VOLUNTARY CLEANUP ASSESSMENT
1602 Rudkin Road
Yakima, Washington

1/3

Project Number 00-075

March 10, 2000

Prepared for: Wondrack Distributing, Inc.
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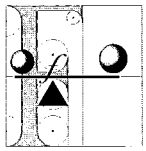


1.0 INTRODUCTION

On February 18, 2000, Fulcrum Environmental Consulting, Inc., (Fulcrum) was retained by Wondrack Distributing, Inc., (Wondrack) to resolve regulatory status of diesel and heavy oil contaminated soil at their Rudkin Road property. Contamination was identified in NetCompliance Products & Services, Inc.'s (NetCompliance) February 7, 2000 report titled, *Phase II Environmental Site Assessment at Wondrack-Itek Property, 1602 Rudkin Road Yakima, Washington* (See Appendix A). Resolution of regulatory status of diesel and heavy oil contaminated soils was required as part of a pending land transaction. Purpose of regulatory status was to evaluate whether further investigation or remediation was necessary at the Rudkin Road site to meet current Washington State Department of Ecology (Ecology) regulations and guidance.

2.0 SCOPE OF WORK

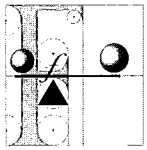
The scope of this project was limited by Joe Wondrack, site owner to assessment of two locations within the Rudkin Road site where historic USTs were removed and site investigations were conducted. Documentation of UST removals conducted in 1995 and a February 2000 site investigation was provided by Joe Wondrack and Mike Nash, potential site purchaser. Fulcrum reviewed analytical results from NetCompliance's report to determine whether further action was indicated under current or proposed Ecology regulations and guidance. Fulcrum's scope of work did not include any onsite activities, such as inspection and sampling, or determination of regulatory status of removed USTs.

This report is based on interviews conducted by Travis Trent (Certified UST Site Assessor #32-US-32002725) with the owner and potential purchaser and reports presented in Appendix A (see Appendix B for Fulcrum certifications). Fulcrum made no effort to independently verify accuracy or completeness of supplied data. Fulcrum makes no warranties expressed or implied as to the accuracy or completeness of other's work included or referenced herein.

3.0 DISCUSSION OF PERTINENT REGULATIONS AND GUIDANCE

3.1 MTCA Regulations

In March of 1989, the Model Toxics Control Act (MTCA) went into effect in Washington. The MTCA regulations set standards to ensure that the quality of cleanup and protection of human health and the environment. A major portion of the MTCA regulation (completed in 1991) was the development of numerical cleanup standards and requirements for cleanup actions. MTCA established three options for site-specific cleanup levels: Method A, B, and C. Method A defines cleanup levels for 25 of the most common hazardous substances found at sites. Method B levels are set using a site risk assessment, which focuses on site characteristics. Method C is similar to Method B, however, the individual substances cancer risk portion of the assessment is set at 1 in 100,000 rather than 1 in 1,000,000.



3.2 Interim TPH Policy

In January 1997, the Washington State Department of Ecology issued an "Interim Total Petroleum Hydrocarbon (TPH) Policy" (Ecology Publication No. ECY97-600). The Interim TPH Policy describes how to make Methods B and C cleanup decisions for petroleum-contaminated soil on the basis of "fractions" and "surrogates."

Prior to the Interim TPH Policy, risk based cleanup of sites contaminated with petroleum hydrocarbons was rarely used due to the difficulty commonly encountered when measuring concentrations, evaluating risks for complex mixtures, and a lack of good toxicity data. Under the Interim TPH Policy, a surrogate chemical is chosen to represent the chemical, physical, and toxicological properties of each fraction.

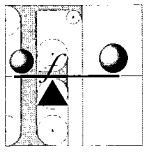
The petroleum hydrocarbons used in diesel and automotive oils are complex mixtures of compounds, each with distinct chemical, physical, and toxicological properties. In the Interim TPH Policy, petroleum hydrocarbons are divided into 13 fractions based on the number and structure of carbon atoms in the hydrocarbon molecules. The Interim TPH Policy also divides petroleum hydrocarbons into 6 aliphatic (chain structure) and 7 aromatic (ring structure) fractions. For example, gasoline range petroleum hydrocarbons typically include aliphatic molecules with 5 to 12 (EC5 to EC12) carbon atoms and aromatic petroleum hydrocarbons with 5 to 13 carbon atoms (EC5 to EC13). Diesel range hydrocarbons typically include aliphatic and aromatic molecules with 8 to 24 (EC8 to EC24) carbon atoms. Heavy oil range hydrocarbons typically include aliphatic and aromatic molecules with more than 24 (EC24) carbon atoms.

The Interim TPH Policy approach does not yield a soil cleanup level, as is typically found under Ecology's Model Toxic Control Act (MTCA). Instead, a hazard index (risk) is determined for direct contact with petroleum impacted soil. If the calculated hazard index for direct contact is less than or equal to 1.0, then the risk posed by direct contact with the petroleum impacted soil is considered acceptable. The Interim TPH Policy also evaluates interaction between petroleum impacted soil and groundwater through use of a simple soil/pore water partitioning model to determine groundwater impact. If calculated groundwater impact is below MTCA Method A cleanup levels for groundwater, than the risk posed by human contact with potentially impacted groundwater is considered acceptable.

3.3 Proposed MTCA Cleanup Standards

Until Ecology issued the Interim TPH Policy in 1997, a widely accepted methodology for evaluating TPH risks was not available. Gauging the risk presented by TPH contamination is difficult, because it involves calculating the human health and ecological risk associated with complex mixtures of hydrocarbon chemicals where each chemical presents potentially different, and often unknown, human health and ecological effects.

The proposed MTCA rule uses a surrogate compound approach, similar to the Interim TPH Policy, to evaluate risk for a number of TPH fraction ranges. The proposed TPH fraction ranges include gasoline range organics (GRO), diesel range organics (DRO), heavy oils, and non-PCB electrical insulating mineral oil. The new rule calls for measuring TPH in different ranges called "equivalent carbon (EC) number" ranges. This new surrogate compound approach differs from the Method A approach, because it allows for more customization of the TPH fraction cleanup levels.



As a result of studies conducted over the past three years pertaining to the surrogate compound approach, Ecology is also proposing changes to the Method A TPH cleanup level for the four common product types: GRO, DRO, heavy oils, and non-PCB electrical insulating mineral oil. For soils, the proposed change would increase the soil cleanup levels for DRO and heavy oils from the current 200 parts per million (ppm) to 2000 ppm. Refer to Appendix C for a summary of proposed Method A Soil cleanup levels.

3.4 Cleanup Standard Used for Rudkin Road Site Evaluation

Given the proposed Method A cleanup level of 2000 for DRO and heavy oil are currently not in effect. Fulcrum determined that Ecology's Interim TPH Policy was the most appropriate regulatory guidance for evaluating the need for site cleanup at Rudkin Road site.

4.0 ENVIRONMENTAL SETTING

The subject site is located at 1602 Rudkin Road in Yakima, Washington. See Figure 1 of NetCompliance's Phase II Report in Appendix D for site location map. Properties near the Rudkin Road site are primarily light industrial to commercial. The site is generally flat and is approximately 1020 ft above mean sea level.

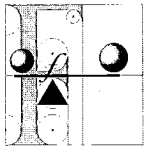
Soil immediately below the site is poorly graded medium to coarse gravel with minor sand/silt. No bedrock was found at maximum extent of sampling excavation.

Depth to groundwater below the site was estimated between 8 to 16 ft. Irrigation activities result in a seasonal variation of approximately 10 ft. Groundwater flow direction is generally east and south towards the Yakima River, but is significantly affected by seasonal irrigation practices. The closest body of water to the site is the Yakima River, located approximately one and a half miles east of the site.

5.0 SUMMARY OF PREVIOUS SITE INVESTIGATIONS

The following information was compiled through interviews and review of historic site investigation documentation.

In January of 1995, White Shield, Inc. (White Shield) submitted a "UST Closure Site Assessment Report" summarizing UST removal activities associated with removal of two approximately 500 gallon waste oil tanks from separate excavations. The oil USTs were located adjacent to the southwest (excavation #1) and southeast (excavation #2) foundation of the current Shop Building. According to the report, each excavation was approximately 10 feet (ft) by 10 ft and extended to a depth of 7 ft. White Shield's UST site assessor determined that additional excavation at these locations would "jeopardize the structural integrity of the building foundation". Soil samples were collected from each excavation on all four sidewalls and at excavation depth (below oil inlet pipe closest to building). Laboratory analysis of soil samples collected from the excavation sidewalls were below pertinent Ecology MTCA Method A cleanup levels. Laboratory analysis of soil samples collected from excavation depth documented total petroleum hydrocarbon concentrations of 440 parts per million (ppm) in excavation #1, and 310 ppm in excavation #2.



In March of 1995, White Shield completed a site check on two diesel USTs located north of the truck washing facility. An "Underground Storage Tank Site Check/Site Assessment Checklist" and an "Underground Storage Tank Permanent Closure/Change-In-Service Checklist" were included in White Shield's report. Historic documentation submitted with White Shield's site check summary indicated that both diesel USTs had passed leak detection integrity assessment conducted in 1992. During White Shield's investigation, two test pits were excavated to determine if petroleum contamination related to UST existence or usage was present. The two test pits were located adjacent to the USTs: one on the east side of the east tank, the second on the west side of the west tank. Both test pits were excavated to an approximate depth of 6 ft. White Shield utilized Thin Layer Chromatography (TLC) as a field screening method to determine likely presence of hydrocarbons. Soil samples were not submitted for laboratory analysis. White Shield's field screening results reported potential contamination at approximately 6 inches depth near the east end of the east diesel UST. White Shield concluded that contamination was likely resultant from tank overfilling.

In April of 1995, Cayuse Environmental (Cayuse) submitted a closure site assessment report for two approximately 8,000 gallon diesel USTs removed from a single excavation. The USTs were the same tanks investigated by White Shield in March 1995. Total depth of UST excavation was approximately 14 feet. During UST removal, approximately 98 cubic yards of suspect petroleum contaminated soil was excavated and stockpiled on site pending laboratory analysis. Four sidewall, two excavation depth, and two stockpile samples were collected and submitted for laboratory analysis. Resultant analysis indicated that excavation samples were below MTCA Method A cleanup levels. Analysis of stockpile samples indicated that the petroleum concentration was above cleanup levels. The analytical report documented results from a ninth sample that was unaccounted for in Cayuse's field notes and report. The analytical report also documented five of the sample analyses corresponding surrogate recovery results as being outside acceptable limits due to sample matrix effects. The stockpiled material was transported to Anderson's Rock and Demolition Pit located in Yakima, Washington.

In January of 2000, NetCompliance Products & Services, Inc. (NetCompliance) conducted a Phase II Environmental Site Assessment (ESA) of the Rudkin Road site. The Phase II ESA focused on the two locations of former USTs. NetCompliance excavated five test pits (TP): three in the approximate location of the former diesel USTs (TP1, TP2, and TP3), and two in the approximate location of the former waste oil USTs (TP4 and TP5). Soil samples were collected from excavation depth (8 to 12 feet below ground surface). Two samples were collected from each of the three test pits located in the former diesel UST area. One sample was collected from each of the two test pits in the former waste oil UST locations. Samples were initially submitted for NWTPH-HCID laboratory analysis. None of the samples submitted were shown to have petroleum hydrocarbon concentrations in the Gasoline range above the practical quantitation limit. Concentrations in the diesel range of petroleum hydrocarbons were detected in TP1 and TP5. Heavy oil petroleum hydrocarbon range concentrations were detected in TP1, TP2, TP3, and TP4. Samples showing detectable concentrations of HCID hydrocarbons were subsequently reanalyzed by NWTPH-Dx to quantify the diesel and heavy oil range hydrocarbons. Heavy oil concentrations ranged from 68 ppm to 790 ppm in the three test pits in the location of the diesel USTs. In the two waste oil test pits (TP4 and TP5) heavy oil range hydrocarbons ranged from Less than 53 ppm to 79 ppm and diesel range hydrocarbons ranged from less than 28 ppm to 210 ppm.

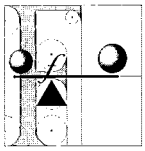


Table 1
Analytical Results from NetCompliance's Investigation

Sample Number	Location / Description	TPH Fraction Range	NWTPH-HCID Compounds detected	NWWTPH-DX Concentration (ppm)
TP1-01	Depth, 8 ft bgs[1]	GRO	<27	NA
		DRO	<55	<28
		Heavy Oils	**Heavy Oil**	**790**
TP1-02	Depth, 12 ft bgs[1]	GRO	<26	NA
		DRO	**Diesel Fuel #2**	<26
		Heavy Oils	<100	**68**
TP2-03	Depth, 8 ft bgs[1]	GRO	<27	NA
		DRO	<53	NA
		Heavy Oils	<110	NA
TP2-04	Depth, 12 ft bgs[1]	GRO	<27	NA
		DRO	<55	<28
		Heavy Oils	**Heavy Oil**	**650**
TP3-05	Depth, 8 ft bgs[1]	GRO	<27	NA
		DRO	<54	<27
		Heavy Oils	**Heavy Oil**	**560**
TP3-06	Depth, 12 ft bgs[1]	GRO	<27	NA
		DRO	<53	<27
		Heavy Oils	**Heavy Oil**	**600**
TP4-07	Depth, 8 ft bgs[1]	GRO	<28	NA
		DRO	<56	<28
		Heavy Oils	**Heavy Oil**	**79**
TP5-08	Depth, 8 ft bgs[1]	GRO	<26	NA
		DRO	**Diesel Fuel #2**	**210**
		Heavy Oils	<100	<53

1 = below ground surface (bgs)
Note: detected compounds and quantifiable concentrations are noted in **bold type**

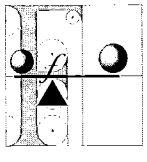
6.0 HISTORIC WASTE DISPOSAL

Approximately 98 Cubic yards of Class III and IV Petroleum Contaminated Soil (PCS) was transported to the Anderson's Rock and Demolition Pit by Tri-Valley Construction in 1995. Anderson's is approved through the Yakima County Health Department to accept Class III and IV PCS.

No other record of regulated waste disposal was found during review of historic project documentation.

7.0 EVALUATION OF DATA

Historic project documentation indicates that the source of petroleum contamination in the location of the former diesel and waste oil USTs has been removed. In addition, approximately 98 cubic yards of diesel contaminated soil has been removed from the location of the former diesel USTs. Residual concentrations of DRO and heavy oils are below the worst case calculated hazard risk predicted under current Interim TPH Policy as discussed below.



Although petroleum impacted soils at the Rudkin Road site are located beneath surface gravels and therefore pose no risk of direct contact with humans, the Interim TPH Policy was used to establish a conservative basis for site cleanup. Ecology's Interim TPH Policy worksheet was used to predict the concentration of the most conservative TPH fraction range present at the Rudkin Road site that still yielded a Residential Use (most restrictive) Hazard Quotient of 1.0 or less. Both DRO and heavy oil TPH fraction ranges typically have EC ranges greater than 10 and are composed of both aromatic and aliphatic hydrocarbons. Specific product composition information was reviewed for Diesel #2 to confirm EC range and ratio of aliphatic to aromatic hydrocarbon composition. See Appendix E for Chevron Diesel #2 information. For the purpose of this evaluation, all DRO fractions were assumed to be aromatic (aromatic hydrocarbons pose higher potential risk than aliphatic hydrocarbons) resulting in the most conservative level. Worksheet calculations based on 100% aromatic concentration (worse case composition) resulted in a predicted site cleanup concentration of 2,400 ppm. The actual maximum site specific cleanup concentration (assuming a portion of the Diesel #2 is in the aliphatic range) for the Rudkin Road site would yield a concentration greater than 2,400 ppm. See Appendix F for worksheet calculation results.

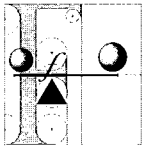
7.1 Recommended Site Cleanup Level

Interim TPH Policy calculations for diesel and heavy oil range hydrocarbons result in a conservative calculation of site cleanup level at 2,400 ppm. Proposed MTCA revisions anticipated to go into effect in the summer of 2000 would establish 2,000 ppm as a conservative site cleanup level. Based on evaluation of the most applicable existing regulations (Interim TPH Policy) and anticipated regulatory changes, Fulcrum recommends a site specific cleanup level of 2,000 ppm for diesel and heavy oil impact soils.

8.0 RESULTS AND CONCLUSIONS

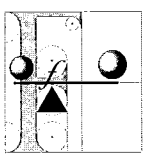
The results of the site investigation indicated that TPH contaminated soil exists at the location of the former diesel USTs and waste oil USTs. Contamination was identified at excavation extent in four of the five test pits. Vertical and Horizontal extent of contamination was not determined.

The Interim TPH Policy risk calculation was run as a worst case scenario assuming that all hydrocarbons detected were highest risk fraction for the specific TPH fraction range. Based on the Interim TPH Policy regarding risk through direct physical contact or contact with associated groundwater, TPH impacted soils at the Rudkin Road site are within acceptable limits of risk. Fulcrum recommends no further action is necessary to assess or remediate diesel and heavy oil impacted soil identified in NetCompliance's February 7, 2000 report titled, *Phase II Environmental Site Assessment at Wondrack-Itek Property, 1602 Rudkin Road Yakima, Washington.*



APPENDIX A

NetCompliance Products & Services, Inc.
Phase II Environmental Site Assessment



PHASE II ENVIRONMENTAL SITE ASSESSMENT
at
Wondrak-Itek Property
1602 Rudkin Road
Yakima, Washington

Prepared for:

Central Valley Bank
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Prepared by:

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PHASE II ENVIRONMENTAL SITE ASSESSMENT

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Point of Contact:	Bruce Galbrain/Loan Officer
Property:	1602 Rudkin Road Yakima, Washington 98903
Environmental Engineer:	P. Trabusiner
Project Number:	48-001-095
Report Date:	February 7, 2000

APPENDIX

- USGS 7.5 Minute Topographic Map
- Site Location Map
- Site Drawing
- Site Photographs
- Laboratory Report

EXECUTIVE SUMMARY

According to the State of Washington Toxic Cleanup Program Site Register from October, 1999, and the Washington State Leaking Underground Storage Tank List from July, 1999, the subject site is listed as possibly contaminated by petroleum hydrocarbons.

Central Valley Bank, in Yakima, retained NetCompliance Products & Services, Inc. (NCP&S), of Kennewick, Washington, as the environmental consultant to conduct a limited Phase II Site assessment of the subject property at 1602 Rudkin Road , in Yakima, Washington. On January 5, 2000, Mr. Peter Trabusiner, an engineer and employee with NCP&S, conducted the USTs site check and supervised the soil testing. The weather was sunny with temperatures in the forties.
3-Kings Environmental, Inc. from Kennewick, Washington, conducted the soil testing. Five test holes were excavated with a backhoe. The samples were taken directly from the center of the bucket according to Washington Department of Ecology (WA-DOE) sampling and testing guideline from 1994. The test-holes were located approximately at the same locations where records indicated previously removed underground storage tanks. Soil samples were taken at 8 or 12 foot depth from the test holes. No groundwater was evident during the excavation activities.
Analysis of selected soil samples taken during the activities was conducted by OnSite Environmental, Inc. in Redmond, Washington, an EPA and State of Washington accredited laboratory.

The one underground storage tank system (UST's) investigated was situated on the north side of the former truck wash facility. According to a report obtained from the DOE office in Yakima, two 8000 gallon USTs were removed in 1996 by Russel Crane Service, Inc. According to a letter from DOE dated June 5, 1997, the performance of the site closure and the closure report by Cayuse Environmental, did not meet the minimum requirements of the Washington Administrative Code 173 360 and therefore the subject site was considered as being possibly contaminated.

The other USTs system investigated contained two 500 gallon waste oil tanks located at the southeast and the southwest corners of the shop building. According to the closure report conducted in 1994 by White Shield, Inc., and a copy provided by the DOE in Yakima, *laboratory analysis of soil samples revealed petroleum contamination exceeding the MTCA Method A Cleanup Levels in the soil taken from the bottom of the two separate excavations. The analytical laboratory results indicated contamination below MTCA cleanup levels on the walls of the excavations.*

The subject property is one rectangular parcel of land with improvements. The site is occupied by the ITEK, Inc. trailer manufacturing and maintenance facility, an old truck wash and the new Wondrak commercial fuel station. The site is located at the southwest quadrant of Rudkin Road and east of Viola Avenue, in Yakima, Washington. Residential development is located adjoining to the west and south of the property. Interstate I-82 is immediately to the east of the property, with the Yakima River located about 1000 feet further to the east. The urban center of Yakima is approximately 1/2 mile to the northwest.

During the present site investigation by NCP&S, petroleum hydrocarbon contamination in the diesel and heavy oil range was detected at both USTs locations. The laboratory test results (WA-TPH-HCID followed by TPH-Dx) confirmed and supported our site investigation.

PHASE II ENVIRONMENTAL SITE ASSESSMENT OVERVIEW

Purpose:

The purpose of this Phase II Site Assessment was to investigate, review, assess, and evaluate--through research, document and record review, visual and physical observations.

- Contamination by petroleum products.
- The possibility that these materials are or may have been introduced--by internal generation, external introduction, or unknown sources--into the structure or subject property.
- A brief overview, evaluation, and assessment of the severity of the current potential environmental risk based upon known standards or applicable regulations.

Unless specifically noted within the text of this report, this Site Assessment does not include or address groundwater.

Protocol:

The procedure for this Phase II Environmental Site Assessment was to perform in practical and reasonable steps--employing currently available technology, existing regulations, and generally acceptable engineering practices--an investigation to ascertain the possibility, presence, or absence of environmental releases or threatened releases as limited by the Scope of Work.

Objectives:

- To attempt to accomplish all appropriate inquiry into ownership and uses of the property consistent with good commercial or customary practice, in an effort to minimize liability.
- To conduct an investigation of the property that will assist ownership's positioning within the "safe harbor" section of the Federal Superfund liability in 42 U.S.C. §9601(35).
- To provide environmental information that will assist in evaluating ownership's risk of potential loss or value impairment of the security interest, due to environmental defects. To provide information for decisions and operational limitations concerning the National Pollution Contingency Plan under CERCLA, Lender Liability Final Rule 40 CFR Part 300 XI.

Although this Assessment cannot absolutely quantify and qualify every possible past and present environmental risk, the assessment does provide a partial information basis for reasonable decision making regarding the potential for environmental liabilities and risk, based upon the current site-specific situation, assessment limitations, and methods of evaluation.

GENERAL OVERVIEW

Central Valley Bank, in Yakima, retained NetCompliance Products & Services, Inc. (NCP&S), of Kennewick, Washington, as the environmental consultant to conduct a limited Phase II Site assessment of the subject property at 1602 Rudkin Road , in Yakima, Washington. On January 5, 2000, Mr. Peter Trabusiner, an engineer and employee with NCP&S, conducted the USTs site check and supervised the soil testing. The weather was sunny with temperatures in the forties.
3-Kings Environmental, Inc. from Kennewick, Washington, conducted the soil testing. Five test holes were excavated with a backhoe. The samples were taken direct from the center of the bucket according to the Washington Department of Ecology (WA-DOE) sampling and testing guideline from 1994. The test-holes were located approximately at the same locations where records indicated previously removed underground storage tanks. Soil samples were taken at 8 or 12 foot depth from the test holes.

Analysis of selected soil samples taken during the activities was conducted by OnSite Environmental, Inc. in Redmond, Washington, an EPA and State of Washington accredited laboratory.

SUBJECT PROPERTY SITE DESCRIPTION

Physical Setting Source:

Source of reference is a current United States Geological Survey (USGS) 7.5 Minute Topographic Quadrangle (quad) Map containing the subject property. The USGS 7.5-minute quad map has an approximate scale of 1" to 2,000 feet, shows physical features such as wetlands, water bodies, roadways, mines, and buildings. The USGS 7.5 quad map is considered to be the only Standard Physical Setting Source, and is sufficient as a single reference. A copy of the applicable map is included in the appendix.
The subject property is one rectangular parcel of land with improvements. The site is occupied by the ITEK, Inc. trailer manufacturing and maintenance facility, an old truck wash and the new Wondrak commercial fuel station. The site is located at the southwest quadrant of Rudkin Road and east of Viola Avenue, in Yakima, Washington. Residential development is located adjoining to the west and south of the property. Interstate I-82 is immediately to the east of the property, with the Yakima River located about half a mile further to the east. The urban center of Yakima is approximately 1/2 mile to the northwest, and the City of Union Gap to the southwest.

Visual Description:

The subject property fronts Rudkin Road, adjacent to Interstate 82, and along the south line of East Viola Avenue. The property is improved with two one-story light industrial buildings.
Building "A" is located near the Rudkin Road frontage and measures 98 by 98 feet, for a gross building area of 9,702 square feet. Building "B" is located to the west side of the parcel, measuring 32 by 84 feet, for 2,688 gross square feet. Building "A" is occupied by ITEK, Inc., a truck trailer hitch assembly and repair business. Building "B" is currently vacant and used for storage. The buildings and the subject site appeared well maintained and clean. The observed sparse vegetation to the west of the property appeared not to be under chemical stress.

Surface Characteristics:

The rectangular property is flat with a light slope to the south.
Storm water drains through the surface into the sub-soils and runoff is eventually directed to the south and east of the property. No pools, drains, sumps, pits, ponds, ditches were encountered at the time of our inspection. Approximately 70% of the subject property is covered by permeable surfaces such as compacted gravel and dirt.

Subsurface and Hydrological Characteristics:

Source: Soil Survey of Yakima County Area, Washington (United States Department of Agriculture, Soil Conservation Service, 1985).

The review of US Soil Conservation Corps data indicates that the subject property is underlain by Weirman fine sandy loam on 0 to 2 percent slopes.
This very deep, somewhat excessively drained soil is on low terraces and flood plains. It formed in mixed alluvium. Elevation is 700 to 1,700 feet.
Typically, the surface layer is grayish brown, fine sandy loam about 8 inches thick. The upper part of the underlying material is stratified, grayish brown and light brownish-gray, loamy fine sand about 13 inches thick, and the lower part to a depth of 60 inches or more is grayish-brown, extremely gravelly sand.
Permeability of this soil is rapid.
Available water capacity is low.
Runoff is slow, and the hazard of water erosion is slight. The hazard of soil blowing is high.

The average annual precipitation is 7 to 14 inches, the average annual air temperature is about 51 degrees F, and the average frost-free season is 130 to 180 days.

It should be noted that the characterization previously described is merely a generalization extrapolated from available soil data. In actuality, the subsurface of the subject property has likely been modified by cuts and fills for building foundation, grading and underground utilities.

Ground Water Conditions:

While precise information on groundwater depth on the subject property is unavailable. According to information obtained at the County Water Resource Department, the groundwater level is estimated to be 8 to 16 feet in the area of the subject property. No site specific well information is available.
The groundwater flow gradient follows the topographic to the southeast.
See well log information of the nearest sites in the appendix.

SITE INVESTIGATION

Previous UST Systems Information:

The one underground storage tank system (UST's) investigated was situated on the north side of the former truck wash facility. According to a report obtained from the DOE office in Yakima, two 8000 gallon USTs were removed in 1996 by Russel Crane Service, Inc. According to a letter from DOE dated June 5, 1997, the performance of the site closure and the closure report by Cayuse Environmental, did not meet the minimum requirements of the Washington Administrative Code 173-360 and therefore the subject site was considered as being possibly contaminated.

The other USTs system investigated contained two 500 gallon waste oil tanks located at the southeast and the southwest corners of the shop building. According to the *Conclusions* paragraph from the closure report conducted in 1994 by White Shield, Inc., (a copy was provided by the DOE in Yakima), *laboratory analysis of soil samples taken from the bottom of the two separate excavations revealed petroleum contamination exceeding the MTCA Method A Cleanup Levels in the soil. The analytical laboratory results indicated contamination below MTCA cleanup levels on the walls of the excavations.*

See copies of the reports from White Shield and Cayuse Environmental, in the appendix.

Sampling Methodology:

Mr. Trabusiner, an engineer with NCP&S, conducted soil sampling. Discrete grab samples were collected with fresh, clean, rubber gloves direct from the center of the excavator bucket, at 8' or 12' depth from the base and the sidewalls of each excavation. The samples were placed in four ounce glass containers with Teflon lined lids. The samples were stored in a cool environment until released, with a chain-of-custody, to the laboratory. The sampling tool was disposed of between samples. Analysis of the soil samples taken during the site activities was conducted by OnSite Environmental, Inc. in Redmond, Washington, an EPA and State of Washington accredited laboratory.

Field testing was done by utilizing the "head space" field screening method to detect the volatiles as measured by a Combustible Gas Instrument (CGI). All soil samples were non detect, However, due to the non-volatile nature of the heavy range petroleum hydrocarbons evident at the site, these results are not relied on.

Field Testing Methodology:

Soils are contained inside a sealed glass container and exposed to a heat source. The volatile components in the soil evaporate and are contained within the "head space." The Teflon probe of the CGI is inserted through the seal and the gases are extracted and measured within the CGI.

Analytical results from the Phase II investigation is contained in the following table.

Matrix: Soil

		WTPH-Dx mg/Kg		
SAMPLE ID.	**LOCATION**	**Gasoline**	**Diesel**	**Heavy Oils**
TP1-01	Hole 1/8'	ND	ND	790
TP1-02	Hole 1/12'	ND	ND	68
TP2-03	Hole 2/8'	ND	ND	ND
TP2-04	Hole 2/12'	ND	ND	650
TP3-05	Hole 3/8'	ND	210	560
TP3-06	Hole 3/12'	ND	ND	600
TP4-07	Hole 4/8'	ND	ND	79
TP5-08	Hole 5/8'	ND	ND	ND

All samples were tested for the presence of total hydrocarbons in the soil Method WA-TPH-HCID followed with TPH-Dx.
TPH-HCID or Total Petroleum Hydrocarbon Identification is a general purpose screening method for the presence of high level contamination of most organic compounds. If petroleum contamination is present, HCID is useful to determine the type (i.e. gasoline, diesel, and waste oil) and approximate concentration.

Conclusion:

Organic petroleum hydrocarbon contamination in the diesel and heavy oil range was detected during the soil testing. Laboratory tests confirmed and supported our site investigative conclusions.
The analytical results revealed contamination in excess of the Washington State Model Control Act (MTCA) Cleanup Levels at the former USTs location north of the truck wash and at the southwest corner of the shop building. Both locations could be easily remedied by soil excavation and off-site transport of the contaminated material.
During the course of the visual and physical inspection, no other potential environmental risks or recognized environmental conditions indicating the presence of hazardous conditions were observed.

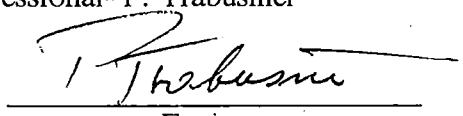
STATEMENT OF THE ENVIRONMENTAL PROFESSIONALS

Statement of Quality Assurance

I have performed this Phase II Site Assessment in accordance with generally accepted environmental practices and procedures, as of the date of this Report. I have employed the degree of care and skill ordinarily exercised under similar circumstances by reputable environmental professionals practicing in this area. The conclusions contained within this Assessment are based upon site conditions I readily observed or which were reasonably ascertainable and present at the time of my Site inspection.

The conclusions and recommendations stated in this report are based upon personal observations made by myself and other employees of NCP&S, Inc. and also upon information provided by others. I have no reason to suspect or believe that the information provided is inaccurate.

Signature of Environmental Professional- P. Trabusiner



Engineer

Statement of Quality Control

The objective of this Phase II Site Assessment was to ascertain the potential presence or absence of environmental releases or threatened releases that could impact the subject property, as delineated by the Scope of Work. The procedure was to perform reasonable steps in accordance with the existing regulations, currently available technology, and generally accepted engineering practices in order to accomplish the stated objective.

The Scope of this Assessment does not purport to encompass every report, record, or other form of documentation relevant to the property being evaluated. To the best of my knowledge, this Environmental Site Assessment has been performed in compliance with NCP&S, Inc. Standard Operating Procedures protocol for Phase II Environmental Site Assessments.

Signature of Environmental Quality Control

Quality Control

Environmental Assessment Report Limitations:

The enclosed Phase II Environmental Site Assessment has been performed for the exclusive use of Central Valley Bank in Yakima, Washington, or agents specified by them for the transaction at issue concerning the subject property located at 1602 Rudkin Road, in Yakima, Washington.

The purpose of an environmental investigation is to evaluate potential or actual effects of past or current practices on a given site. In performing an environmental investigation, a balance must be struck between reasonable inquiry into environmental issues and an exhaustive analysis of every conceivable issue of possible concern. This environmental assessment contains NCP&S opinion regarding environmental issues of concern and/or additional issues that may need to be addressed. In rendering our professional opinion, NCP&S warrants that the services provided within the scope of this assessment were performed, within the limits described, in accordance with generally accepted environmental consulting principles and practices. No other warranty, expressed or implied, is made. The following paragraphs describe the assumptions and standard parameters under which such opinion is rendered.

Any opinions and/or recommendations presented in this report apply to site conditions existing at the time of performance of services. NCP&S is unable to report on or accurately predict events that may affect the site after performance of services, whether occurring naturally or caused by human forces. NCP&S assumes no responsibility for conditions NCP&S did not investigate, or conditions not generally recognized as environmentally unacceptable at the time services were performed.

Where subsurface work was performed, NCP&S professional opinions are based in part on the interpretation of data from discrete sample locations that may not represent actual conditions at the non-sampled locations.

Except where there is expressed concern of our client, or where specific environmental contaminants have previously been reported by others, naturally occurring toxic substances, potential environmental contaminants located inside buildings, or contaminant concentrations not of current environmental concern, may not be addressed in this document.

No assessment is thorough enough to exclude the presence of hazardous materials at a given site. Therefore, if specific hazardous materials have not been identified during this assessment, the lack of such identifications should not be construed as a guarantee of the absence of hazardous materials, but merely as the result of services performed within the scope, limitations, and cost of work done.

NCP&S is not responsible for the effects of changes in applicable environmental standards, practices, or regulations after the performance of services.

Services provided for this assessment were performed in accordance with NCP&S agreement and understanding with our client, which may not be fully disclosed in this report. Opinions and/or recommendations are intended for the client, purpose, site, location, time frame, and project parameters indicated.

This report was prepared solely for the use of Central Valley Bank, and should be reviewed in its entirety; NCP&S is not responsible for subsequent separation, detachment, or partial use of this document. Any reliance on this report by a third party shall be at such party's sole risk.

SITE ASSESSMENT PLUS REPORT

SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	VISTA ID / DISTANCE / DIRECTION	A			B								C			D	
			NPL	CORRACTS	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	WATER WELLS		RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
1	YAKIMA STP 2220 EAST VIOLA YAKIMA, WA 98901	*1850876* *0.00 MI* *NA*														X		
1	'WONDRACK DISTRIBUTING, INC.' 1602 RUDKIN RD YAKIMA, wa 98903	*6887930* *0.00 MI* *NA*							X		X					X		
2	MOBILE FLEET SVC INC MAIN LOCATION VIOLA 2003 E VIOLA YAKIMA, WA 98901	*280083* *0.06 MI* *W*							X							X		X

MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	VISTA ID / DISTANCE / DIRECTION	A			B								C			D	
			NPL	CORRACTS	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	WATER WELLS		RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
3A	USGS WATER WELL ID #463500120282801 , WA	*9671594* *0.15 MI* *NW*										X						
3B	USGS WATER WELL ID #463502120282701 , WA	*9671602* *0.17 MI* *NW*										X						
4	KMART 4439 2304 E NOB HILL BLVD YAKIMA, WA 98901	*1847095* *0.21 MI* *N*														X		

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID / DISTANCE / DIRECTION	A			B								C			D	
			NPL	CORRACTS	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	WATER WELLS		RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
5	MAID O'CLOVER CORPORATION 1802 E NOB HILL YAKIMA, wa 98901	*1847082* *0.34 MI* *NW*							X							•		
5	MAID O CLOVER 1802 E NOB HILL BLVD YAKIMA, WA 98901	*2884152* *0.34 MI* *NW*			X													

X = search criteria; • = tag-along (beyond search criteria).

Leak Report Date:	7/27/95
Remediation Start Date:	4/10/95
Remediation Status:	CLEANUP STARTED
Media Affected:	SOIL
Region / District:	C

STATE UST - State Underground Storage Tank / SRC# 6183	Agency ID:	4274

Agency Address:	WONDRACK DISTRIBUTING, INC. 1602 RUDKIN RD YAKIMA, WA 98901
Underground Tanks:	7
Aboveground Tanks:	NOT REPORTED
Tanks Removed:	4

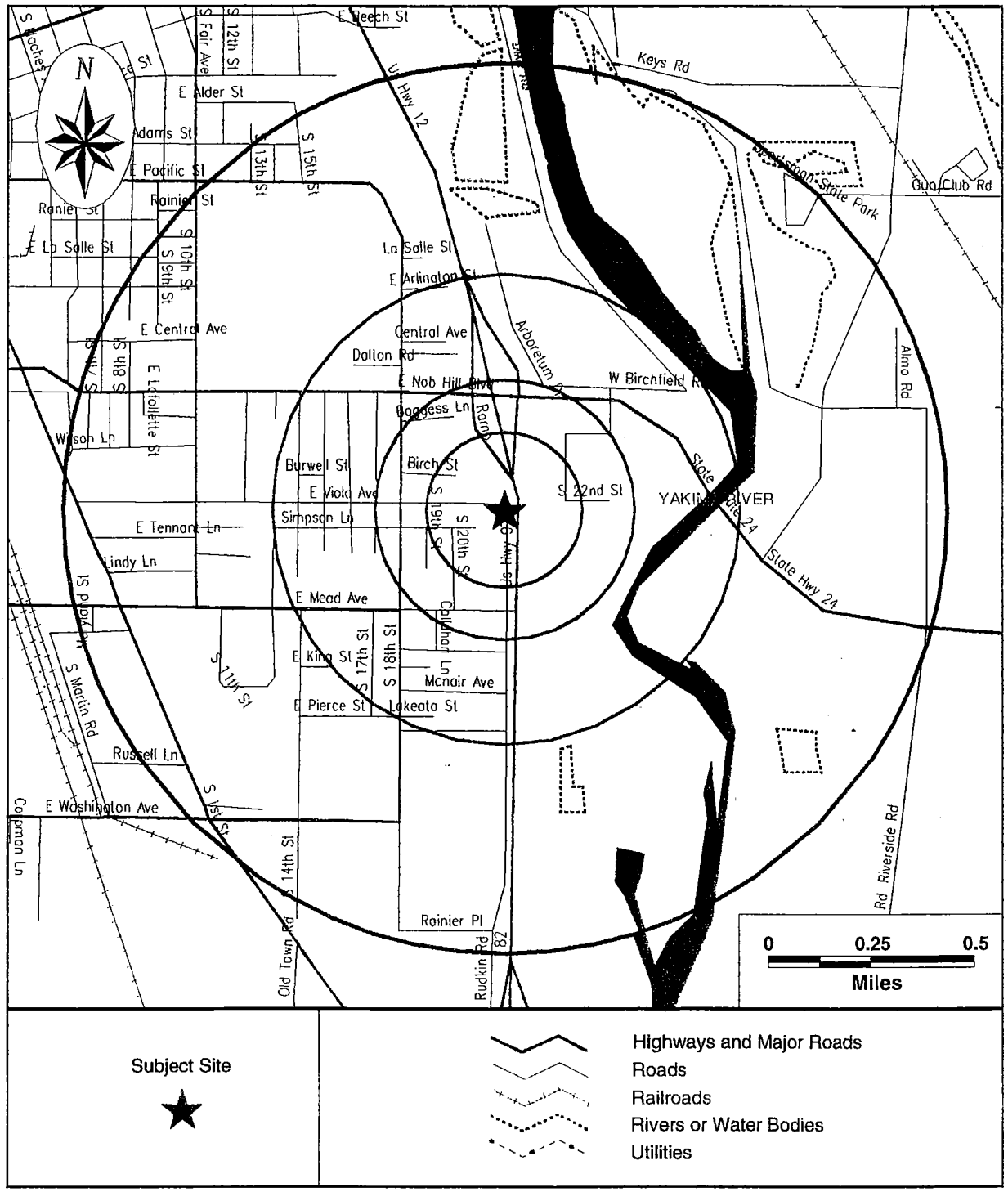
Tank ID:	1U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	NOT AVAILABLE
Tank Age:	4	Tank Piping:	NOT AVAILABLE
Tank Size (Units):	10000 (GALLONS)	Tank Material:	FRP CLAD STEEL
Tank ID:	1U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	UNLEADED GAS	Leak Monitoring:	NOT AVAILABLE
Tank Age:	4	Tank Piping:	NOT AVAILABLE
Tank Size (Units):	10000 (GALLONS)	Tank Material:	FRP CLAD STEEL
Tank ID:	1U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	DIESEL	Leak Monitoring:	NOT AVAILABLE
Tank Age:	4	Tank Piping:	NOT AVAILABLE
Tank Size (Units):	10000 (GALLONS)	Tank Material:	FRP CLAD STEEL
Tank ID:	1U	Tank Status:	REMOVED
Tank Contents:	USED OIL, WASTE OIL	Leak Monitoring:	NOT AVAILABLE
Tank Age:	16	Tank Piping:	NOT AVAILABLE
Tank Size (Units):	1100 (GALLONS)	Tank Material:	COATED STEEL
Tank ID:	1U	Tank Status:	REMOVED
Tank Contents:	USED OIL, WASTE OIL	Leak Monitoring:	NOT AVAILABLE
Tank Age:	16	Tank Piping:	NOT AVAILABLE
Tank Size (Units):	1100 (GALLONS)	Tank Material:	NOT AVAILABLE
Tank ID:	1U	Tank Status:	REMOVED
Tank Contents:	OTHER	Leak Monitoring:	NOT AVAILABLE
Tank Age:	16	Tank Piping:	NOT AVAILABLE
Tank Size (Units):	NOT REPORTED (NOT AVAILABLE)	Tank Material:	COATED STEEL
Tank ID:	1U	Tank Status:	REMOVED
Tank Contents:	OTHER	Leak Monitoring:	NOT AVAILABLE
Tank Age:	16	Tank Piping:	NOT AVAILABLE
Tank Size (Units):	NOT REPORTED (NOT AVAILABLE)	Tank Material:	COATED STEEL

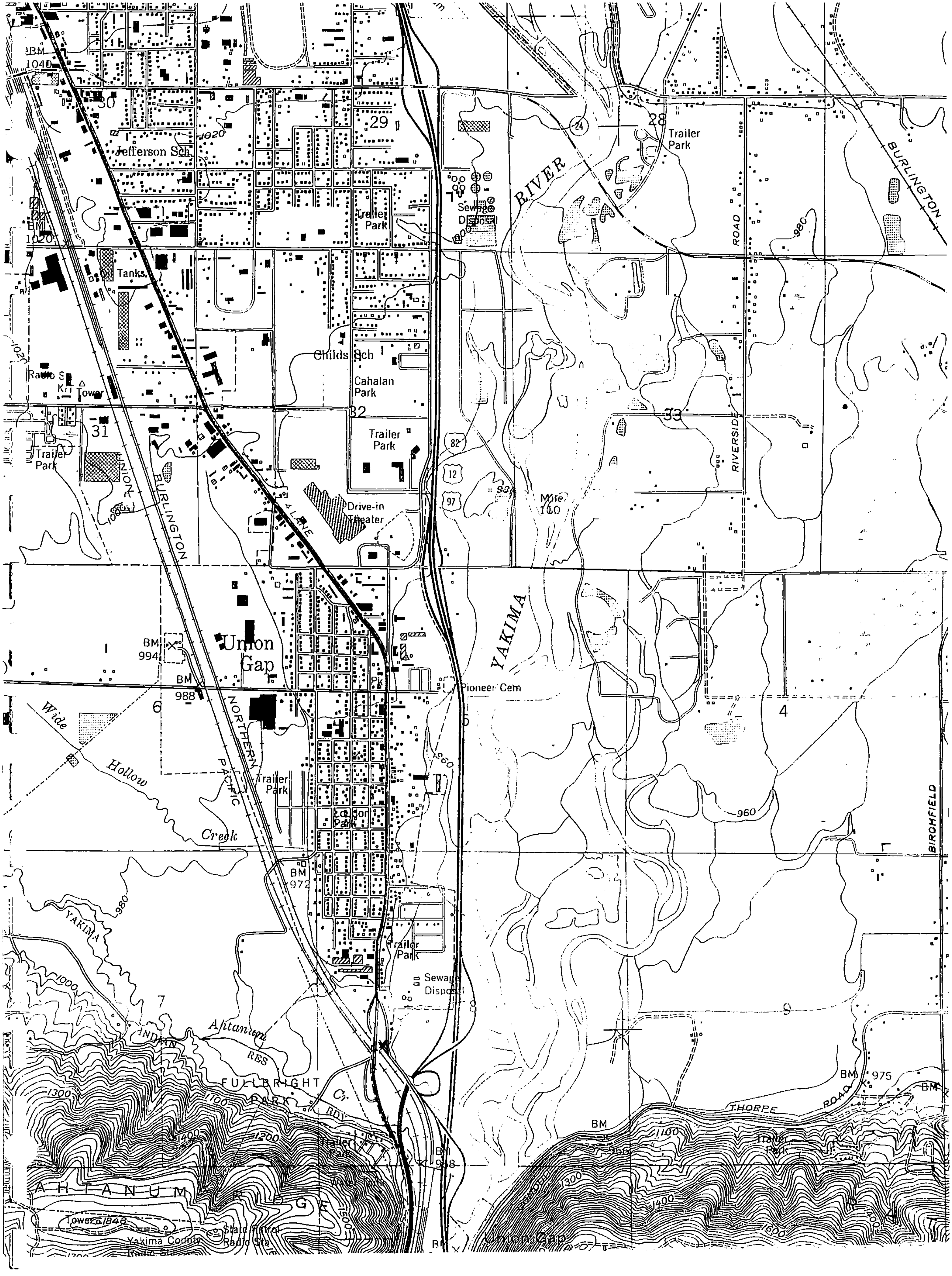
WA Toxics - Washington Toxics / SRC# 6410	EPA/Agency ID:	N/A

Agency Address:	WONDRACK DISTRIBUTING (TWO REPORTS) 1602 RUDKIN ROAD YAKIMA, WA 98901
Region:	CENTRAL
State Detail Description:	NO
Contact:	NOT REPORTED

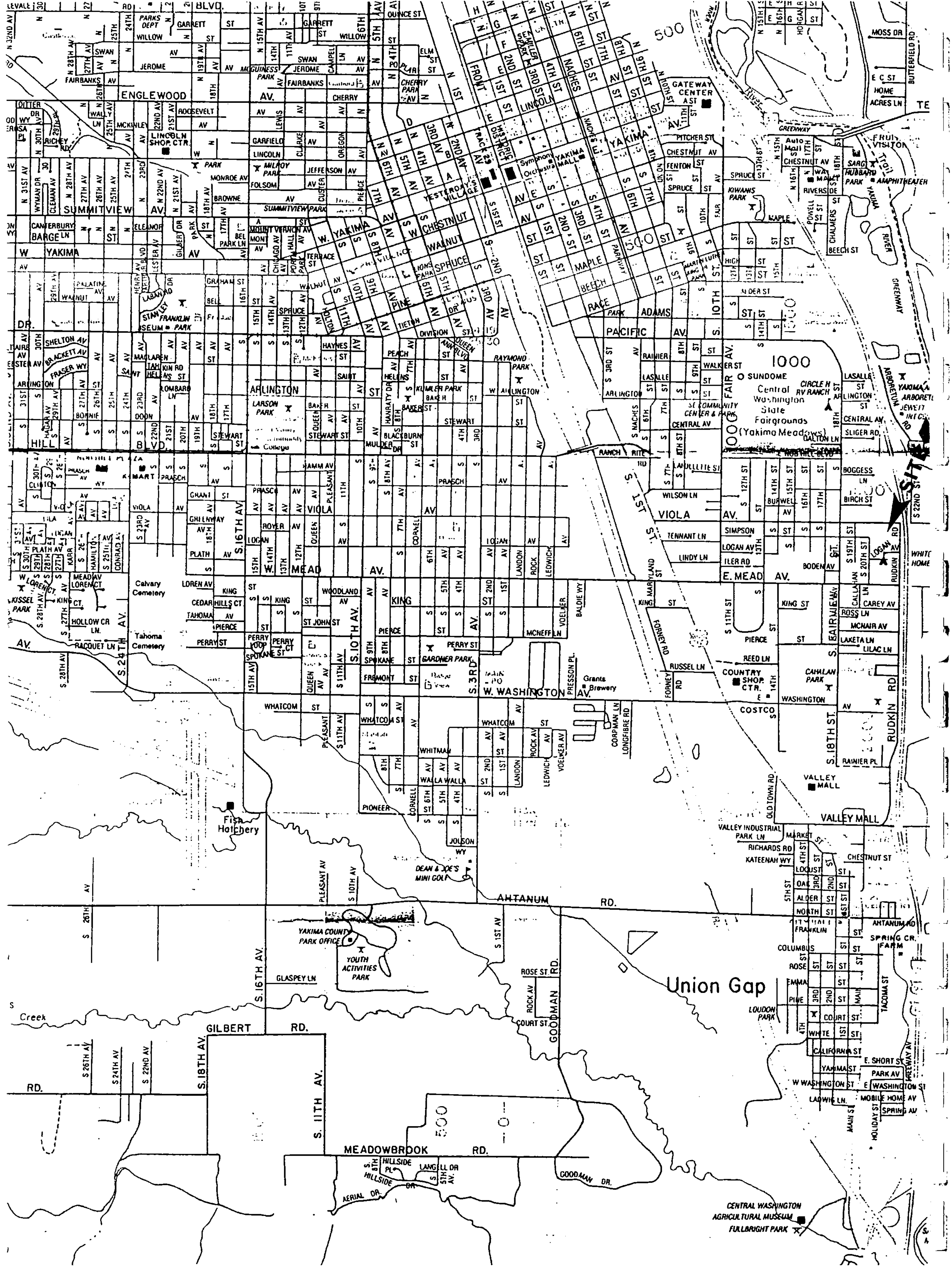
SITE ASSESSMENT PLUS REPORT

Street Map

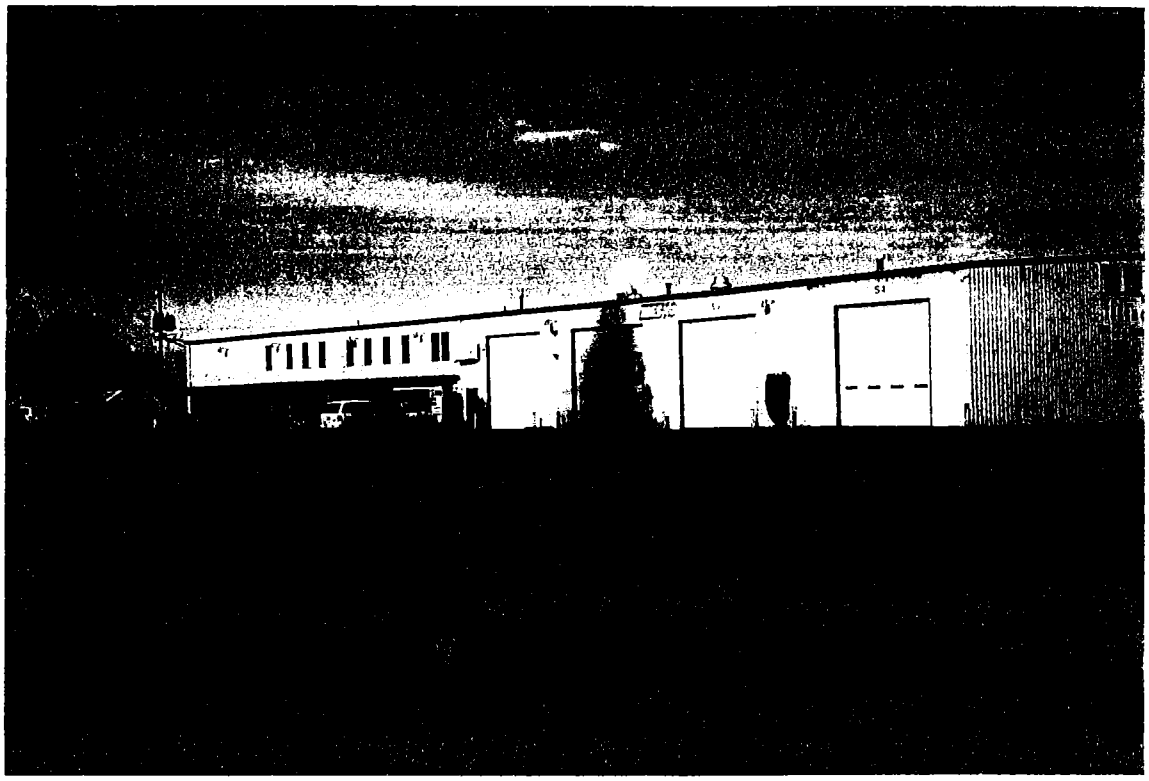




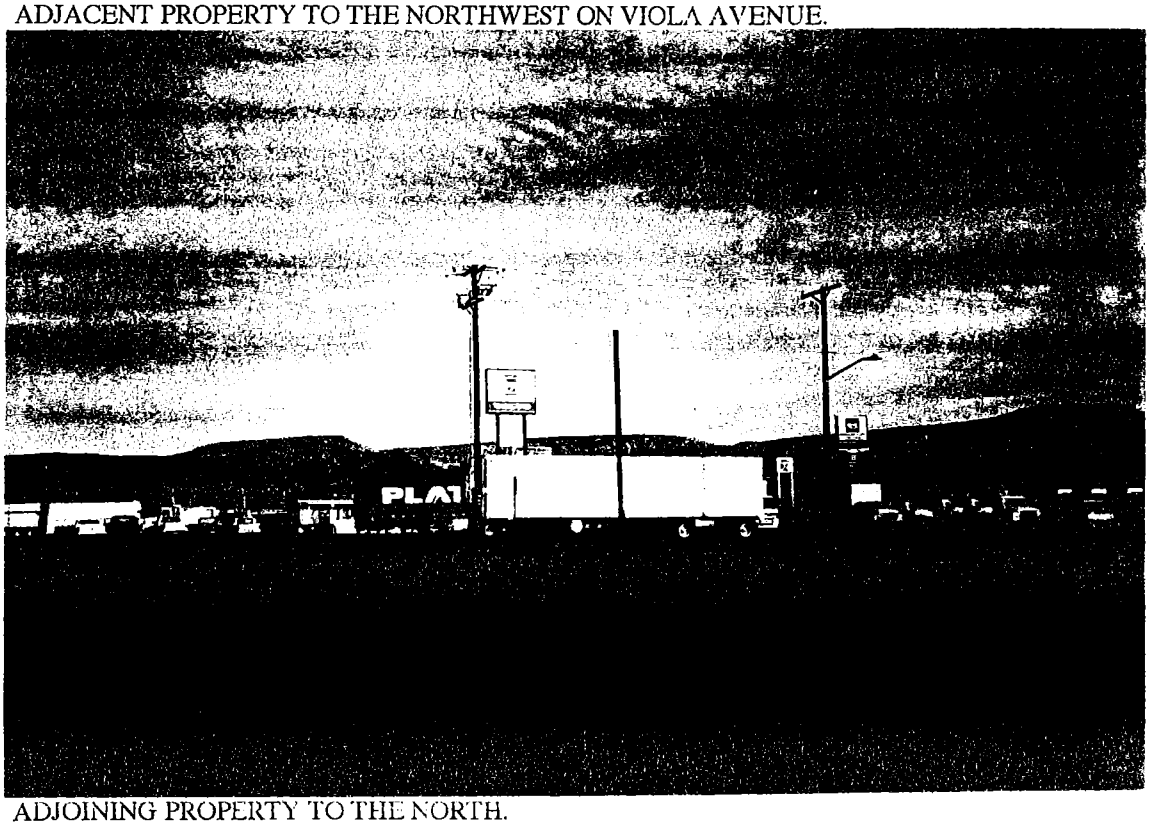
BM 1040
30
29
28
Jefferson Sch
Trailer Park
RIVER
BURLINGTON
Sewage Disposal
ROAD
980
BM 1020
Tanks
Childs Sch
Cahalan Park
Radio Sta
KIT Tower
32
33
31
Trailer Park
RIVERSIDE
82
12
97
Drive-in Theater
Mile 110
UNION
BURLINGTON
4 LANE
YAKIMA
BM 994
Union Gap
BM 988
Pioneer Cem
6
5
4
Wide Hollow Creek
NORTHERN PACIFIC
960
Trailer Park
Union Park
BIRCHFIELD
BM 972
980
YAKIMA
Trailer Park
Sewage Disposal
1000
7
8
9
Ahtanum
INDIAN RES
FULLBRIGHT PARK
Cr.
BDY
BM 975
THORPE ROAD
1300
1100
1400
1200
Trailer Park
BM 958
BM 956
1100
1300
1400
1500
1600
AHTANUM RIDGE
Tower 1848
State Patrol Radio Sta
Yakima County Radio Sta
Union Gap



ENGLEWOOD AV.
SUMMITVIEW AV.
W YAKIMA AV
LINCOLN SHOP. CTR.
GATEWAY CENTER
YAKIMA MALL
Symphony Orchestra
YESTERDAY'S VILLAGE
HISTORIC DISTRICT
TRACK 29
PACIFIC AV.
ADAMS
ARLINGTON
LARSON PARK
RAYMOND PARK
KIWANIS PARK
FRANKLIN PARK
SUNDOME
Central Washington State Fairgrounds (Yakima Meadows)
CIRCLE H RV RANCH
YAKIMA ARBORETUM
GREENWAY
VIOLA AV.
E. MEAD AV.
MEAD AV.
KING
K-MART
Calvary Cemetery
Tahoma Cemetery
W. WASHINGTON AV.
GARDNER PARK
COUNTRY SHOP. CTR.
COSTCO
CAHALAN PARK
Grants Brewery
MAIN PO
VALLEY MALL
Fish Hatchery
DEAN & JOE'S MINI GOLF
AHTANUM RD.
YAKIMA COUNTY PARK OFFICE
YOUTH ACTIVITIES PARK
Union Gap
LOUDON PARK
GILBERT RD.
S.16TH AV.
S.18TH AV.
S. 11TH AV.
GOODMAN RD.
MEADOWBROOK RD.
RUDKIN RD
S. 18TH ST.
CENTRAL WASHINGTON AGRICULTURAL MUSEUM
FULLBRIGHT PARK
Creek
500
1000



ADJACENT PROPERTY TO THE NORTHWEST ON VIOLA AVENUE.

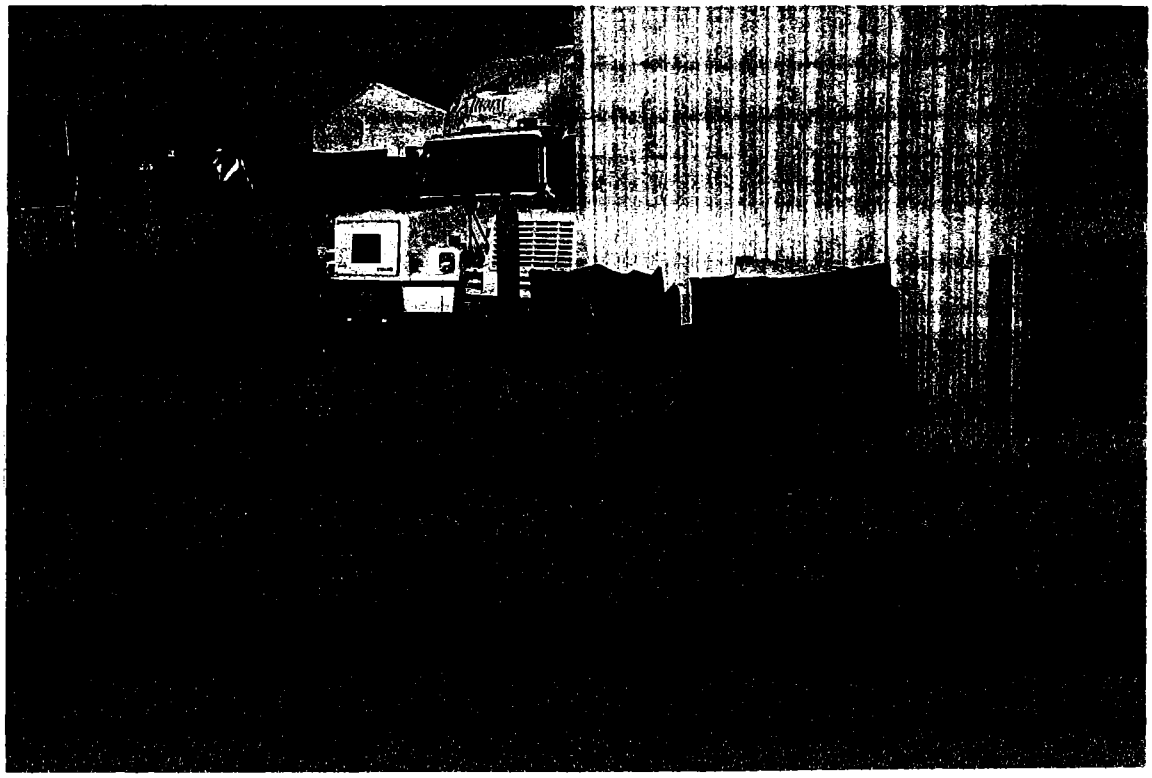


ADJOINING PROPERTY TO THE NORTH.

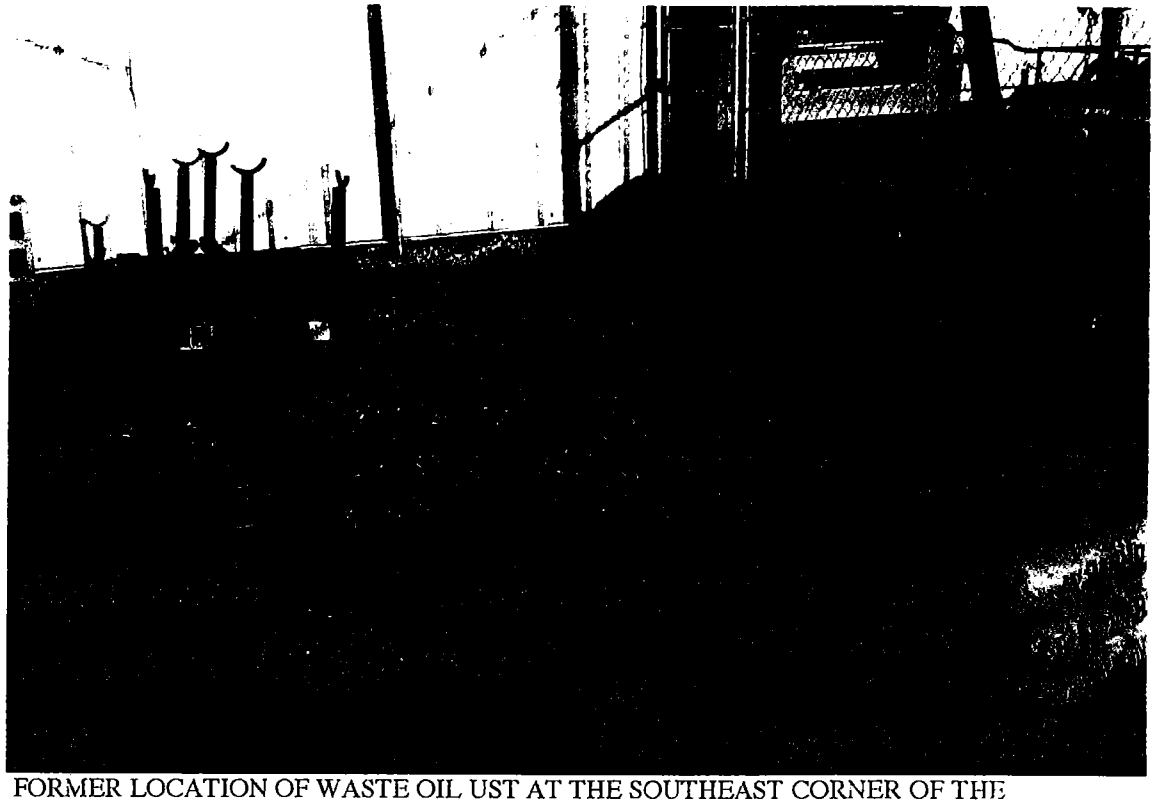
FORMER LOCATION OF THE TWO 8000 GALLON USTs.

TEST HOLE, TYPICAL.

EXCAVATION WORK FOR SOIL TESTING AT THE TRUCK WASH.

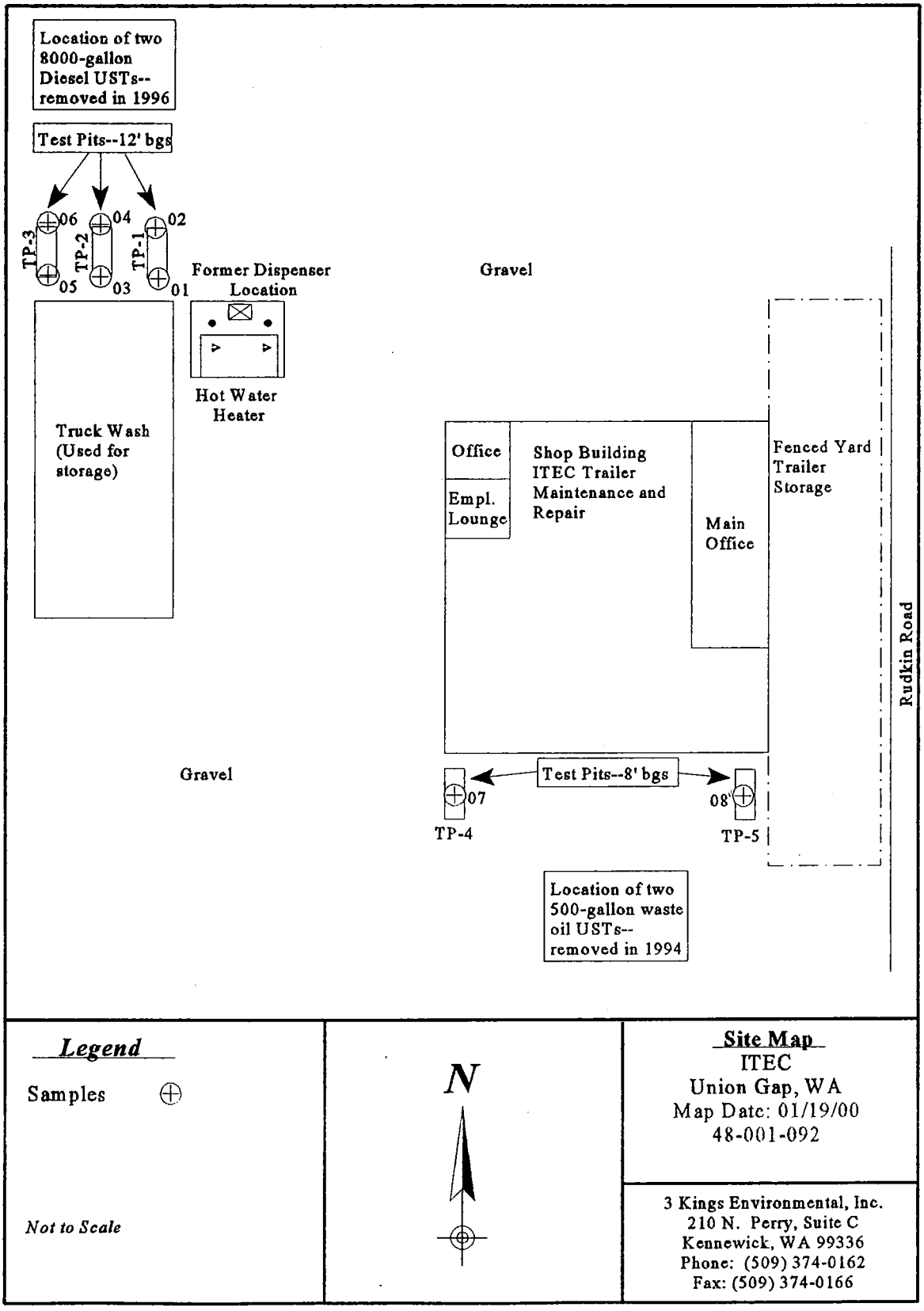


FORMER LOCATION OF WASTE OIL UST AT THE SOUTHWEST CORNER OF THE SHOP BUILDING.



FORMER LOCATION OF WASTE OIL UST AT THE SOUTHEAST CORNER OF THE SHOP BUILDING.

ALL TEST HOLES WERE BACK FILLED WITH THE EXCAVATED MATERIAL.


Location of two 8000-gallon Diesel USTs--removed in 1996
Test Pits--12' bgs
TP-3
TP-2
TP-1
06
04
02
05
03
01
Former Dispenser Location
Hot Water Heater
Gravel
Truck Wash (Used for storage)
Office
Empl. Lounge
Shop Building ITEC Trailer Maintenance and Repair
Main Office
Fenced Yard Trailer Storage
Rudkin Road
Gravel
Test Pits--8' bgs
07
08
TP-4
TP-5
Location of two 500-gallon waste oil USTs--removed in 1994
Legend
Samples
Not to Scale
N
Site Map
ITEC
Union Gap, WA
Map Date: 01/19/00
48-001-092
3 Kings Environmental, Inc.
210 N. Perry, Suite C
Kennewick, WA 99336
Phone: (509) 374-0162
Fax: (509) 374-0166

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

January 18, 2000

Peter Trabusiner
Net Compliance
210 N. Perry, Suite B
Kennewick, WA 99336

Re: Analytical Data for Project ITEC, Inc.
Laboratory Reference No. 0001-047

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on January 11, 2000.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-HCID

Date Extracted: 1-11-00
Date Analyzed: 1-11-00

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	TP1-01	TP1-02	TP2-03
Lab ID:	01-047-01	01-047-02	01-047-03
Gasoline:	ND	ND	ND
PQL:	27	26	27
Diesel Fuel:	ND	Diesel Fuel #2	ND
PQL:	55	52	53
Heavy Oil:	Heavy Oil	ND	ND
PQL:	110	100	110
Surrogate Recovery:			
o-Terphenyl	123%	130%	132%

Flags:

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-HCID

Date Extracted: 1-11-00
Date Analyzed: 1-11&12-00

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	TP2-04	TP3-05	TP3-06
Lab ID:	01-047-04	01-047-05	01-047-06
Gasoline:	ND	ND	ND
PQL:	27	27	27
Diesel Fuel:	ND	ND	ND
PQL:	55	54	53
Heavy Oil:	Heavy Oil	Heavy Oil	Heavy Oil
PQL:	110	110	110
Surrogate Recovery:			
o-Terphenyl	134%	130%	114%

Flags:

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-HCID

Date Extracted:	1-11-00
Date Analyzed:	1-11&12-00
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	TP4-07	TP5-08
Lab ID:	01-047-07	01-047-08
Gasoline:	ND	ND
PQL:	28	26
Diesel Fuel:	ND	Diesel Fuel #2
PQL:	56	53
Heavy Oil:	Heavy Oil	ND
PQL:	110	110
Surrogate Recovery:		
o-Terphenyl	136%	138%
Flags:		

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-HCID
METHOD BLANK QUALITY CONTROL

Date Extracted:	1-11-00
Date Analyzed:	1-11-00
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0111S1
Gasoline:	ND
PQL:	25
Diesel Fuel:	ND
PQL:	50
Heavy Oil:	ND
PQL:	100
Surrogate Recovery:	
o-Terphenyl	114%

Flags

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-Dx

Date Extracted:	1-13-00
Date Analyzed:	1-13-00
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	TP1-01	TP1-02	TP2-04
Lab ID:	01-047-01	01-047-02	01-047-04
Diesel Fuel:	ND	ND	ND
PQL:	28	26	28
Heavy Oil:	790	68	650
PQL:	55	52	55
Surrogate Recovery:			
o-Terphenyl	97%	89%	76%

Flags:

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-Dx

Date Extracted:	1-13-00
Date Analyzed:	1-13-00
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	TP3-05	TP3-06	TP4-07
Lab ID:	01-047-05	01-047-06	01-047-07
Diesel Fuel:	ND	ND	ND
PQL:	27	27	28
Heavy Oil:	560	600	79
PQL:	54	53	56
Surrogate Recovery:			
o-Terphenyl	98%	119%	84%

Flags:

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-Dx

Date Extracted:	1-13-00
Date Analyzed:	1-13-00
Matrix:	Soil
Units:	mg/Kg (ppm)
Client ID:	TP5-08
Lab ID:	01-047-08
Diesel Fuel:	210
PQL:	26
Heavy Oil:	ND
PQL:	53
Surrogate Recovery:	
o-Terphenyl	127%

Flags:

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	1-13-00
Date Analyzed:	1-13-00
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0113S1
Diesel Fuel:	ND
PQL:	25
Heavy Oil:	ND
PQL:	50
Surrogate Recovery:	
o-Terphenyl	117%

Flags:

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	1-13-00
Date Analyzed:	1-13-00
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	01-047-07	01-047-07 DUP
Diesel Fuel:	ND	ND
PQL:	25	25
RPD:	N/A	
Surrogate Recovery:		
o-Terphenyl	84%	86%

Flags:

Date of Report: January 18, 2000
Samples Submitted: January 11, 2000
Lab Traveler: 01-047
Project: ITEC, Inc.

Date Analyzed: 1-11-00

% MOISTURE

Client ID	Lab ID	% Moisture
TP1-01	01-047-01	9.0
TP1-02	01-047-02	4.0
TP2-03	01-047-03	6.0
TP2-04	01-047-04	9.0
TP3-05	01-047-05	7.0
TP3-06	01-047-06	6.0
TP4-07	01-047-07	10
TP5-08	01-047-08	5.0

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

D - Data from 1:____ dilution.

E - The value reported exceeds the quantitation range, and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

G - Insufficient sample quantity for duplicate analysis.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeniety. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

O - Hydrocarbons outside the defined gasoline range are present in the sample; NWTPH-Dx recommended.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

Z -

ND - Not Detected
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: NCPS
Project No.: N/A
Project Name: ITEC, Inc.
Project Manager: P. Trabusiner

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☒ 48 Hours
- ☐ Standard
- ☐ 1/13 (other)

Project Chemist: DB

Laboratory No. 01-047

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	TP1-01	1/5/00	9:30	Soil	1	X		⊗											X
2	TP1-02	1/5/00	9:38	Soil	1	X		⊗											X
3	TP2-03	1/5/00	10:22	Soil	1	X													X
4	TP2-04	1/5/00	10:30	Soil	1	X		⊗											X
5	TP3-05	1/5/00	11:10	Soil	1	X		⊗											X
6	TP3-06	1/5/00	11:18	Soil	1	X		⊗											X
7	TP4-07	1/5/00	13:05	Soil	1	X		⊗											X
8	TP5-08	1/5/00	14:10	Soil	1	X		⊗											X

RELINQUISHED BY: P. Trabusiner	DATE: 1/10/00	RECEIVED BY:	DATE: 1/11/00
FIRM: NCPS	TIME: 14:45	FIRM: OES	TIME: 11:00 AM
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
Invoice to:
Crown Development
P.O. Box 280
Battleground, WA 98604

No. Bill NCPS. Changed 1/13/00. DB

Added 1/13/00 DB. 48 hour T.A.T.

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

ginal and First Copy with
nent of Ecology
nd Copy — Owner's Copy
d Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No. _____

Permit No. _____

OWNER: Name Tommy A. McCabe Address 215 S. 30th Ave., Yakima, WA 98902

LOCATION OF WELL: County YAKIMA NE ¼ SE ¼ Sec 29 T 13 N., R 19E W.M.

and distance from section or subdivision corner Lot 21, Gibler Garden Tracts

PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

TYPE OF WORK: Owner's number of well (if more than one) ....
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

DIMENSIONS: Diameter of well 6 inches.
Drilled 58 ft. Depth of completed well 53 ft.

CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from +1 ft. to 54 ft.
Threaded ☐ _____ " Diam. from _____ ft. to _____ ft.
Welded ☒ _____ " Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☒
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal bentonite
Did any strata contain unusable water? Yes ☒ No ☐
Type of water? surface Depth of strata 13
Method of sealing strata off casing

PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level .... ft.
Static level 11 ft. below top of well Date 2/11/86
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom? _____
Yield: 50+ gal./min. with _____ ft. drawdown after _____ hrs.
ESTIMATED AIRLIFT " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Water Level	Time	Water Level	Time	Water Level

_____ gpm. with _____ ft. drawdown after _____ hrs.
_____ g.p.m. Date _____
_____ Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Grass & clay	0	2
Sand, Gravel, Boulders	2	13
Sand, Gravel, Cobble w/water	13	58
NO PVC Liner Installed		
6" Drive shoe installed		

RECEIVED
MAR 2 1 1986
DEPARTMENT OF ECOLOGY
CENTRAL REGIONAL

Work started 2/10 19 86 Completed 2/11 19 86

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME PONDEROSA DRILLING & DEVELOPMENT INC.
(Person, firm, or corporation) (Type or print)

Address E. 6010 Broadway, Spokane, WA 99212

[Signed] _____ (Well Driller)

W. Joseph Close Jr.

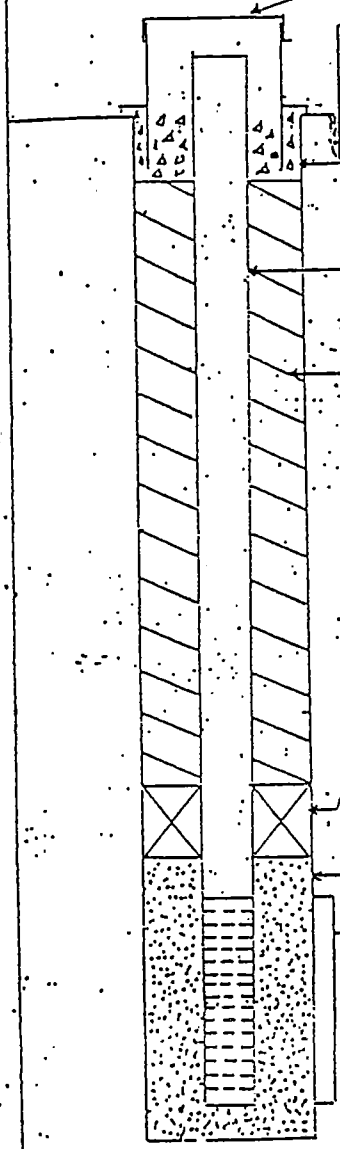
License No. 1040 Date 2/11 19 86

(ADDITIONAL SHEETS IF NECESSARY)

START CARD NO. 261263

PROJECT NAME: Spray field Yakima Wash. COUNTY: Yakima
WELL IDENTIFICATION NO. MW-4
LOCATION: NE ¼ SE ¼ Sec 29 Twn 13N R 19E
DRILLING METHOD: Percussion Hammer - Reverse Air
STREET ADDRESS OF WELL: 2220 E. Viola
DRILLER: Richard Simcic Yakima, Wa
FIRM: Layne Environmental Services, Inc.
WATER LEVEL ELEVATION: 12.0
SIGNATURE:
GROUND SURFACE ELEVATION:
CONSULTING FIRM:
INSTALLED: 8-13-92
REPRESENTATIVE: Jim O'Connor
DEVELOPED: 8-14-92

AS-BUILT



TOTAL DEPTH 23 FT.

WELL DATA

STEEL SURFACE MONUMENT W/LOCK 3' FT. ABOVE G.L.
PROTECTIVE POSTS ~~0~~
CONCRETE SURFACE SEAL ~~0~~ TO 2' FT.
WELL CSG +2' TO 13' FT.
2" SCH 40 TFJ PVC
ANNULAR SEALANT 2' TO 9'6" FT.
Bentonite chips
SEAL — TO — FT.
FILTER PACK 9'6" TO 23' FT.
10-20 Colorado Silica
SCREEN INTERVAL 13' TO 23' FT.
2" SCH 40 TFJ PVC
.020 FACTORY SLOTTED
HOLE DIAMETER
~~0~~ TO 23' 9. IN.

FORMATION DESCRIPTION

0-23' Sand, Gravels Cobbles

RECEIVED
SEP 1992

Layne Environmental Services, Inc.

Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No. ____
Permit No. ____

(1) OWNER: Name Mrs. Ruby Brooks Address 1705 Dalton Lane

(2) LOCATION OF WELL: County Yakima NW ¼ SE ¼ Sec 29 T 13 N., R 19 W.M.

ng and distance from section or subdivision corner Behind fairgrounds

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one).... 1
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 60 ft. Depth of completed well 60 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from +2 ft. to 60 ft.
Threaded ☐ ____ " Diam. from ____ ft. to ____ ft.
Welded ☒ ____ " Diam. from ____ ft. to ____ ft.

Perforations: Yes ☐ No ☒
Type of perforator used ____
SIZE of perforations ____ in. by ____ in.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name ____
Type ____ Model No ____
Diam. ____ Slot size ____ from ____ ft. to ____ ft.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel: ____
Gravel placed from ____ ft. to ____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 20+ ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? ____ Depth of strata ____
Method of sealing strata off ____

(7) PUMP: Manufacturer's Name ____
Type: ____ H.P. ____

(8) WATER LEVELS: Land-surface elevation above mean sea level.... ____ ft.
Static level 14' ft. below top of well Date ____
Artesian pressure ____ lbs. per square inch Date ____
Artesian water is controlled by ____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☐ If yes, by whom? ____
Yield: 50 gal./min. with ____ ft. drawdown after ____ hrs.
by "Air lift " " "
" " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test ____
Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.
Artesian flow ____ g.p.m. Date ____
Temperature of water ____ Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Gravel and boulders	0	20
Gravel and boulders	20	60
Static Water level 14 ft.		
Approx 50 gpm at 60 ft.		

RECEIVED

Work started 6/18/85 19 Completed 6/19/85 19

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME RIEBE WELL DRILLING (Person, firm, or corporation) (Type or print)

Address 1503 E. Nob Hill Blvd.

[Signed] John H Riebe (Well Driller)

License No. 0422 Date 6/25/85 19

(USE ADDITIONAL SHEETS IF NECESSARY)

UST File

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

15 West Yakima, Suite 200 • Yakima, Washington 98902-3401 • (509) 575-2490

June 5, 1997

CERTIFIED MAIL
P 581 915 693

Mr. Don Werst
Yakima Transport Service
1602 Rudkin Road
Yakima WA 98901

Wondreck Distributing

Dear Mr. Werst:

During an investigation into Cayuse Environmental's actions on a site in Yakima it was found that Cayuse Environmental and its employees did not have the necessary certifications to perform work on Underground Storage Tanks as required by Washington Administrative Code 173-360, Underground Storage Tank Regulations.

A review of Washington Department of Ecology's files found that Cayuse Environmental performed work at your site that did not meet the minimum standards of the regulations. Permitting a unlicensed individual to work on Underground Storage Tanks could result in fines to the owner of the Underground Storage Tanks. Ecology is not considering issuing fines to the site owners at this time.

Cayuse Environmental, your service provider, did not have the required certifications. I have performed a brief review of your site and found the reports submitted by Cayuse Environmental do not meet the minimum requirements of the Washington Administrative Code 173 360, Underground Storage Tank Regulations. Ecology will consider your site as being possibly contaminated. Ecology is not requiring you to do additional work or testing at your site. If you do additional work, Ecology will note the corrective actions you did and, if appropriate, consider your site as a clean closure.

Ecology can provided limited free Technical Assistance to your site. A detailed review of your site greater than 30 minutes will require other arrangements.

Ecology does not believe your site is an immediate threat to human health or the environment; the completeness of the decommissioning of the Underground Storage Tanks and the site cleanup are in question based on the information in Ecology files.

EXECUTIVE SUMMARY

Cayuse Environmental (CE) provided the closure site assessment required for the removal of two (2) 8,000 gallon diesel underground storage tanks. Tri-Valley Construction of Yakima, WA. provided excavating and backfill for this project.

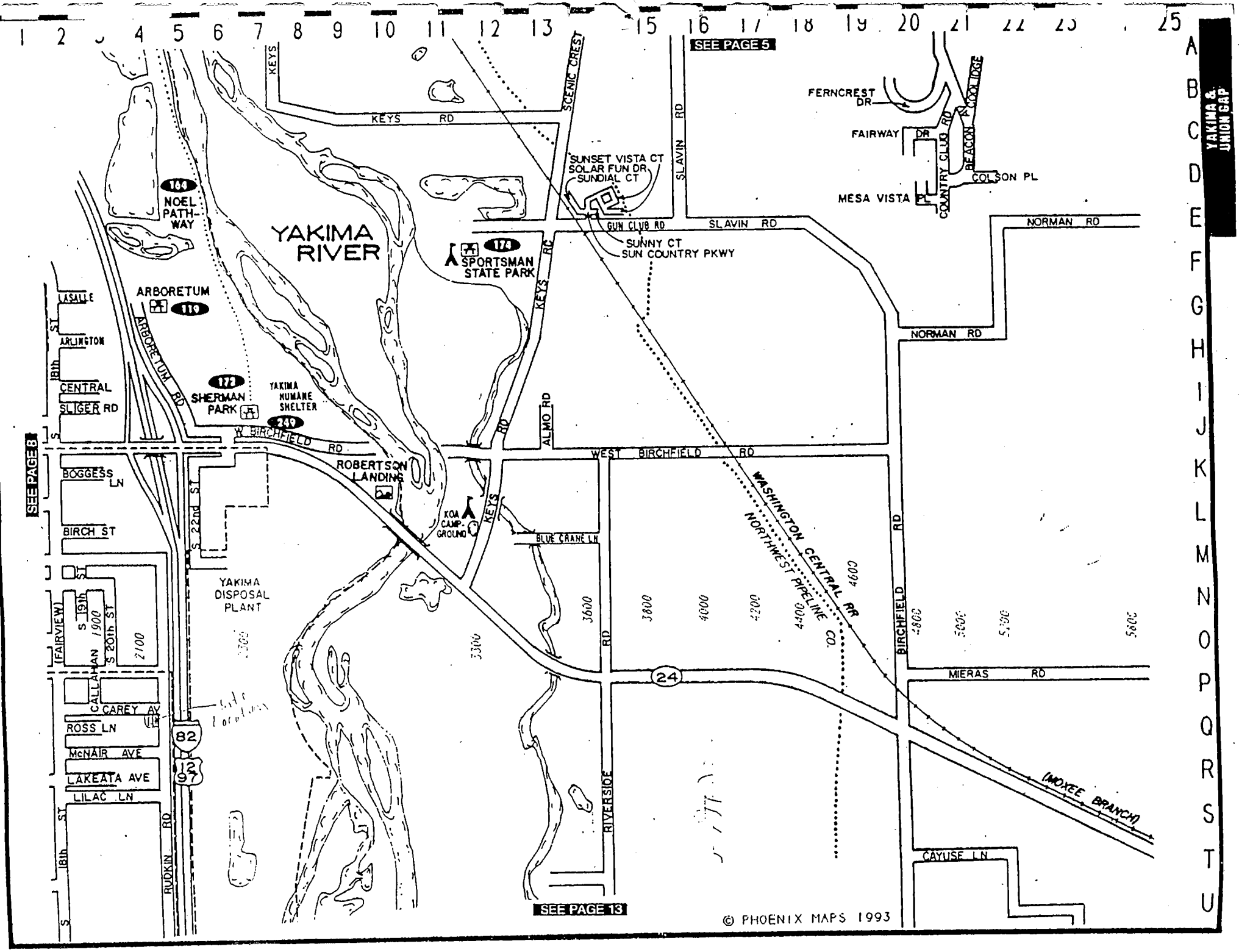
After cement slab was removed from the tank it became evident their had been a petroleum release from over filling of the tanks. Approximately 98 tons of petroleum contaminated soil was transported for disposal at Anderson's Rock and Petroleum Pit of Yakima, WA.

All work associated with the cleaning, excavation disposal and soil sampling follow procedure setforth by the Washington State Department of Ecology.

Soil samples were collected and sent to Spetra Labs of Tacoma, WA.

After contaminated soil was excavated final analysis confirmed that no further contaminated soil existed at this site. Because no ground water was encounter, we feel no need for further work at this site.

CONTENT


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
A B C D E F G H I J K L M N O P Q R S T U
YAKIMA & UNION GAP
SEE PAGE 5
SEE PAGE 8
SEE PAGE 13
YAKIMA RIVER
NOEL PATHWAY
ARBORETUM
SPORTSMAN STATE PARK
SHERMAN PARK
YAKIMA HUMANE SHELTER
ROBERTSON LANDING
KOA CAMPGROUND
YAKIMA DISPOSAL PLANT
KEYS RD
SCENIC CREST
SUNSET VISTA CT
SOLAR FUN DR
SUNDIAL CT
SUNNY CT
SUN COUNTRY PKWY
GUN CLUB RD
SLAVIN RD
FERNCREST DR
FAIRWAY DR
COUNTRY CLUB RD
BEACON A COOLIDGE
COLSON PL
MESA VISTA PL
NORMAN RD
ALMO RD
WEST BIRCHFIELD RD
BLUE CRANE LN
WASHINGTON CENTRAL RR
NORTHWEST PIPELINE CO.
BIRCHFIELD RD
MIERAS RD
CAYUSE LN
(MOXEE BRANCH)
RIVERSIDE RD
ARBORETUM RD
KEYS RD
LASALLE ST
ARLINGTON
18th ST
CENTRAL
SLIGER RD
BOGGESS LN
BIRCH ST
S 22nd ST
S 19th
S 20th ST
(FAIRVIEW)
CALLAHAN
CAREY AV
ROSS LN
McNAIR AVE
LAKEATA AVE
LILAC LN
RUDKIN RD
82
12
97
24
1900
2100
3600
3800
4000
4200
4400
4600
5300
5600
© PHOENIX MAPS 1993

4.0 INVESTIGATION RESULTS

4.1 Soil Sampling Results

Soil samples were collected from the sides and botton of both tanks. Soil which contained diesel contamination was stockpiled for later. Disposal field screening was used to determined when enough soil had been excavated and stockpiled best for soil samples were collected and sent to Spetra Labs of Tacoma, WA. For analysis of soil sample map and analysis of soil sample are located in the back of this report.

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion and Recommendations

Soil samples confirmed that no further contaminated soil present at this site. All contaminated has been disposed of. No ground water was encountered, therefore it is recommended no further work is needed at this site.

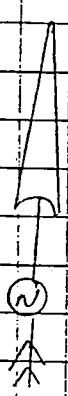
6.0 LIMITATIONS

In performing our professional services, CE uses a degree of care ordinarily exercised under similar circumstances by members of our profession. No warranty, expressed or implied, is made or intended. Our conclusions and recommendations developed from our field and laboratory investigation reported herein are based upon this firm's understanding of the project and are in concurrence with generally accepted practice.

9511 Don West Yakima WA 4-85

mple	Location	Depth	Odor	matrix	TLC	Headspace
-01	Stockpile	1'	yes	Soil		
-11-02	Stockpile	1'	yes	Soil		
9511-03	South Wall	10'	no	Soil		
-11-04	West Wall	10'	no	soil		
-11-05	Bottom	14'	no	Soil		
9511-06	East wall	10'	no	Soil		
-11-07	North wall	10'	no	Soil		
9511-08	Bottom	14'	no	Soil		

9511 Don Werst Yakima WA. 4-96

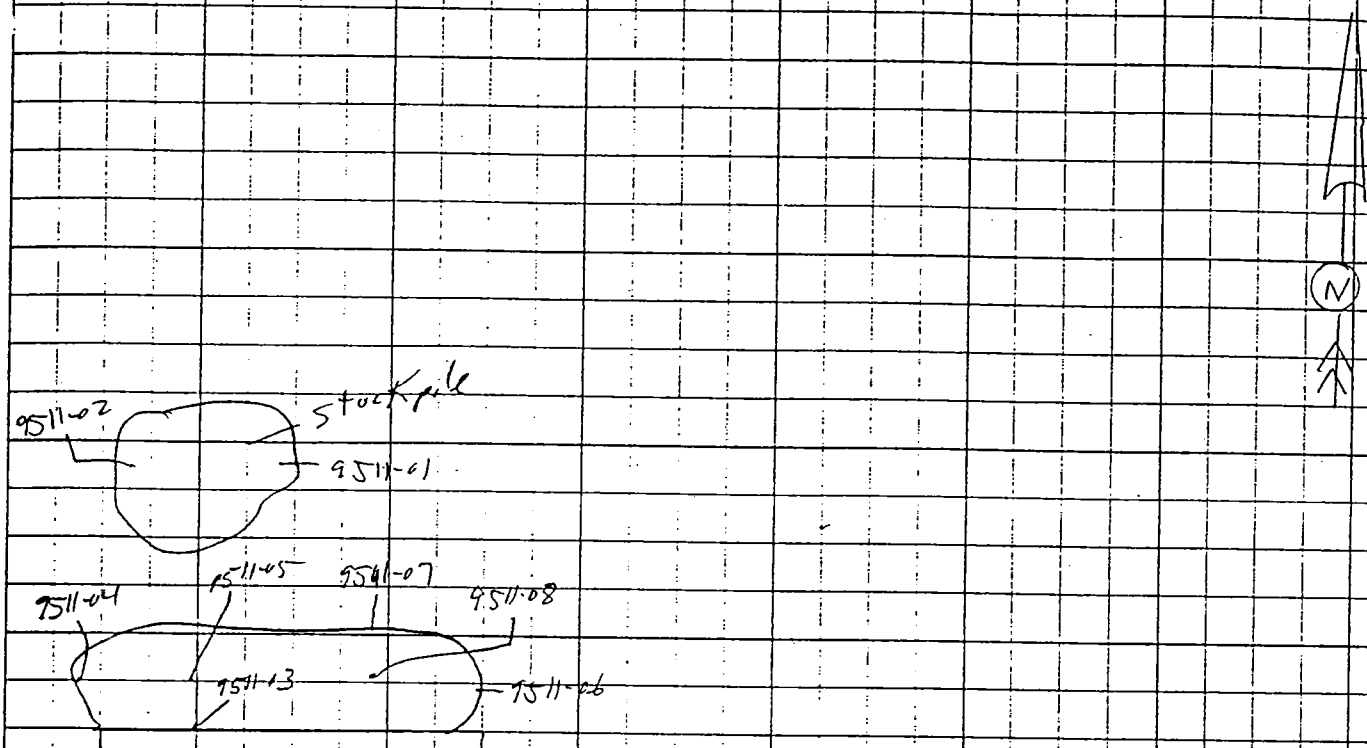


Tank locations

Truck Wash

Shop

9511 Don Werst Yakima 4-95



SPECTRA Laboratories, Inc.

2221 Ross Way • Tacoma, WA 98421 • (206) 272-4850

April 11, 1995

Cayuse Environmental
60 Olden Way
Toppenish, WA 98948

Attn: Bryan Mull

PO #9511
Project: Werth
Sample Matrix: Soil
Date Sampled: 4-5-95
Date Received: 4-7-95
Date Analyzed: 4-7-95
Spectra Project: S504-045

Spectra #	Sample ID:	WTPH-D, mg/Kg	Surrogate Recovery p-Terphenyl
2076	9511-01	3,800	111%
2077	9511-02	1,260	28%*
2078	9511-03	<25	28%*
2079	9511-04	<25	57%
2080	9511-05	<25	31%*
2081	9511-06	<25	39%*
2082	9511-07	<25	85%
2083	9511-08	<25	35%*
2084	9511-09	14,900	80%
Method Blank		<25	95%

*Out of limits due to sample matrix effects.

SPECTRA LABORATORIES, INC.

Steven G. Hibbs, Chemist

C U000 1934
~~102302~~ K.R

UNDERGROUND STORAGE TANK
Site Check/Site Assessment Checklist

8 4 1995

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: Don Werst

Owners Address: 1602 Rudkin Rd (Street)

Union Gap (City) WA. (State) (P.O. Box) (ZIP-Code)

Telephone: (509) 575-1830

Site ID Number (on invoice or available from Ecology if tank is registered): ~~102302~~

Site/Business Name: Don Werst

Site Address: 1602 Rudkin Rd. (Street) Yakima (County)

Union Gap (City) WA. (State) (ZIP-Code)

2. SITE CHECK/SITE ASSESSMENT CONDUCTED BY:

Registered Person: Bryan Mull

Address: 60 Olden Way (Street)

Toppenish (City) WA. (State) 98948 (P.O. Box) (ZIP-Code)

Telephone: (509) 865-5096

U 40001934
102302 KB

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: Don Werst

Owners Address: 1602 (Street) Rudkin Rd. (P.O. Box)

Union Gap (City) WA. (State) (ZIP-Code)

Telephone: (509) 575-1830

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

Site/Business Name: Don Werst

Site Address: 1602 (Street) Rudkin Rd. Yakima (County)

Union Gap (City) WA (State) (ZIP-Code)

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

Firm: Cayuse Environmental License Number: S002224

Address: 60 Olden Way (Street) (P.O. Box)

Toppenish. (City) WA. (State) (ZIP-Code)

Telephone: (509) 865-5086

Licensed Supervisor: Gordon Mull Decommissioning License Number: W002563

WHITE SHIELD, INC.

P.O. BOX 477 • GRANDVIEW, WA 98930 • (509) 882-1144
FAX (509) 882-4566

April 21, 1995

Joe Wondrack
529 East Kennewick Avenue
Kennewick, WA. 99336

Re: Site Check, Yakima Truck Service, 1602 Rudkin Road, Yakima, WA

Dear Mr. Wondrack:

White Shield Environmental Technician, Rick Funderburk a site assessor registered with the Washington State Department of Ecology Underground Storage Tank Program, performed a site check of the referenced facility on March 27, and 28, 1995. Refer to the attached Site Location Map.

The work included a visual site check to identify potential environmental concerns related to the property and soil sampling adjacent to two Underground Storage Tanks (USTs) located beneath concrete pavement to the north of the truck washing facility.

On March 27, under the direction of WSI, DKR Construction cut and removed the concrete pavement above the USTs. The soil in test pit #1, located on the east side of the UST's, consisted of brown clayey silt with river rock. Upon excavation of the test pit, a band of grey soil was unearthed at approximately 6" in depth. A soil sample was collected from the grey soil for field screening. The sample was analyzed in the field using Thin Layer Chromatography (TLC). Please refer to the attached description of Thin Layer Chromatography and the site map for sample location. Results from the field screening indicated diesel fuel contamination between 200 to 300 parts per million.

Upon further excavation, concrete was encountered above the UST at 3½ feet in depth. Mr. Werst, the site owner, stated that a truck load of concrete had been poured on top of the USTs to keep them from floating on the groundwater. DKR relocated 3' to the east of the original excavation and began to extend the test pit. The excavation began collapsing due to the unstable river rock. At approximately 6' in depth, the end of the UST was exposed. There appeared to be no noticeable rusting or pitting on the UST. A soil sample was collected from a depth of 12' next to the end of the UST. Field screening of the sample indicated that no apparent petroleum hydrocarbon contamination was present.

On March 28, a second test pit was excavated west of the UST's. A grey layer of soil was also discovered beneath the concrete pavement. At a depth of 6', the sidewalls of the test pit began collapsing. At this point it was decided not to excavate any further due to the close proximity of the foundation of the truck wash building. Refer to the attached Site Plan.

The site investigation also revealed a small diesel stain in the soil at the southeast corner of the truck wash. The stain appears to have originated from a dispenser that is currently being used in conjunction with the Above Ground Storage Tank. Overfill of the vehicles is suspected.

Another area of concern is a 55 gallon drum on a pallet located on the south side of the property. The drum appears to contain a heavy petroleum based product. The product has been spilled onto the surface of the soil. Also, to the south of the truck wash, runoff water from the truck washing operation is puddling on the outside of the building and soaking into the ground. Groundwater in the area is shallow and contaminated runoff could be affecting the groundwater quality. Refer to the Site Plan.

We appreciate the opportunity to provide you with technical assistance on this site. Please call us at (509) 882-1144 should you have any questions or need any additional information.

Sincerely,
WHITE SHIELD, INC.

Rick Funderburk
Project Manager

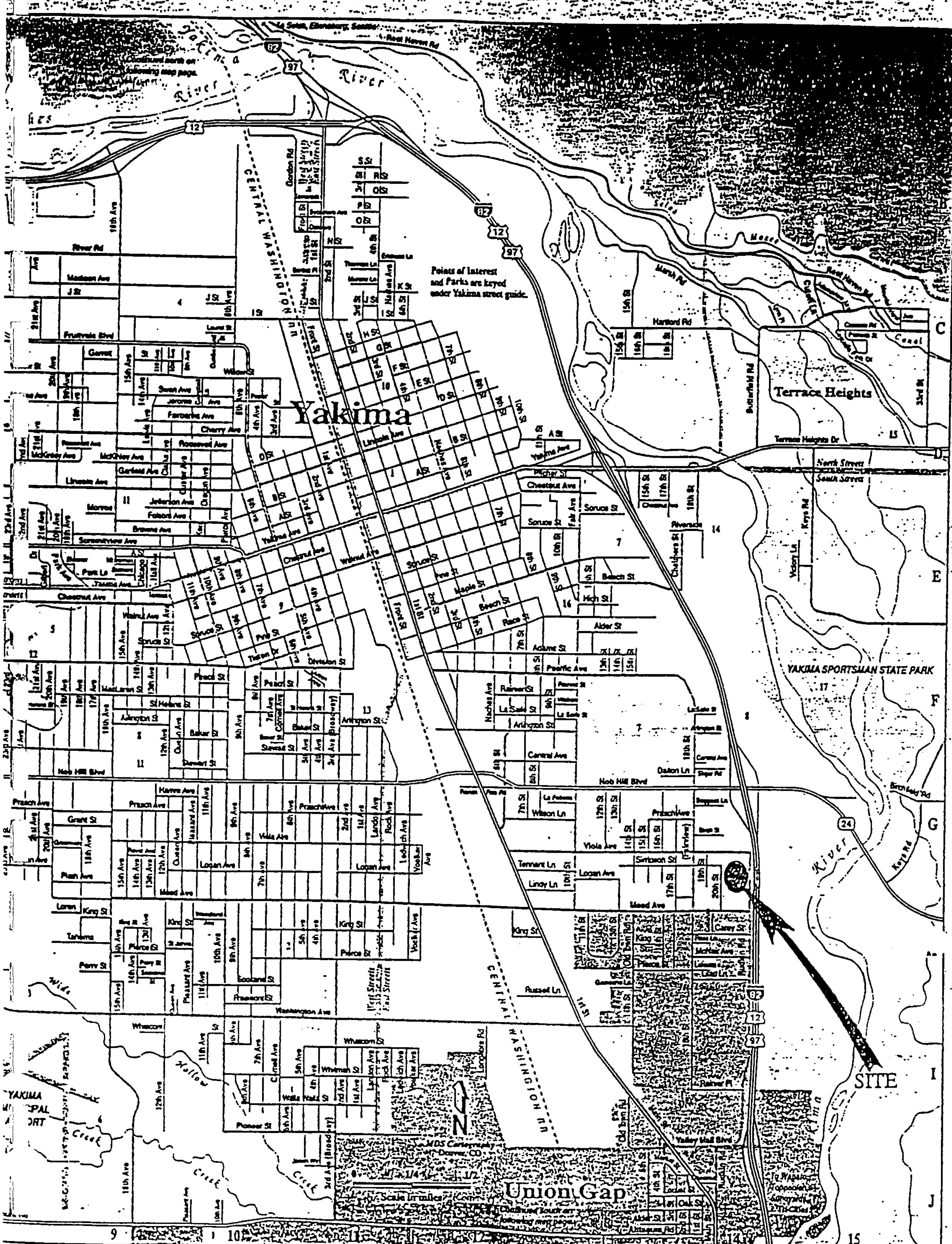
Stuart W. Fricke,
President

FIELD SCREENING WITH THIN LAYER CHROMATOGRAPHY

For field analysis of semi-volatile (diesel) and non-volatile compounds (motor oil), WSI uses Thin Layer Chromatography (TLC) for qualitative and quantitative analysis. This analytical technique utilizes the principle of chromatography to separate individual components for comparison to known standards.

TLC is classified as a solid-liquid chromatographic system, meaning there are two phases through which an extract of the sample is passed; a solid phase (silica gel) and a liquid phase (a solvent such as hexane).

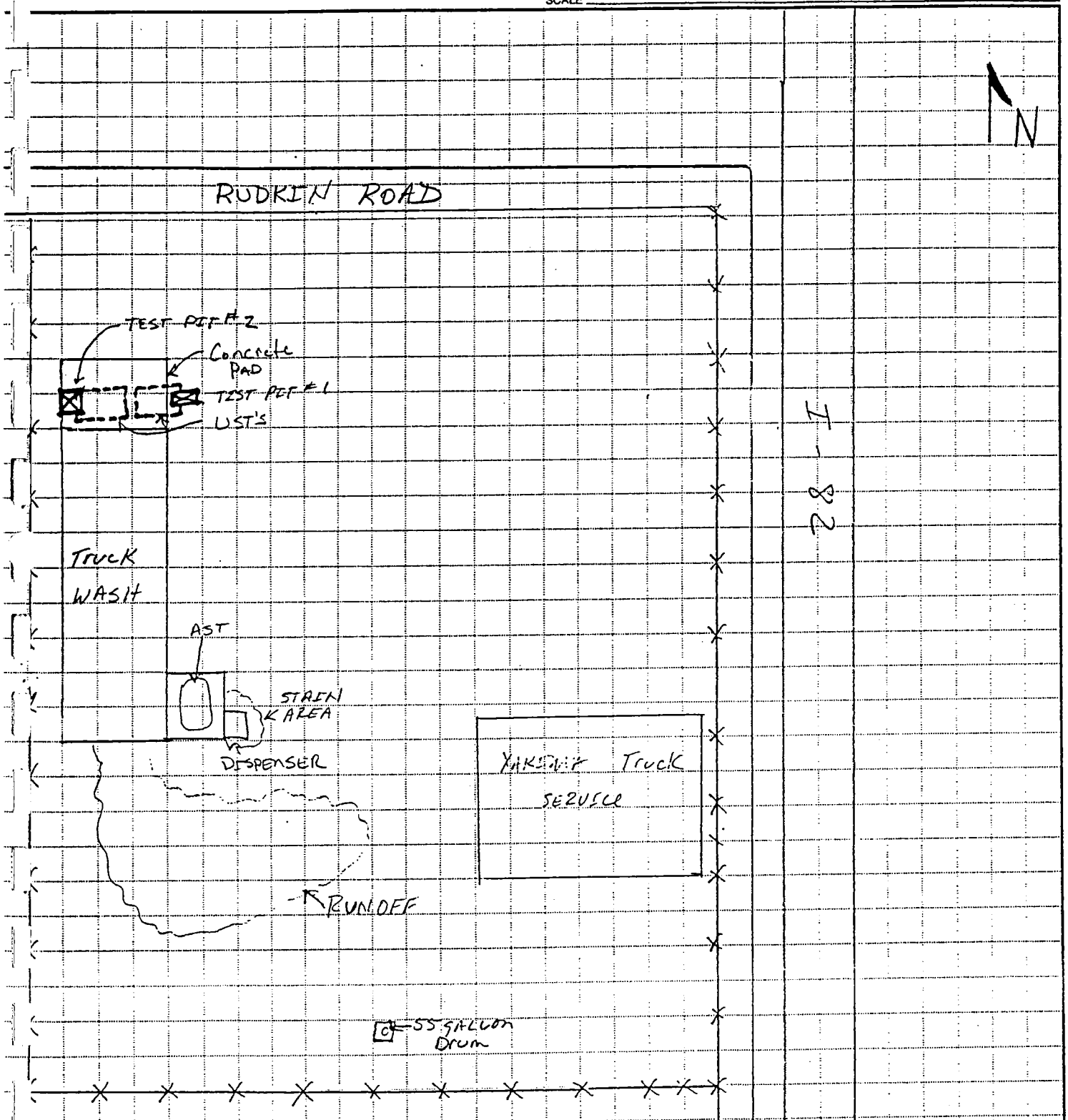
The solid phase is stationary and is coated on a glass plate. During the chromatography process, the liquid phase carries the sample through the solid phase. The solvent moves at a fairly constant rate through the solid phase. However, the compound in the sample (analyte) are partitioned by a relative attractiveness of the analyte between the solid phase and the liquid phase. Analytes strongly attracted to the silica will remain on the silica longer and move more slowly than analytes that are not as strongly attracted to the silica. When the chromatography is stopped, the distance the analyte has moved relative to the distance the solvent has moved is used to identify the compound. When the plate is viewed under ultraviolet light, the analytes can be seen and compared to standards of known concentration for quantitative analysis.



SITE LOCATION MAP

WHITE SHIELD INC.
P.O. BOX 477, 801 GRANDRIDGE ROAD, GRANDVIEW, WA 98930
TELEPHONE: (509) 882-1144 VOICE (509) 882-4566 FAX

JOB IWOII-0495
SHEET NO. 1 OF 1
CALCULATED BY / DATE /
CHECKED BY / DATE /
SCALE 1"=15'



SITE MAP

C. W000 1934
~~102302~~ K.R

APR 24 1995

UNDERGROUND 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: Don Werst

Owners Address: 1602 Rudkin Rd (Street)

Union Gap (City) WA. (State) (P.O. Box) (ZIP-Code)

Telephone: (509) 575-1830

Site ID Number (on invoice or available from Ecology if tank is registered): ~~102302~~

Site/Business Name: Don Werst

Site Address: 1602 Rudkin Rd. (Street) Yakima (County)

Union Gap (City) WA. (State) (ZIP-Code)

2. SITE CHECK/SITE ASSESSMENT CONDUCTED BY:

Registered Person: Bryan Mull

Address: 60 Olden Way (Street)

Toppenish (City) WA. (State) 98948 (P.O. Box) (ZIP-Code)

Telephone: (509) 865-5086

C 40001934
102302 KB

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: Don Werst

Owners Address: 1602 (Street) Rudkin Rd. (P.O. Box)

Union Gap (City) WA. (State) (ZIP-Code)

Telephone: (509) 575-1830

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

Site/Business Name: Don Werst

Site Address: 1602 (Street) Rudkin Rd. Yakima (County)

Union Gap (City) WA (State) (ZIP-Code)

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

Firm: Cayuse Environmental License Number: S002224

Address: 600 Olden Way (Street) (P.O. Box)

Toppenish. (City) WA. (State) (ZIP-Code)

Telephone: (509) 865-5086

Licensed Supervisor: Gordon Mull Decommissioning License Number: W002563

UNDERGROUND STORAGE TANK INFORMATION UPDATE

Please check all of the information on this page to make sure it is correct. Make any changes on this page, and fill in any missing or incorrect information in the corrected information column on the right.

1. TANK OWNER INFORMATION

	Current Information	Corrected Information (PRINT OR TYPE)
OWNER NUMBER:	U0001934	
OWNER NAME:	DON WERST	
OWNER ADDRESS:	4515 SNOW MT RD YAKIMA, WA 98908-2842	
OWNER PHONE:	(509) 965-2694	

2. TANK SITE INFORMATION

	Current Information	Corrected Information (PRINT OR TYPE)
SITE NUMBER:	004274	DON WERST. 1602 A RUDKIN RD. YAKIMA, WASH. 98901 YAKIMA DON WERST 509-965-2694
SITE NAME:	ZERR TRUCKING	
SITE ADDRESS:	1602 A RUDKIN RD. YAKIMA, WA 98901-	
SITE COUNTY:	YAKIMA	
CONTACT PERSON:	HARLAN ZERR	
CONTACT PHONE:	(509) 452-8681	

3. TANK INFORMATION

	Current Information	Corrected Information (PRINT OR TYPE)
TANK ID:	1	OUT OFF SERVICE TEMPORARY
TANK STATUS:	OPERATIONAL	
SUBSTANCE STORED:	DIESEL FUEL	
TANK SIZE:	5000-9999 GALLONS	
INSTALLATION DATE:	10-01-1983	

4. TANK FEE INFORMATION

The Annual Fee is for the Period 7/01/94 - 6/30/95

Tanks that are temporarily closed will not receive a permit but are subject to annual tank fees. Payments should be made by check or money order - no cash please. Return update form and payment to the Department of Ecology, P.O. Box 5128, Lacey, WA 98503-0210, or use return envelope provided.

Disputes must be made in writing. If you have general questions, please call 1-800-826-7716 (Voice) or (206) 407-7155 (TDD)

ANNUAL FEE INFORMATION FOR ALL TANKS AT THIS SITE:

INVOICE NUMBER: UST47025 SITE NUMBER: 004274
4 TANKS AT $75.00 EACH; DUE FOR CURRENT YEAR: $300 ; TOTAL DUE FOR ALL YEARS: $300
DATE DUE: JUNE 1, 1994

PREVIOUS YEARS' OUTSTANDING FEES:
1990: $0 1991: $0 1992: $0 1993: $0 1994: $0

5. OWNER MUST SIGN IN THIS BLOCK TO RECEIVE VALID PERMITS

SWORN STATEMENT: I hereby swear under penalty of law that, based on my knowledge of the tank identified by the tank ID number, this tank is in compliance with applicable state requirements. Also, any new or corrected information required on this form has been entered accurately. I understand that false statements may result in this permit being immediately revoked and I may be subject to penalties under Chapter 173-360 WAC.

PRINT OR TYPE. DONALD L. WERST
Name of UST owner or Authorized Representative

Donald L. Werst
Signature of UST Owner or Authorized Representative

4/19/94
Date Signed

509-965-2694
Telephone Number

(DO NOT DETACH - RETURN ALL PARTS OF THIS FORM TO ECOLOGY)

Underground Storage Tank Permit
Washington Department of Ecology
Please Display at the Underground Storage Tank Site.

UST TEST RESULTS

(PRECISION TANK TESTING)

♦ ♦ ♦

MILKY WAY
1602 RUDKIN ROAD
YAKIMA, WASHINGTON

Underground Storage Tank Testing
Milky Way
Project #48-1467-39

May 20, 1992

Mr. Don Gutherie
MILKY WAY
1602 Rudkin Road
Yakima, WA 98901

RE: Precision Tank Test Results

Dear Mr. Gutherie:

Following, please find the results of the volumetric precision tank tests conducted on the two underground storage systems (USTs) located at 1602 Rudkin Road, Yakima, Washington. The final results are indicated on the cover sheet of the test packet; a site plot of the facility will indicate the location of each system tested. A brief summary of the results obtained is as follows:

DIESEL-EAST SYSTEM - (8,000 Gallons): Appendix A

A full system's precision test was conducted on this system at an elevation of 120 inches (25 inches above tank top). This UST system has a **suction type product delivery system**; the precision tank test conducted includes all of the system below fluid level. The precision test results (#0534) indicated a net final change (temperature corrected) in product volume of -0.049 gph (gallons per hour).

Based on the results obtained from the precision tank tests, this system does not appear to be losing product and has passed the leak detection integrity assessment.

DIESEL-WEST SYSTEM - (8,000 Gallons): Appendix B

A full system's precision test was conducted on this system at an elevation of 115 inches (20 inches above tank top). This UST system has a **suction type product delivery system**; the precision tank test conducted includes all of the system below fluid level. The precision test results (#0534) indicated a net final change (temperature corrected) in product volume of -0.0481 gph (gallons per hour).

Based on the results obtained from the precision tank tests, this system does not appear to be losing product and has passed the leak detection integrity assessment.

P.O. Box 30777,
4446 W. 1730 S. SLC, UT 84130
(801) 974-5544 FAX 801-972-6769
TOLL FREE 1-800-453-8418

We trust that this report satisfies your leak detection requirements. Enclosed are two copies of this report. Please retain one (1) copy for your files and another at the tank site facility as proof that these systems have been tested.

The precision tank tests were conducted in accordance with the technical requirements outlined in NFPA Publication #329 and EPA Publication 40 CFR Sub-part D -280.43 (c) and 280.44 (b). If you have additional questions or have comments concerning this report, please call (801) 974-5544 or 1-800-533-5709. We would be happy to assist you in any way possible.

Respectfully submitted,

Paul Krumm
Supervisor Testing Services

CERTIFICATE OF PRECISION LEAK TEST

CBC ENVIRO ENGINEERING CERTIFIES THE FOLLOWING:

DATE: 5-11-92 CERTIFIED TESTER: RJB IBEX #:9111

	SYSTEM(s)	TANK	LINES	PROD/LINE
1.	8K-DIESEL-EAST	PASS	PASS	PASS
2.	8K-DIESEL-WEST	PASS	PASS	PASS
3.				
4.				
5.				
6.				
7.				
8.				

ANY FAILURE LISTED MAY REQUIRE NOTIFICATION OF THE PROPER LOCAL REGULATORY AGENCIES

CONDITIONS OF CERTIFICATION

Because of the uncertainty of variable precision tank test conditions and the necessity of relying on facts and supporting services furnished by others, CBC Enviro Engineering is unable to guarantee the accuracy of any test data or chart interpretation or any other data furnished by CBC Enviro Engineering. CBC Enviro Engineering personnel will use their best efforts in gathering such information and their best judgment in interpreting it, but the Customer agrees that CBC Enviro engineering shall not be liable and the Customer shall indemnify CBC Enviro Engineering against any damages arising from the use of such information. CBC Enviro engineering will not be responsible for accidental or intentional interception of such data by others.

Both the Customer and CBC Enviro Engineering acknowledge that the subject equipment of this test includes extremely complex measurement techniques which to a large extent rely on generally accepted statistical computations. Each measurement made by the subject equipment, therefore, is made in accordance with accepted statistical averaging techniques which do not compensate for each statistical variable. CBC Enviro Engineering, therefore, makes no warranties other than the operability of the subject equipment, such warranty being limited to the cost of replacement or repair of the subject equipment.

PRECISION TANK & LINE TEST RESULTS

for

MILKY WAY
1602 RUDKIN ROAD
YAKIMA, WA 98901

DATE: 05/11/92
JOB #: 48-1467-39
PHONE: (509) 575-0039
STATE #:

TECHNICIAN: RJB
WATER TABLE: (+\-)15 Feet
CONTACT: Mr. Don Gutherie
DATE;TIME (system was filled): 05/10/92 • 12 hr (+)

UNIT #: 9020
COUNTY: Yakima

TANK#	TANK SIZE	PRODUCT	TANK	FILL/VENT LINES	PRODUCT LINES	INCHES OF WATER IN TANK	PUMP TYPE	TANK MATERIAL
#1	8K	DIESEL-E	PASS	PASS	PASS	0"	SCT	SWS
#2	8K	DIESEL-W	PASS	PASS	PASS	0"	SCT	SWS

HYDROSTATIC LINE TEST RESULTS

PRODUCT	TEST RESULTS (GPH)	STATUS

AUTOMATIC LINE LEAK DETECTOR TEST RESULTS

PRODUCT	RESILIENCY (ml:)	OPENING TIME (SECONDS)	LEAK RATE (ml/min)	F.E. Holding Pressure	METERING Pressure	STATUS

ADDITIONAL INFORMATION: These are suction systems - all lines are flooded and included. The two tanks are manifolded together.

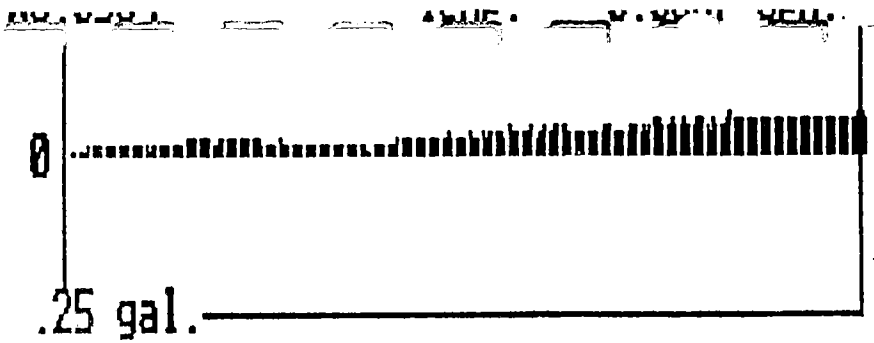
SITE LOG	TIME
Arrive at site.....	06:00
Set up equipment.....	06:10
Bled product line.....	06:15
Bled vent/vapor lines..	n/a
Bled pumps.....	n/a
Start test.....	06:30
End test.....	08:45
Leave site.....	09:30

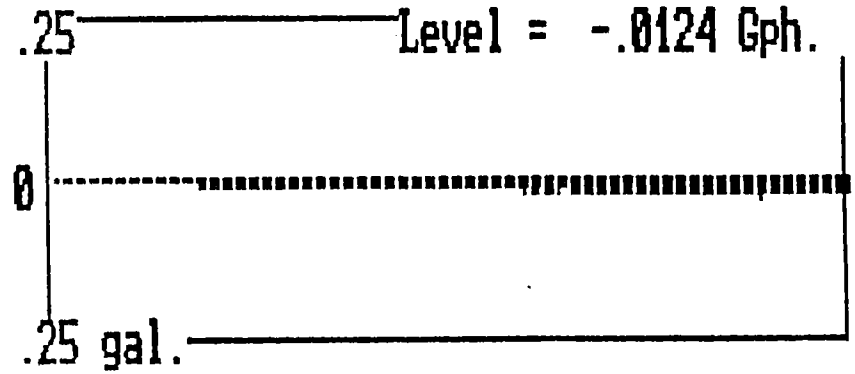
LEGEND
TRB = submersible turbine pump
SCT = suction pump
SWS = single walled steel tank
FRP = fiberglass reinforced plastic
PLT = product line test result
GPH = gallons per hour

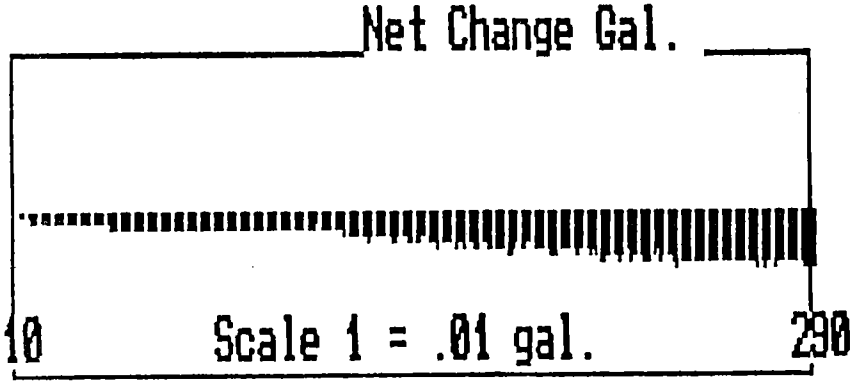
Technician Signature: Roger J. Braun State Certification #: W001278

The precision tank and **hydrostatic line tests** conducted on the above systems meet or exceed the requirements of the National Fire Protection Association (NFPA), Publication #329 and the technical standards mandated by the Environmental Protection Association (EPA), Publication 40 CFR Part 280.43 (c) and 280.44 (b). The **mechanical line leak detector tests** meet or exceed the requirements of the EPA regulation 40 CFR, Part 280.44 (a). The maximum allowable net rate of change for a "passing" system is (≤) 0.05 GPH. No additional warranties are expressed or implied.

Site Layout For : MILKY WAY; 1602 RUDKIN RD., YAKIMA, WA

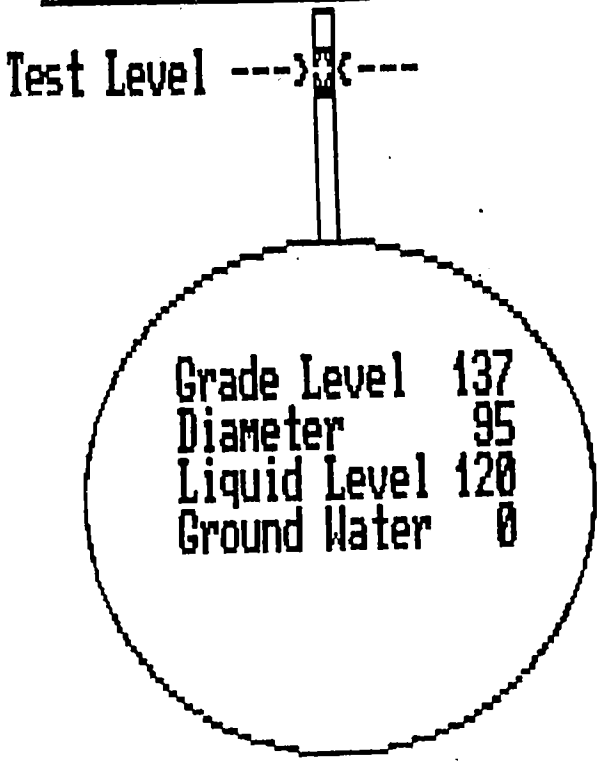


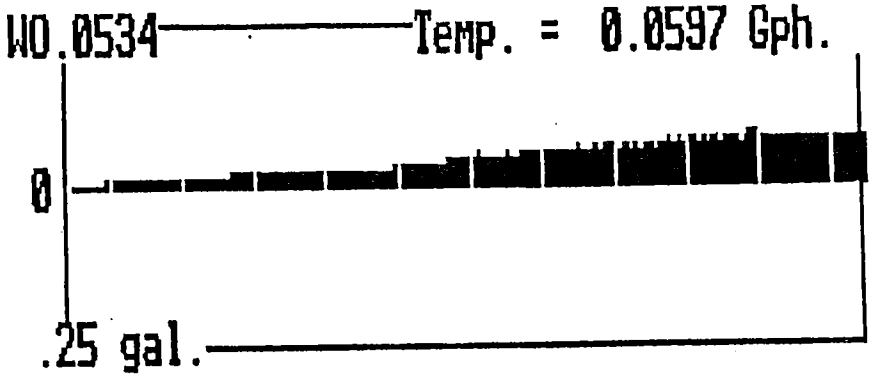


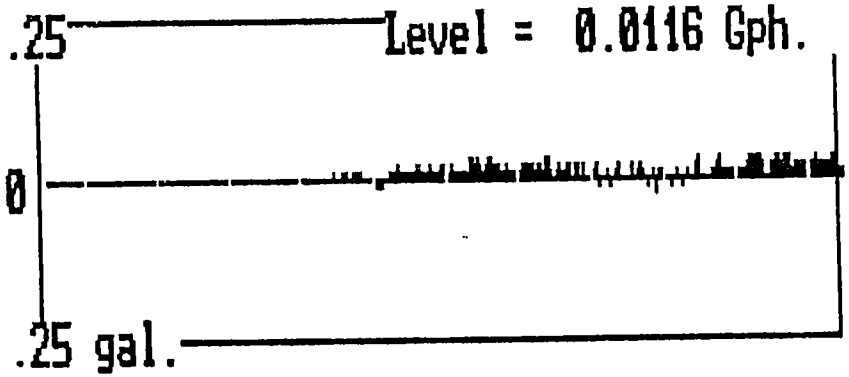


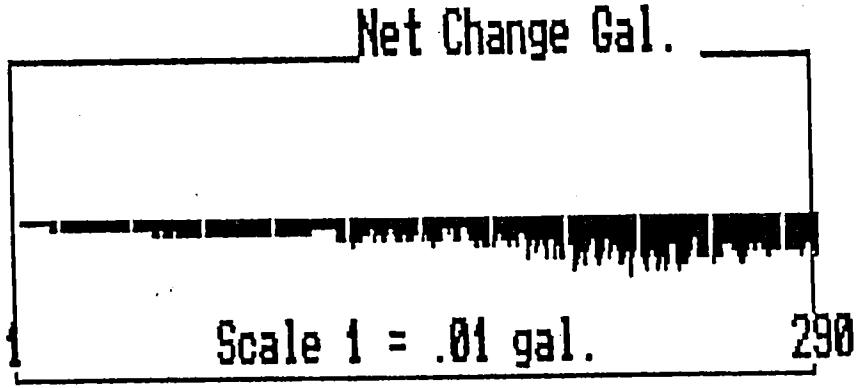
Test Time 06:28:57
Length (Min.) 68.3
Level Precision.00021
Temp. Precision.00077
MILKY WAY: YAKIMA, WA.

NET CHANGE = -.0491 Gph.



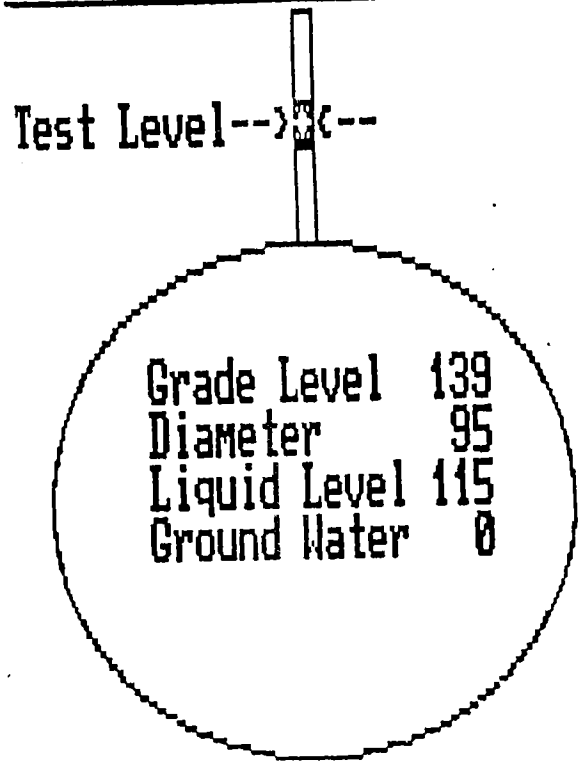






Tank No. 2
DSL-WEST TANK
Test Time 06:28:57
Length (Min.) 78.5
Level Precision.00016
Temp. Precision.00077
MILKY WAY: YAKIMA, WA.

NET CHANGE = -.0481 Gph.



Grade Level 139
Diameter 95
Liquid Level 115
Ground Water 0

APPENDIX B

WHITE SHIELD, INC.

P.O. BOX 477 • GRANDVIEW, WA 98930 • (509) 882-1144
FAX (509) 882-4566

January 11, 1995

Mr. Greg Huylar
Russell Crane Service Inc.
505 Locust Avenue
Yakima, WA 98902

Re: UST Closure Site Assessment Report - 1618 Rudkin Road, Yakima, Washington

Dear Mr. Huylar:

Enclosed, please find two copies of an Underground Storage Tank Closure Site Assessment Report for the above referenced site, as required by the Washington State Department of Ecology (WSDOE). Based on the data and findings reported herein, further cleanup action is required for the remediation of this site. WSI recommends insitu remediation of the remaining contaminants since any further removal of the contaminated soil material from the area would jeopardize the structural integrity of the adjacent building foundations.

The Washington State Department of Ecology (WSDOE) requires that you retain this report for a minimum of ten years. We recommend that you retain it indefinitely. The WSDOE also requires a copy of the Underground Storage Tank Permanent Closure/Site Assessment Checklist to be submitted to the WSDOE Olympia office, we have submitted the original form to the WSDOE and are including a copy in this report, for your records.

Since Russell Crane Service provided the decommissioning service at this site, please ensure that a copy of the Underground Storage Tank Permanent Closure/Site Assessment Notice is sent to the WSDOE Olympia office.

We appreciate the opportunity to provide you with technical assistance for your underground storage tank closure. Please call us at (509) 882-1144 should you have any questions or need any additional information.

Respectfully Yours,
WHITE SHIELD, INC.

for Terry Miller
Project Manager

William J. Goggin, P.E.
Chief Design Engineer

cc: Department of Ecology, Olympia Headquarters
Department of Ecology, Central Regional Office
Mr. Don Wurst, 1618 Rudkin Road, Yakima, WA

UST CLOSURE SITE ASSESSMENT REPORT

Site Location
1618 Rudkin Road
Yakima, Washington

Prepared For:
Mr. Greg Huylar
Russell Crane Service Inc.
505 Locust Avenue
Yakima, WA 98902

JANUARY, 1995

WHITE SHIELD INC.

P.O. BOX 477, 801 GRANDRIDGE ROAD, GRANDVIEW, WA 98930
TELEPHONE: (509) 882-1144 VOICE (509) 882-4566 FAX

EXECUTIVE SUMMARY

White Shield, Inc. (WSI) provided site assessment services upon removal of two regulated Underground Storage Tanks (USTs), measuring approximately 8 feet x 8 feet 4.5 feet in height (square) with an estimated capacity of 500 gallons each. The tanks were used for storing used motor oil generated during truck servicing operations. The tanks were located at 1618 Rudkin Road, Yakima, Washington.

The used motor oil was conveyed to the tanks via PVC piping. The inlets and outlets were located adjacent to the south wall of a metal building. The USTs and piping were in good condition at the time of removal. A close inspection of the tanks revealed signs of incipient corrosion and pitting but no holes were observed.

Laboratory analysis of soil samples revealed petroleum contamination exceeding the MTCA Method A Cleanup Levels in the soil taken from the bottom of two separate excavations. The analytical laboratory results indicated contamination below the MTCA cleanup level on the walls of the excavations.

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1.0 Introduction

1.1 Purpose

This report describes findings and actions taken for work associated with the removal of two regulated Underground Storage Tanks (USTs), measuring approximately 8 feet x 8 feet x 4.5 feet, with a capacity of 500 gallons each. The tanks were located at 1618 Rudkin Road, Yakima, Washington. The Washington State Department of Ecology (WSDOE) requires a report for the closure of a regulated Underground Storage Tank (UST) site.

1.2 Scope of Work

White Shield, Inc. (WSI) provided site assessment services for the removal of two 500 gallon used motor oil USTs. Russell Crane Services Inc. provided the decommissioning services and removed the USTs from the site for cleaning and disposal. On Site Environmental, Inc. (OnSite), Redmond, Washington, provided the laboratory analytical services. Refer to Appendix B, Laboratory report and chain of custody and Table I, Soil Field Screening and Laboratory Analytical Results.

The initial site assessment services provided by WSI included 7 Thin Layer Chromatography (TLC) field screening tests for semi-volatile components. A total of 13 soil samples were also sent to the laboratory for analysis.

This report completes the site assessment services provided by White Shield, Inc.

2.0 Background Information

2.1 Site Location

The site is located at 1618 Rudkin Road, Yakima Washington. It is approximately 1.5 miles north of Valley Mall Boulevard/Rudkin Road intersection. The site is described as the tax parcel # 191329-43440 located in the SE 1/4, Section 29, T13N, R19E, W.M. Refer to Figure 1, Site Location Map.

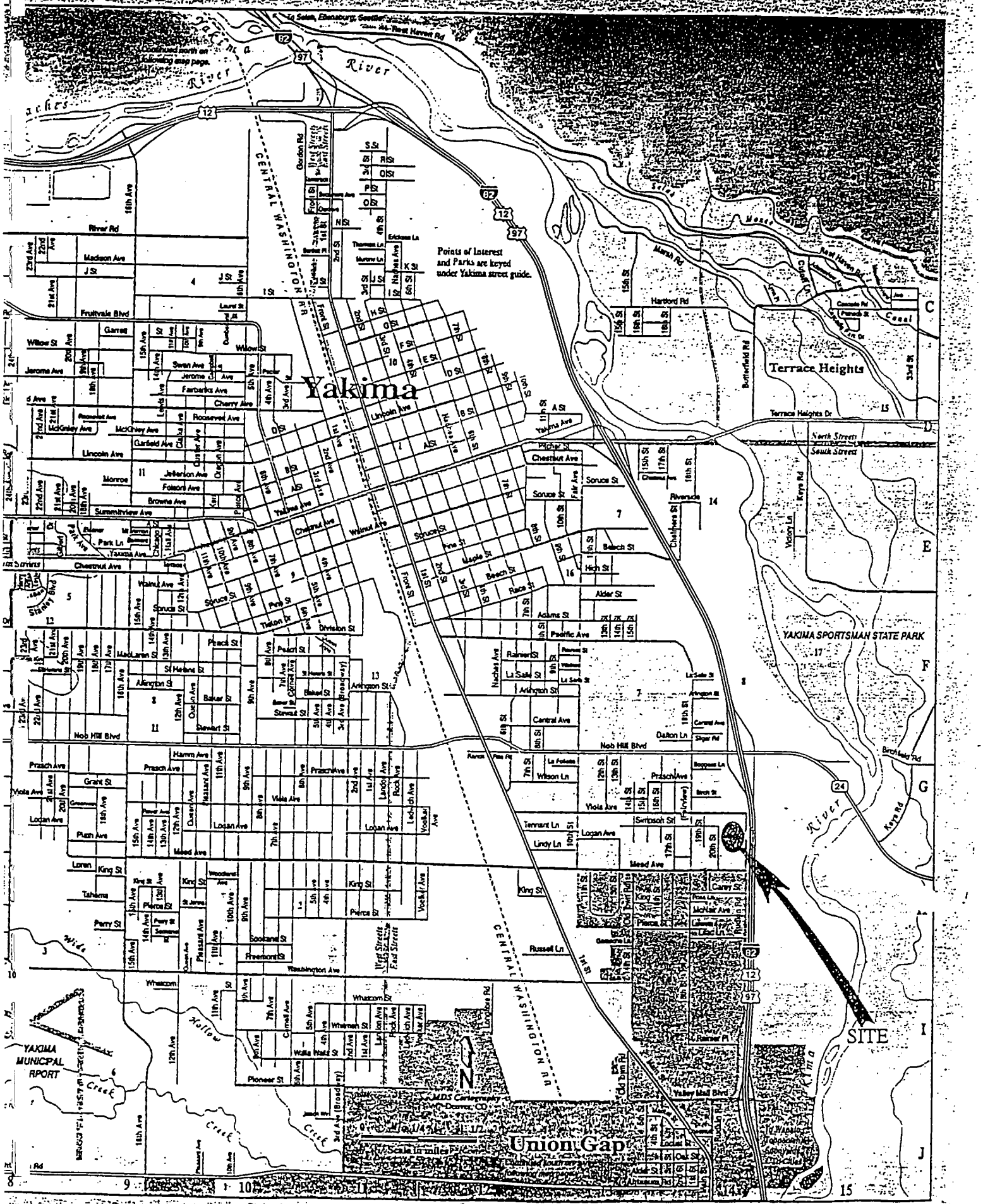


FIGURE 1 - SITE LOCATION MAP

2.2 Site Description and History

The main structure on the subject site is a metal frame building which is utilized for truck servicing. The east half of the metal building is occupied by Better All Auto Sales and Transport and the west half is rented by Yakima Truck Service. The two underground storage tanks, with a capacity of 500 gallons each, were installed eight years ago at the southwest and the southeast ends of the metal building. The tank at the southeast end was used by Better All Auto Sales and Transport and the tank at the southwest end was used by Yakima Transport Service. The subject site is also occupied by an above ground storage tank, a truck wash and two diesel fuel underground storage tanks. Refer to Figure 2, Site Plan and Figure 3, Sampling Plan.

The USTs that were removed on December 14, 1994 are described as follows:

Tank Code	WSDOE UST Site number	Contents	Volume (gallons)
3	004274	used oil/w	500
4	004274	used oil/w	500

An interview with the site owner revealed that there were no underground tanks at the site prior to the installation of the two waste oil tanks. Currently, there are two diesel fuel underground storage tanks located to the north of the truck wash and a diesel fuel aboveground storage tank to the east. Refer to Figure 2, Site Plan.

2.3 Soils Description

The soil appeared to be predominantly inorganic silts, very fine sands, rock flour, silty or clayey fine sands (ML).

WHITE SHIELD INC.
P.O. BOX 477, 801 GRANDRIDGE ROAD, GRANDVIEW, WA 98930
TELEPHONE: (509) 882-1144 VOICE (509) 882-4566 FAX

JOB

SHEET NO. OF

CALCULATED BY DATE

CHECKED BY DATE 12/27/94

SCALE NTS

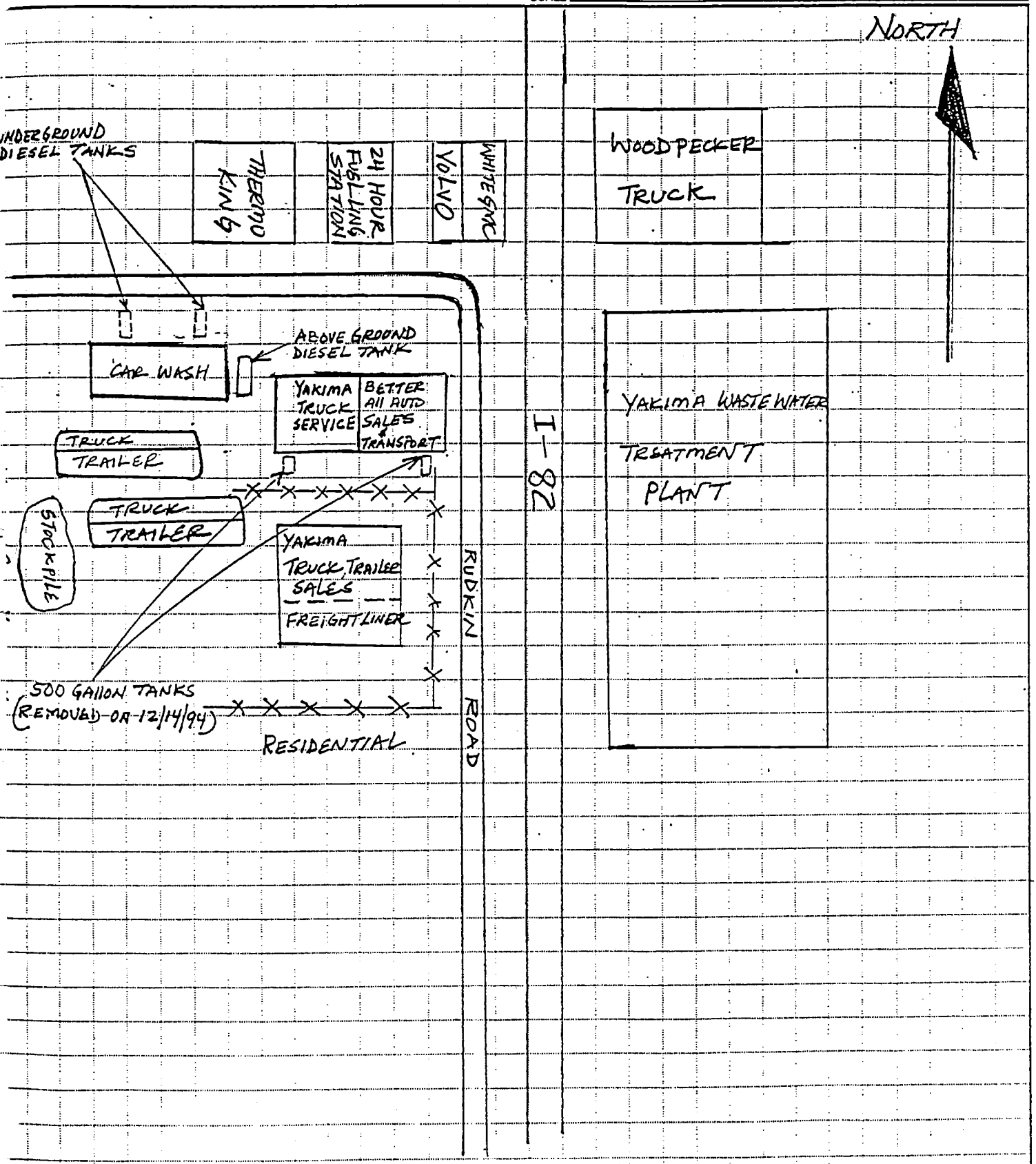


FIGURE 2 - SITE PLAN

3.0 Field Activities

3.1 General Investigative Methods

We visually inspected the USTs, the soil and the fill. We also used field screening, analytical laboratory analyses and interviews for data. The methods and general conclusions are discussed below.

3.1.1 Field Screening

For field analysis of semi-volatile (diesel) and non-volatile compounds (motor oil), WSI uses Thin Layer Chromatography (TLC) for qualitative and quantitative analysis. This analytical technique utilizes the principle of chromatography to separate individual components for comparison to known standards.

TLC is classified as a solid-liquid chromatographic system, meaning there are two phases through which an extract of the sample is passed; a solid phase (silica gel) and a liquid phase (a solvent such as hexane).

The solid phase is stationary and is coated on a glass plate. During the chromatography process, the liquid phase carries the sample through the solid phase. The solvent moves at a fairly constant rate through the solid phase. However, the compound in the sample (analyte) are partitioned by a relative attractiveness of the analyte between the solid phase and the liquid phase. Analytes strongly attracted to the silica will remain on the silica longer and move more slowly than analytes that are not as strongly attracted to the silica. When the chromatography is stopped, the distance the analyte has moved relative to the distance the solvent has moved is used to identify the compound. When the plate is viewed under ultraviolet light, the analytes can be seen and compared to standards of known concentration for quantitative analysis.

3.1.2 Soil Sampling

The Sampling Plan (refer to Figure 3) and the attached Field Sampling Log (Appendix A) show the location, depth and types of samples taken. In general, sample collection and control followed the following protocol:

1. Select a laboratory certified clean sample jar for sample collection.
2. Using clean latex gloves and clean sampling utensils (Alconox Detergent, chlorine solution, tap water rinse and distilled water rinse cycle) tightly pack the soil sample in the sample jar (8 oz.) to the top of the jar to prevent any airspace. Collect co-located samples using the same procedure.
3. Label the jar with the soil sample number, the type of laboratory test required, the date, name of site and sampler. The sample is then entered on the chain of custody form.
4. Cool the sample in wet ice to approximately 4 degrees centigrade.
5. Repack the samples for shipment to the laboratory in blue ice and a cooler.
6. Relinquish sample to courier for shipment to the laboratory.

3.2 Tank Removals

Hari Sharma, site assessor registered with the Washington State Department of Ecology Underground Storage Tank Program, performed the Site Assessment on December 14, 1994. The top of USTs had been exposed and the used motor oil transmission pipelines had been disconnected prior to the arrival of WSI personnel. All pipelines associated with the tanks have been removed.

Each excavation measured approximately 10 feet x 10 feet x 7 feet deep. The soil in the excavations appeared clean. The TLC field screening conducted on seven soil samples taken from the excavations revealed no apparent contamination.

3.3 Tank Inspection

Soil and scale attached to the tank was removed to completely expose the tanks for inspection. The tanks showed signs of incipient corrosion and pitting but no holes were observed. Refer to Photographs 4 and 5 for the condition of the tanks.

3.4 Initial Sampling/Site Assessment

On December 14, 1994, a total of 13 soil samples were collected from the excavations and the soil stockpile for TLC field screening and laboratory analysis. The TLC field screening of the samples RUC-0294-101, 102, 104, 105 from the excavation #1 and samples RUC-0294-202, 204, and 205 from the excavation #2 revealed no apparent contamination.

Samples RUC-0294-101 through 104 were collected from the east, south, west and north walls of the excavation #1 at a depth of approximately 3.5 feet. Sample RUC-0294-105 was collected from the bottom of the excavation #1 at a depth of 7 feet. The samples RUC-0294-106 through 108 were collected from the soil stockpile. The stockpile consists of approximately 20 yards of soil removed from the two excavations. The samples RUC-0294-201 through 205 were collected from the excavation #2. The samples RUC-0294-201 through 204 were collected at a depth of approximately 3.5 feet from the east, south, west and the north walls respectively. Sample RUC-0294-205 was collected from the bottom of excavation # 2 at a depth of 7 feet. Refer to Figure 3, Site Sampling Plan.

A total of 13 soil samples were sent to OnSite for laboratory analyses. The laboratory results revealed contamination levels below the MTCA cleanup level on the walls of both excavations. However, the bottom sample RUC-0294-105 from excavation #1 and the bottom sample RUC-0294-205 from the excavation #2 had total petroleum hydrocarbon contamination of 440 ppm and 310 ppm respectively. The two bottom samples were taken from directly below the waste oil inlets and the discharge outlets of the tanks which were located adjacent to the south wall of the metal building. Refer to Figure 3, Sampling Plan for bottom sample locations. Any further removal of the material from the bottom of the excavations will jeopardize the structural integrity of the building foundation. WSI recommends insitu bioremediation of the site to meet MTCA cleanup requirements. Refer to Table I and Appendix B for analytical laboratory results.

4.0 Soil Analysis Summary

4.1 Petroleum Analysis

The field screening and the laboratory analytical results are summarized in Table I. The Field Sampling Log is included as Appendix A, and the laboratory analytical report, as Appendix B.

5.0 Ground Water & Well Logs

Groundwater was not intersected in this excavation. Washington State Department of Ecology well logs are presented in Appendix G.

WHITE SHIELD INC.
P.O. BOX 477, 601 GRANDRIDGE ROAD, GRANDVIEW, WA 98930
TELEPHONE: (509) 882-1144 VOICE (509) 882-4566 FAX

JOB

SHEET NO. OF

CALCULATED BY DATE 12/27/94

CHECKED BY DATE

SCALE NTS

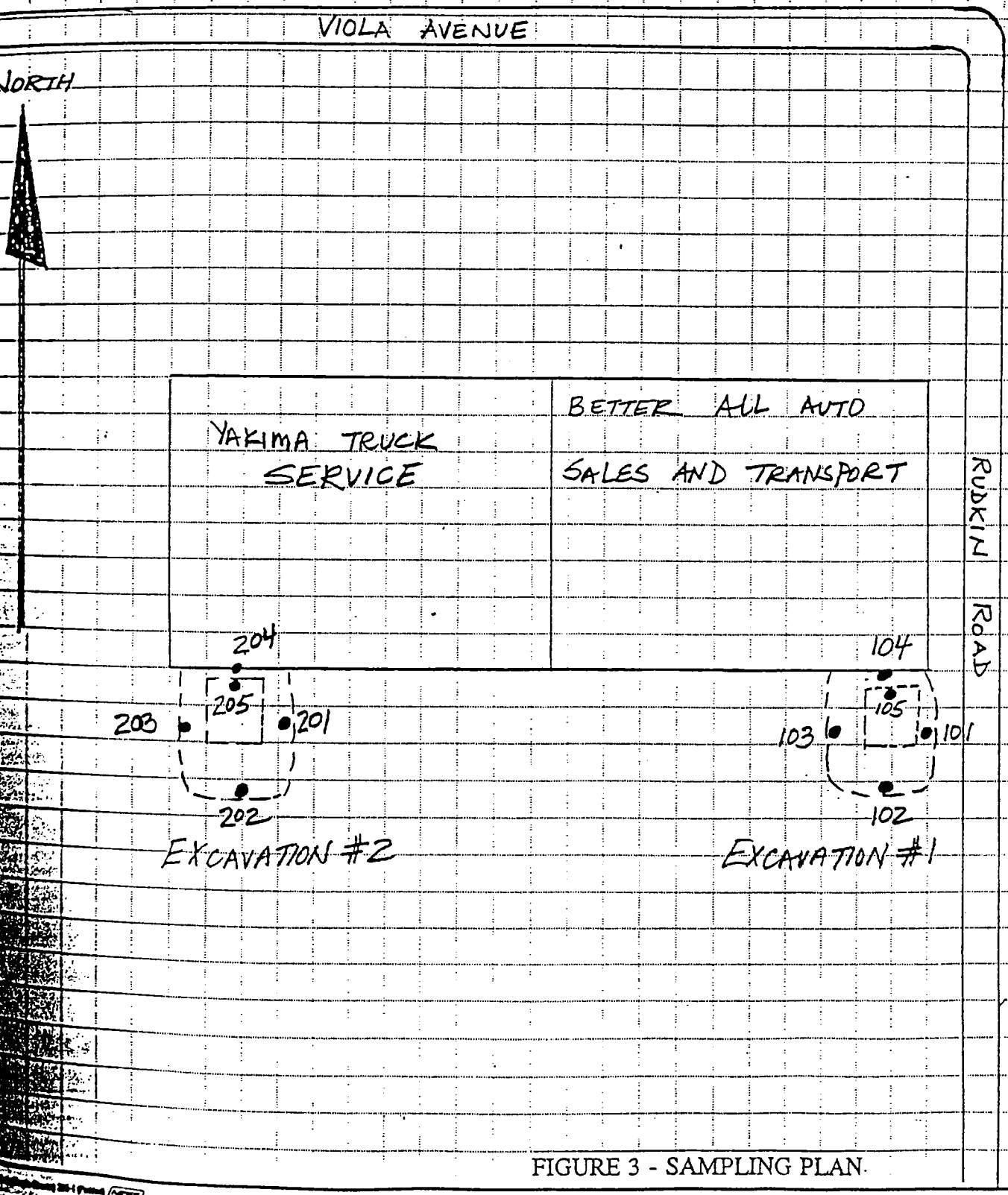


FIGURE 3 - SAMPLING PLAN

TABLE I: SOIL FIELD SCREENING & LABORATORY ANALYTICAL RESULTS

LOCATION AND DEPTH	SAMPLE #	DATE	TLC ppm	418.1 Modified ppm
East wall/South wall 3.5 feet	RUC-0294-101/102	12/14/94	nd	73
West wall/North wall 3.5 feet	RUC-0294-103/104	12/14/94	nd*	nd
Bottom 7 feet	RUC-0294-105	12/14/94	nd	440
East wall/South wall 3.5 feet	RUC-0294-201/202	12/14/94	nd*	nd
West wall/North wall 3.5 feet	RUC-0294-203/204	12/14/94	nd*	nd
Bottom	RUC-0294-205	12/14/94	nd	310
Stockpile	RUC-0294-106 sp	12/14/94	nt	14,000
Stockpile	RUC-0294-107 sp	12/14/94	nt	360
Stockpile	RUC-0294-108 sp	12/14/94	nt	310

nt = Not Tested
nd = Not Detected

* Samples RUC-0294-103, RUC-0294-201 and 203 were not field screened.

6.0 End Use of Soil

Analytical laboratory results of the stockpile samples revealed evidence of petroleum contamination in excess of the Method A Cleanup Levels as established by the Model Toxics Control Act (WAC 173-340-720). The stockpile consists of Class 3 and Class 4 Soils and should be either properly disposed in compliance with WSDOE regulations or remediated on site to meet the MTCA cleanup requirements.

7.0 Conclusion

Analytical laboratory results revealed petroleum contamination in excess of the MTCA Cleanup Levels remaining in the bottom of the two excavations. Since further removal of the contaminated soil will jeopardize the structural integrity of the building foundation, WSI recommends insitu bioremediation of the site to meet the Method A Cleanup Levels as established by the Model Toxics Control Act (WAC 173-340-720).

8.0 Limitations

In performing our professional services, WSI uses a degree of care ordinarily exercised under similar circumstances by members of our profession. No warranty, expressed or implied, is made or intended. Our conclusions and recommendations, developed from our field and laboratory investigation reported herein, are based upon this firm's understanding of the project and are in concurrence with generally accepted practice.

APPENDIX A

DATE: 12/14/94.

PROJECT: Russel Crane
PROJECT # RUC-0294
CLIENT'S REP: Don Wurst.
WEATHER: Snowing.

LOCATION DATA: 505 Locust Ave, Yakima Washington
TAX PARCEL # 191323-32414
SW1/4, SECTION 23, T13N, R19E, Wm.
OWNER: Don Wurst.

- SITE VICINITY MAP
- SITE SKETCH.

HISTORY:
DATE OF INSTALLATION — 84 YEARS.
DATES OF USE AND CURRENT STATUS — Waste oil
NUMBER OF TANKS — 2
LOCATION — 505 Locust AVENUE.

CAPACITY — 500 Gallon

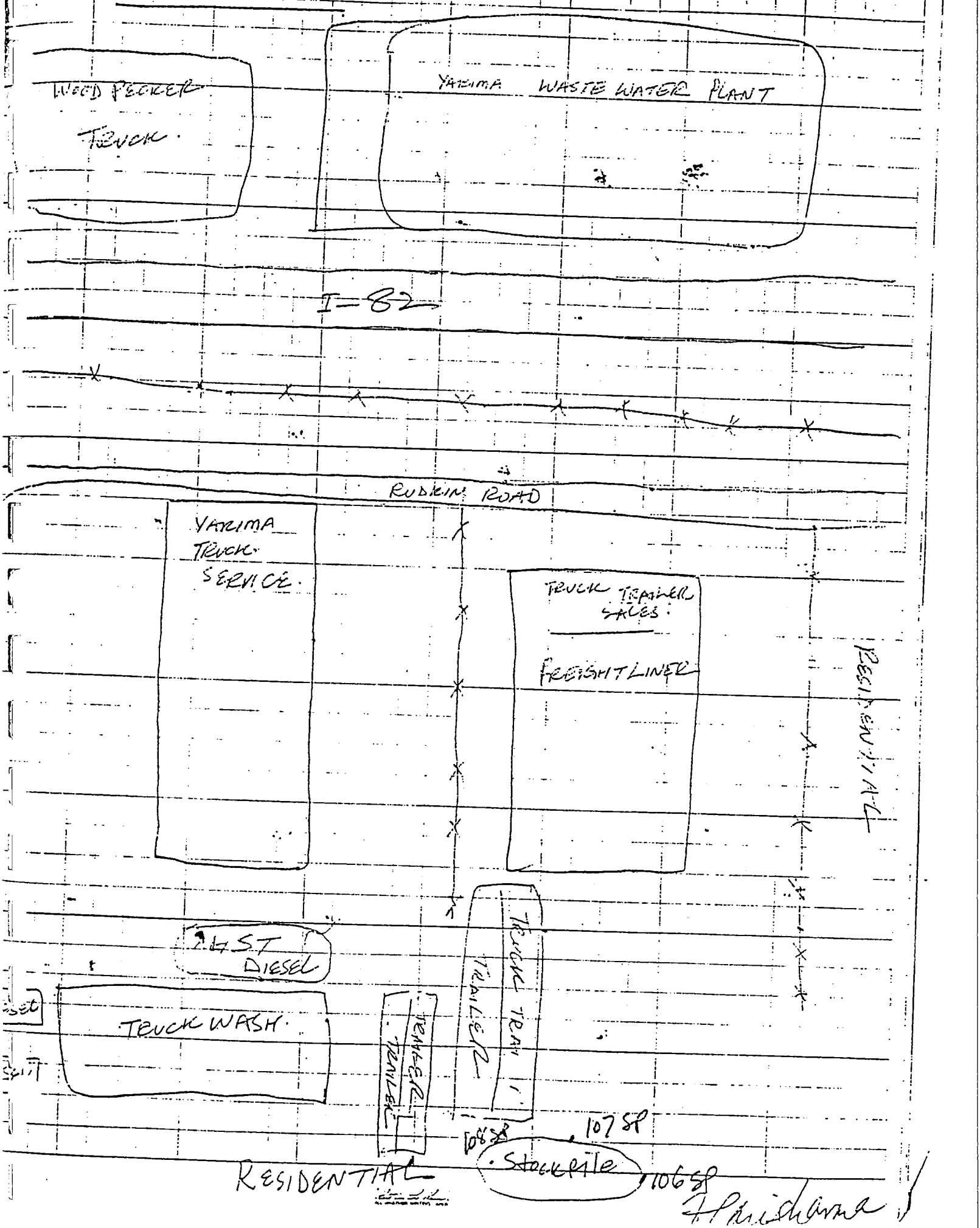
Dimension
Age
Material of Construction of existing UST System — Steel
FILL PIPES, — PVC.
VENT PIPING — Steel
PUMPS — none — Pumped by air
VALVES
DISTRIBUTION PIPING
Flex Connectors

- NUMBER AND LOCATION OF ANY PREVIOUSLY REMOVED USTS
- TYPES OF SUBSTANCES STORED — USED OIL.
- DEPTH, WIDTH AND TYPE OF BEDDING/BACKFILL materials

004274 — SITE ID
OWNER — 001934.

12/14/94

SITE SKETCH



12/14/94

:00 Am. LEFT OFFICE.
:45 ARRIVED AT SITE AND ASKED GREG HUNTAR WHETHER
12:45 DOE HAS BEEN GIVEN 30 DAY NOTICE OR NOT.
DOE HAD NOT BEEN NOTIFIED — TALKED TO DON WURST AND LET HIM KNOW ABOUT THAT.
— CALLED JIM CHILOS AND John Weitfield of WSDOE CENTRAL Regional office and waited for 30 minutes for them to return our Calls — No response.
— Went to DOE office. Talked with John Weitfeld. He Accompanied us to the Site And waived 30 day notice after I gave a letter to him.

12:45 Sketched site, took Photographs of
1:45 Vicinity, interviewed Owner and Other operator.
— EXCAVATED minor Amount of Visably Contaminated Soil And Stockpiled it to the SouthEAST CORNER OF THE PROPERTY (REFER TO SKETCH).
1:45 PULLED OUT TANKS — APPEARED TO BE IN FAIRLY GOOD CONDITION. CORROSION AND PITTING HAD STARTED. HOWEVER NO HOLES WERE PRESENT. THE MINOR CONTAMINATION AROUND THE FILL AND DISCHARGE PIPE.
5:to CONDUCTED 7 TLC TESTS
:45

TLC	RESULT
~~104~~ 102	ND
105	ND
101	ND
204	ND
205	ND
207	ND
104	ND

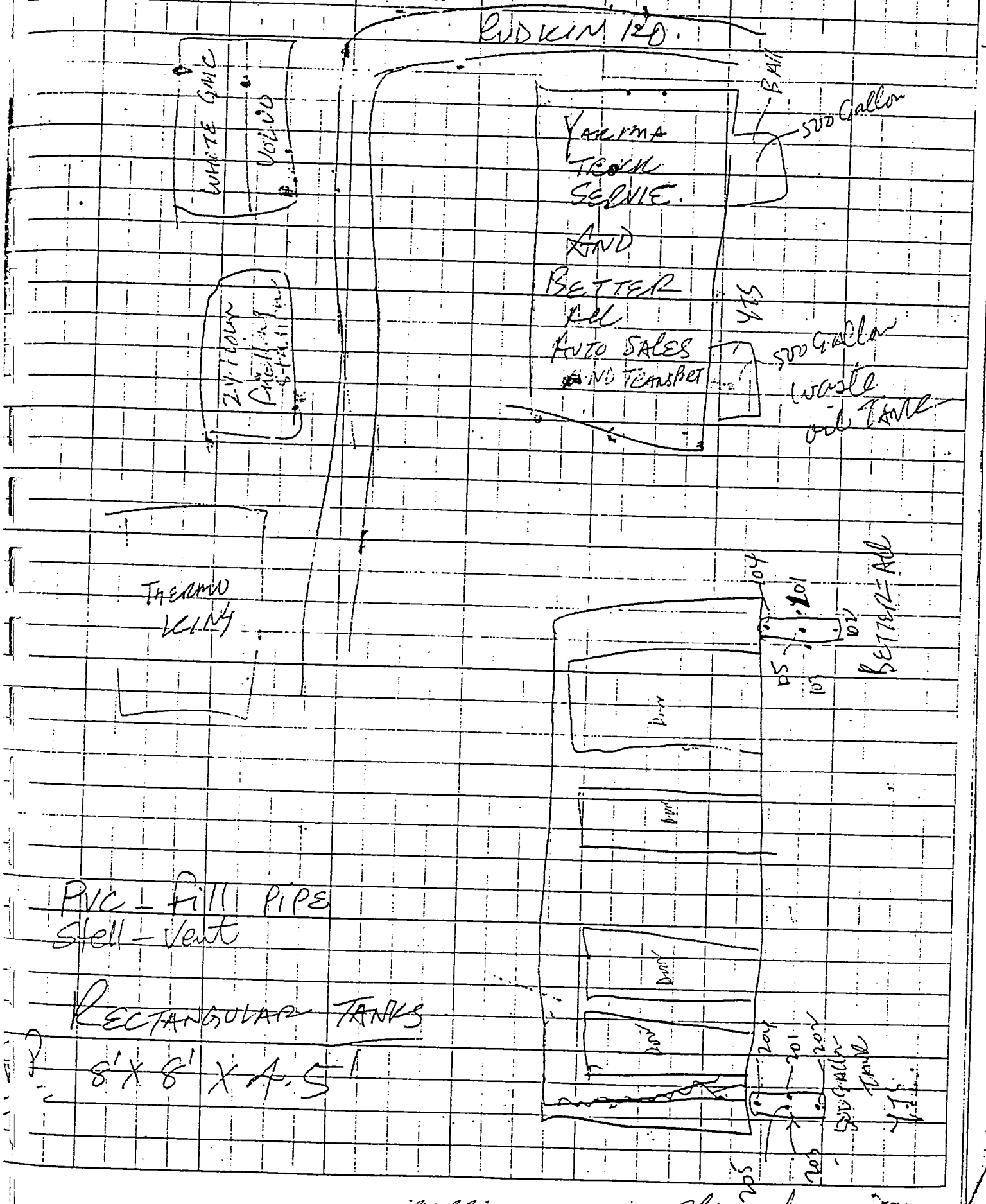
lected 13 Samples for Laboratory Analysis

sample	location	DEPTH
101	E. WALL	3.5'
102	S. WALL	3.5'

Markham

Used oil — Truck

12/14/1984



PVC - Fill Pipe
Stell - Vent

RECTANGULAR TANKS

8' X 8' X 4.5 = ?

Y.50

12/14/94

SAMPLE	LOCATION	DEPTH
103	W. WALL	3.5'
104	N. WALL	3.5'
105	bottom	7'
106SP	Stockpile	
107SP	Stockpile	
108SP	Stockpile	
201	E. WALL	3.5'
202	S. WALL	3.5'
203	W. WALL	3.5'
204	N. WALL	3.5'
205	Bottom	7'

Kawashima

Date of Report: December 19, 1994
Samples Submitted: December 17, 1994
Lab Traveler: 12-046
Project: RUC-0294

EPA 418.1 Modified

Date Extracted: 12-19-94
Date Analyzed: 12-19-94

Matrix: Soil
Units: mg/Kg (ppm)

Client ID	Dilution Factor	Total Petroleum Hydrocarbons
RUC-0294-101/RUC-0294-102 Composite	2	73
RUC-0294-103/RUC-0294-104 Composite	2	<20
RUC-0294-105	2	440
RUC-0294-106sp	40	14000
RUC-0294-107sp	2	360
RUC-0294-108sp	2	310
RUC-0294-201/RUC-0294-202 Composite	2	<20
RUC-0294-203/RUC-0294-204 Composite	2	<20
RUC-0294-205	2	310

Date of Report: December 19, 1994
Samples Submitted: December 17, 1994
Lab Traveler: 12-046
Project: RUC-0294

EPA 418.1 Modified
QUALITY ASSURANCE

Date Extracted: 12-19-94
Date Analyzed: 12-19-94

Matrix: Soil
Units: mg/Kg (ppm)

	Dilution Factor	Total Petroleum Hydrocarbons
Method Blank	2	<20
Sample: 12-046-13	2	305
Duplicate	2	359
RPD		16%

COMPANY White Sands Inc.

PROJECT # RUC-0294

PROJECT NAME RUSSEL CRANE

MANAGER HARI SHARMA

PM Terry Miller (KA)

OnSite Environmental Inc.

14924 NE 31st CIRCLE, REDMOND, WA 98052
PHONE (206) 883-3881 FAX (206) 885-4603

REQUESTED TURNAROUND? Normal

TRAVELER # 12-046

Dash	Sample Number	Date Sampled	Time Sampled	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D	WTPH-418.1	418.1 MODIFIED	DRY WEIGHT	Comments
						Analysis Required							
1	RUC-0294-101 ζ	12/14/94	1 to 4:30 pm	Soil	1						X		ζ => Composite
2	-102 ζ	"	"		1						"		
3	-103 ζ	"	"		1						"		
4	-104 ζ	"	"		1						"		
5	-105	"	"		1						"		
6	-106 SP	"	"		1						"		
7	-107 SP	"	"		1						"		
8	-108 SP	"	"		1						"		
9	-201 ζ	"	"		1						"		
10	-202 ζ	"	"		1						"		
11	-203 ζ	"	"		1						"		
12	-204 ζ	"	"		1						"		
13	-205	"	"		1						"		

Submitted Hari Sharma Date 12/16/94 Received by [signature] Date 12/17/94

Firm _____ Time _____ Firm OnSite Environmental Time 1:30 pm

Submitted _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

APPENDIX C

Table 2
Method A Cleanup Levels – Soil[a]

Hazardous Substance	CAS Number	Cleanup Level
Arsenic	7440-38-2	20.0 mg/kg[b]
Benzene	71-43-2	0.5 mg/kg[c]
Cadmium	7440-43-9	2.0 mg/kg[d]
Chromium	7440-47-3	100.0 mg/kg[e]
DDT	50-29-3	1.0 mg/kg[f]
Ethylbenzene	100-41-4	20.0 mg/kg[g]
Ethylene dibromide	106-93-4	0.001 mg/kg[h]
Lead	7439-92-1	250.0 mg/kg[i]
Lindane	58-89-9	1.0 mg/kg[j]
Methylene chloride	75-09-2	0.5 mg/kg[k]
Mercury (inorganic)	7439-97-6	1.0 mg/kg[l]
PAHs (carcinogenic)		1.0 mg/kg[m]
PCB Mixtures		1.0 mg/kg[n]
Tetrachloroethylene	127-18-4	0.5 mg/kg[o]
Toluene	108-88-3	40.0 mg/kg[p]
TPH (gasoline)		100.0 mg/kg[q]
TPH (diesel)		200.0 mg/kg[r]
TPH (other)		200.0 mg/kg[s]
1,1,1 Trichloroethane	71-55-6	20.0 mg/kg[t]
Trichloroethylene	79-01-5	0.5 mg/kg[u]
Xylenes	1330-20-7	20.0 mg/kg[v]

[a] Caution on misusing method A tables. Method A tables have been developed for specific purposes. They are intended to provide conservative cleanup levels for sites undergoing routine cleanup actions or those sites with relatively few hazardous substances. The tables may not be appropriate for defining cleanup levels at other sites. For these reasons, the values in these tables should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedances of the values in these tables do not necessarily trigger requirements for cleanup action under this chapter.

[b] Arsenic. Cleanup level based on background concentrations in the state of Washington.

[c] Benzene. Cleanup level based on protection of ground water.

[d] Cadmium. Cleanup level based on plant protection.

[e] Chromium. Cleanup level based on health risks associated with inhalation of resuspended dust.

[f] DDT. Cleanup level based on concentrations derived using the procedures in subsection (3)(a)(iii)(B) of this section.

[g] Ethylbenzene. Cleanup level based on protection of ground water.

[h] Ethylene dibromide. Cleanup level based on protection of ground water.

[i] Lead. Cleanup level based on preventing unacceptable blood lead levels.

[j] Lindane. Cleanup level based on concentration derived using the procedures in subsection (3)(a)(iii)(B) of this section.

[k] Methylene chloride. Cleanup level based on protection of ground water.

[l] Mercury. Cleanup level based on protection of ground water.

[m] PAHs (carcinogenic). Cleanup level based on concentration derived using the procedures in subsection (3)(a)(iii)(B) of this section.

[n] PCB Mixtures. Cleanup level based on concentration derived using the procedures in subsection (3)(a)(iii)(B) of this section.

[o] Tetrachloroethylene. Cleanup level based on protection of ground water.

[p] Toluene. Cleanup level based on protection of ground water.

[q] Total Petroleum Hydrocarbons (gasoline). Cleanup level based on protection of ground water.

[r] Total Petroleum Hydrocarbons (diesel). Cleanup level based on protection of ground water.

[s] Total Petroleum Hydrocarbons (other). Cleanup level based on protection of ground water.

[t] 1,1,1 Trichloroethane. Cleanup level based on protection of ground water.

[u] Trichloroethylene. Cleanup level based on protection of ground water.

[v] Xylenes. Cleanup level based on protection of ground water.

APPENDIX D

UNDERGROUND STORAGE TANK
Site Check/Site Assessment Checklist

For Office Use Only	
Owner #	
Site #	

INSTRUCTIONS:

When a release has not been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person registered with the Department of Ecology. **The results of the site check or site assessment must be included with this checklist.** This form must be submitted to Ecology at the address shown below within 30 days after completion of the site check/site assessment.

SITE INFORMATION: Include the Ecology site ID number if the tanks are registered with Ecology. This number may be found on the tank owner's invoice or tank permit.

TANK INFORMATION: Please list all the tanks for which the site check and site assessment is being conducted. Use the tank ID number if available, and indicate tank capacity and substance stored.

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT: Please check the appropriate item.

CHECKLIST: Please initial each item in the appropriate box.

SITE ASSESSOR INFORMATION: This form must be signed by the registered site assessor who is responsible for conducting the site check/site assessment.

Underground Storage Tank Section
Department of Ecology
P. O. Box 47655
Olympia, WA 98504-7655

SITE INFORMATION

Site ID Number (on invoice or available from Ecology if the tanks are registered): 004274

Site/Business Name: BETTER ALL AUTO SALES AND TRANSPORT & YAKIMA TRANSPORT SERVICE.

Site Address: 1618 RUDKIN ROAD (Street) Telephone: (509) 575-1830

YAKIMA (City) WA (State) 98901 (ZIP Code)

TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
3	500	USED MOTOR OIL
4	500	USED MOTOR OIL

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.
- ✓ UST system permanently closed with tank removed.
- ____ Abandoned tank containing product.
- ____ Required by Ecology or delegated agency for UST system closed before 12/22/88.
- ____ Other (describe): ____

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.	The location of the UST site is shown on the vicinity map.	HS	
2.	A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in the Site Assessment Guidance)	HS	
3.	A summary of UST system data is provided. (see Section 3.1)	HS	
4.	The soils characteristics at the UST site are described. (see Section 5.2)	HS	
5.	Is there apparent groundwater in the tank excavation?		HS
6.	A brief description of the surrounding land is provided. (see Section 3.1)	HS	
7.	Information has been provided indicating the number and types of samples collected, methods used to collect and analyze the samples, and the name and address of the laboratory used to perform the analyses.	HS	
8.	A sketch or sketches showing the following items is provided:		
	- location and ID number for all field samples collected	HS	
	- groundwater samples distinguished from soil samples (if applicable)	NA	
	- samples collected from stockpiled excavated soil	HS	
	- tank and piping locations and limits of excavation pit	HS	
	- adjacent structures and streets	HS	
	- approximate locations of any on-site and nearby utilities	HS	
9.	If sampling procedures different from those specified in the guidance were used, has justification for using these alternative sampling procedures been provided? (see Section 3.4)	N/A	
10.	A table is provided showing laboratory results for each sample collected including: sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.	HS	
11.	Any factors that may have compromised the quality of the data or validity of the results are described.	HS	
12.	*The results of this site check/site assessment indicate that a confirmed release of regulated substance has occured.*	HS	

SITE ASSESSOR INFORMATION

HARI SHARMA
PERSON REGISTERED WITH ECOLOGY

WHITE SHIELD, INC.
FIRM AFFILIATED WITH

BUSINESS ADDRESS: 801 GRANDRIDGE ROAD

TELEPHONE: (509) 882-1144

GRANDVIEW — CITY
WA — STATE
98930 — ZIP+CODE

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.

12/29/94
Date

Hari Sharma
Signature of Person Registered with Ecology

APPENDIX E

UNDERGROUND STORAGE TANK TEMPORARY/PERMANENT CLOSURE and SITE ASSESSMENT NOTICE

WASHINGTON STATE DEPARTMENT OF ECOLOGY

See back of form for instructions
Please ☑ the appropriate box(es)
Please type or print information

For Office Use Only
Owner #
Site #

☐ Temporary Tank Closure ☑ Permanent Tank Closure ☐ Change-In-Service ☐ Site Assessment/ Site Check

SITE INFORMATION:

Site ID Number (on invoice or available from Ecology if the tanks are registered): 004274

Site/Business Name: YAKIMA TRANSPORT SERVICE & BETTER ALL AUTO SALES AND TRANSPORT

Site Address: 1618 RUDKIN ROAD (Street) Telephone: (509) 575-1830

YAKIMA (City) WA (State) 98901 (ZIP Code)

TANK INFORMATION:

Tank ID	Closure Date	Tank Capacity	Substance Stored
3	12/14/94	500 Gallon	MOTOROIL
4	12/14/94	500 GALLON	Motor OIL

CONTAMINATION PRESENT AT THE TIME OF CLOSURE

☐ Yes ☐ No

☐ Unknown

Check unknown if no obvious contamination was observed and sample results have not yet been received from analytical lab.

UST SYSTEM OWNER/OPERATOR:

UST Owner/Operator: Donald D. West

Owners Signature: Donald D. West Telephone: (509) 965-2694

Address: 1618 RUDKIN ROAD (Street)

YAKIMA (City) WA (State) 98901 (ZIP Code) (P.O. Box)

TANK CLOSURE/CHANGE-IN-SERVICE PERFORMED BY:

Service Provider: RUSSELL CRANE SERVICE, INC. License Number:

Licensed Supervisor: Decommissioning License Number:

Supervisors Signature:

Address: 505 LOCUST AVENUE (Street)

YAKIMA (City) WA (State) 98901 (ZIP Code) (P.O. Box)

Telephone: ( )

SITE CHECK/SITE ASSESSMENT CONDUCTED BY:

Name of Registered Site Assessor: HARI SHARMA

Telephone: (509) 882-1144

Address: 801 GRANDRIDGE ROAD (Street)

GRANDVIEW (City) WA (State) 98930 (ZIP Code) (P.O. Box)

ECY 020-34

PLEASE READ CAREFULLY

INSTRUCTIONS

Return this completed form to:

Underground Storage Tank Section
Department of Ecology
P. O. Box 47655
Olympia, WA 98504-7655

This form is to be completed by the Tank Owner and submitted to Ecology within 30 days of tank closure.

Mark the appropriate box(es) for temporary tank closure, permanent tank closure, change-in-service, or site assessment.

Permanent Closure and Change-in-Service require a site assessment be performed.

SITE INFORMATION:

Fill in the site information. Be sure to include the Ecology site ID number. This number may be found on the invoice or permit. Include a contact telephone number so any problems may be resolved quickly.

TANK INFORMATION:

List the tanks that were closed. Please use tank ID numbers and indicate the date of permanent closure. Be sure to attach your Underground Storage Tank Permits for any tanks that are now closed.

UST SYSTEM OWNER/OPERATOR:

Please fill in the owner's/operator's name, address, and telephone number. **Be sure to sign this form.**

TANK CLOSURE/CHANGE-IN-SERVICE PERFORMED BY:

List the closure company. Companies that provide UST services MUST be licensed by Ecology. Ask to see their supervisor's license. Make sure the licensed supervisor signs this form.

SITE CHECK/SITE ASSESSMENT CONDUCTED BY:

Fill in the site assessor information for permanent closure or change-in-service. Mark the appropriate box showing whether contamination from the underground tank(s) was or is present at the site. A site check/site assessment MUST be conducted by a site assessor who is registered with Ecology.

If contamination at the site is found or suspected, the appropriate Ecology Regional Office must be notified within 24 hours. If the contamination is confirmed, a site characterization report must be submitted to the regional office within 90 days. If contamination is not confirmed, a site assessment report must be submitted to the above address within 30 days.

Tanks exempt from notification requirements are:

Farm or residential tanks, 1100 gallons or less, used to store motor fuel for personal or farm use only. The fuel must not be for resale or used for business purposes.

Tanks used for storing heating oil that is used on the premises where the tank is located.

Tanks with a capacity of 110 gallons or less.

Equipment or machinery tanks such as hydraulic lifts or electrical equipment tanks.

Emergency overflow tanks, catch basins, or sumps.

For more information call toll free in the state of Washington
1-800-826-7716 or (206) 438-7137

APPENDIX F

TABLE V. END USE CRITERIA FOR PETROLEUM-CONTAMINATED SOILS

Analyte	Analytical Method	Soil Class (ppm) 1	2	3	4
Heavy fuel hydrocarbons (C24-C30)	WTPH-418.1 mod.	<60	60-200	200-2000	>2000
Diesel (C12-C24)	WTPH-D	<25	25-200	200-500	>500
Gasoline (C6-C12)	WTPH-G	<5	5-100	100-250	>250
Benzene	8020	<0.005	0.005-0.5	≤0.5	>0.5
Ethylbenzene	8020	<0.005	0.005-20	≤20	>20
Toluene	8020	<0.005	0.005-40	≤40	>40
Xylenes (total)	8020	<0.005	0.005-20	≤20	>20

Treatment is recommended for all Class 3 and 4 soils.

NOTES:

Class 1 Soil Uses:

Any use which will not cause threat to human health or the environment.

Class 2 Soil Uses:

Backfill at the cleanup site
Fill in commercial or industrial areas
Cover or fill in permitted landfills
Road subgrade or other road construction fill
Fill in or near: wetlands, surface water, ground water, drinking water wells or utility trenches is NOT recommended. Use as residential topsoil is also NOT recommended.

Class 3 Soil Uses:

Treatment
Disposal at the original site (no solid waste diposal permit needed)
Road construction (no solid waste diposal permit needed)
Use or disposal in permitted, municipal landfills
Permitted as a new PCS landfill
(An evaluation should be made to ensure that disposal will not cause a threat to human health or the environment, e.g. use near water bodies)

Class 4 Soil Uses:

Treatment
Disposal in a permitted, municipal landfill
Permitted as a new PCS landfill

APPENDIX G

APPENDIX B

Fulcrum Environmental Consulting, Inc.'s Certifications

International Fire Code Institute

PEGGY WILLIAMSON

is CERTIFIED in UNDERGROUND STORAGE TANK DECOMMISSIONING

The International Fire Code Institute attests that the individual named on this certificate has satisfactorily demonstrated knowledge of national underground storage tank regulations and industry standards in effect on this date in the category shown above by successfully completing the prescribed written examination.

Witnessed by our hand

Certificate No. 1035195-26

Issued December 5, 1998

For the International Fire Code Institute

Jeff Grunewald

Chairman

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Washington State Underground Storage Tank Site Assessment

PEGGY WILLIAMSON

has successfully completed the Washington State Competency Examination for Site Assessment of UST Petroleum Releases as required by WAC 173-360-600. Passing this exam demonstrates knowledge of regulations, standards, and practices pertaining to UST Site Assessment in Washington.

Peggy Williamson

Not valid unless signed

International Fire Code Institute

TRAVIS L. TRENT

is CERTIFIED in UNDERGROUND STORAGE TANK DECOMMISSIONING

The International Fire Code Institute attests that the individual named on this certificate has satisfactorily demonstrated knowledge of national underground storage tank regulations and industry standards in effect on this date in the category shown above by successfully completing the prescribed written examination.

Witnessed by our hand

Certificate No. 1059647-26

Issued December 18, 1999

For the International Fire Code Institute

Jeff Grunewald

Chairman

Washington State Underground Storage Tank Site Assessment

TRAVIS L. TRENT

has successfully completed the Washington State Competency Examination for Site Assessment of UST Petroleum Releases as required by WAC 173-360-600. Passing this exam demonstrates knowledge of regulations, standards, and practices pertaining to UST Site Assessment in Washington.

Travis Trent

Not valid unless signed.

APPENDIX C

Proposed MTCA Method A
Soil Cleanup Levels

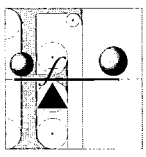
Table 1: Quick Summary -- Basis for Method A, Table 740-1, Unrestricted Land Use Soil Values

Hazardous Substance	CAS Number	Current Method A Cleanup Level mg/kg	Proposed Standard mg/kg	Basis for Standard
Arsenic	7440-38-2	20.0	20	Protection of drinking water and for direct contact adjusted for background (1)
Benzene	71-43-2	0.5	0.1	Protection of drinking water -- based on 4 phase model.
Cadmium	7440-43-9	2	1	Protection of drinking water, adjusted for background
Chromium (total)	7440-47-3	100.0		
Chromium VI	18540-29-9		19	Protection of drinking water--3 phase model.
Chromium III	16065-83-1		2000	Protection of drinking water--3 phase model.
DDT	50-29-3	1	2	Protection of drinking water--3 phase model. (2)
Ethylbenzene	100-41-4	20.0	6	Protection of drinking water--3 phase model.
Ethylene dibromide (EDB)	106-93-4	0.001	0.001	Protection of drinking water, adjusted for PQL
Lead	7439-92-1	250.0	250	Ingestion (1)
Lindane	58-89-9	1	0.2	Protection of drinking water, adjusted for PQL
Methylene chloride	75-09-2	0.5	0.02	Protection of drinking water--3 phase model.
Mercury (inorganic)	7439-97-6	1	2	Protection of drinking water--3 phase model.
MTBE	1634-04-4	none	none	No value proposed. Significant amounts not expected to be in soil due to high solubility.
Naphthalene	91-20-3	none	none	No value proposed. Total TPH values expected to provide sufficient protection of ground water.
PAHs (carcinogenic)		1.0	1	Ingestion. This is a total value for all cPAHs in the soil sample.
PCB Mixtures	1336-36-3	1.0	1	ARAR. This is a total value for all PCBs in the soil sample.
Tetrachloroethylene	127-18-4	0.5	0.05	Protection of drinking water--3 phase model.
Toluene	108-88-3	40.0	7	Protection of drinking water--3 phase model.
1,1,1 Trichloroethane	71-55-6	20	1	Protection of drinking water--3 phase model. (2)
Trichloroethylene	79-01-5	0.5	0.03	Protection of drinking water--3 phase model.
Xylenes	1330-20-7	20.0	9	Protection of drinking water--3 phase model.
TPH (total)	14280-30-9			
Gasoline range organics	6842-59-6	100	30	Protection of drinking water--4 phase model, assuming weathered gasoline composition.
Diesel Range Organics		200	2000	Protection of drinking water--residual saturation
Heavy Oils		200	2000	Protection of drinking water--residual saturation for diesel.
Electrical Insulating Mineral Oil		200 (3)	4000	Protection of drinking water--residual saturation

(1) Ecology decision not to change at this time. Ecology intends to review and, if appropriate, update these values in a future rulemaking.
(2) Minor correction needed for final rule. See explanation in table 2.
(3) Ecology has also issued a fact sheet (#95-157-TCP) allowing the use of 2000 mg/kg at electrical substations and switchyards.

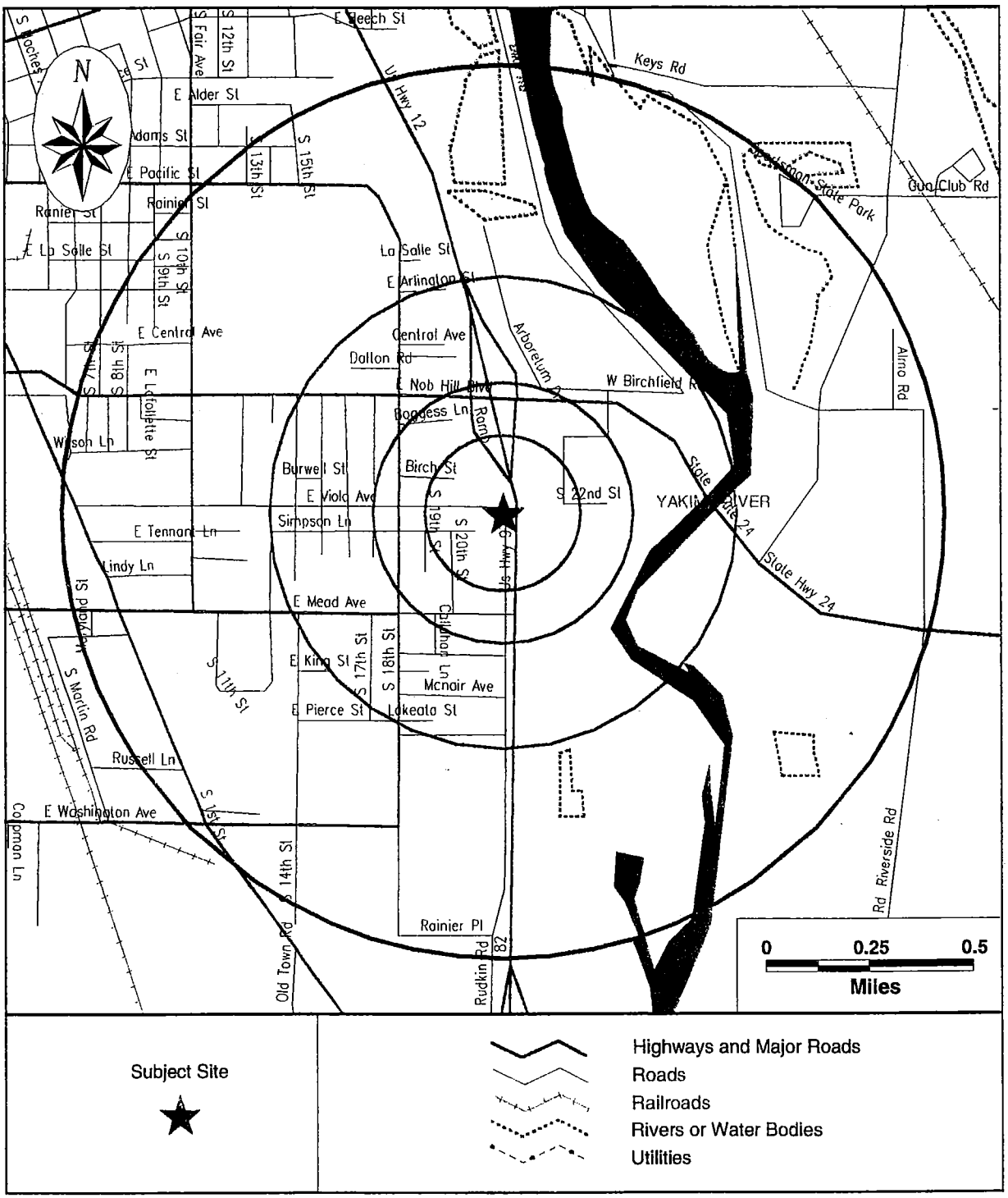
APPENDIX D

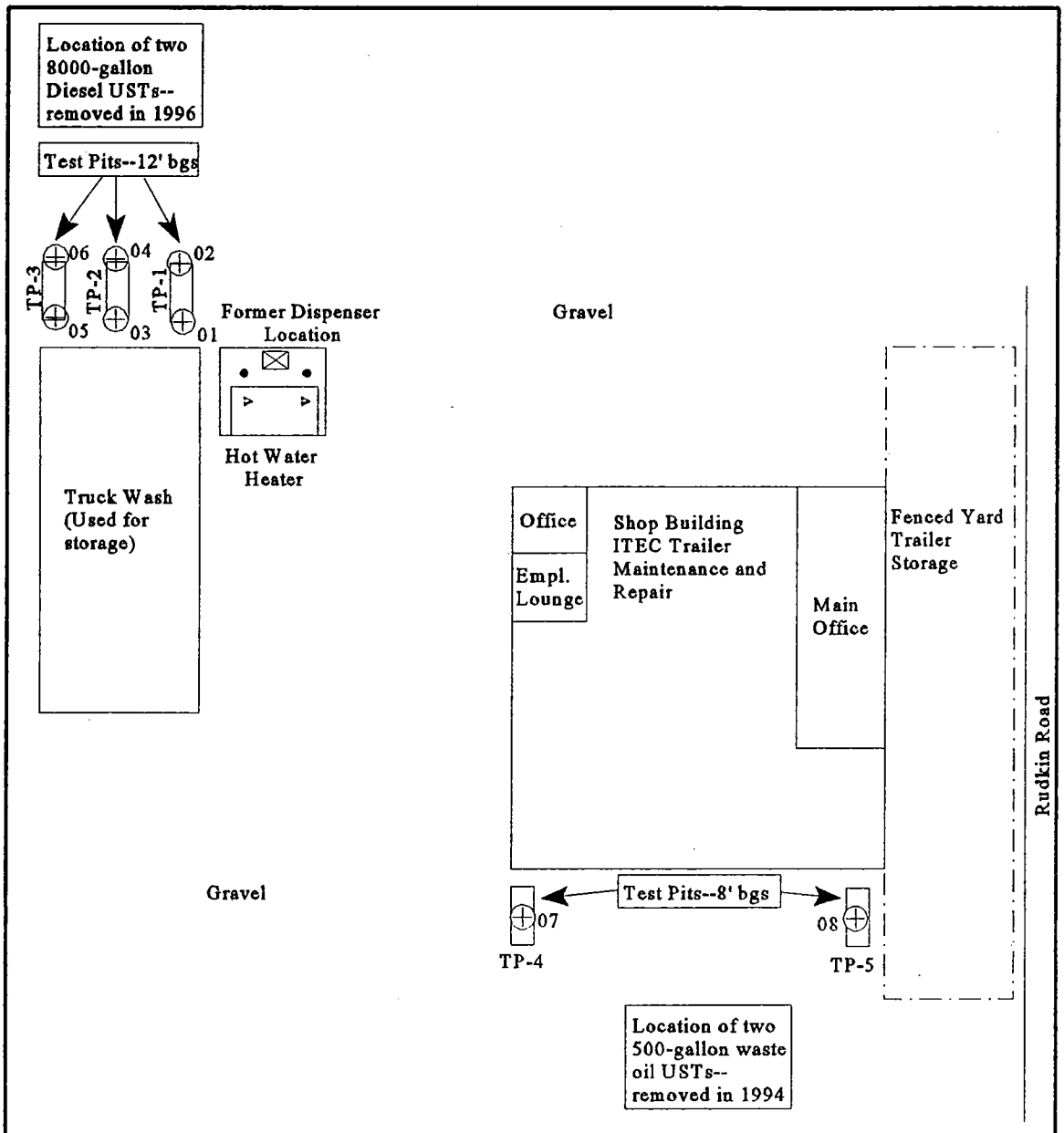
Site Location Maps From
NetCompliance's Phase II Environmental Site Assessment



SITE ASSESSMENT PLUS REPORT

Street Map





Legend

Samples ⊕

Not to Scale

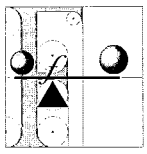
N

Site Map
ITEC
Union Gap, WA
Map Date: 01/19/00
48-001-092

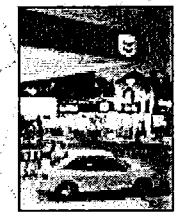
3 Kings Environmental, Inc.
210 N. Perry, Suite C
Kennewick, WA 99336
Phone: (509) 374-0162
Fax: (509) 374-0166

APPENDIX E

Chevron Diesel Information



The World of Chevron





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Products & Services: Chevron Lubricants in U.S., C Mexico
Products & Services: Odyssey Magazine Highlights

4 • Diesel Fuel Refining and Chemistry (continued)

DIESEL FUEL CHEMISTRY

Figure 4-2 illustrates a typical carbon number distribution for No. 2-D diesel fuel, and Figure 4-3 shows a typical distillation profile. Diesel fuel is a very complex mixture of thousands of individual compounds, most with carbon numbers between 10 and 22. Most of these compounds are members of the paraffinic, naphthenic, or aromatic class of hydrocarbons. These three classes of hydrocarbons have different chemical and physical properties. Different relative proportions of the three classes is one of the factors that make one diesel fuel different from another. We will show how the properties of the three classes influence the properties of the whole fuel and affect its performance in a diesel engine.

Figure 4-2
Typical Carbon Number Distribution – No. 2 Diesel Fuel

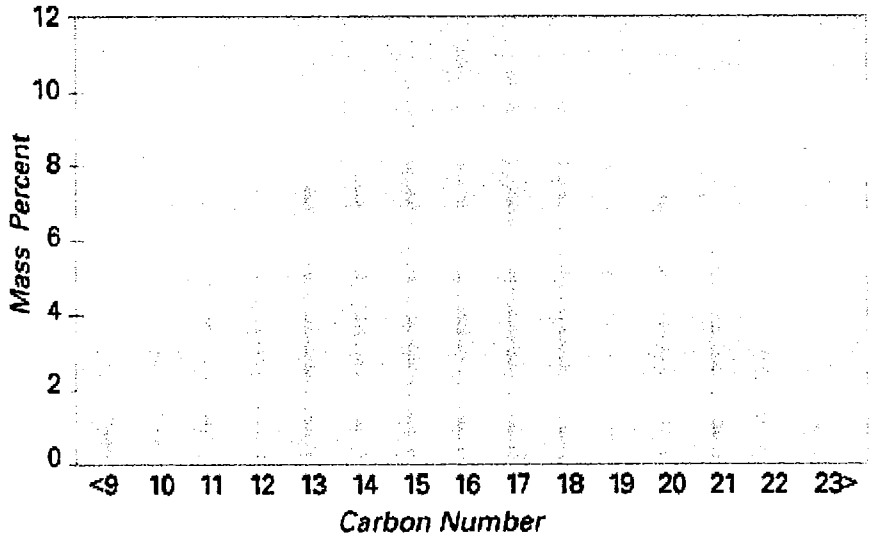

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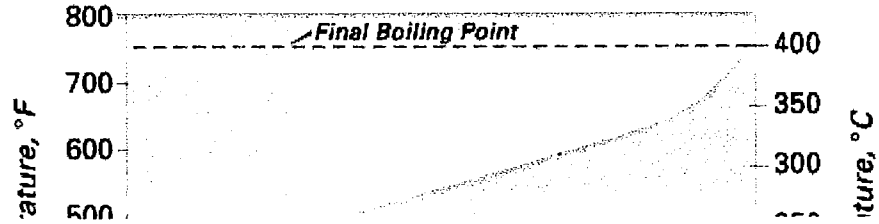
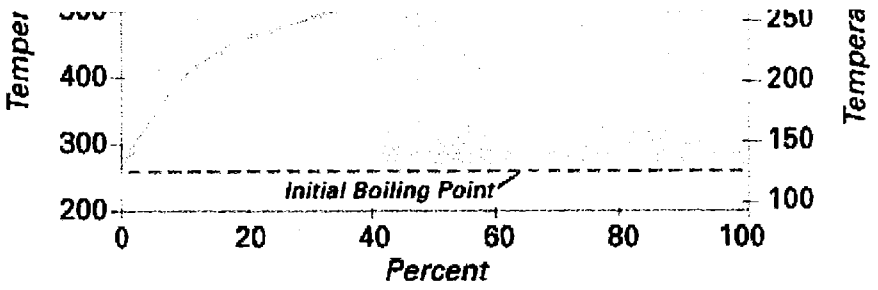
Figure 4-3
Typical Distillation Profile – No. 2 Diesel Fuel





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Hydrocarbon Properties

Figure 4-4 lists the boiling points and freezing points of typical diesel fuel hydrocarbons.

Figure 4-4
Boiling Point and Freezing Point of Representative Diesel Fuel Hydrocarbons

Compound	Chemical Formula	Hydrocarbon Class	Boiling Point, F	Freezing Point, F
Naphthalene	$C_{10}H_8$	Aromatic	424	176
Tetralin	$C_{10}H_{12}$	Aromatic	406	-31
cis-Decalin	$C_{10}H_{18}$	Naphthene	385	-45
1, 3-Diethylbenzene	$C_{10}H_{14}$	Aromatic	358	-119
n-Butylcyclohexane	$C_{10}H_{20}$	Naphthene	358	-103
n-Pentylcyclopentane	$C_{10}H_{20}$	Naphthene	358	-117
Decane	$C_{10}H_{22}$	n-Paraffin	345	-22
Anthracene	$C_{14}H_{10}$	Aromatic	646	419
1-Pentylnaphthalene	$C_{15}H_{18}$	Aromatic	583	-11
n-Nonylcyclohexane	$C_{15}H_{30}$	Naphthene	540	14
n-Decylcyclopentane	$C_{15}H_{30}$	Naphthene	534	-8
n-Pentadecane	$C_{15}H_{32}$	n-Paraffin	520	50
2-Methyltetradecane	$C_{15}H_{32}$	Isoparaffin	509	18
1-Decylnaphthalene	$C_{20}H_{28}$	Aromatic	714	59
n-Tetradecylbenzene	$C_{20}H_{34}$	Aromatic	669	61
n-Tetradecylcyclohexane	$C_{20}H_{40}$	Naphthene	669	77
n-Pentadecylcyclopentane	$C_{20}H_{40}$	Naphthene	667	63
Eicosane	$C_{20}H_{42}$	n-Paraffin	651	97
2-Methylnonadecane	$C_{20}H_{42}$	Isoparaffin	642	64

Boiling Points For compounds in the same class, boiling point increases with carbon number. For compounds of the same carbon number, the order of increasing boiling point by class is isoparaffin, n-paraffin, naphthene, and aromatic. The boiling point difference (100°–150°F or 60°–80°C) between isoparaffins and aromatics of the same carbon number is larger than the boiling point difference (about 35°F or 20°C) between compounds of the same class that differ by one carbon number. Thus, the compounds that boil at about 500°F, the middle of the diesel fuel boiling range, might be C_{12} aromatics, C_{13} naphthenes, C_{14} n-paraffin, and C_{15} isoparaffins.

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Freezing Point Freezing points (melting points) also increase with molecular weight, but they are strongly influenced by molecular shape. Molecules that fit more easily into a crystal structure have higher freezing points than other molecules. This explains the high melting points of n-paraffins and unsubstituted aromatics, compared to the melting points of isoparaffins and naphthenes of the same carbon number.

Density Figure 4-5 lists density and heat of combustion (heating value) for some representative diesel fuel hydrocarbons. For compounds of the same class, density increases with carbon number. For compounds with the same carbon number, the order of increasing density is paraffin, naphthene, and aromatic.

Figure 4-5
Density and Heat of Combustion for Representative Diesel Fuel Hydrocarbons

Compound	Hydrocarbon Class	Carbon Number	Density, 20 C, g/cm3	Net Heat of Combustion, 25 C, Btu/Lb	Net Heat of Combustion, 25 C, Btu/Gal
Naphthalene	Aromatic	10	1.175	16,704	163,800
Tetralin	Aromatic	10	0.9695	17,422	140,960
1,3-Diethylbenzene	Aromatic	10	0.8639	17,792	128,270
n-Butylcyclohexane	Naphthene	10	0.7992	18,666	124,500
n-Pentylcyclopentane	Naphthene	10	0.7912	18,738	123,720
Decane	n-Paraffin	10	0.7301	19,018	115,880
2,2-Dimethyloctane	Isoparaffin	10	0.7245	18,979	114,750
Anthracene	Aromatic	14	1.251	16,514	172,410
n-Nonylbenzene	Aromatic	15	0.8558	18,120	129,410
n-Nonylcyclohexane	Naphthene	15	0.816	18,672	127,150
n-Decylcyclopentane	Naphthene	15	0.811	18,721	126,710
n-Pentadecane	n-Paraffin	15	0.7684	18,908	121,250
n-Tetradecylbenzene	Aromatic	20	0.8549	18,284	130,310
n-Tetradecylcyclohexane	Naphthene	20	0.825	18,678	128,590
n-Pentadecylcyclopentane	Naphthene	20	0.8213	18,712	128,260
Eicosane	n-Paraffin	20	0.7843	18,853	123,400

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Heating Value For compounds with the same carbon number, the order of increasing heating value by class is aromatic, naphthene, and paraffin on a weight basis. However, the order is reversed for a comparison on a volume basis, with aromatic highest and paraffin lowest.

This same trend holds with fuels *(see Figure 4-6)*. Lighter (less dense) fuels, like gasoline, have higher heating values on a weight basis; whereas the heavier (more dense) fuels, like diesel, have higher heating values on a volume basis.

Figure 4-6
Typical Density and Net Heating Value of Different Fuels

Fuel	Density, g/cm³	Net Heating Value, Btu/lb.	Net Heating Value, Btu/gal
Regular gasoline	0.735	18,630	114,200
Premium gasoline	0.755	18,440	116,200
Jet fuel	0.795	18,420	122,200
Diesel fuel	0.850	18,330	130,000

Cetane Number Cetane number also varies systematically with hydrocarbon structure *(see Figure 4-7)*. Normal paraffins have high cetane numbers that increase with molecular weight. Isoparaffins have a wide range of cetane numbers, from about 10 to 80. Molecules with many short side chains have low cetane numbers; whereas those with one side chain of four or more carbons have high cetane numbers.

Figure 4-7
Cetane Number of Representative Diesel Fuel Hydrocarbons

Compound	Hydrocarbon Class	Chemical Formula	Cetane Number
n-Decane	n-Paraffin	$C_{10}H_{22}$	76
n-Pentadecane	n-Paraffin	$C_{15}H_{32}$	95
n-Hexadecane*	n-Paraffin	$C_{16}H_{34}$	100
n-Eicosene	n-Paraffin	$C_{20}H_{42}$	110
3-Ethyldecane	Isoparaffin	$C_{12}H_{26}$	48
4,5-Diethyloctane	Isoparaffin	$C_{12}H_{26}$	20
Heptamethylnonane*	Isoparaffin	$C_{16}H_{34}$	15
8-Propylpentadecane	Isoparaffin	$C_{18}H_{38}$	48
7,8-Diethyltetradecane	Isoparaffin	$C_{18}H_{38}$	67
9,10-Dimethyloctane	Isoparaffin	$C_{20}H_{42}$	59
Decalin	Naphthene	$C_{10}H_{18}$	48
3-Cyclohexylhexane	Naphthene	$C_{12}H_{24}$	36
2-Methyl-3-cyclohexylnonane	Naphthene	$C_{16}H_{32}$	70
2-Cyclohexyltetradecane	Naphthene	$C_{20}H_{40}$	57
1-Methylnaphthalene*	Aromatic	$C_{11}H_{10}$	0
n-Pentylbenzene	Aromatic	$C_{11}H_{16}$	8
Biphenyl	Aromatic	$C_{12}H_{10}$	21
1-Butylnaphthalene	Aromatic	$C_{14}H_{16}$	6
n-Nonylbenzene	Aromatic	$C_{15}H_{24}$	50
2-Octylnaphthalene	Aromatic	$C_{18}H_{24}$	18
n-Tetradecylbenzene	Aromatic	$C_{20}H_{34}$	72

* Primary reference material for cetane number scale

Naphthenes generally have cetane numbers from 40 to 70. Higher molecular weight molecules with one long side chain have high cetane numbers; lower molecular weight molecules with short side chains have low cetane numbers.

Aromatics have cetane numbers ranging from zero to 60. A molecule with a single aromatic ring with a long side chain will be in the upper part of this range; a molecule with a single ring with several short side chains will be in the lower part. Molecules with two or three aromatic rings fused together have cetane numbers below 20.

Viscosity Viscosity is primarily related to molecular weight and not so much to hydrocarbon class. For a given carbon number, naphthenes generally have slightly higher viscosities than paraffins or aromatics.

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Figure 4-8 summarizes the relationships between hydrocarbon class and fuel properties. Normal paraffins have excellent cetane numbers, but very poor cold flow properties and low volumetric heating values. Aromatics have very good cold flow properties and volumetric heating values, but very low cetane numbers. Isoparaffins and naphthenes are intermediate, with values of these properties between those of normal paraffins and aromatics.

Figure 4-8
Relationship of Hydrocarbon Class Properties to Fuel Properties

Fuel Property	Normal Paraffin	Isoparaffin	Naphthene	Aromatic
Cetane number	+ +	0/+	0/+	0/–
Low temperature operability	–	0/+	+	+
Volumetric heating value	–	–	0	+

+ Indicates a positive or beneficial effect on the fuel property.
0 Indicates a neutral or minor effect.
– Indicates a negative or detrimental effect.

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THERMAL EXPANSION
Like all liquids, diesel fuel slightly expands in volume as its temperature increases. The *coefficient of thermal expansion* measures the rate of the expansion. A typical value of the coefficient of thermal expansion for diesel fuel is 0.00046 per degree Fahrenheit. Using this value, 1.000 gallon of diesel fuel at 20°F will expand to 1.037 gal-lons at 100°F.

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APPENDIX F

Interim TPH Policy Calculations

Worksheet:

Calculations for Using the TPH Interim Policy (Two Pathways: Human Health and Soil-to-Groundwater)*

1. As in "Calculations for Using the TPH Interim Policy" example put the soil concentrations in the "Soil Conc" column.
2. Examine the hazard index and risk for each land use you wish to use, for each chemical or fraction, and the "Conc. at the well."
3. Hazard quotients for individual substances or fractions cannot exceed 1.0
4. The hazard index (sum of the hazard quotients) cannot exceed 1.0
5. The risk for individual substance or fractions cannot exceed 1x10E-06 for residential land use or 1x10E-05 for commercial or industrial.
6. The risk for the total cannot exceed 1x10E-05 for any land use.
7. The "concentration at the well" cannot exceed 1.0 mg/L total TPH.
8. If any exceedence occurs in 3-7 above, then the cleanup level for TPH has not been met.

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OCPF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6										#VALUE!	#VALUE!	#VALUE!
EC >6 - 8												
EC >8 -10												
EC >10 -12												
EC >12 -16												
EC >16 - 21												
Total aliphatic		0.06										
Aromatics												
EC >8 - 10	2400									#VALUE!	#VALUE!	#VALUE!
EC >10 - 12										#VALUE!	#VALUE!	#VALUE!
EC >12 - 16										#VALUE!	#VALUE!	#VALUE!
EC >16 - 21										#VALUE!	#VALUE!	#VALUE!
EC >21 - 35										#VALUE!	#VALUE!	#VALUE!
Total aromatic	2400	0.03										
Benzene	0		0.029		0.00E+00		0.00E+00		0.00E+00	#VALUE!	#VALUE!	#VALUE!
c-PAHs	0		7.3		0.00E+00		0.00E+00		0.00E+00			
Ethylbenzene	0	0.10		0.00		0.00		0.00				
Toluene	0	0.20		0.00		0.00		0.00		#VALUE!	#VALUE!	#VALUE!
Xylenes	0	2.00		0.00		0.00		0.00				
Total aromatic+B-E-X	2400	0.03		1.00		0.25		0.02				
Total				1.00	0.00E+00	0.25	0.00E+00	0.02	0.00E+00	#VALUE!		#VALUE!

*Note: This worksheet calculates Methods B and C soil cleanup levels for TPH for two pathways: "direct contact human health" and "soil-to-groundwater." Other possible pathways, such as vapor and surface water must be considered (see "Interim Policy"). In Addition to not exceeding a TPH level in the groundwater of 1.0 mg/L, there cannot be exceedance in the groundwater for individual substances such as the "BETX" compounds.