Department of Ecology (DOE). Additionally, all personnel working within the hazard zone are certified as completing state 29 CFR 1910.120 requirements.

The DOE was notified 30 days prior to the decommissioning by Mr. Kurt Osborne. Upon notification of the intent to remove, a copy of an additional Site Hazard Assessment was sent to Northwest Construction by the DOE, which was reviewed to develop an understanding about the site. Permits for conducting the UST removal was not available, however, various representative from the local Fire Department, various City services were contacted regarding the planned activities, and many visited the site during the UST decommissioning. All utilities were contacted and locates were performed relative to the work site.

BACKGROUND INFORMATION

The property in this report is located at 521 E Jewett Avenue in White Salmon, Washington. The site is known as Town Pump and is located on the south side of Jewett Avenue, bordering the eastern edge of White Salmons business district. The site overlooks the Columbia River, and the town of Bingen Wa. Mr. Kurt Osborne is the current property owner of the site, however, Mr. Osborne is not the owner of all properties housing the UST's that supply the site. The site has over a period of time served as a service station and vehicle repair shop, with several other property owners.

White Salmon, Wa and the town of Bingen, Wa which make up the area together with a combine population estimated at 2000 to 3000.

Soil conditions at the site consist of a sandy loam to a depth of 7 to 9 ft on top of a basalt base. The tank was buried less than a foot below the soil level, and immediately next to a small private residence, to which the tanks vent was attached.

Groundwater was not encountered during the excavation process, and there were no indications of close proximity to groundwater.

The quality of the data can be considered as un-compromised for the following reasons:

1. Groundwater was not encountered.

2. The removed UST was in good shape, with no evidence of leaking.

3. Individuals performing the sampling in association with the decommissioning of the UST, followed strict sampling protocols.

4. The soil sampling analysis report submitted by the laboratory is in keeping with that previously documented by other agencies or organizations.

Based upon the attached laboratory data, and conversations with the two on-site representatives from the DOE's Central region, review of the Site Hazard Assessment, further investigation of the site is required to document fully and remediate the levels of contamination from the areas affected. This is based upon the following:

1. High levels of diesel contamination were identified through laboratory analysis, as existing with the area of the removed UST. However, this is not in keeping the reported use of the UST. It was reported that diesel was not sold or stored at the site.

2. High levels of gasoline contamination was identified by laboratory analysis, in the soils of the supply lines and the pump area. This supports the two reports from the White Salmon, Wa fire department. On two occasions, the fire department responded to reports of damaged pumps at 521 E. Jewett. It was also reported that since the supplylines where not fitted with shutoff valves, the contents were allowed to flow unrestricted.

PRE-EXCAVATION ACTIVITIES

A tailgate safety meeting was conducted, and all safety hazards associated with the project were reviewed with all personnel. The UST was checked for residue product which was recovered, followed by rinsing the tank and recovery of the rinse water. All recovered liquids were disposed of at a licensed facility, Fuel Processors in Portland, Oregon.

Following cleaning, the tank was purged of flammable vapor with carbon dioxide (dry ice) at a volume of 15# per 1000 gallon tank capacity. Several reading of the oxygen content of the tank were performed, with the last being 4%, well below the lower explosion level (LEL) prior to any excavation work being performed.

EXCAVATION ACTIVITIES

The soils covering the UST was removed using a backhoe. As the tank, product lines and vent lines were exposed, observations were made for the presence of contamination. The observation methods used consisted of looking for visual and olfactory indications.

During the removal of the UST and subsequent to the complete removal of the tank, associated piping and pumps, visual and olfactory testing indicated the presence of contamination. Laboratory analysis document the presence and levels of contamination as:

A. Tank Area. Laboratory analysis confirms that gasoline was not present in the soils in close proximity to the decommissioned UST. However, diesel is present which can be confirmed both visually and olfactorily. Sample #1 was analyzed for HCID (Hydrocarbon Identification) and TPH (Total Petroleum Hydrocarbon) levels. Sample #1 was identified as containing diesel at levels of 7210 PPM. Sample 2 and 3 were reported as containing non-detect levels (2) or minimal levels of contamination. Sample #1 was taken from the up slope, northeastern edge of the tank pit. See Attached maps for sampling locations.

B. Piping and Pumps. Upon the removal by Northwest Construction, of the associated piping and the stations pumps, sampling was conducted under established guidelines. Sample #4 was analyzed for HCID and TPH, to identify and quantify the levels of contamination. Laboratory analysis of sample #4 shows gasoline as the contaminate. Samples 4 - 7 shows levels of 7,890 to 27,920 ppm as existing in the soils.

During the excavation of the piping, three additional and abandoned pipes were located (See attached map). These pipes were situated between the northwest corner of the residence immediately west of Town Pump and the former pump location. During the excavation process the supplylines from four UST's located across Jewett avenue were capped and drained, one line yielded a gallon of a watery liquid, this line was observed to be cracked.

The four UST's located across the street supply Town Pump, and are on property owned by another individual. While this individual permitted the capping of the piping, no investigation was permitted as to possible releases from that site. Also, it is these four UST's that until recently, that did not have shut off valves in place. This site is located an estimated 200 to 300 feet up-slope from the Jewett Avenue work site.

EXCAVATION ACTIVITIES SYNOPSIS

Northwest Construction performs the following protocols when decommissioning Underground Storage Tanks. While performing the UST removal at the Town Pump site:

1. The UST was visually checked for remaining product, which are recovered for disposal. Four (4) inches of product or liquids were recovered from the decommissioned Town Pump UST.

2. The tank is rinsed several times, this rinse material is recovered and disposed of at Fuel Processors in Portland, Oregon. This is performed to reduce the vapor levels inside the UST, to permit preparation for disposal. Additionally, dry ice is used to inert the tank, preventing or reducing the explosion hazards. Fifty pounds of dry ice was added to the UST and allowed to replace the oxygen level. AT the time of the excavation work starting, the oxygen level was at 4%.

3. After installation of the dry ice, the vent lines and pumps were dismantled and check for possible remaining product. A small quantity of product was recovered from the supplylines at the base of the pumps.

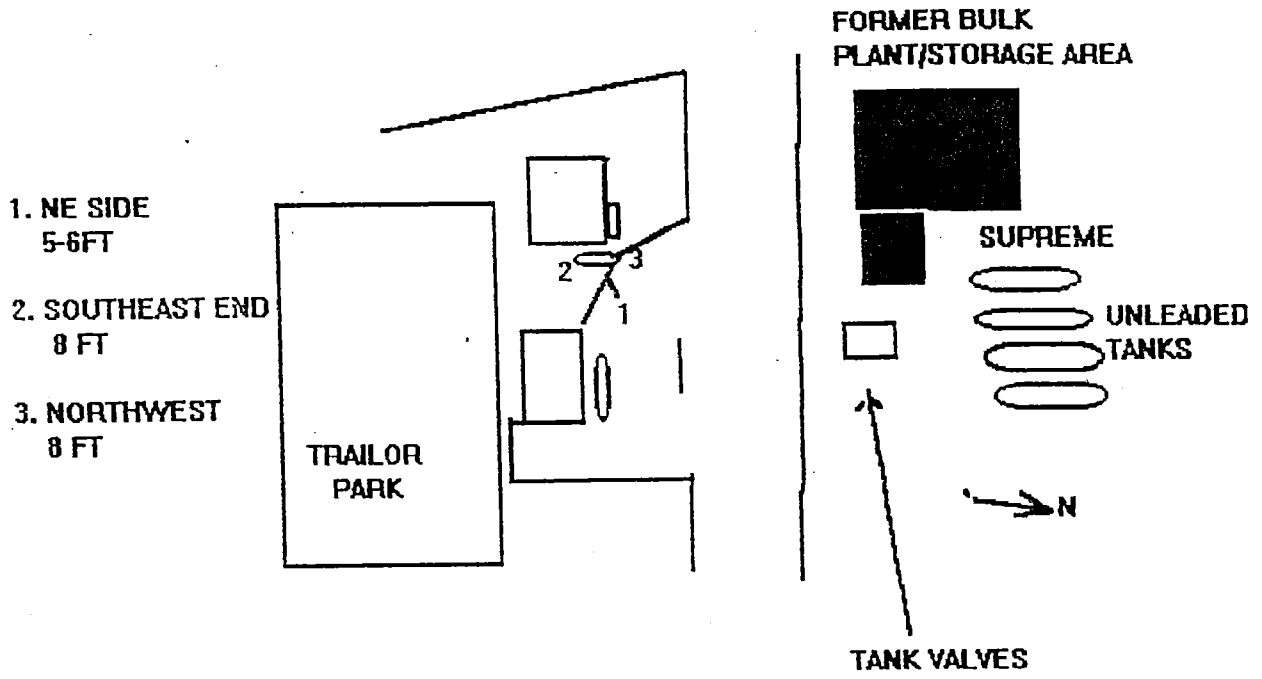
4. Once the UST was removed, it was cleaned and inspected for physical condition, labeled and loaded for transport to a disposal location. During the cleaning process, the tank is chocked to prevent movement, and labeled to prevent future use. The tank was transported to Schnitzer Steel for disposal.

5. Soil sampling was immediately performed as applicable, with at site map and chain of custody being completed as the sampling was performed.

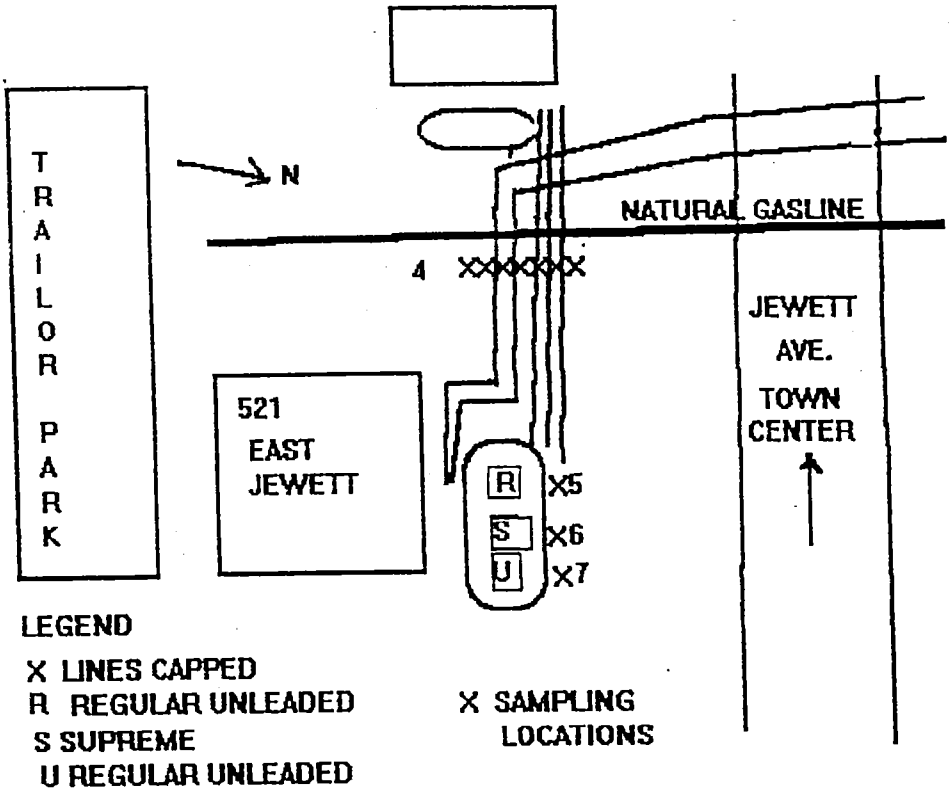
6. The remaining pit area is backfilled or left open as per property owners desires, safety and environmental concerns permit.

At The Town Pump location, 521 E. Jewett Avenue, contamination is present, however, since the pit area was in close proximity to a private residence with children,and adjacent to the residences foundation the pit was backfilled. This was the desire of Mr. Osborne, due to the amount of contamination found and the desire to find alterative methods of funding the cleanup. All removed contaminated soils were placed within the pit area, after it had been lined with plastic sheeting.

NW. CONSTRUCTION BATTLE GROUND, WA	TOWN PUMP SOIL SAMPLING LOCATIONS	52 E. JEWETT WHITE SALMON, WA



NW. CONSTRUCTION BATTLE GROUND, WA	TOWN PUMP SAMPLING SITE LINES AND PUMPS	521 E. JEWETT WHITE SALMON WASHINGTON



WATER, FOOD & RESEARCH LAB INC.
13035 SW Pacific Hwy
Portland, OR 97223

Client: NW Construction — Report Date: 4/17/92

Job ID: Town Pump — Date Sampled: 4/09/92

Matrix: Soil — Date Received: 4/10/92

Analyst: DJM/CPN — Date Analyzed: 4/14/92, 4/16/92

Method: WTPH-HCID

Client Sample ID	Lab Sample ID	Result	
1	13471-1	Gasoline	Not Detected
		Diesel	DETECTED
		Heavy Oil	Not Detected
		Surrogate Recovery	*
4	13479-1	Gasoline	DETECTED
		Diesel	Not Detected
		Heavy Oil	Not Detected
		Surrogate Recovery	*

METHOD: WTPH-D

Client Sample ID	Lab Sample ID	Result (ppm, mg/kg)	Reporting Limit	Percent Surrogate Recovery
1	13471-1	5,210	20	*
2	13471-2	ND	20	89
3	13471-3	102	20	97
3	13471-3 Duplicate	104	20	89

* Surrogate recovery not calculated due to extent contamination

WATER, FOOD & RESEARCH LAB, INC.

Client: NW Construction Date Analyzed: 4/14/92

Job ID: Town Pump

Analyst: DJM

METHOD: WTPH-G

Client Sample ID	Lab Sample ID	Result (ppm, mg/kg)	Reporting Limit (ppm, mg/kg)	Percent Surrogate Recovery
4	13479-1	7,890	20	*
5	13479-2	27,920	20	*
6	13479-3	8,090	20	*
7	13479-4	16,385	20	*
7	13479-4 Duplicate	26,700	20	*

* Surrogate recovery not calculated due to extent contamination

Reviewed by: _____

David J. Melander

SOIL SAMPLING AND ANALYSIS

Following removal of the UST system (tank, associated piping and pumping equipment), representative sampling were collected from the excavation zone. All samples were obtained from native soils in the following manner.

Using the backhoe a representative sample of undisturbed native soil is removed from the excavation zone within one to two feet of the former UST system location. The person performing the sampling, while following sampling protocols, then completely fills a glass jar with the sample material, seals the jar, marks it with a unique sample identification number and places the sample in a cooler for transport to the laboratory for analysis. A site map is generated showing the location from which the sample was performed, along with a chain of custody which tracks the location and individual responsible for the samples security. All samples were analyzed by Water, Food and Resources Laboratory, Tigard, Oregon

Sampling and Analysis Results

Sampling Location Maps
Chains of Custody
Laboratory analysis Reports

N.W. CONSTRUCTION
30903 NE 152nd Avenue
Battle Ground, WA 98604

CHAIN OF CUSTODY RECORD

DATE 4/9/92 PAGE 1 OF 1

NAME N.W. Construction
ADDRESS 22317 NE 72nd AVE
Battle Ground WA. 98604
ATTENTION: Darril or Brenda
PROJECT NAME Town Pump
JOB/P.O. NO.
SAMPLER (SIGNATURE) Darril Becker (PRINTED NAME) Darril Becker

LAB NO.	I.D.	SAMPLE NO.	DATE	TIME	LOCATION	TESTING PARAMETERS: TPH-HCID	TPH-418.1	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
13471	-1	1	4/9	224	N.E. side wall	X	X	clay - w/ Diesel
"	-2	2	4/9	521	S.W. End		X	
"	-3	3	4/9	525	N.W. END		X	

RELINQUISHED BY
SIGNATURE
PRINTED NAME
COMPANY
DATE
TIME

RECEIVED BY
SIGNATURE David Melander
PRINTED NAME
WFR Labs
COMPANY
DATE 4/10/92
TIME 0800

RELINQUISHED BY
SIGNATURE
PRINTED NAME
COMPANY
DATE
TIME

RECEIVED BY
SIGNATURE
PRINTED NAME
COMPANY
DATE
TIME

TOTAL NUMBER OF CONTAINERS:

INSTRUCTIONS:
1. Shaded areas for lab use only.
2. Complete in ballpoint pen. Draw one line through errors and initial.
3. Be specific in test requests.
4. Check off tests to be performed for each sample.
5. Retain final copy after signing.
6. Provide name and telephone of your contact person.

NAME
TELEPHONE

SHIPMENT METHOD:
SPECIAL SHIPMENT, HANDLING OR STORAGE REQUIREM

1341.1 14171

30905 NE 152nd Avenue
Battle Ground, WA 98604

CHAIN OF CUSTODY RECORD

DATE 4-10-92 PAGE 1 OF 1

NAME: N.W. Construction
ADDRESS: 22317 NE 72nd AVE
Battle Ground, WA 98604
ATTENTION: Darryl or Brenda
PROJECT NAME: Town Pump
JOB/P.O. NO.
SAMPLER (SIGNATURE): [signature] (PRINTED NAME) Darryl Becker

LAB NO.	SAMPLE NO.	DATE	TIME	LOCATION	TPH-HCID	TPH-G	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	4	4/10	9:00	Piping	X		Smelled gas-obvious soil stain
	5	4/10	1:00	under Pump 1		X	
	6	4/10	1:10	under Pump 2		X	
	7	4/10	1:15	under Pump 3		X	

TOTAL NUMBER OF CONTAINERS:

SHIPMENT METHOD:

SPECIAL SHIPMENT, HANDLING OR STORAGE REQUIREME

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE	TIME	SIGNATURE [signature]	4/12/92
PRINTED NAME		PRINTED NAME David Melander	TIME 08:50
COMPANY		COMPANY WFR-Lab	
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE	TIME	SIGNATURE	TIME
PRINTED NAME		PRINTED NAME	
COMPANY		COMPANY	

INSTRUCTIONS:
1. Shaded areas for lab use only.
2. Complete in ballpoint pen. Draw one line through errors and initial.
3. Be specific in test requests.
4. Check off tests to be performed for each sample.
5. Retain final copy after signing.
6. Provide name and telephone of your contact person.

NAME ______

TELEPHONE ______

Disposal Reciepts

Recovered product
Rinse Material(s)
UST system materials

CUSTOMER
Anderson Keith
ADDRESS

SCHNITZER STEEL PRODUCTS CO.
INTERNATIONAL TERMINAL
12005 N. BURGARD, PORTLAND, OR 97203
(503) 286-5771

BILL OF SALE NO.
FE- 691524

VENDOR NUMBER	COMMODITY NUMBER	CONTRACT NUMBER	COMMODITY DESCRIPTION
	193		

I REPRESENT AND WARRANT THAT THIS MATERIAL DOES NOT CONTAIN A HAZARDOUS SUBSTANCE AS DEFINED BY FEDERAL OR STATE LAW, AND I AGREE TO INDEMNIFY SCHNITZER STEEL PROD. CO. AGAINST ALL CLAIMS.

GN 14220 G lb 03:45 PM 04/10/92 ◀ G

TA 11460 G lb 03:52 PM 04/10/92 ◀ T

N 2760 ◀ N

DRY	WET/SNOW	WEIGHER

BILL OF SALE

I hereby state that I am the lawful owner of the material described hereon, that I have a right to sell same and that for payment received in full, hereby acknowledged, I sell and convey title of same to SCHNITZER STEEL PRODUCTS CO.

X Keith Anderson
CUSTOMER

PRICE	EXTENDED	TIME
[illegible]	[illegible]	

CARRIER

TRACTOR NO.

S1009

9918

RECEIVED FROM
Town Pump

ADDRESS
521 E. Jewitt

PURCHASE ORDER NO. OR RETURNED GOODS	FREIGHT BILL NO.	DATE
		4-9,10-92

VIA

PREPAID	COLLECT

	QUANTITY	ITEM NUMBER	DESCRIPTION
1			
2	75 gal.		wash water
3			& Product (gasoline)
4			
5			
6			
7			
8			
9			
10			
11			
12			

REMARKS: CONDITIONS, ETC.

Taken to Fuel Processor's
Portland, ORE

NO. PACKAGES	WEIGHT	RECEIVED BY	CHECKED BY	DELIVERED TO

REDIFORM™
2L260/ 01260

BE SURE TO MAKE THIS
RECORD ACCURATE AND COMPLETE

CARBONLESS

SUMMARY

Northwest Construction decommissioned by removal one 2000 gallon tank, associated piping and pumping equipment from the site known as Town Pump, 521 E. Jewett, White Salmon, Wa.. All work was completed according to local, State, Federal and industry protocols.

Analysis of the representative samples collected from the excavation zone indicated that contamination exists at high levels on the property, well in excess of State DOE and Federal quidelines. Northwest Construction understands that further corrective actions are planned by the property owner, other responsible parties and concerned regulatory agencies.

LIMITATIONS

The observations, interpretations, conclusions and recommendations presented in this report are professional opinions based on the data described in this report. Conclusions are intended only for the purpose, site location, and project indicated and are specific to current site conditions. The conclusions are based on the assumptions that site conditions do not deviate from those observed during this study and as described in this report.

Changes in the conditions of the subject property or neighboring properties, applicable standards which may occur with the passage of time, whether they result from natural processes, legislative or the broadening of knowledge, amy affect the conclusions offered in this report. Accordingly, the observations and findings in this report may be invalidated by changes outside our control.

Appendix E
June 1992 Site Survey/PLSA Engineering

DRAFT WORK PLAN TO COMPLETE

A

FACILITY REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)

FOR

THE TOWN PUMP

WHITE SALMON, WASHINGTON

AGREED ORDER DE 92TC-C323

June, 1992

Job No. 92314

PREPARED BY PLSA ENGINEERING & SURVEYING
WDOE LIC. No. S0000210
1120 West Lincoln Avenue
Yakima, WA 98902
(509) 575-6990

SURVEY REPORT

PLSA ENGINEERING AND SURVEYING
1120 WEST LINCOLN AVENUE
YAKIMA, WASHINGTON 98902

Job No. 92314

June 9, 1992

Purpose of survey:

Upon review of data and records, made available to PLSA by the WDOE Project Manager, Mr. John Weitfeld, and based on an on-site visit and discussions with Mr. Kurt Osborne, it has been determined that insufficient data exists to determine the source and extent of the contamination plume and its migration route in, onto, and away from the site. Questions that remain to be answered before the RI/FS, RI, Task 1 can be completed are as follows:

1. What is the current level of benzene air contamination above ambient concentrations in the trailer park south of the site; the site, including the house; and the bulk storage tank site which supplied Town Pump with fuel, immediately north and across Jewett Avenue from the site?

2. Are there any buried tanks or piping other than those known and identified in the record which may be a source of contamination?

3. What is the significance of what appears to be two tank vent pipes on the northeast corner of the house, immediately northwest of the Town Pump, which vent under the eaves and the tank under the house?

4. What is the source of diesel contamination found in the excavation of the 2,000 gallon, on-site gasoline tank, which was removed, and subsequently found to be tight and secure?

5. What is the pathway of migration of petroleum from the bulk storage site to the Town Pump, in consideration of the now disconnected fuel line trench between the bulk storage site and the Town Pump, and the natural gas line trench that connects the two properties. Is there a pathway for contaminant migration from offsite sources through any water utility trenches or storm drain trenches known to exist on both sides of Jewett Avenue?

6. What is the current lateral extent of the of the contamination plume in the soil at the bulk storage site; the adjacent City of White Salmon property, west of the bulk storage site and across Jewett Avenue; at the site, including the house; and in the trailer court, or further?

7. Is there currently a need to conduct emergency action to contain or otherwise prevent the further migration of contamination, to protect the public welfare, or to protect the environment?

Other technical questions such as contaminant levels and soil gas permeabilility (may/will) be required depending on discoveries made, cleanup techniques selected, and data shortfalls, during the RI/FS process. However, the seven questions above require the respondent to propose an Interim Investigation, to be conducted prior to beginning the RI/FS Tasks, to characterize the sources of the contaminants, the migration routes of the contaminants, and the need for any interim or emergency action to prevent contaminant migration, protect the public health, and the environment.

Interim Investigation:

It is proposed that the Interim Investigation, (II), consist of the following tasks to provide data to answer the above seven questions:

II Task 1: An ambient air quality survey will be conducted with no soil disturbance using a Photovac TIP Meter, a Gastech Combustion Analyzer and Sensidyne Gastech Pump with analytical tubes, as described in the Sampling Plan . These field instruments will be zeroed offsite and up wind from the survey site, when appropriate, or will be calibrated against each other on samples, using the Sensidyne as the standard. The survey will roughly follow the sampling path taken by WDOE Investigators, Mr. Dan Locke and Mr. David George, in a previous survey. If significant results are discovered, the survey will continue to follow significant positive readings until ambient air conditions are replicated, (as an objective). The sampling sites and results will be recorded on a site map and reported to the WDOE and the S.W. Washington Health District. If action is indicated, the Respondent through and with his Consultant, will collaborate with these regulatory agencies to devise an appropriate action to protect the public health and welfare, and will submit a proposal to the WDOE for review and approval or other action. Coordination of review with the Health District is requested. Decisions made and actions taken here will be incorporated in RI Task 1.

Any emergency or interim action that might result from this survey, may seriously affect the timing of further work on the RI/FS, and in the event of an emergency action it is recommended that the timing of further RI/FS work be subject to negotiations between the Respondent and the WDOE.

II Task 2: A survey of the site will be conducted to determine the presence of underground metal with an industrial grade metal detector with adjustable sensitivity. This survey is intended to locate any underground tanks and piping present on site. The survey sampling points and results will be recorded on a site map and forwarded to the WDOE and the Health District.

II Task 3: Hand tools will be used to excavate earth from around what appears to be two tank vent pipes at the northeast corner of the house located on the northwest corner of the Town Pump site to confirm their origination, if not already determined in II Task 2, above. Excavation will be monitored periodically with field, air monitoring equipment. If significant soil gas readings are found, benzene concentration will be determined with a Sensidyne Gastech Pump and analytical tube. If obviously petroleum contaminated soil or free product are encountered, samples will be taken and sent to Sound Analytical for analysis. Results will be recorded and forwarded to the WDOE and Health District.

II Task 4: Depending on the findings obtained in II Tasks 2 and 3, the Respondent, through and with his Consultant, will propose to the WDOE for review and approval or other action and coordinate with the Health District a recommended interim , emergency, or no action course of action, which will take into consideration: tank content sampling, content removal, tank stabilization, tank removal, or moving on to II Task 5.

Any emergency or interim action that might result from this survey, may seriously affect the timing of further work on the RI/FS, and in the event of an emergency or interim action it is recommended that the timing of further RI/FS work be subject to negotiations between the Respondent and the WDOE.

II Task 5: Utility records will be gathered and a utilities sampling site map prepared showing the location of utilities whose trenches may provide petroleum product migration routes. Hand tools and a back hoe will be employed to explore these trenches with field air monitoring instrumentation to detect soil gas, determine benzene concentrations, and per cent of explosion concentration limits. Digging and sampling equipment will be decontaminated before and after taking samples. Any petroleum contaminated soil, product, and/or water encountered will be sampled for subsequent analysis by Sound Analytical.

Results will be recorded on the sampling site map and submitted to the WDOE and Health District. If the findings of this task support proceeding, barring unanticipated findings, the next task may be conducted immediately, or soon after, following the completion of this task. If significant, unanticipated findings are found, however, it is recommended that the timing of further RI/FS work may be subject to negotiations between the Respondent and the WDOE. The map and results will be submitted to the WDOE and Health District.

II Task 6: An hypothetical, Anticipated Clean Perimeter Sampling Site Map will be prepared in advance and may be modified in the field, based on findings in this task. A back hoe and hand tools will be used for excavation to identify and sample outside the anticipated exterior perimeter of the contaminant plume. Field air sampling equipment will be used to detect the presence of contaminated soil gas. Equipment will be de contaminated before and after excavating a positive showing sample. Soil samples will be taken at those places where no soil gas is detected above background levels. As a minimum, samples will be taken at three locations down gradient from the site, one north of the four storage tanks on the Morin property, one at the western property line of the Morin property near Jewett Avenue, and one at the eastern property line of the Morin property near Jewett Avenue, with sampling point adjustments made to accommodate field found conditions. All excavation will be monitored for safety and health with field air monitoring equipment. Samples will be sent to Sound Analytical to confirm the levels of contamination. The Anticipated Clean Perimeter Sampling Map and sample analysis will be recorded and submitted to the WDOE and the Health District. In the event that samples do not meet appropriate levels, the procedure may have to be repeated. In this scenario, it is recommended that the timing of further RI/FS work may be subject to negotiations between the Respondent and the WDOE.

II Task 7: After coordinating with the WDOE and the Health District, an Interim Investigation Report will be prepared, with recommendations, and will be submitted to the WDOE for review and approval or other action. It is in the Respondent's best interest, and he requests, the WDOE to coordinate its review with the Health District. If an emergency or interim action is indicated, it is recommended that the timing of further RI/FS work may be subject to negotiations between the Respondent and the WDOE.

Survey results:

The survey began with metal detection and physical characterization at 10:30 AM, June 4, 1992. The survey abruptly concluded at approximately 2:30 P.M. after a face-to-face confrontation between Mr. Mark Morin and Mr. Kurt Osborne, in

which it was requested by Mr. Morin that the survey not proceed on to his property. The survey is therefore incomplete. The findings obtained are included on the attached AMBIENT AIR AND SOIL BENZENE SURVEY Site Map. The soil sample taken has been properly transported to Sound Analytical for analysis. Further soil sampling downgradient from the Town Pump will await those results. No further work can proceed concerning the characterization of the waste plume until permission to proceed is obtained from Mr. Morin.

Significant findings:

1. The ambient air concentration at the Town Pump, the adjacent residence, and in the trailer court show undetectable quantities of the benzene, toluene, xylene, and other aromatic hydrocarbon group analyzed by the Sensidyne Gastech Pump and benzene reactive reagent with no interferance screening. No emergency action is indicated.

2. There is a buried underground heating oil tank under the wooden walk way leading from the front door of the residence, adjacent to and northwest of the Town Pump Site. Removal is recommended. There is significant metal detection under the entirety of the asphalt pad extending parallel to the east, starting at the garage bay east wall, to the concrete block retaining wall. Further investigation is recommended.

3. A tank vent, under the eaves of the northeast corner of the adjacent house (see Figure 1), leads to the newly found underground heating oil tank in 2., above.

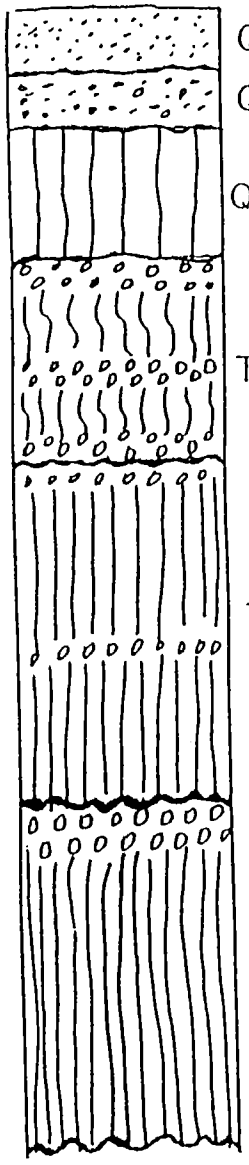
   During the excavation of the 2000 gallon on-site fuel tank, previously removed, the Respondent observed a pipe extending upward from the tank and then toward the other vent pipe at the corner of the house. Vent removal is recommended. No open air ways were found in the soffet of the house in the vicinity of the tank vents. No tank was detected under the house.

4. The diesel in the excavation of the 2,000 gallon tank was likely from the new tank found in 2., above.

5. The storm drain manhole across Jewett Avenue was found to have approximately 1/4 to 1/2 gpm of inflow at the beginning and at the end of the survey. The water level in the manhole did not increase during this time to cause outflow through the effluent pipe. All drainage water was seeping into the ground from this drywell. The Town Public Works Director was on site and promised to seal the bottom of the drywell, within two weeks. The migration routes of product from the bulk storage tanks is currently unknown.

6. The current lateral extent of the contamination plume in the soil at the bulk storage site and adjacent properties remains unknown.

7. The soil from which a soil sample was taken was a sandy silty clay. Soil sample analytical results are reported by Sound Analytical as not detectable for W-TPHC-HCID and 21 ppm,Pb, which is a typical background level in a fruit growing area..



Qal Stream deposits-sand,gravel,sill,and clay

Qfg Flood deposits-Spokane floods:sand,gravel, sill,and clay

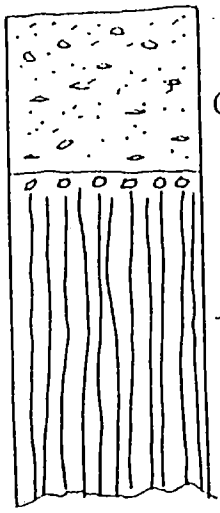
Qvmf McCoy flat andesite-lava flows from vent north of White Salmon

Twf Wanapum Basalt-coarse,dense,black,red-brown basalt with large plagioclase phenocrysts

Tgn_2 Grande Ronde Basalt-N_2:dense,black,hackly,fine grained with micro phenocrysts,flows with normal magnetic polarily

Tgr_2 Grande Ronde Basalt-R_2:dense,black,hackly, fine grained with micro phenocrysts,flows with reversed magnetic polarily

REGIONAL STRATIGRAPHY

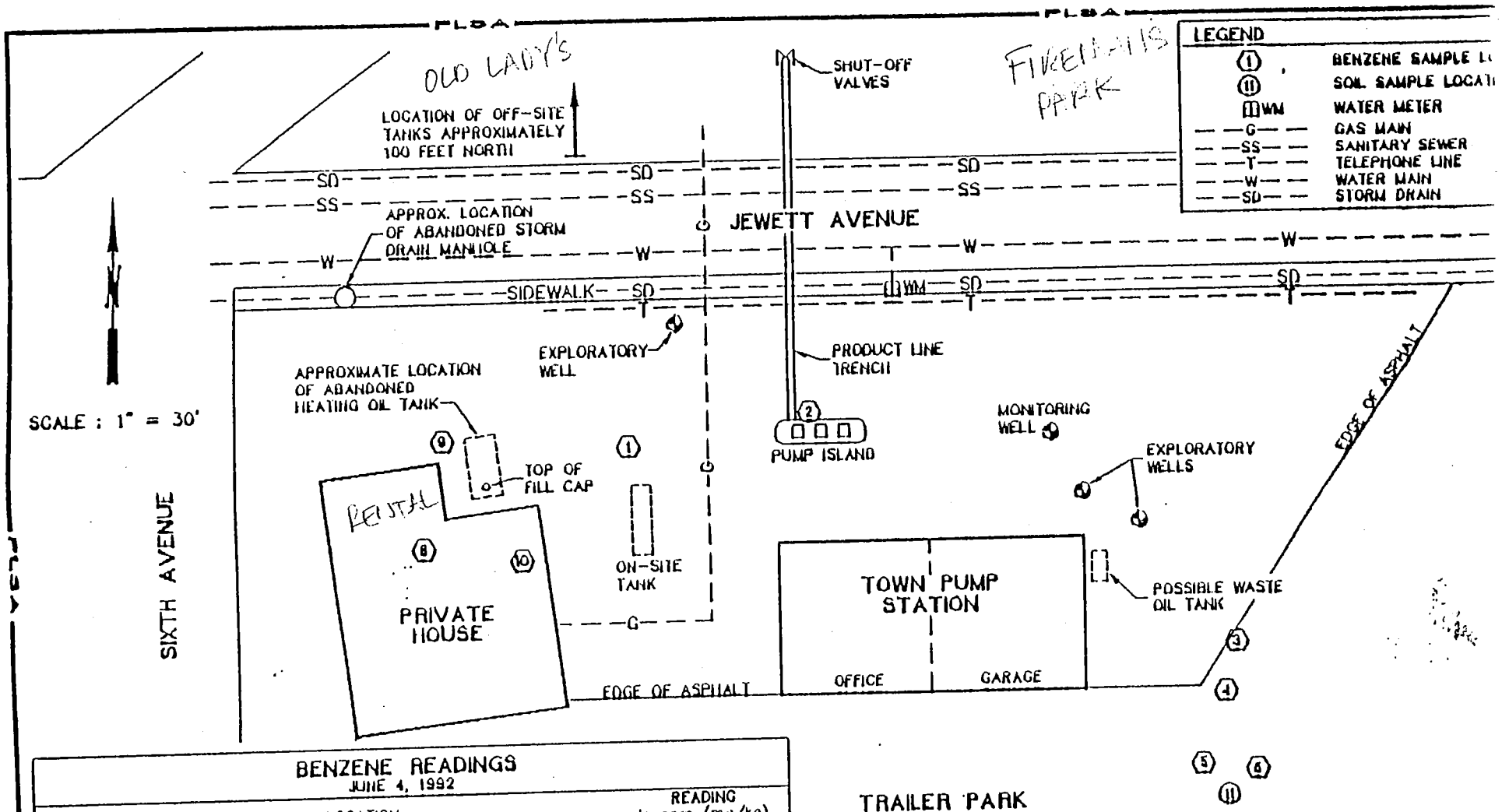


FACILITY STRATIGRAPHY

FIGURE 2

REGIONAL AND FACILITY SPECIFIC STRATIGRAPHY

Mike Taylor
693-1229



BENZENE READINGS
JUNE 4, 1992

SAMPLE NUMBER	LOCATION	READING in ppm (mg/kg)
1	TANK BASIN	0.00
2	NORTH SIDE PUMP ISLAND	0.00
3	INSIDE CRACK OF W. RETAINING WALL	0.00
4	1' BELOW GRADE S. OF RETAINING WALL	0.00
5	1' BELOW SURFACE DRAINAGE PATHWAY	0.00
6	UNDER SKIRTING OF TRAILER #4	0.00
7	UNDER SKIRTING OF TRAILER #13	0.00
8	IN HALLWAY OF HOUSE	0.00
9	ABOVE VENT LINE OF ABANDONED TANK	0.05-0.10
10	NE CORNER OF HOUSE BASEMENT	0.00
11	2' BELOW GRADE AT SURFACE DRAINAGE PATHWAY	0.00

PERSONS CONDUCTING AND OBSERVING AMBIENT AIR AND SOIL BENZENE SURVEY:
RUSS TAYLOR – PLSA
LUIS VALDEZ – PLSA
JOHN LOUDERBACK – SW WA. HEALTH DIST.
KURT OSBORNE – RESPONDENT

FIGURE 1

PLSA
ENGINEERING-SURVEYING
YAKIMA, WASHINGTON
(509) 575-6000

AMBIENT AIR AND SOIL BENZENE SURVEY
TOWN PUMP
WHITE SALMON, WA

DRAWN
DATE:
JOB NO

APPENDIX 8

PUBLIC PARTICIPATION PLAN
July 1992

Town Pump site, White Salmon, WA

I. INTRODUCTION AND OVERVIEW OF PUBLIC PARTICIPATION PLAN

The Washington Department of Ecology (Ecology) is committed to providing public participation opportunities during the investigation and cleanup of hazardous waste sites. The public participation plan is intended to promote public understanding of Ecology's responsibilities, planning activities and remedial activities at hazardous waste sites. It also provides an opportunity for Ecology to learn information, from the public, that will enable the department to develop a comprehensive cleanup plan that is protective of both human health and the environment.

A. This public participation plan at the Town Pump cleanup site in White Salmon, WA covers activities from June 1992 when investigators from PLSA engineering, the engineering company employed by the respondents, and an official from the Washington State Health District conducted an ambient air benzene survey to gather information to make a public health assesment of the immediate site, through the proposed cleanup and final restoration of the site back to a useable facility. It has been tailored to the needs of the public based on the stage and nature of the cleanup, the level of public concern, and the risks posed by the site.

B. Currently the Town Pump facility is unoccupied and all known underground storage tanks at the facility have been removed. The facility was last used as a service station selling petroleum fuel. Adjacent and west of the facility is an underground storage tank recently found during the field investigation in June 1992. North of the facility and accross Jewett Avenue are four abandoned underground storage tanks with piping.

C. This public participation plan was developed after interviews were conducted with persons and businesses located within the potentially affected vicinity, around the Town Pump site in White Salmon, WA. The plan discusses the community's concerns and outlines public participation activities to be conducted for the phases covered by this plan. This plan will be reviewed at each phase of cleanup and amended or rewritten as appropriate.

The purpose of the public participation effort and of this plan is to assure that the affected public and governmental agencies are kept informed as the studies proceed and that each has an

opportunity to contribute information regarding the site and to comment on the study and cleanup activities.

D. The locaction and size of the facility is such that a hazard would be created if the facility was used as the public participation site. On May 1992, the DOE issued an agreeded order with the respondents. The agreeded order is available for reveiw at City Hall in White Salmon. City Hall in White Salmon is the repository of all information gathered and all proposals submitted between PLSA Engineering, DOE, and the respondents of the Town Pump facility.