UST Closure Site Assessment Report

For Removal of Three UST's At The
Tiger Mini-Mart Facility,
Yakima, WA

Prepared For:

Northwest Petroleum Equipment, Inc.
265 Johnson Road
Selah, WA 98942

Prepared By:

SAGE Earth Sciences, Inc.
P.O. BOX 1644, ZILLAH, WA 98953
PHONE (509) 829-6400

May, 1995

TABLE OF CONTENTS

LIST OF APPENDICES

Executive Summary

On May 1, 1995, Northwest Petroleum Equipment (NPE) and Lewis Construction (LC) decommissioned and removed four (4) Underground Storage Tanks (UST's) at the Tiger Mini-Mart facility, 15 East Walnut Avenue, Yakima, WA. The WSDOE Site Identification number is 009855. The tanks consisted of one 8,000 gallon regular gasoline tank (Tank # 1-REG), one 6,000 gallon unleaded gasoline tank (Tank #2 - UL), one 6,000 gallon premium unleaded gasoline tank (Tank # 3-ULP) and one 550 gallon heating oil tank (Tank # 4-DIE).

Sage Earth Sciences, Inc. provided soil sampling services upon removal of the three (3) gasoline UST's. The UST's included in Sage's scope of work were removed from a single excavation. Closure Site Assessment of the heating oil tank was excluded from Sage's scope of work. No additional analyses or remedial was approved for this phase of the project. A visual inspection of the tanks found them to be in fair to good condition and no holes were observed.

Sage collected soil samples from the UST excavation, from the extreme north portion of the underground fuel lines, from beneath each fuel dispenser and from the stockpile of soil generated during removal of the UST's. The samples were submitted to Materials Testing and Consulting, Inc. (MTC), Burlington, WA for independent laboratory analysis. A travel blank and field duplicate were included with the sample shipment.

To determine if remedial action is required, Sage compared the MTC analytical results with the Method A Cleanup Levels of WAC 173-340-740. The comparison indicates that soil remediation is necessary to reduce aged gasoline range petroleum hydrocarbons beneath the original position of the 6,000 gallon unleaded gasoline tank (Tank # 2 - UL). In addition the comparison indicates that remedial action is necessary at the extreme southeast corner of the excavation (beneath the fuel line couplers) and beneath the original position of the northeast fuel dispenser to reduce total lead concentrations to acceptable concentrations. Analysis of soil samples collected from the stockpile of soil generated during the UST removal process indicates that this soil also requires remedial action to reduce aged gasoline range petroleum concentrations to acceptable levels.

MTC analysis indicates the presence of high boiling temperature hydrocarbons (e.g. motor oil) in samples NWP-0295-S3, S5, S6 and S7, which were collected from beneath Tank # 1 - REG, the west excavation sidewall, the north excavation sidewall and the east excavation sidewall. Additional analyses, using method WTPH-418.1, are required to determine if remedial action is necessary to reduce high boiling temperature hydrocarbons concentrations at these sampling locations.

1.0 Introduction

1.1 Purpose

The purpose of this closure site assessment is to describe findings and actions taken associated with the removal of three (3) Underground Storage Tanks (UST's) located at the Exxon Tiger Mini-Mart property in Yakima, Washington. This tank removal and closure site assessment project responds to regulatory requirements set forth by the Washington State Department of Ecology (WSDOE).

1.2 Scope of Work

Northwest Petroleum Equipment, Selah, WA, provided tank decommissioning services. Lewis Construction (LC) provided excavation services for the UST removal project. Sage Earth Sciences, Inc. (Sage) provided closure site assessment soil sampling services upon removal of three UST's. Closure site assessment of a heating oil tank, located on the subject property, was not included in Sage's scope of work. Soil samples were submitted to Materials Testing & Consulting (MTC), Burlington, WA for independent laboratory analysis.

1.3 Site Location

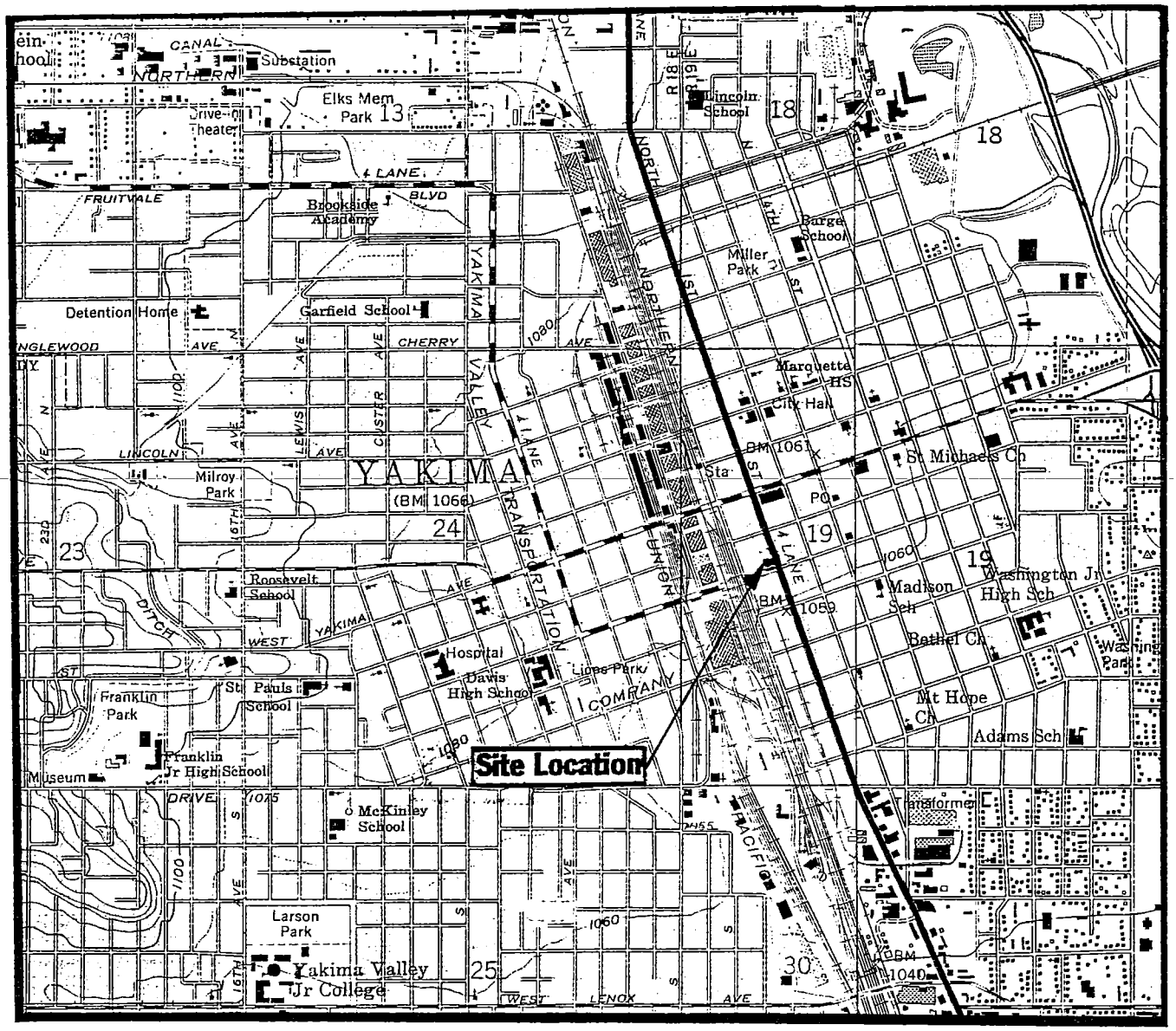
The site is located at 15 East Walnut Avenue, Yakima, WA. It is situated within the SW 1/4 of the NW 1/4 of Section 19, Township 13 North, Range 19 East, Willamette Meridian. The site latitude is 46^{O} 36' 00" and the longitude is 120^{O} 30' 13". The location of the site is shown by Figure 1.

1.4 Site Description

The site consisted of a mini-mart which supported retail sale of petroleum products. The buildings and UST systems were removed due to the termination of a lease agreement. The local topography slopes very gently southeast. South First Street lies immediately east of the site. Walnut Avenue lies immediately south of the site. Surrounding land use is predominately occupied by commercial businesses. A sketch showing surrounding land is shown by Figure 2.

Goodman Oil Co.
1265 Capital Blvd.
Boise, Idaho
(208) 342-4588

The authorized site contact is Mr. Charles D. Conley.



SCALE 1:24 000

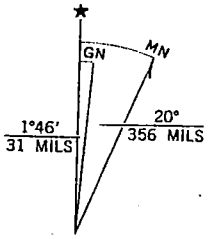
1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION



UTM GRID AND 1985 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092

Figure 1. Site Location Map

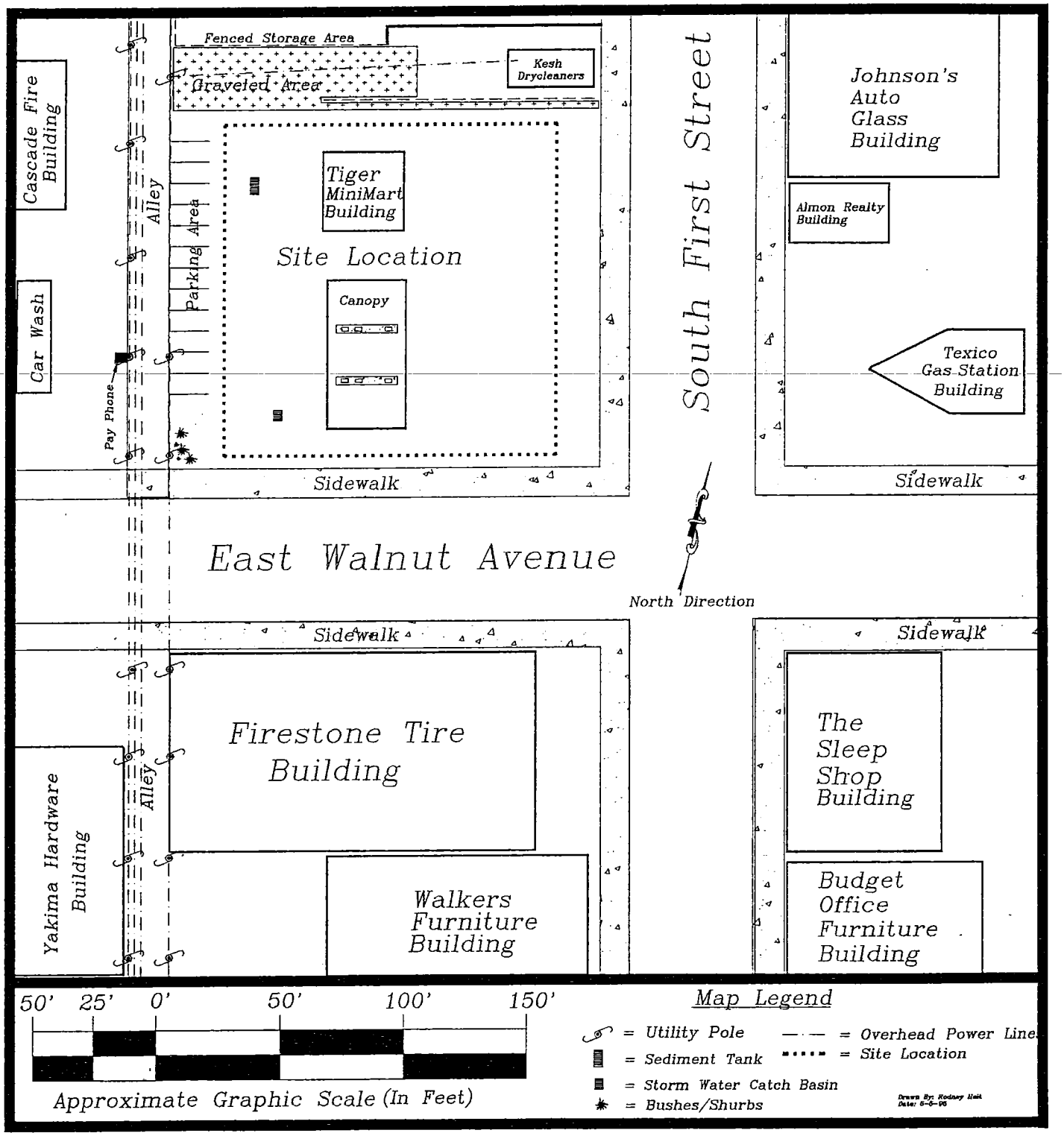


Figure 2. Site Sketch Showing Adjacent Land Use

1.5 UST System Information

The WSDOE Site ID# is 009855. The UST's consisted of:

- one (1) 8,000 gallon regular gasoline tank (Tank # 1-REG),
- one (1) 6,000 gallon unleaded gasoline tank (Tank # 2-UL),
- one (1) 6,000 gallon premium unleaded gasoline tank (Tank # 3-ULP) and
- one (1) 550 gallon heating oil tank (Tank # 4-DIE).

Three (3) UST's used to support retail sale of petroleum products, were situated east of the mini-mart. One (1) UST (Tank # 4-DIE) used to store heating oil for consumptive use on the premises was located immediately east of the mini-mart building. A sketch of the site showing the original tanks positions is shown by Figure 3. Approximately fifty (50') feet of piping lead from the tanks to a dispenser island located south of the service station. Vent lines led from each UST to the northeast corner of the mini-mart building.

1.6 Soils Description

Surficial soil at the site consists of silty, sandy gravel supporting cobbles and boulders up to poorly sorted gravel's with basaltic river cobbles up to one and one-half (1.5) feet in diameter. This soil unit extended to the floor of the excavation, which was established to a depth of fifteen (15) feet Below Ground Surface (BGS). The soil is classified as "GM" according to the *Unified Soil Classification System*. Soils encountered within the excavation are described by the Soil Excavation Profile (Appendix A).

1.7 Hydrogeology

No hydrogeologic investigation was conducted during the investigation. Groundwater was not encountered during tank removal activities. Depth to groundwater at the site was not determined.

2.0 Field Activities

2.1 UST Excavation & Fuel Dispensers

NPE provided tank decommissioning services and LC removed the UST's on May 1, 1995. Based upon visual observations, the heating oil tank (Tank # 4-DIE) did not appear to have leaked. The remaining UST's were removed from a single excavation. Rodney L. Heit, an IFCI licensed site assessor, performed soil sampling on May 1, 1995.

Visual inspection of the USTs found them to be in fair to good condition with slight corrosion observed on the under side of the tanks. No holes were observed in any of the tanks.

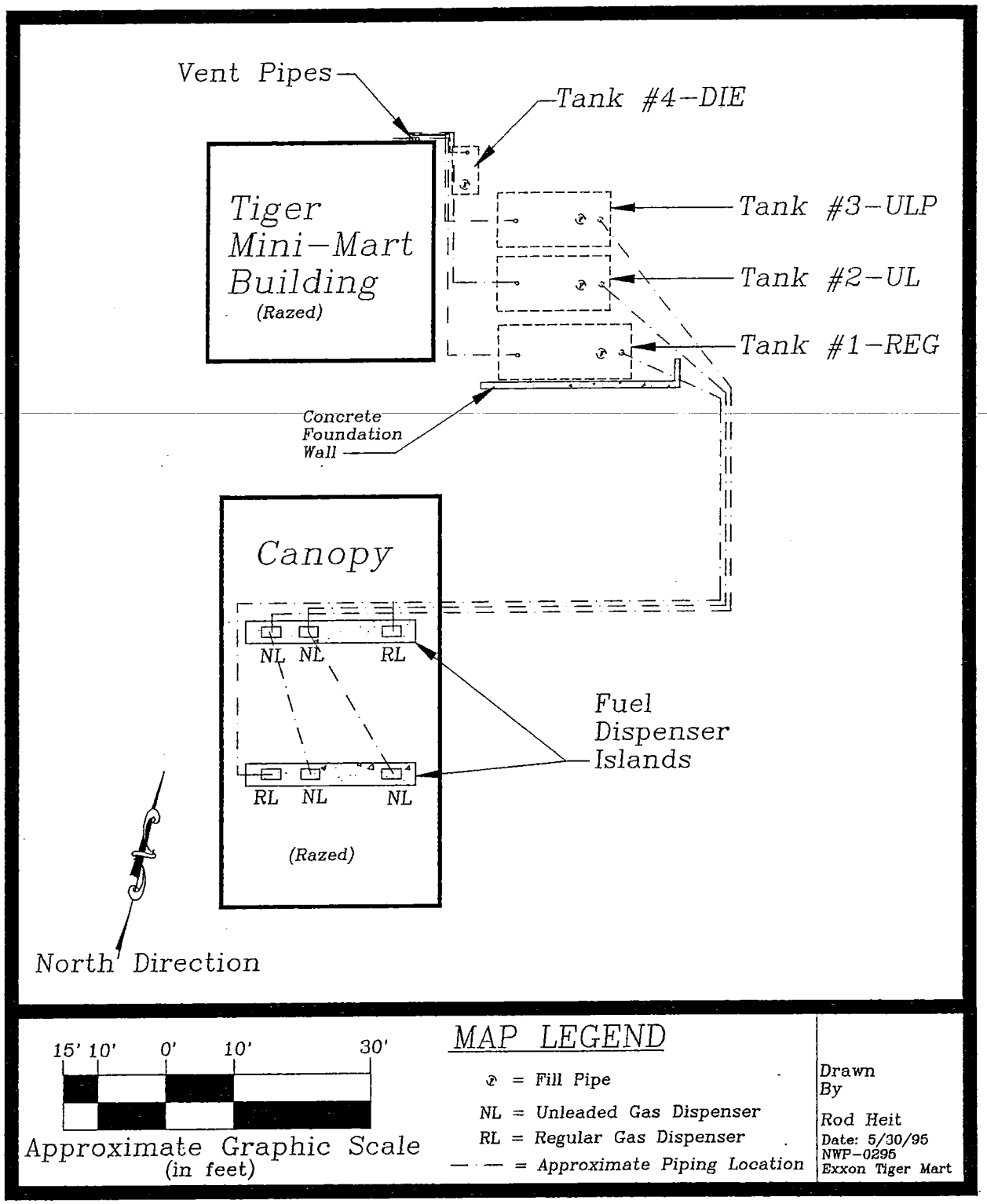


Figure 3. UST System Diagram

Soil samples were collected from each UST excavation sidewall, below each of the UST's and beneath each fuel dispenser. However, Sage was unable to collect a sample from south sidewall of the USTs excavation due to a concrete foundation wall extending from just below ground (BGS) surface to a depth of at least twelve feet (12') BGS. The soil sampling locations are shown by Figure 4. Soil sampling methodologies are attached as Appendix B. Soil sample descriptions and field screening results are provided on the Daily Field Sampling Log (Appendix C).

Sage submitted fourteen (14) soil samples to MTC for independent laboratory analysis. To determine if remedial action is required, Sage compared the analytical results (Appendix D) with the "Method A Soil Cleanup Levels" (Cleanup Levels) of WAC 173-340-740 (Appendix E). Cleanup Levels used for this investigation are:

- 100 ppm for gasoline,
- 0.5 ppm for benzene,
- 40.0 ppm for toluene,
- 20.0 ppm for ethylbenzene,
- 20.0 ppm for xylenes and
- 250 ppm for total lead.

Analysis of a soil sample (NWP-0295-S2) collected beneath the original position of the 6,000 gallon unleaded gasoline tank (Tank # 2-UL) found aged gasoline range hydrocarbons at a concentration of 562 parts per million (ppm). Analysis of samples NWP-0295-S8 and NWP-0295-S10 found total lead at concentrations of 630.0 ppm and 365.0 ppm, respectively. In addition, high boiling temperature hydrocarbons (e.g. motor oil) was indicated in the analysis of samples NWP-0295-S3, S5, S6, and S7. These soil samples were collected from beneath Tank # 1 - REG, the west excavation sidewall, the north excavation sidewall and the east excavation sidewall. Analysis of the remaining soil samples found no petroleum hydrocarbons or total lead at concentrations in excess of the Cleanup Levels (except for soil stockpile samples discussed below).

Comparison of the analytical results (Appendix D) with the Cleanup Levels (Appendix E) indicates that remedial action is necessary to reduce aged gasoline range petroleum hydrocarbons beneath the original position of the 6,000 gallon unleaded gasoline tank (Tank # 2 - UL). In addition the comparison indicates that remedial action is necessary at the extreme southeast corner of the excavation (beneath the fuel line couplers) and beneath the original position of the northeast fuel dispenser to reduce total lead concentrations to acceptable concentrations. Additional analyses must be performed on samples NWP-0295-S3, S5, S6 and S7 to determine if remedial action is necessary to reduce high boiling temperature hydrocarbons to acceptable concentrations.

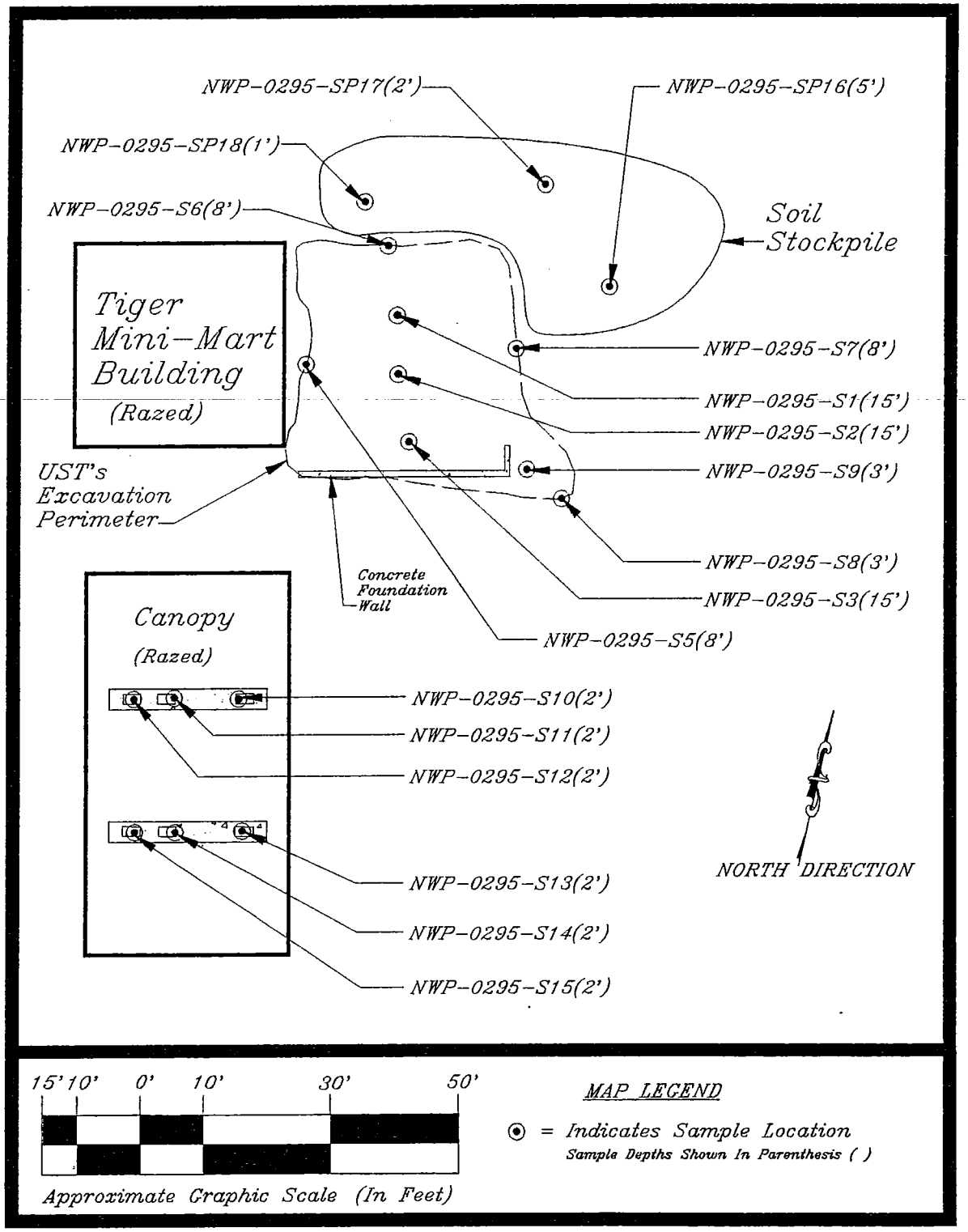


Figure 4. Closure Site Assessment Soil Sampling Locations

2.2 Impacted Soil Stockpiles

Soils excavated during the tank removal process were placed in a temporary stockpile located north of the excavation. Upon completion of the UST removal process, Sage collected three (3) soil samples (NWP-0295-SP16 through NWP-0295-SP18) from the stockpile of soil generated during the tank removal process. Soil stockpile sampling locations are shown by Figure 4. Analysis of the soil stockpile samples found:

- aged gasoline range hydrocarbons at concentrations ranging from 95.0 ppm up to 458 ppm,
- xylenes in on sample (NWP-0295-SP18) at a concentration of 0.5 parts per billion (ppb) and
- total lead at concentrations ranging from 34.0 ppm up to 55.0 ppm.

Comparison of the analytical results (Appendix D) with the WSDOE "End Use Criteria for Petroleum Contaminated Soils" (Appendix F) indicates that the stockpile of soil generated during the UST removal process is designated as "Class 4 Soil". For Class 4 Soils, the WSDOE recommends:

- treatment,
- Disposal in a permitted, municipal landfill or
- permitting the site as a new Petroleum Contaminated Soil (PCS) landfill.

Upon completion of soil stockpile sampling LC immediately backfilled the excavation with soil generated during the tank removal process. Sage completed a copy of the Underground Storage Tank Site Check/Site Assessment Checklist and a copy of this checklist is attached as Appendix G.

3.0 Recommendations

3.1 Additional Analyses

Prior to remedial action, Sage recommends analyzing samples NWP-0295-S3, S5, S6 and S7 for high boiling temperature hydrocarbons using analytical method WTPH-418.1. Results of these analyses will be used to determine if remedial action is required to reduce high boiling temperature hydrocarbons at these sampling locations.

Analytical results indicate that total lead concentrations require remediation at the southeast corner of the UST excavation and beneath the original position of the northeast fuel dispenser. Prior to lead remediation, Sage recommends analyzing samples NWP-0295-S8 & NWP-0295-S10 for lead using the *Toxicity Characteristic Leaching Procedure* (TCLP) to determine if the soil is regulated under the **Dangerous Waste Regulations WAC 173-303.**

3.2 Remedial Actions

Based upon the data and findings reported herein, Sage recommends remedial action to reduce aged gasoline range hydrocarbons beneath the original position of the 6,000 gallon unleaded gasoline tank (Tank # 2 - UL) and in soil used to backfill the UST excavation (soil generated during the tank removal process). Sage also recommends remedial action at the extreme southeast corner of the UST excavation, as well as beneath the original position of the northeast fuel dispenser, to reduce total lead concentrations to acceptable levels. Results of analyses recommended in Section 3.1 will determine if additional remedial action is required.

4.0 Limitations

In performance of this project, Sage Earth Sciences has conducted its activities in accordance with current regulatory guidelines. The conclusions and recommendations are based upon our field observations, field screening and laboratory analyses. Since the investigation is limited to the closure site assessment of three (3) UST's, this document does not imply that the property is free of other environmental constraints.

Appendix A

SOIL EXCAVATION PROFILE

SAGE
Earth Sciences, Inc.
602 Cherryhill Lane
P.O. Box 1644
Zillah, WA 98953
Phone (509) 829-6400

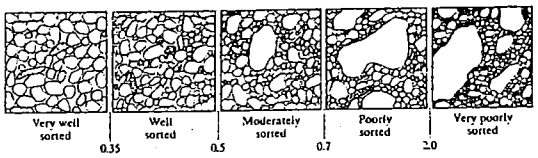
Field Crew RODNEY HEIT

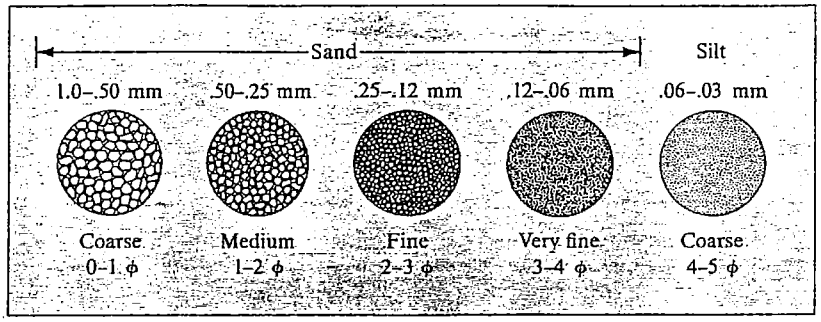
Project Name EXXON TIGER MINI MART Project # NWP-0295

Address 15 EAST WALNUT AVE YAKIMA, WA. Date 5-1-95

Location S.W. 1/4 N.W. 1/4 Sec. 19 T. 13 N. R. 18 E., W.M. Elevation ~1065' Datum MSL

Pit Dimensions APPROX. 28' x 36' x 15' Finish Depth ≤15' Pit Orientation EAST OF BUILDING





Additional Detrital Rock Classifications on Reverse

Sample #	Matrix	Groundwater	Depth (15')	Graphic Log	Unified Soil Classification
SEE FIELD SAMPLE LOG	SOIL	NOT ENCOUNTERED	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	ASPHALT	GM

Description of Lithologies

ASPHALTED SURFACE TO A DEPTH OF 3" BGS

MATRIX SUPPORTED Clayey, Sandy, Silty GRAVELS POORLY SORTED, WITH BASALTIC RIVER GRAVELS TO COBBLES UP TO 1.5" IN DIAMETER AVERAGE GRAVEL SIZE 1".5 INCHES IN DIAMETER.

EXCAVATION TERMINATED @ 15' FEET BGS

Rodney L Heit 5-1-95

SAGE Representative Date

Appendix B

Soil Sampling Methodology

Soil sampling locations were chosen at locations considered representative of soil conditions. To collect representative soil samples, Sage Earth Sciences uses the methodology outlined below.

1. Select a new sample jar whose volume is adequate for the appropriate analysis.

2. Remove a minimum of six (6) inches of soil to minimize the loss of volatile compounds.

3. Immediately transfer to soil to the sample container, using the container itself to collect the sample. Using new nitrile gloves, pack the soil tightly into the container to prevent the loss of volatile compounds. Ensure that the container is filled completely to exclude any airspace in the sample.

4. Label the jar with a unique identification number, the analytical procedure to be used, the time and date of sample collection and the person who collected the sample.

5. Enter the sample on the Chain-of-Custody form and the Daily Field Sampling Log.

6. Place the sample in wet ice to cool the samples to approximately four (4) degrees Celsius.

7. Place the samples in a shipping cooler packed with absorbent material and blue ice for shipment.

8. Secure the Chain-of-Custody form to the underside of the cooler lid in a sealable plastic bag with tape.

9. Upon completion of sampling activities, secure the lid of the cooler with strapping tape and affix custody seals across the lid/cooler interface. Place appropriate shipping waybills atop the cooler.

10. Ship the samples to the laboratory via commercial courier.

Appendix C

Daily Field Sampling Log

Project # NWP- 0295
Date 5-1-95
Sampler RODNEY HEIT
Sheet 1 of 1

Sample #	Location	Matrix	Staining	Odors	Depth	TOV	TLC
NWP-0295-S1	Below 6,000 PREMIUM NO LEAD TANK	SOIL	NONE	NONE	15'	N/A	N/A
NWP-0295-S2	Below 6,000 Reg NO LEAD TANK	SOIL	GRAY	GASOLINE	15'		
NWP-0295-S3	Below 8,000 Regular Leaded gas TANK	SOIL	NONE	NONE	15'		
NWP-0295-S4	NOT Collected due TO Concrete WALL	N/A	N/A	N/A	N/A		
NWP-0295-S5	TANK EXCAVATION WEST END SIDE WALL	SOIL	NONE	NONE	8'		
NWP-0295-S6	TANK EXCAVATION NORTH SIDE WALL	SOIL	NONE	NONE	8'		
NWP-0295-S7	TANK EXCAVATION EAST SIDEWALL	SOIL	NONE	SLIGHT GASOLINE	8'		
NWP-0295-S8	PIPING SOUTH EAST OF EXCAVATION	SOIL	NONE	NONE	3'		
NWP-0295-S9	PIPING SOUTH EAST OF EXCAVATION	SOIL	NONE	NONE	3'		
NWP-0295-S10	NORTH ISLAND EAST END Reg gas	SOIL	NONE	SLIGHT	2'		
NWP-0295-S11	NORTH ISLAND CENTER NO LEAD GAS	SOIL	NONE	SLIGHT	2'		
NWP-0295-S12	NORTH ISLAND WEST END NO LEAD GAS	SOIL	NONE	NONE	2'		
NWP-0295-S13	SOUTH ISLAND EAST END NO LEAD GAS	SOIL	NONE	STRONG	2'		
NWP-0295-S14	SOUTH ISLAND CENTER NO LEAD GAS	SOIL	NONE	SLIGHT	2'		
NWP-0295-S15	SOUTH ISLAND WEST END Reg LEADED GAS	SOIL	NONE	SLIGHT	2'		
* NWP-0295-SP16	STOCKPILED SOIL EAST SIDE	SOIL	NONE	STRONG	5'		
NWP-0295-SP17	STOCKPILED SOIL CENTRAL	SOIL	NONE	SLIGHT	2'		
NWP-0295-SP18	STOCKPILED SOIL WEST SIDE	SOIL	NONE	SLIGHT	1'		
NWP-0295-TB19	DISTILLED WATER TRAVEL BLANK	H_2O	N/A	N/A	N/A		

Ambient Vapors N/A Units
TLC Standards N/A
FIELD SCREENING
NOT WANTED

✓S = Soil Sample
GW = Groundwater Sample
SW = Surface Water Sample
✓D = Duplicate Sample (10 % of samples/matrix)
TB = Travel Blank

* = DUPLICATE SAMPLE

Appendix D

MTC *Analytical/Environmental Services*

Materials Testing & Consulting, Inc
WSDOE Laboratory #C057
WSDOH Laboratory #046

P.O. Box 309
Mount Vernon, WA 98273
(206)757-1400 - FAX (206)757-1402

84
Client: Sage Earth Sciences
P.O. Box 1644
Zillah, WA 98953

Attn: Mr Dave Green

Report Date: 5/10/95
Reference: 95-0735
Date Analyzed: 5/3/95

Project: TIGER MINI MART
Date Sampled: 5/1/95

Data Report

Lab Number	Sample Description	ppm	ppb				Surrogate
		TPH	Benzene	Toluene	Ebenzene	Xylenes	% Recovery
84-95-01445.0S	NWP-0295-S1	nd	nd	nd	nd	nd	126
84-95-01445.0S	MS NWP-0295-S1	nd	70%	80%	98%	84.7%	129
84-95-01446.0S	NWP-0295-S2	562-AG	nd	nd	nd	1.8	127
84-95-01447.0S	NWP-0295-S3	nd*	nd	nd	nd	nd	125
84-95-01448.0S	NWP-0295-S5	nd*	nd	nd	nd	nd	128
84-95-01449.0S	NWP-0295-S6	nd*	nd	nd	nd	0.8	126
84-95-01450.0S	NWP-0295-S7	nd*	nd	nd	nd	0.4	125
84-95-01451.0S	NWP-0295-S8	nd	nd	nd	nd	nd	126
84-95-01452.0S	NWP-0295-S9	nd	nd	nd	nd	nd	131
84-95-01452.0S	Lab Dup NWP-0295-S9	nd	nd	nd	nd	nd	126
84-95-01453.0S	NWP-0295-S10	nd	nd	nd	nd	0.5	126
84-95-01454.0S	NWP-0295-S11	nd	nd	nd	nd	nd	138
84-95-01455.0S	NWP-0295-S12	nd	nd	nd	nd	nd	127
84-95-01456.0S	NWP-0295-S13	nd	0.3	0.5	nd	1.1	126
84-95-01457.0S	NWP-0295-S14	13.6-G	0.3	0.4	nd	1.3	126
84-95-01458.0S	NWP-0295-S15	62.2-AG	nd	nd	nd	0.5	126
84-95-01459.0S	NWP-0295-SP16	95.0-AG	nd	nd	nd	nd	127
	Methods: WSDOE: WTPH-G/WTPH-D G- Gasoline A-Aged D-Diesel	Soil/Water	Soil/Water	Soil/Water	Soil/Water	Soil/Water	Method Acceptance Limits
	Method Reporting Limit (MRL)**	10.0/0.10	100/1.0	100/1.0	100/1.0	100/1.0	Soil: 50-150
	Maximum Contamination Levels	100/1	500/5	40000/40	20000/30	20000/20	H20: 50-150

Comments: * - indicates heavier hydrocarbons
** - A value of "<n" indicates elevated detection limits due to dilution or chromatographic interference
MS - Matrix Spike at 0.5 ppm BTEX

QC Review:

MTC *Analytical/Environmental Services*

Materials Testing & Consulting, Inc
WSDOE Laboratory #C057
WSDOH Laboratory #046

P.O. Box 309
Mount Vernon, WA 98273
(206)757-1400 - FAX (206)757-1402

84
Client: Sage Earth Sciences
P.O. Box 1644
Zillah, WA 98953

Attn: Mr Dave Green

Report Date: 5/10/95
Reference: 95-0735
Date Analyzed: 5/3/95

Project: TIGER MINI MART
Date Sampled: 5/1/95

Data Report

Lab Number	Sample Description	ppm TPH	ppb Benzene	ppb Toluene	ppb Ebenzene	ppb Xylenes	Surrogate % Recovery
84-95-01460.0S	NWP-0295-SP17	458-AG	nd	nd	nd	nd	129
84-95-01460.0S	Lab Dup NWP-0295-SP1	356-AG	nd	nd	nd	nd	129
84-95-01461.0S	NWP-0295-SP18	99.7-AG	nd	nd	nd	0.5	128
	Methods: WSDOE: WTPH-G/WTPH-D G- Gasoline A-Aged D-Diesel	Soil/Water	Soil/Water	Soil/Water	Soil/Water	Soil/Water	Method Acceptance Limits
	Method Reporting Limit (MRL)**	10.0/0.10	100/1.0	100/1.0	100/1.0	100/1.0	Soil: 50-150
	Maximum Contamination Levels	100/1	500/5	40000/40	20000/30	20000/20	H20: 50-150

Comments: * - indicates heavier hydrocarbons
** - A value of "<n" indicates elevated detection limits due to dilution or chromatographic interference
MS - Matrix Spike at 200 ppm Gasoline\Diesel

QC Review

MTC *Analytical/Environmental Services*

Materials Testing & Consulting, Inc

P.O. Box 309
Mount Vernon, WA 98273
(206)757-1400 - FAX (206)757-1402

Inorganic Chemical Data Report

Client: Sage Earth Sciences
P. O. Box 1644
Zillah, WA 98953

Mr. Dave Green

Report Date: 5/16/95
Reference: 95-0735
Project: TIGER MINI MART

Data Report

Lab Number	Sample Description	Lead(Pb)	Units			
84-95-01447.1S	NWP-0295-S3	29.0	mg/Kg			
84-95-01448.1S	NWP-0295-S5	25.5	mg/Kg			
84-95-01450.1S	NWP-0295-S7	36.5	mg/Kg			
84-95-01451.1S	NWP-0295-S8	630.0	mg/Kg			
84-95-01452.1S	NWP-0295-S9	132.0	mg/Kg			
84-95-01453.1S	NWP-0295-S10	365.0	mg/Kg			
84-95-01458.1S	NWP-0295-S15	184.0	mg/Kg			
84-95-01459.1S	NWP-0295-SP16(DUP)	34.0	mg/Kg			
84-95-01460.1S	NWP-0295-SP17	55.0	mg/Kg			
84-95-01461.1S	NWP-0295-SP18	41.0	mg/Kg			
	Methods	3050/7421				
	Method Reporting Limit(MRL)	25.0				
	Maximum Contamination Level(MCL)	250				

Mary Price
Inorganics Chemist

QC Review:

SAGE
Earth Sciences, Inc.

P.O. Box 1644
601 Glenwood Drive
Zillah, WA 98953
Phone (509) 829-6400
Fax (509) 829-6443

CHAIN-OF-CUSTODY FORM

Project Name TIGER MINI MART
Project Number NWP-0295
Sampler RODNEY HEIT
Date 5-1-95 Time 9:00am
Destination MATERIALS TESTING & CONSULTING

Sample Number	Matrix	Number of Containers	Container Size	Analyses Requested: HCID	WTPHG	TOTAL LEAD	602
NWP-0295-S1	SOIL	1	4oz	X	X		
NWP-0295-S2	SOIL	1	4oz	X	X		
NWP-0295-S3	SOIL	1	4oz	X	X	X	
~~NWP-0295-S4~~	~~SOIL~~	~~1~~	~~4oz~~	THIS SAMPLE			NOT IN SHIPMENT - RSH
NWP-0295-S5	SOIL	1	4oz	X	X	X	
NWP-0295-S6	SOIL	1	4oz	X	X		
NWP-0295-S7	SOIL	1	4oz	X	X	X	
NWP-0295-S8	SOIL	1	4oz	X	X	X	
NWP-0295-S9	SOIL	1	4oz	X	X	X	
NWP-0295-S10	SOIL	1	4oz	X	X	X	
NWP-0295-S11	SOIL	1	4oz	X	X		
NWP-0295-S12	SOIL	1	4oz	X	X		
NWP-0295-S13	SOIL	1	4oz	X	X		
NWP-0295-S14	SOIL	1	4oz	X	X		
NWP-0295-S15	SOIL	1	4oz	X	X	X	

Relinquished by: Rodney Heit Date: 5-2-95
Firm: Sage Earth Sciences Inc Time: 2:00pm

Received By: J Meadows Date: 5/3/95
Firm: M+C Time: 10:15a.m

Relinquished by: Date:
Firm: Time:

Received By: Date:
Firm: Time: 95-0735 1145/1467

Container Condition: Good Violated Cool (4°C): Yes No Custody Seals: Intact Violated

SAGE
Earth Sciences, Inc.

P.O. Box 1644
601 Glenwood Drive
Zillah, WA 98953
Phone (509) 829-6400
Fax (509) 829-6443

CHAIN-OF-CUSTODY FORM

Project Name: TIGER MINI-MART
Project Number: NWP-0295
Sampler: Rodney Leit
Date: 5-1-95 Time: 9:00AM
Destination: MATERIALS TESTING & CONSULTING INC

Sample Number	Matrix	Number of Containers	Container Size	Analyses Requested: HCl O	WTPH G	TOTAL LEAD	602	
NWP-0295-SP16	SOIL	2	4oz	X	X	X		~ DUPLICATE SAMPLE ~
NWP-0295-SP17	SOIL	1	4oz	X	X	X		
NWP-0295-SP18	SOIL	1	4oz	X	X	X		
NWP-0295-TB19	H_2O	1	40 ml/vi	X	X		X	— TRAVEL BLANK ~

Relinquished by: Rodney L Leit Date: 5-2-95
Firm: Sage Earth Sciences Inc. Time: 2:00pm

Received By: J McAdow Date: 5/3/95
Firm: MTC Time: 10:15 a.m.

Relinquished by: Date:
Firm: Time:

Received By: Date:
Firm: Time:

Container Condition: Good Violated

Cool (4°C): Yes No

Custody Seals: Intact Violated

Appendix E

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]

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

C

UNDERGROUND STORAGE TANK
Site Check/Site Assessment Checklist

RECEIVED JUN 0 [illegible]

For Office Use Only
Owner # 4000 6989 J.S.
Site # 009855

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 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 tanks for which the site check or site assessment is being conducted. Use the owner's tank ID numbers 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): 009855

Site/Business Name: EXXON TIGER MINI MART

Site Address: 15 EAST WALNUT AVE (Street) Telephone: (509) 452-9196

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

TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
#1 - REGULAR	8,000 GALLON	Regular Leaded Gasoline
#2 - UNLEADED	6,000 GALLON	Regular Unleaded Gasoline
#3 - PREMIUM/NL	6,000 GALLON	Premium Unleaded Gasoline
#4 - DIESEL	550 GALLON	Diesel Heating 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 a vicinity map.	RSH ✓	
2.	A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in site assessment guidance)	RSH	
3.	A summary of UST system data is provided. (see Section 3.1)	RSH	
4.	The soils characteristics at the UST site are described. (see Section 5.2)	RSH	
5.	Is there any apparent groundwater in the tank excavation?		RSH
6.	A brief description of the surrounding land use is provided. (see Section 3.1)	RSH	
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.	RSH	
8.	A sketch or sketches showing the following items is provided:		
	- location and ID number for all field samples collected	RSH	
	- groundwater samples distinguished from soil samples (if applicable)	RSH	
	- samples collected from stockpiled excavated soil	RSH	
	- tank and piping locations and limits of excavation pit	RSH	
	- adjacent structures and streets	RSH	
	- approximate locations of any on-site and nearby utilities	RSH	
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)	RSH	
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.	RSH	
11.	Any factors that may have compromised the quality of the data or validity of the results are described.	RSH	
12.	The results of this site check/site assessment indicate that a confirmed release of a regulated substance has **not** occurred.		RSH

SITE ASSESSOR INFORMATION

Rodney Neit — Person registered with Ecology

Sage Earth Sciences Inc — Firm Affiliated with

Business Address: 601 Glenwood DRIVE (Street)

Telephone: (509) 829-6400

ZILLAH (City) WA. (State) 98953 (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.

5-1-95 — Date

Rodney L Neit — Signature of Person Registered with Ecology