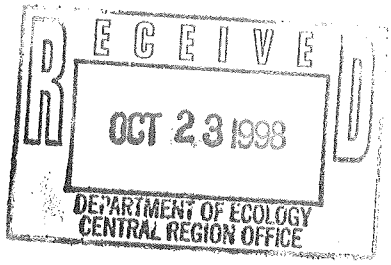
SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

SEATTLE
RICHLAND
TACOMA
FAIRBANKS
ANCHORAGE
SAINT LOUIS
BOSTON

August 3, 1998



Abide International, Inc.
P.O. Box 1631
Richland, Washington 99352

Attn: Mr. Craig Frantz, Project Manager

RE: UNDERGROUND STORAGE TANK SITE ASSESSMENT, FEDERAL BUILDING, RICHLAND, WASHINGTON

This report presents the results of site assessment services provided by Shannon & Wilson, Inc., following a closure-in-place of one underground storage tank (UST) at the Federal Building located at 825 Jadwin Avenue in Richland, Washington. Services were provided in accordance with our proposal dated June 25, 1998. The purpose of the site assessment was to determine if petroleum products had been released from the UST. The report documents the sampling activities performed at the site, presents laboratory results, and provides our conclusions.

BACKGROUND

Information provided by Abide International, Inc., indicated that a UST at the Federal Building had previously been used to store diesel fuel for an emergency generator. During recent construction and renovation activities at the Federal Building, several USTs were scheduled for removal. However, the decision was made during construction to provide decommissioning of the diesel fuel UST by closure-in-place rather than removal. Removal was deemed to be not practical because of the many, sensitive underground utilities (primarily fiber optic and other communications cables) in the vicinity of the UST. Furthermore, leakage from the UST system was not suspected because it had passed tightness testing within the past year, and product inventory records did not indicate loss of product. Reportedly, the closure activities included excavating around the fill spout, cleaning the interior of the UST, and filling it with an engineered fill material (controlled density fill).

3333 BELLEVIEW WAY • P.O. BOX 867
RICHLAND, WASHINGTON 99352
509-946-9309 • FAX 509-946-9550

The UST is located at the northwest corner of the main Federal Building structure. The location of the Federal Building, and the location of the UST in reference to the Federal Building, are shown on Figure 1. The UST is located below an irrigated grassed area, about 12 feet by 20 feet in size, that is surrounded by sidewalks and pavement on three sides and by the Federal Building on the fourth (south) side.

Preliminary information furnished prior to the site assessment indicated that the UST had an approximate capacity of 750 gallons and may have been oriented in a north-south direction under the grassed area. Later information received from the tank closure contractor (Roar Tech, Inc., of Spokane, Washington) indicated that the UST is oriented in an east-west direction, and has dimensions of 45 inches in diameter and 144 inches in length. Therefore, the UST capacity was approximately 1,000 gallons.

SITE EXPLORATION ACTIVITIES

Prior to conducting the site assessment, utility locate services were requested. Utility company representatives indicated that multiple underground communications systems cables were present within the proposed exploration area, but that the locations, depths, and condition (i.e. whether or not the cables were in conduit) could not be determined. The GTE representative advised that excavation be performed by hand digging only (Photo 1). Shannon & Wilson's representative was present when the GTE representative had the manhole at the site open on July 10, 1998. At that time, standing water was present in the manhole to a depth that extended to within approximately 4 feet below the ground surface (bgs). The GTE representative pumped the water out of the manhole. When a US West representative was present at the site on July 13, 1998, the interior of the manhole was again observed, and the water had not returned. Therefore, it was concluded that the water had most likely accumulated from irrigation runoff, and did not represent groundwater conditions at the site.

Subsurface exploration at the site was conducted on July 13, 1998, with the objectives of (1) collecting soil samples at locations where petroleum hydrocarbon contamination would be most likely to be present if releases from the UST had occurred, and (2) verifying the location of the UST. At the time of our site assessment, no above ground piping was apparent, and the only indication of previous excavation at the site was a small area (about one square foot) where grass had not regrown (Photo 2). Exploration was conducted with a shovel and a hand auger. Equipment was decontaminated between exploration sites by washing with Micro® cleaning solution and rinsing with distilled water.

Exploration depths ranged from 2.5 to 8.5 feet bgs. Subsurface soils consisted of sand, silty sand, and sandy silt, with gravel and cobbles increasing with depth. Subsurface soils were moist, but groundwater was not encountered in any of the borings. Backfill around the UST appeared to consist of primarily sand with gravel. In areas that were apparently farther away from the UST, soils were characteristically gravelly, cobbly, sandy silt.

A number of conditions were observed during the site exploration that indicate that the UST may be oriented in an east-west direction alongside the building. Our observations included an apparent change in subsurface soil types (tank bedding material versus native soil), the discovery of rust stains at exploration locations TP-3 and TP-E, and of metal at 4 feet bgs at TP-E. The exploration locations and an estimated, approximate UST location are shown on Figure 2. Information regarding the 11 exploration locations is included in Table 1.

Shannon & Wilson's representative collected four soil samples for laboratory analysis from the following locations:

Sample Identification	**Location**
TP1-4.5	Along south side, near east end of UST, 4.5 feet bgs.
TP2-8.5	Midway along north side of UST, 8.5 feet bgs. Petroleum odor noted. (Photo 3)
TP3-4	Near estimated west end of UST, 4 feet bgs.

TP4-7	Along north side, near estimated west end of UST, 7 feet bgs. (Photo 4)

Laboratory-prepared glass jars and disposable sampling equipment were used to collect each sample submitted for laboratory analysis. Samples were identified with a unique sample number, immediately logged, stored in a cooler, and transported under chain-of-custody to OnSite Environmental, Inc., of Redmond, Washington.

LABORATORY ANALYSIS

The four soil samples were analyzed using the Northwest Total Petroleum Hydrocarbon - Diesel, Extended Range (NWTPH-Dx) method. Diesel range petroleum hydrocarbons were detected by the analysis in two samples: TP2-8.5 at a concentration of 2,600 milligrams per kilogram (mg/kg), and TP3-4 at a concentration of 38 mg/kg. Petroleum hydrocarbons in the heavy oil range were also detected in TP2-8.5 at a concentration of 92 mg/kg, but the laboratory report indicated that diesel range hydrocarbons in the sample elevated the oil result. Petroleum hydrocarbons were not detected in the other two soil samples. The results are summarized in Table 1, and the laboratory report and chain-of-custody form are included in Appendix B.

CONCLUSIONS

Washington State's regulations governing USTs are contained in Washington Administrative Code (WAC) Chapter 173-360, and the regulations are implemented by the Department of Ecology (Ecology). Ecology's guidance for UST site assessments contains "Action Levels for Petroleum Releases," that indicate that if certain concentrations are exceeded in soil or groundwater samples, a "release" from the UST is confirmed. The "Action Level" for diesel or oil range total petroleum hydrocarbons (TPH) in soil is 200 mg/kg. One soil sample collected from a depth of 8.5 feet bgs had a concentration of 2,600 mg/kg.

Preliminary results of the laboratory analyses were presented to Craig Frantz on July 20, 1998, who then notified General Services Administration (GSA). Shannon & Wilson's representative contacted the Central Region Ecology office, Leaking Underground Storage Tank (LUST) Section, and reported the preliminary findings of the site assessment in a recorded message to Ms. Susan Burgdorff-Beery on July 20, 1998. On July 27, 1998, Debbie Smith called back to confirm receipt of the release notification. A copy of this site assessment report, including the attached Underground Storage Tank Site Check/Site Assessment Checklist (Appendix C), should be submitted to Ecology.

Once a site assessment indicates that a "confirmed release" has occurred, regulations contained in Washington's Model Toxics Control Act (MTCA), Chapter 173-340 WAC are applicable to the site. MTCA requires that a written site characterization report be submitted to Ecology within 90 days of release confirmation. We have prepared a separate scope of work and proposal to perform a limited site characterization and a risk assessment relative to this UST closure.

CLOSURE

The data presented in this report are based on limited research at the site and should be considered representative at the time of our observations. Shannon & Wilson, Inc., performed this work within its best judgment to adequately describe site conditions. Changes in the conditions of the property can occur with time from both natural processes and human activities. In addition, changes in governmental codes, regulations, or law may occur. Such changes are beyond our control, and should they occur, our observations and recommendations applicable to this facility may need to be revised wholly or in part.

This report was prepared for the use of Abide International, Inc., on behalf of the General Services Administration, and in no way guarantees that an agency or its staff will reach the same conclusions as Shannon & Wilson, Inc. We have prepared the attached "Important Information About Your Environmental Report," to assist you and others in understanding the use and limitations of our reports.

Sincerely,

SHANNON AND WILSON, INC.

Donna R. Parkes
Environmental Specialist

Dee J. Burrie, P.E.
Branch Manager

DRP:DJB/drp

Enclosures:

Table 1	Summary of Analytical Results, Soil Samples Collected 7/13/98
Table 2	Subsurface Exploration Data
Figure 1	Site Vicinity and UST Location Maps
Figure 2	Site Plan and Exploration Locations
Appendix A	Photographs
Appendix B	OnSite Environmental, Inc. Data Package
Appendix C	Underground Storage Tank Site Check/Site Assessment Checklist
Appendix D	Important Information About Your Environmental Report

TABLE 1

SUMMARY OF ANALYTICAL RESULTS
SOIL SAMPLES COLLECTED 7/13/98

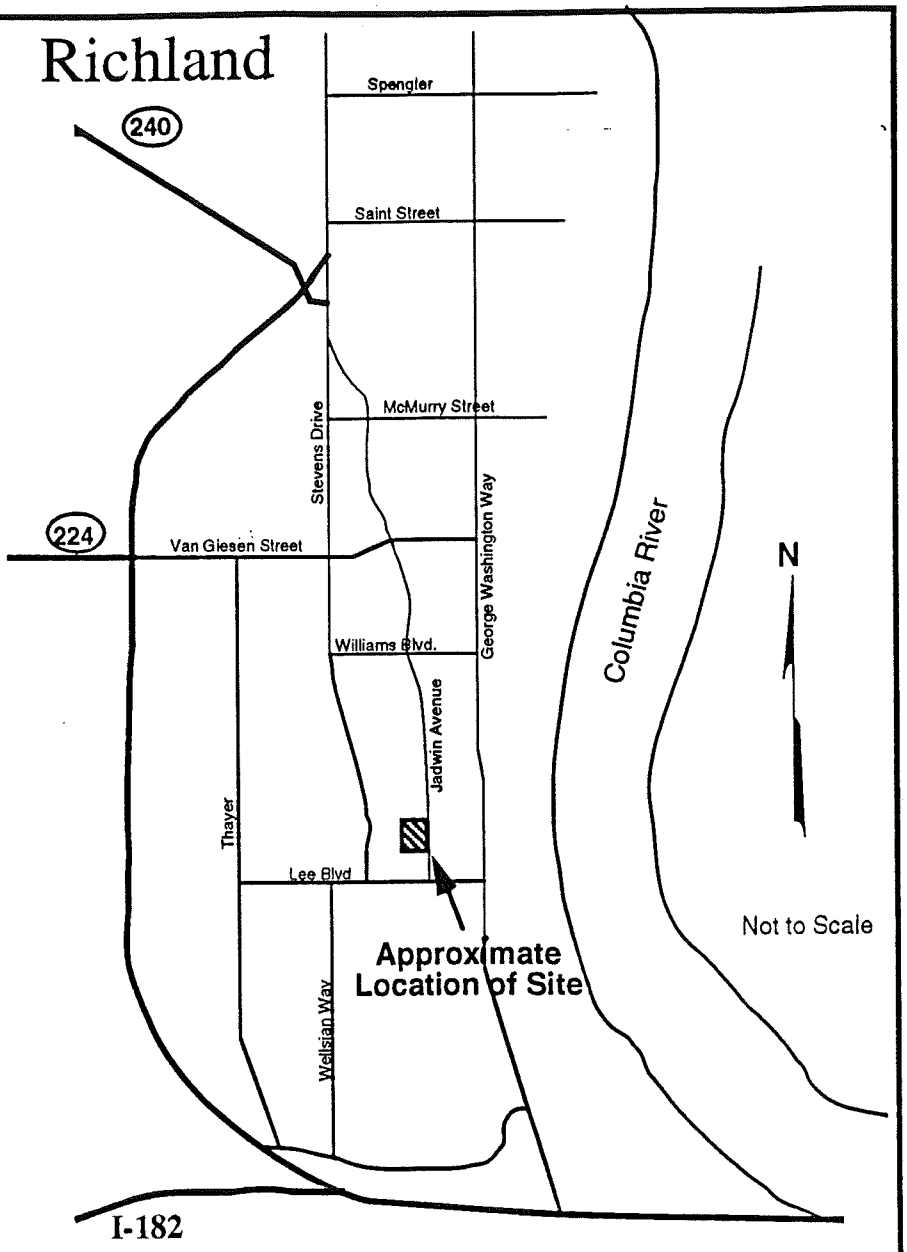
Sample Identification	Diesel Range TPH, mg/kg	Oil Range TPH, mg/kg
TP1-4.5	<29	<58
TP2-8.5	2,600	92
TP3-4	38	<53
TP4-7	<27	<54

TABLE 2

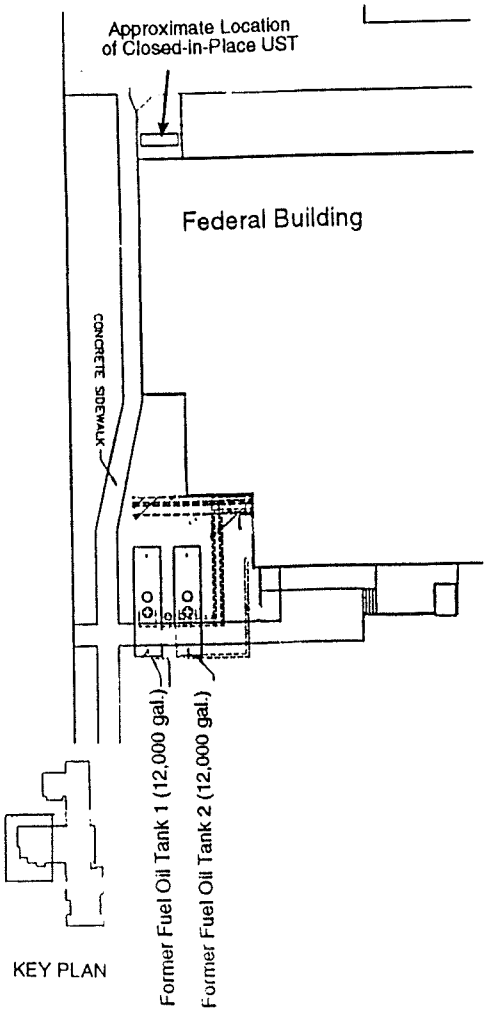
SUBSURFACE EXPLORATION DATA

Exploration Designation/ Location*	Depth Below Ground Surface, feet	Description of Subsurface Soils	Samples	Notes
TP-A 3' N, 3' W	0 - 3 3 3 - 4	Sand Wet silty lens Sand with gravel & cobbles		Refusal at 4 feet
TP-1 3' N, 4' W	0 - 3 3 - 4.5	Sand Sand with gravel & cobbles	TP1-4.5	Refusal at 4.5 feet
TP-B 16' N, 2' W	0 - 0.25 0.25 - 3	Sand Sandy silt with gravel & cobbles		Refusal at 3 feet
TP-2 8' N, 6' W	0 - 8.0 8.0 - 8.5	Sand with occasional gravel Gravelly, cobbly sand (petroleum odor)	TP2-8.5	Refusal at 8.5 feet; encountered obstruction that "caught" at auger
TP-C 12' N, 2.5' W	0 - 2.5	Gravelly, cobbly sandy silt		Refusal at 2.5 feet
TP-D 3' N, 6' W	0 - 5	Gravelly, cobbly sand		Refusal at 5 feet
TP-E 5' N, 9' W	0 - 3 3 - 4	Sand Gravelly sand		Rust stains near 4 feet; metal at 4 feet
TP-3 5' N, 11' W	0 - 2 2 - 4	Silty sand Cobbly, gravelly silty sand	TP3-4	Rust stains and auger refusal at 4 feet
TP-F 8' N, 2.5' W	0 - 3 3 - 4	Sand Gravelly, cobbly sand		Refusal at 4 feet
TP-G 2' N, 11' W	0 - 3.5	Silty sand with gravel & cobbles		Metal piping oriented north-south at 3 feet; refusal at 3.5 feet
TP-4 8' N, 11' W	0 - 2 2 - 4 4 - 7	Sand Wet silty sand, some gravel Wet sand, some gravel	TP4-7	Multiple conduits encountered; refusal at 7 feet

* Approximate distance and direction from intersection of building and pavement at southeast corner of grassed area.



Site Vicinity



N

UST Location

0 60 120

Approximate Scale in Feet

Base map from UST Removal Plan furnished by Abide International

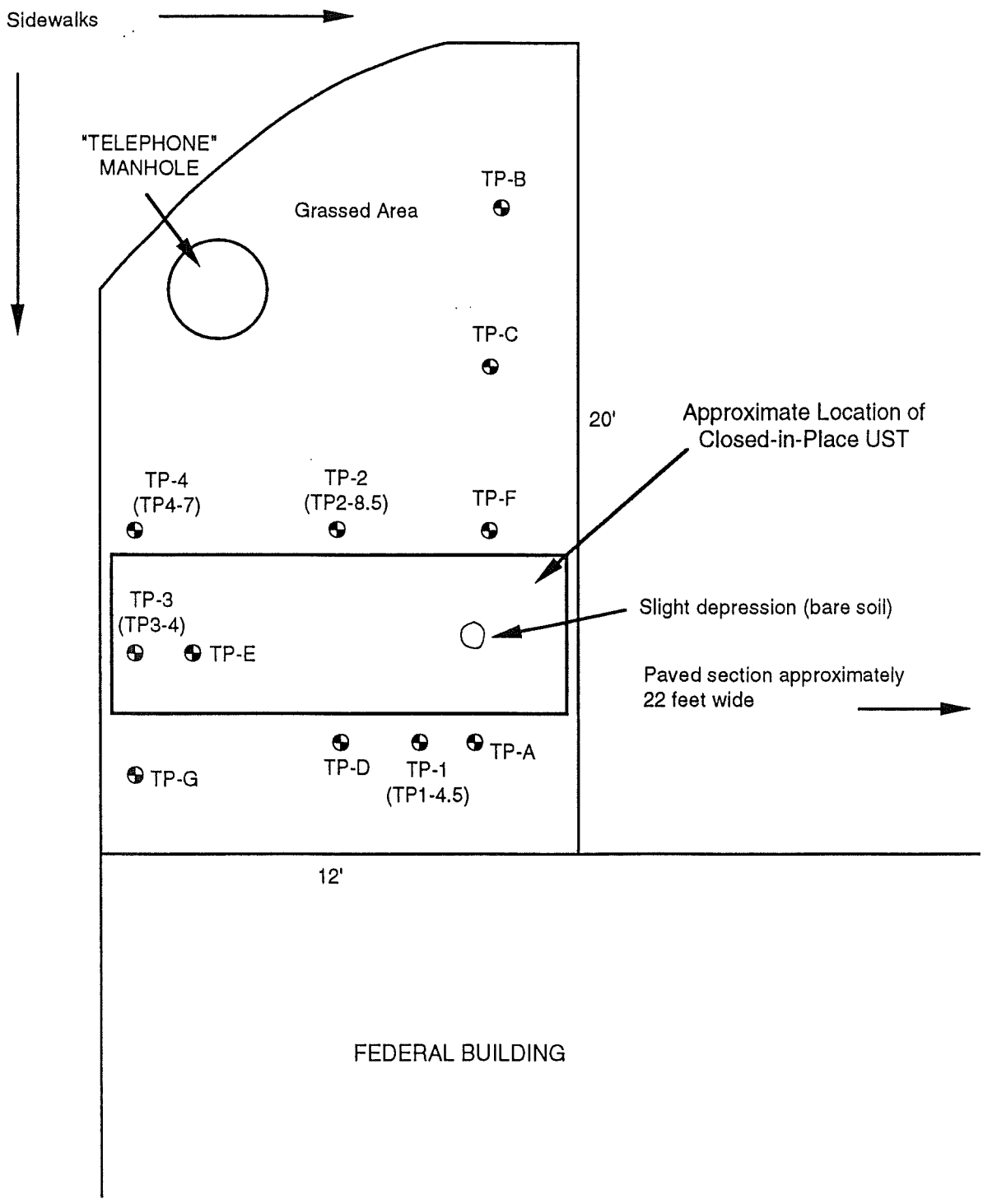
Abide International, Inc.
Federal Building UST Site
Richland, Washington

SITE VICINITY AND UST LOCATION MAPS

July 1998 V-1075-01

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 1



LEGEND

TP-1 (Sample ID) — Exploration designation and approximate location

Number, approximate location, and direction of photograph

0 4 8

Approximate Scale in Feet

N

Abide International, Inc.
Federal Building Diesel Fuel UST Site
Richland, Washington

SITE PLAN AND EXPLORATION LOCATIONS

July 1998 V-1075-01

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 2

APPENDIX A

PHOTOGRAPHS

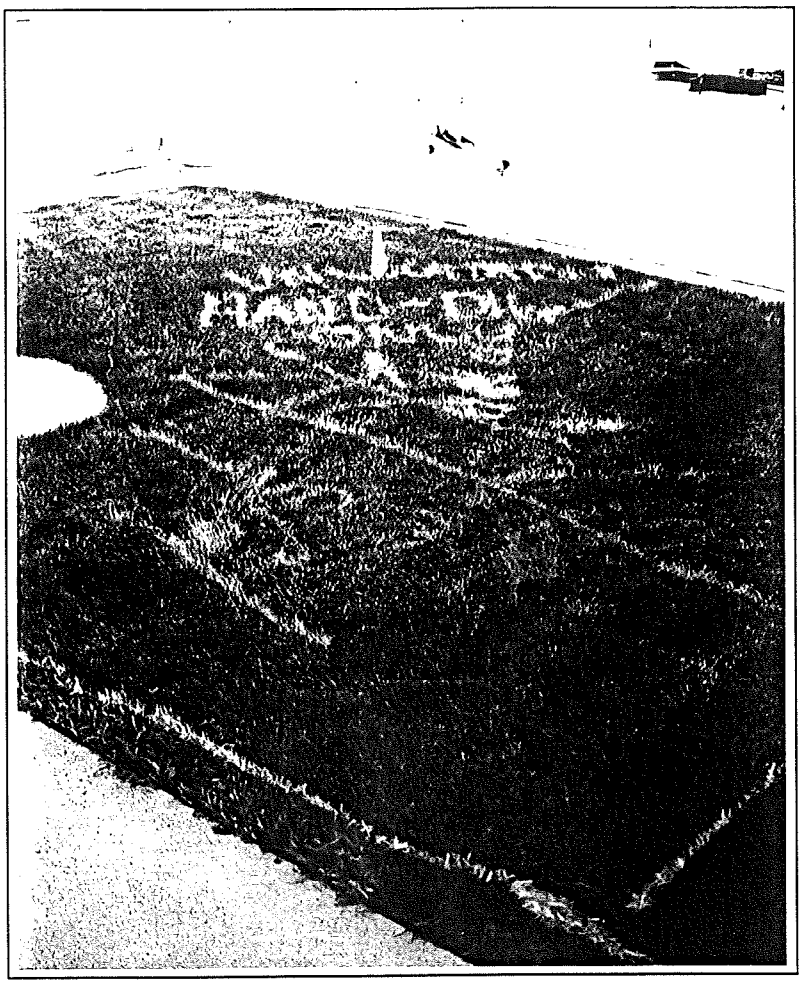


Photo 1 Exploration area. GTE marked underground utilities, "Unlocatable. Hand dig only."

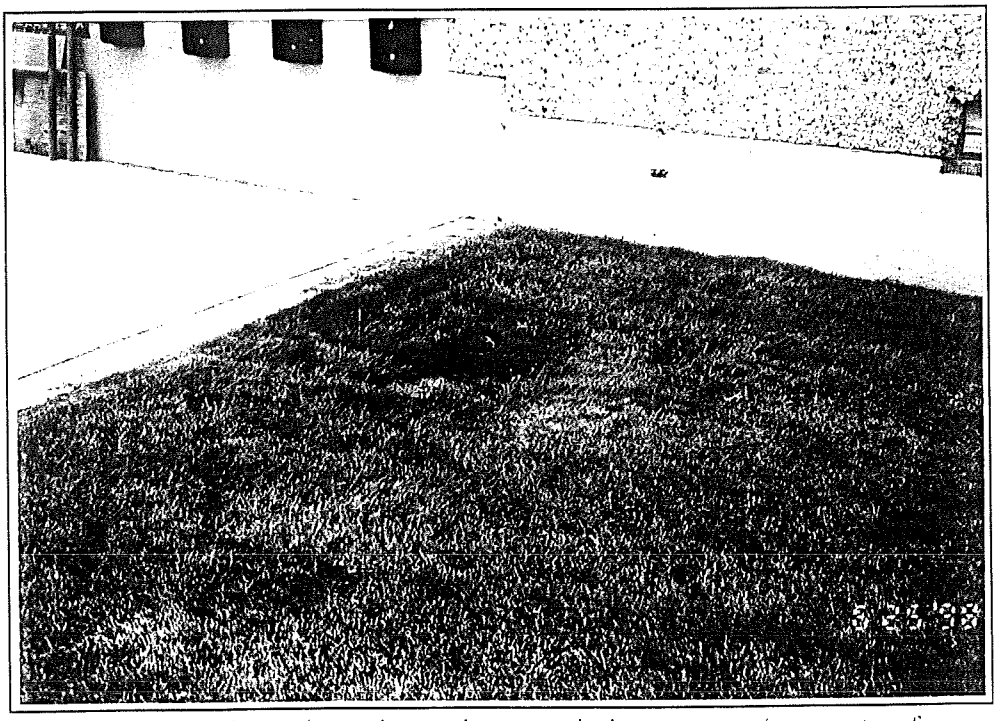


Photo 2 Slight depression and area where grass had not regrown (near center of photo), indicated location of previous excavation during UST closure.

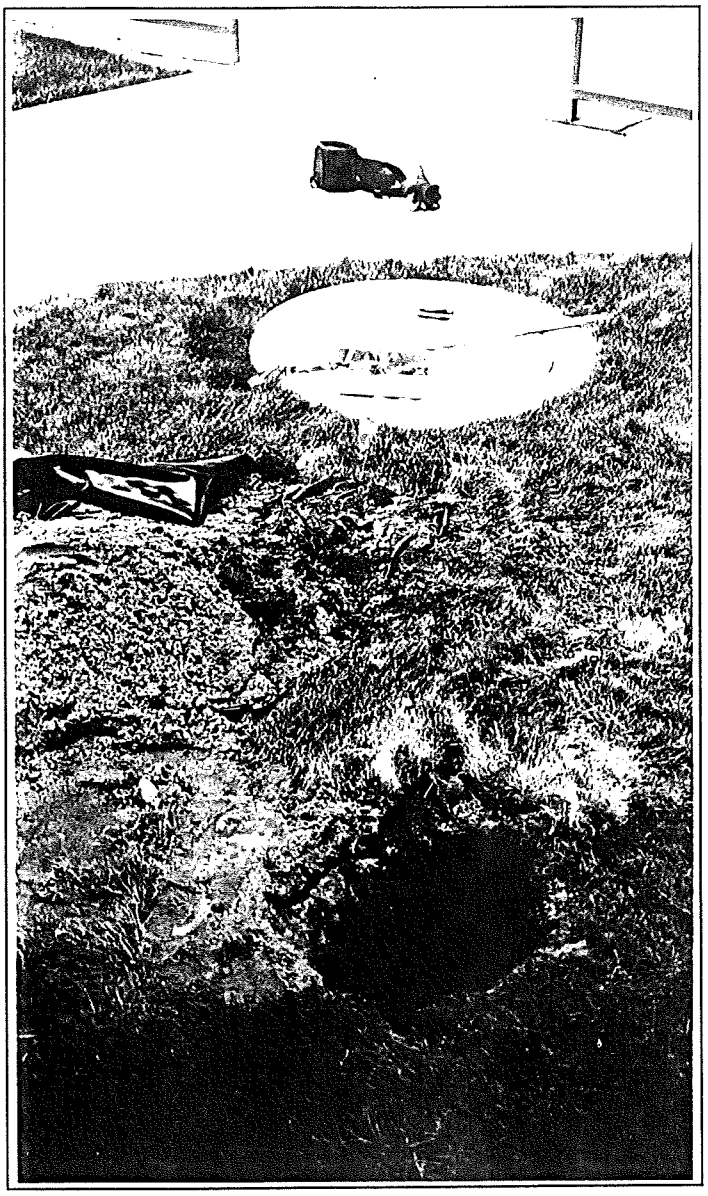


Photo 3 Location of TP-2, viewed from the southeast.

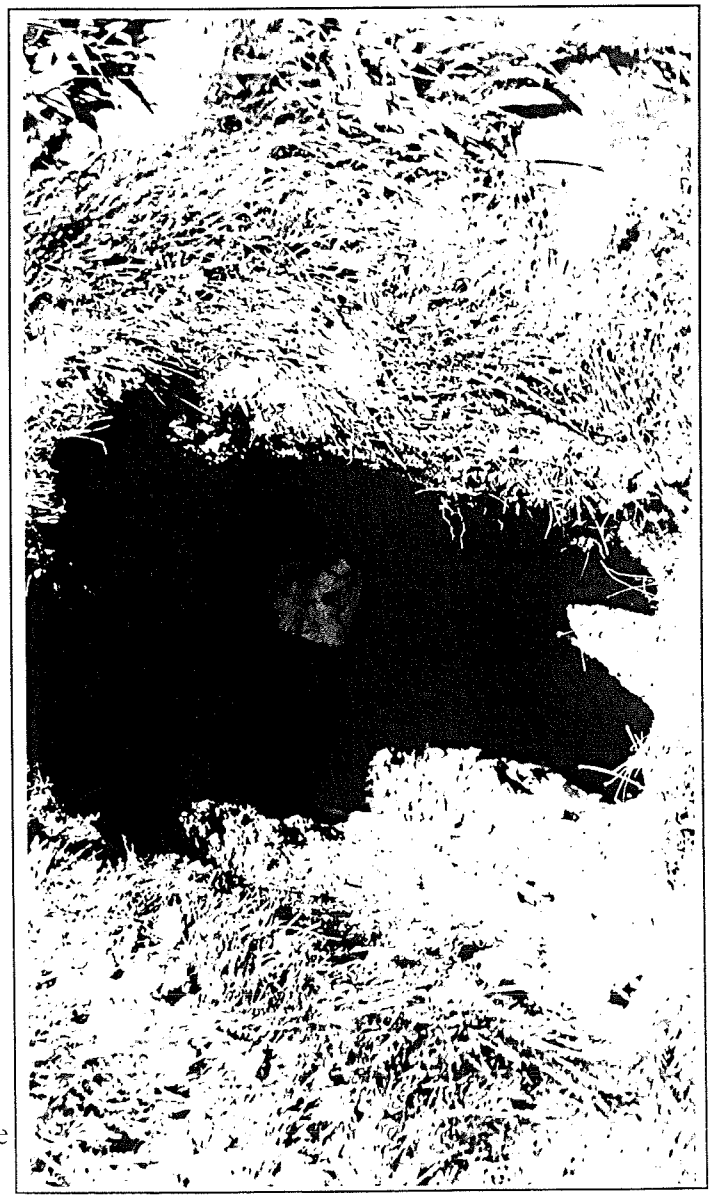


Photo 4 Open excavation at TP-4. Multiple conduits (PVC) were encountered.

APPENDIX B

ONSITE ENVIRONMENTAL, INC. DATA PACKAGE

OnSite
Environmental Inc.
Analytical Testing and Mobile Laboratory Services

July 15, 1998

Donna Parkes
Shannon & Wilson, Inc.
303 Wellsian Way
Richland, WA 99352

Re: Analytical Data for Project V-1075-01
Laboratory Reference No. 9807-064

Dear Donna:

Enclosed are the analytical results and associated quality control data for samples submitted on July 14, 1998.

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 Chemist

Enclosures

20 1998

14924 NE 31st Circle • Redmond, WA 98052 • (425) 883-3881 • Fax (425) 885-4603

Date of Report: July 15, 1998
Samples Submitted: July 14, 1998
Lab Traveler: 07-064
Project: V-1075-01

NWTPH-Dx

Date Extracted:	7-14-98
Date Analyzed:	7-14-98
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	TP1-4.5	TP2-8.5	TP3-4
Lab ID:	07-064-01	07-064-02	07-064-03
Diesel Fuel:	ND	2600	38
PQL:	29	27	27
Heavy Oil:	ND	92	ND
PQL:	58	54	53
Surrogate Recovery:			
o-Terphenyl	83%	---	86%
Flags:		F,P	

Date of Report: July 15, 1998
Samples Submitted: July 14, 1998
Lab Traveler: 07-064
Project: V-1075-01

NWTPH-Dx

Date Extracted:	7-14-98
Date Analyzed:	7-14-98
Matrix:	Soil
Units:	mg/Kg (ppm)
Client ID:	TP4-7
Lab ID:	07-064-04
Diesel Fuel:	ND
PQL:	27
Heavy Oil:	ND
PQL:	54
Surrogate Recovery:	
o-Terphenyl	88%

Flags:

Date of Report: July 15, 1998
Samples Submitted: July 14, 1998
Lab Traveler: 07-064
Project: V-1075-01

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	7-14-98
Date Analyzed:	7-14-98
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0714S1
Diesel Fuel:	ND
PQL:	25
Heavy Oil:	ND
PQL:	50
Surrogate Recovery:	
o-Terphenyl	88%

Flags:

Date of Report: July 15, 1998
Samples Submitted: July 14, 1998
Lab Traveler: 07-064
Project: V-1075-01

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	7-13-98
Date Analyzed:	7-13-98
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	07-062-04	07-062-04 DUP
Diesel Fuel C12-C24:	ND	ND
PQL:	25	25
RPD:	N/A	
Surrogate Recovery:		
o-Terphenyl	80%	92%

Flags:

Date of Report: July 15, 1998
Samples Submitted: July 14, 1998
Lab Traveler: 07-064
Project: V-1075-01

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	7-14-98
Date Analyzed:	7-14-98
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	07-064-03	07-064-03 DUP
Diesel Fuel:	35.6	43.4
PQL:	25	25
RPD:	20	
Surrogate Recovery:		
o-Terphenyl	86%	93%

Flags:

Date of Report: July 15, 1998
Samples Submitted: July 14, 1998
Lab Traveler: 07-064
Project: V-1075-01

NWTPH-Dx
SB/SBD QUALITY CONTROL

Date Extracted:	7-13-98
Date Analyzed:	7-13-98
Matrix:	Soil
Units:	mg/Kg (ppm)
Spike Level:	100 ppm

Lab ID:	SB0713S1	SB0713S1 DUP
Diesel Fuel C12-C24:	79.9	77.1
PQL:	25	25
Percent Recovery:	80	77
RPD:	3.6	
Surrogate Recovery:		
o-Terphenyl	104%	105%

Flags:

Date of Report: July 15, 1998
Samples Submitted: July 14, 1998
Lab Traveler: 07-064
Project: V-1075-01

Date Analyzed: 7-14-98

% MOISTURE

Client ID	Lab ID	% Moisture
TP1-4.5	07-064-01	14
TP2-8.5	07-064-02	8.0
TP3-4	07-064-03	6.0
TP4-7	07-064-04	8.0

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to 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.

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 - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) are present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) are present in the sample which are elevating the diesel result.

P - Hydrocarbons in the diesel range (C12-C24) are present in the sample which are elevating the oil result.

Q - The RPD of the results between the two columns is greater than 25.

R - Hydrocarbons outside the defined gasoline range are present in the sample and are elevating the gasoline result.

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

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

Y - Acid Cleaned.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected
MRL - Method Reporting Limit
PQL - Practical Quantitation

Chain of Custody Record

Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

11500 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

2055 Hill Road
Fairbanks, AK 99707
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

303 Wellsian Way
Richland WA 99352
(509) 946-6309

Page 1 of 1
Laboratory Botte
Attn: D. B.

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	NWTPH-Dx	BTEX				Density	Total Number of Containers	Remarks/Matrix
TP1-4.5	1	10:45	7/13/98			X					X		Soil
TP2-8.5	2	11:10	7/13/98			X					X		
TP3-4	3	12:20	7/13/98			X					X		
TP4-7	4	1:45	7/13/98			X					X		

Project Information		Sample Receipt	
Project Number:	V-1075-01	Total Number of Containers	
Project Name:	Federal Bldg	COC Seals/Intact? Y/N/NA	
Contact:	Donna Parkes	Received Good Cond./Cold	
Ongoing Project?	Yes ☐ No ☒	Delivery Method:	UPS overnight
Sampler:	D. Parkes	(attach shipping bill, if any)	

Instructions

Requested Turn Around Time: Standard

Special Instructions:

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Donna Parkes Time: 3:30	Signature: Time:	Signature: Time:
Printed Name: Donna Parkes Date: 7/13/98	Printed Name: Date:	Printed Name: Date:
Company: Shannon + Wilson	Company:	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature: Kristen Koch Time: 9:00	Signature: Time:	Signature: Time:
Printed Name: KRISTEN KOCH Date: 7/14/98	Printed Name: Date:	Printed Name: Date:
Company: OSE	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No.

APPENDIX C

UNDERGROUND STORAGE TANK SITE CHECK/SITE ASSESSMENT CHECKLIST

UNDERGROUND STORAGE TANK
Site Check / Site Assessment Checklist

FOR OFFICE USE ONLY
Site #: _____
Owner #: _____

INSTRUCTIONS

When a release has not been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person certified by IFCI or a Washington registered professional engineer who is competent, by means of examination, experience, or education, to perform site assessments. 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 ASSESSEMENT: 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
PO Box 47655
Olympia WA 98504-7655

SITE INFORMATION

Site ID Number (Available from Ecology if the tanks are registered): 12763

Site/Business Name: U.S. Department of Energy

Site Address: 825 Jadwin Avenue (Street) Telephone: (___) _____

Richland (City) WA (State) 99352 (Zip Code)

TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
	750 - 1,000 gallons	Diesel fuel (for emergency generator)

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.
- X UST system permanently closed-in service.
- ___ 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.	X	
2. A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in site assessment guidance)	X	
3. A summary of UST system data is provided. (see Section 3.1.)	X	
4. The soils characteristics at the UST site are described. (see Section 5.2)	X	
5. Is there any apparent groundwater in the tank excavation? N.A.		X
6. A brief description of the surrounding land use is provided. (see Section 3.1)	X	
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.	X	
8. A sketch or sketches showing the following items is provided:		
- location and ID number for all field samples collected	X	
- groundwater samples distinguished from soil samples (if applicable) N.A.		
- samples collected from stockpiled excavated soil N.A.		
- tank and piping locations and limits of excavation pit	X	
- adjacent structures and streets	X	
- approximate locations of any on-site and nearby utilities	X	
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.	X	
11. Any factors that may have compromised the quality of the data or validity of the results are described.	X	
12. The results of this site check/site assessment indicate that a confirmed release of a regulated substance has occurred.	X	

SITE ASSESSOR INFORMATION

Donna R. Parkes — Person registered with Ecology

Shannon & Wilson, Inc. — Firm Affiliated with

Business Address: P.O. Box 967, 303 Wellsian Way (Street) Telephone: (509) 946-6309

Richland (City) WA (State) 99352 (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.

7/29/98 — Date

Donna R Parkes — Signature of Person Registered with Ecology

APPENDIX D

IMPORTANT INFORMATION ABOUT YOUR ENVIRONMENTAL REPORT

Important Information About Your Environmental Site Assessment/Evaluation Report

ENVIRONMENTAL SITE ASSESSMENTS/EVALUATIONS ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

This report was prepared to meet the needs you specified with respect to your specific site and your risk management preferences. Unless indicated otherwise, we prepared your report expressly for you and for the purposes you indicated. No one other than you should use this report for any purpose without first conferring with us. No one is authorized to use this report for any purpose other than that originally contemplated without our prior written consent.

The findings and conclusions documented in this site assessment/evaluation have been prepared for specific application to this project and have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in this area. The conclusions presented are based on interpretation of information currently available to us and are made within the operational scope, budget, and schedule constraints of this project. No warranty, express or implied, is made.

OUR REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

Our environmental site assessment is based on several factors and may include (but not be limited to): reviewing public documents to chronicle site ownership for the past 30, 40, or more years; investigating the site's regulatory history to learn about permits granted or citations issued; determining prior uses of the site and those adjacent to it; reviewing available topographic and real estate maps, historical aerial photos, geologic information, and hydrologic data; reviewing readily available published information about surface and subsurface conditions; reviewing federal and state lists of known and potentially contaminated sites; evaluating the potential for naturally occurring hazards; and interviewing public officials, owners/operators, and/or adjacent owners with respect to local concerns and environmental conditions.

Except as noted within the text of the report, no sampling or quantitative laboratory testing was performed by us as part of this site assessment. Where such analyses were conducted by an outside laboratory, Shannon & Wilson relied upon the data provided and did not conduct an independent evaluation regarding the reliability of the data.

CONDITIONS CAN CHANGE.

Site conditions, both surface and subsurface, may be affected as a result of natural processes or human influence. An environmental site assessment/evaluation is based on conditions that existed at the time of the evaluation. Because so many aspects of a historical review rely on third party information, most consultants will refuse to certify (warrant) that a site is free of contaminants, as it is impossible to know with absolute certainty if such a condition exists. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas that showed no signs of contamination at the time they were studied.

Unless your consultant indicates otherwise, your report should not be construed to represent geotechnical subsurface conditions at or adjacent to the site and does not provide sufficient information for construction-related activities. Your report also should not be used following floods, earthquakes, or other acts of nature; if the size or configuration of the site is altered; if the location of the site is modified; or if there is a change of ownership and/or use of the property.

INCIDENTAL DAMAGE MAY OCCUR DURING SAMPLING ACTIVITIES.

Incidental damage to a facility may occur during sampling activities. Asbestos and lead-based paint sampling often require destructive sampling of pipe insulation, floor tile, walls, doors, ceiling tile, roofing, and other building materials. Shannon & Wilson does not provide for paint repair. Limited repair of asbestos sample locations are provided. However, Shannon & Wilson neither warranties repairs made by our field personnel, nor are we held liable for injuries or damages as a result of those repairs. If you desire a specific form of repair, such as those provided by a licensed roofing contractor, you need to request the specific repair at the time of the proposal. The owner is responsible for repair methods that are not specified in the proposal.

READ RESPONSIBILITY CLAUSES CAREFULLY.

Environmental site assessments/evaluations are less exact than other design disciplines because they are based extensively on judgment and opinion, and there may not have been any (or very limited) investigation of actual subsurface conditions. Wholly unwarranted claims have been lodged against consultants. To limit this exposure, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses may appear in this report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

Consultants cannot accept responsibility for problems that may develop if they are not consulted after factors considered in their reports have changed, or conditions at the site have changed. Therefore, it is incumbent upon you to notify your consultant of any factors that may have changed prior to submission of the final assessment/evaluation.

An assessment/evaluation of a site helps reduce your risk, but does not eliminate it. Even the most rigorous professional assessment may fail to identify all existing conditions.

ONE OF THE OBLIGATIONS OF YOUR CONSULTANT IS TO PROTECT THE SAFETY, HEALTH, PROPERTY, AND WELFARE OF THE PUBLIC.

If our environmental site assessment/evaluation discloses the existence of conditions that may endanger the safety, health, property, or welfare of the public, we may be obligated under rules of professional conduct, statutory law, or common law to notify you and others of these conditions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland