Ballard Library
Seattle
VCP NW 2484

BASALT
environmental

June 15, 2011

Pryde Johnson
Attn: Mr. Curt Pryde
419 NE 70th Street
Seattle, Washington

Subject: Limited Phase II Evaluation
Former Ballard Library
5711 24th Avenue NW
Seattle, Washington

Dear Mr. Pryde,

Basalt Environmental Consulting, Inc. (Basalt) is pleased to present the results of our Limited Phase II Evaluation at 5711 24th Avenue NW, Seattle Washington (the Property).

BACKGROUND AND SCOPE

The subject site is the location the former Ballard Branch of the Seattle Public Library. The site consists of a rectangular, 0.46-acre parcel improved with a one-story library building constructed in 1962. The building occupies roughly two thirds of the northern part of the site. Additional site improvements include a paved parking area located on the southern portion the site, as well as landscaping surrounding the periphery of the building. The general area is characterized by retail, commercial, and residential uses. Surface topography slopes down gently to the south.

According to previous environmental reports conducted by others, past uses of the site include a gas station in the northern portion from approximately 1940 to 1960; an auto repair facility in the southern portion from approximately 1940 to 1960; and a clothes cleaners in the southeast corner from circa 1938 to 1940. The existing building was constructed in 1962 and was in use as a municipal library until 2005. The building is currently unoccupied.

Basalt reviewed the prior report "Phase I and Phase II Site Assessment, Ballard Library, Seattle, Washington" Shannon & Wilson, Inc. dated February 2005. The Shannon & Wilson, Inc. (S&W) study included advancing eight direct-push (Geoprobe) borings along the southern and eastern portions of the subject property. A total of 16 soil samples (two from each boring) were submitted for laboratory analysis. One sample from location P7 on the south side of the site reported concentrations of gasoline-range petroleum hydrocarbons exceeding the Model Toxics Control Act (MTCA) Method A cleanup criteria for unrestricted land use. The remaining soil samples were below cleanup standards, although concentrations of petroleum below MTCA Method A were detected in some areas.

Additionally, S&W encountered shallow groundwater in six probe locations and collected one sample from each of those locations. Laboratory analysis of the six groundwater samples did not detect analytes above applicable cleanup levels. S&W opined that the groundwater was perched. Generally, S&W reported dense soils conditions and stated Geoprobe refusal occurred at about 9-12 feet below ground surface (bgs). S&W concluded that no evidence of off-site impacts was detected, and no chlorinated solvents from the site's past use as a clothes cleaner were reported.

Basalt also reviewed "Phase II Site Assessment, Former Ballard Library Property, 5711 24th Avenue Northwest," prepared by Geotech Consultants, Inc. dated February 6, 2006. The Geotech Consultants, Inc. (GCI) report detailed advancing seven Geoprobe borings, including two inside the building itself. GCI reported that no gasoline hydrocarbons were detected in soils, and groundwater was not encountered. However, mineral spirits in concentrations exceeding MTCA Method A was detected in two soil samples on the east side of the building at about 6-7.5-feet bgs, respectively. GCI also conducted an electromagnetic survey of the site in an attempt to locate possible underground storage tanks. GCI reported that no indications of underground storage tanks were identified in the parking areas, however survey results were inconclusive inside the building to due structural interferences. GCI opined that underground storage tanks from the former gas station may be still present beneath the library building. GCI did not encounter groundwater during their evaluation, and noted that groundwater conditions can vary seasonally and with rainfall.

Based on their study and the prior S&W report, GCI estimated that approximately 285 tons of soils exceeding MTCA method A were located on site. Additionally, GCI noted that soils exhibiting odors or other indications of contamination normally require special disposal requirements. GCI defined soils with petroleum concentrations below MTCA Method A but still requiring special disposal as "petroleum affected." GCI estimated approximately 500 tons of petroleum affected soils are located on site.

The purpose of this study was to evaluate current site conditions in order to provide a baseline for future evaluation work, if necessary, and to collect information necessary for regulatory closure. The scope of this project was based upon email communication between Mr. Greg Peterson of Basalt and the owner, Mr. Curt Pryde, and conducted in general accordance with Basalt's proposal dated April 11, 2011 and authorized by Mr. Pryde.

METHODS

Six locations, including two inside the building, were evaluated using a limited access Geoprobe unit operated under subcontract to ESN Northwest, Inc. Lacey, Washington. The Geoprobe uses a hydraulic direct-push mechanism to advance sampling tools to the desired subsurface depth. Soil samples were collected by means of a 4-foot continuous core with disposable sleeves.

Sample locations were in areas not previously explored by prior site valuations, and influenced by such factors as underground utility locations and access.

Samples were transferred to laboratory-supplied glass jars using a sampler extrusion tool in accordance with EPA Method 5035A. Decontamination of sampling equipment was accomplished by a wash with laboratory grade detergent, followed by a distilled water rinse. Disposable sleeve liners were used in the sampling equipment.

A representative soil sample from each split spoon was field screened by placing the sampled soil in a sealed plastic bag and measuring the headspace for volatiles hydrocarbons using a photoionization detector (PID).

All samples were placed in a cooler packed with ice and transported directly to the analytical laboratory, which for this project was Onsite Environmental, Redmond, Washington. Samples were analyzed by method NW-TPHG for gasoline range organic hydrocarbons.

Site plans and measurements were generated by hand taping from existing site features and should be considered accurate within the limitation of the methods used.

FINDINGS

Field observations and activities.

On May 13, 2011, Basalt advanced Geoprobe borings at six locations: An exploration plan depicting probe locations and nearby features is presented as Figure 3. Laboratory sample results are summarized in Table 1, below.

Generally speaking, soils from about 0 to 0.5-feet below ground surface (bgs) were gravelly roadbase. Below that depth, soils were generally silty sands and sandy silt, with occasional gravel and cobbles, with density increasing with depth. Geoprobe refusal was encountered at between 9 and 12-feet bgs. Groundwater was not encountered in the explored locations.

Field screening using the PID indicated the presence of petroleum hydrocarbons in borings GP4, GP5, and GP6. Readings in other borings were within the normal range of error of the techniques used.

Soil Results

All soil samples were submitted to Onsite Analytical, Redmond, Washington for laboratory analysis. Samples were analyzed by methods NWTPH-Gx for gasoline-range petroleum hydrocarbons. Analytical results are summarized in Table 1 below:

Table 1 –Laboratory Soil Results

Sample Number	Laboratory Results	Depth (feet)	Location
P1S1	<5.4	8.5	North of building (middle)
P2S1	<3.5	8.5	Northwest of building
P3S1	<3.4	9.5	Inside building, north side
P4S1	56	8.5	Inside building, west side
P5S1	<3.3	8.0	South center in parking strip
P6S1	16	7.5	Southwest, near property line
Clean up Levels MTCA Method A	100		

Notes:

All results in milligrams per kilogram

MTCA Method A = Washington State Model Toxics Control Act Method A Clean Up Levels for Unrestricted Land Use

< = Not detected at the given laboratory reporting limit

Although gasoline-range petroleum hydrocarbons were detected in two laboratory samples, no samples exceeded the MTCA Method A cleanup standard for unrestricted land use.

DISCUSSION

No gasoline-range petroleum hydrocarbons in concentrations exceeding MTCA Method A were detected in site soil by this evaluation. Based on this result and the results of prior evaluations, it appears that soils exceeding MTCA Method A are confined to the site itself, particularly in the south parking lot area in the vicinity of Shannon & Wilson location P7; and on the northeast side of the in the vicinity of the Geotech Consultants, Inc. (GCI) locations B1E and B3E. This could possibly indicate two or more source areas.

GCI noted that underground storage tanks (USTs) may still be present on the site, presumably on the northern third of the Property where the gasoline station was formerly located. However, no petroleum products were detected in samples collected from this area during this evaluation. It is possible USTs could still be present, but do not appear to be a major point source for the petroleum impacts detected on the site.

Groundwater was not encountered during this evaluation nor was it reported by GCI during their investigation. The Shannon & Wilson Inc. investigation encountered perched groundwater, however laboratory analysis did not identify contaminants in concentrations of concern. Groundwater can fluctuate to due seasonal and other factors, and could be encountered in future investigations or site development.

CONCLUSIONS and RECOMMENDATIONS

Laboratory analysis detected gasoline-range petroleum hydrocarbons in two of the six locations. However, soils in both samples were below MTCA Method A cleanup standards. Based on Basalt's study and prior investigations, it appears that petroleum impacts are limited to the boundaries of the site itself, and off-site impacts are unlikely.

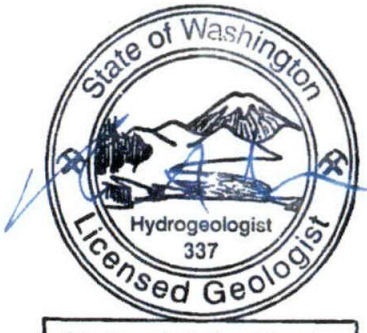
The GCI report estimated that approximately 285 tons of soils exceeding MTCA method A were located on site. This appears to be a reasonable estimate based on the available data.

Additionally, GCI noted that soils exhibiting odors or other indications of contamination often require special disposal requirements. In other words, most disposal facilities require soils exhibiting petroleum odors or staining to be treated as if they are contaminated, regardless of the analytical results. GCI defined soils with petroleum concentrations below MTCA Method A but still requiring special disposal as "petroleum affected." GCI estimated approximately 500 tons of petroleum affected soils are located on site. This also appears to be a reasonable estimate for planning purposes.

While additional evaluation may provide higher confidence regarding to the extent and volume of the petroleum-impacted soils, in Basalt's opinion enough information is currently available to formulate a remediation strategy, and no further evaluation is specifically recommended in that regard. Basalt will present a formal remediation plan under a separate cover.

Basalt appreciates the opportunity to be of service to you on this project. Should you have any questions concerning this report, or if we can assist you in any way, please contact us at (206) 399-7224.

Respectfully submitted,
Basalt Environmental, LLC.



6/16/2011

Richard J. Martin, LHG
Senior Project Hydrogeologist

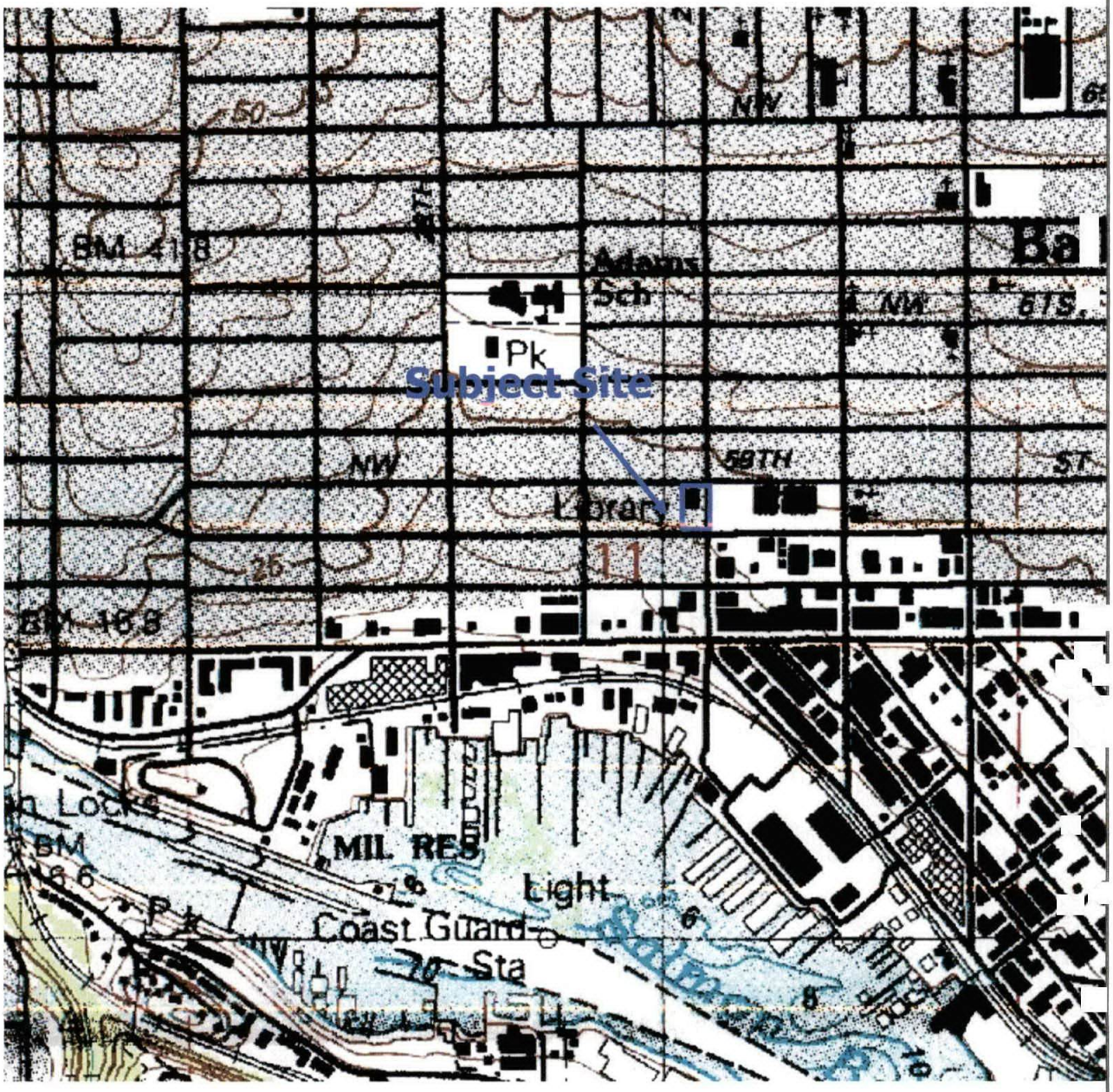
Gregory S. Peterson
Principal

GSP/RJM/gsp

Attachments: Site Vicinity Map
Topographic Map
Site and Exploration Plan
Laboratory Report
Prior Reports

Figures

TOPOGRAPHIC MAP	Source: Google Maps, No scale	N↑
BASALT environmental **68 20 36th Ave. NE** **Seattle, WA 98115**	**Site Name:**	**Former Ballad Library** **5711 24th Avenue NW** **Seattle, WA**
	Project Number:	**110421-1**



TOPOGRAPHIC MAP	Source: USGS 7.5 Minute Topographic Map, Seattle North Quadrangle, 1995	N↑
BASALT environmental **68 20 36th Ave. NE** **Seattle, WA 98115**	**Site Name:** **Former Ballad Library** **5711 24th Avenue NW** **Seattle, WA** **Project Number:** **110421-1**	

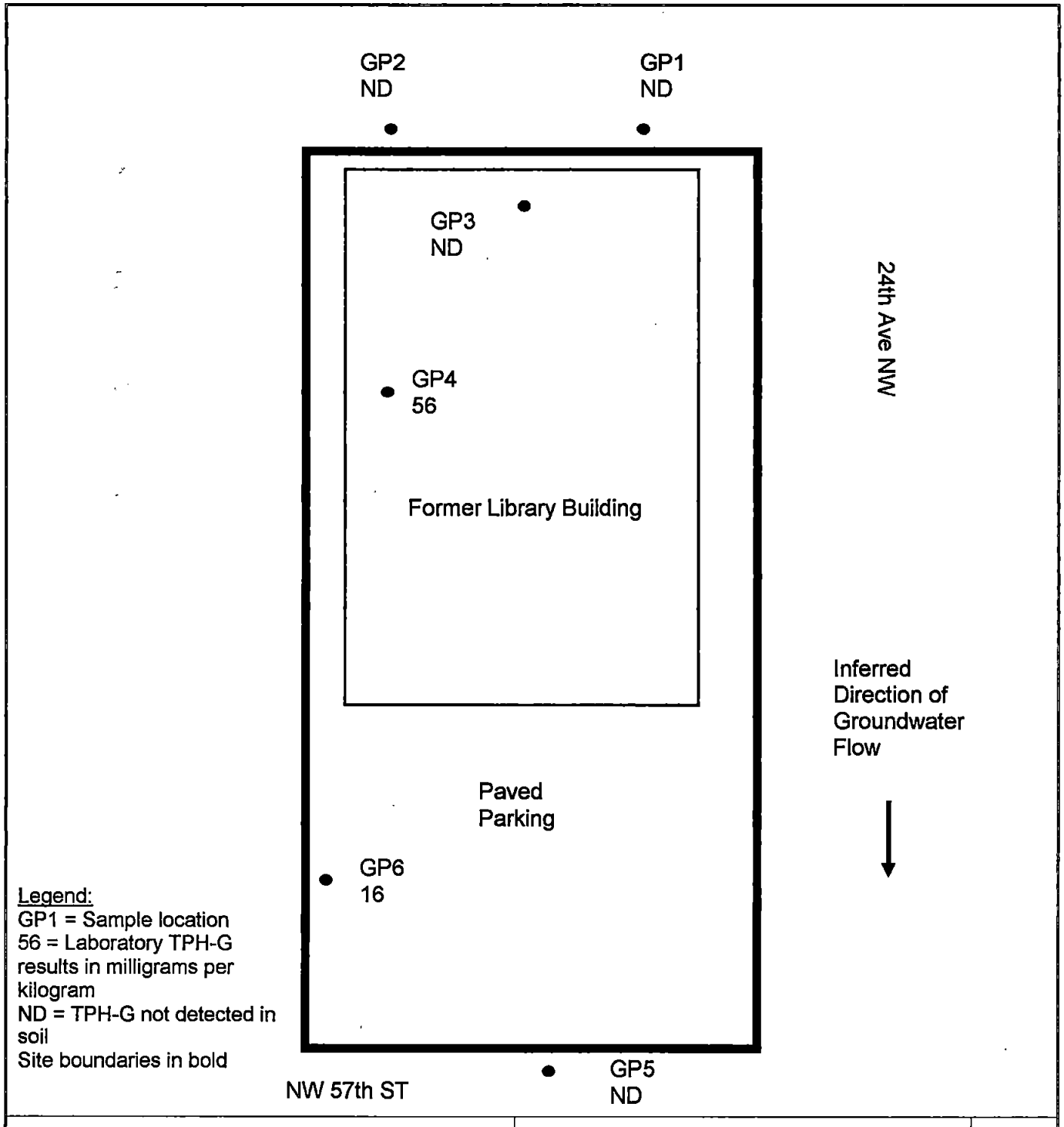


Figure 3 - Site and Exploration Plan	Source: King County GIS Scale (approx) 15' = _____	N↑
BASALT environmental **68 20 36th Ave. NE** **Seattle, WA 98115**	**Site Name:** **Former Ballad Library** **5711 24th Avenue NW** **Seattle, WA** **Project Number:** **110421-1**	

References

Geotech Consultants, Inc. " Phase II Site Assessment, Former Ballard Library Property, 5711 24th Avenue Northwest," February 6, 2006.

Shannon & Wilson, Inc. "Phase I and Phase II Site Assessment, Ballard Library, Seattle, Washington," February 2005

Laboratory Report

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 20, 2011

Greg Peterson
Basalt Environmental Consulting, L.L.C.
6820 36th Avenue NE
Seattle, WA 98115

Re: Analytical Data for Project 110425-1
Laboratory Reference No. 1105-120

Dear Greg:

Enclosed are the analytical results and associated quality control data for samples submitted on May 13, 2011.

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: May 20, 2011
Samples Submitted: May 13, 2011
Laboratory Reference: 1105-120
Project: 110425-1

Case Narrative

Samples were collected on May 13, 2011 and received by the laboratory on May 13, 2011. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH Gx Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: May 20, 2011
Samples Submitted: May 13, 2011
Laboratory Reference: 1105-120
Project: 110425-1

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P1 S1**					
Laboratory ID:	05-120-01					
Gasoline	**ND**	5.4	NWTPH-Gx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*68-124*				
Client ID:	**P2 S1**					
Laboratory ID:	05-120-02					
Gasoline	**ND**	3.5	NWTPH-Gx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*68-124*				
Client ID:	**P3 S1**					
Laboratory ID:	05-120-03					
Gasoline	**ND**	3.4	NWTPH-Gx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*68-124*				
Client ID:	**P4 S1**					
Laboratory ID:	05-120-04					
Gasoline	**56**	18	NWTPH-Gx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*68-124*				
Client ID:	**P5 S1**					
Laboratory ID:	05-120-05					
Gasoline	**ND**	3.3	NWTPH-Gx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*68-124*				
Client ID:	**P6 S1**					
Laboratory ID:	05-120-06					
Gasoline	**16**	5.8	NWTPH-Gx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*68-124*				

Date of Report: May 20, 2011
Samples Submitted: May 13, 2011
Laboratory Reference: 1105-120
Project: 110425-1

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**P6 S2**					
Laboratory ID:	05-120-07					
Gasoline	**ND**	3.0	NWTPH-Gx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*68-124*				

Date of Report: May 20, 2011
Samples Submitted: May 13, 2011
Laboratory Reference: 1105-120
Project: 110425-1

NWTPH-Gx
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0517S1					
Gasoline	**ND**	5.0	NWTPH-Gx	5-17-11	5-17-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*68-124*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-138-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*97*	*101*	*68-124*			

Date of Report: May 20, 2011
Samples Submitted: May 13, 2011
Laboratory Reference: 1105-120
Project: 110425-1

% MOISTURE

Date Analyzed: 5-17-11

Client ID	Lab ID	% Moisture
P1 S1	05-120-01	8
P2 S1	05-120-02	10
P3 S1	05-120-03	10
P4 S1	05-120-04	11
P5 S1	05-120-05	7
P6 S1	05-120-06	9
P6 S2	05-120-07	7

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.

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.

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 inhomogeneity. 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 are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

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.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

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 mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: BASALT
Project Number: 10425-1
Project Name: BALLARD LIBRARY
Project Manager: GREG PETERSON
Sampled by: GSP

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
(TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 05-120

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	P1 S1	5-13	9:30	S				X													X
2	P2 S1		10:10					X													X
3	P3S1		10:45					X													X
4	P4S1		11:30					X													X
5	P5S1		12:05					X													X
6	P6S1		1245					X													X
7	P6S2		1300					X													X

	Signature	Company	Date	Time
Relinquished		BASALT	5-13-11	1:53
Received		Speedy	5/13/11	1:53
Relinquished		Speedy	5/13/11	3:10
Received		OnSite	5/13/11	1570
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐

Prior Reports

GEOTECH
CONSULTANTS, INC.

13256 Northeast 20th Street, Suite 16
Bellevue, Washington 98005
(425) 747-5618 FAX (425) 747-8561

February 6, 2006

JN 05483E

KeyBank
c/o Pryde Johnson Urban Environments
323 Queen Anne Avenue North
Seattle, Washington 98109

Attention: Curt Pryde

Subject: **Phase II Site Assessment**
Former Ballard Library Property
5711 – 24th Avenue Northwest
Seattle, Washington

Dear Mr. Pryde:

In response to questions regarding the condition of soil near and beneath the former Ballard Library building, we are pleased to present the findings of our recently completed Phase II Assessment of soil at 5711 – 24th Avenue Northwest in Seattle. This report was prepared in accordance with the terms of our proposal dated December 12, 2005.

PROJECT BACKGROUND

After completing review of Shannon & Wilson's (S&W) 2005 *Phase I and Phase II Environmental Site Assessment Ballard Library Property Seattle, Washington*, we understand that a gasoline and service station occupied the northern half of the property from 1936 to 1962. A clothing cleaner's occupied a building on the central portion of the property from 1938 to 1940 and an automotive repair business operated in a building on the southern portion of the property from 1940 to 1955. According to S&W, the gas station reportedly had three underground storage tanks (USTs), ranging in size from 550 gallons to approximately 1,000 gallons. The existing library building was constructed in 1962. It was not reported if the USTs were removed prior to construction of the library.

According to our review of the S&W report, they completed five borings on the southern portion of the subject property and three borings were completed offsite in the planting strip along the eastern property line. No borings were completed near the building at the northeastern corner of the property. Soil and groundwater samples were collected for analysis. Gasoline-range hydrocarbons above applicable state cleanup guidelines were identified in one of the four borings drilled in the parking lot south of the library. Shannon & Wilson concluded that the contaminated soil would not pose a risk to human health or the environment under its current use.

SCOPE OF SERVICES

To address the potential that soil and groundwater beneath the site contains concentrations of solvents, petroleum hydrocarbons, and/or BTEX compounds in excess of MTCA guidelines, we completed the following tasks:

- Reviewed plans and permits for previous development on the subject property.
- Drilled seven borings to obtain soil samples. Collected representative samples of soil for possible laboratory analysis.
- Submitted selected soil samples to a laboratory for analysis.
- Analyzed the laboratory data and soil information developed from the drilling.
- Prepared this summary report.

METHODOLOGY

SOIL SAMPLING and DRILLING PROCEDURES

To assess the current condition of soil and groundwater at the subject property, we drilled seven borings, B1E through B7E. The boring locations are shown on Plate 2, Site Exploration Map. Boring logs are attached to this report as Appendix A. All borings were drilled on the subject property. The utility right-of-ways and easements on adjoining properties were not evaluated.

The drilling equipment consisted of a limited access tractor-mounted hydraulic and percussion drive-point sampler. The soil was sampled with a standard penetration sampler driven 48 inches, continuously throughout the "drilling" range. The sampler was washed with trisodium phosphate solution and rinsed between samples to avoid the possibility of cross-contamination.

During drilling, a field log was made by the project geologist for each boring. Information recorded versus corresponding depth will include soil classification (Unified Soil Classification System), color, texture, moisture, or seepage zones. Odors or visual indications of contamination will be noted on the environmental boring logs.

Soil samples from the environmental test borings were transferred from the sampler directly to sterilized 40-ml VOAs and glass jars with Teflon-sealed lids furnished by the project laboratory. Soil samples collected for NWTPHGx and HVOC analysis were collected following EPA Method 5035. We used a Photovac 2020 Photoionization Device (PID) to measure headspace vapors in a plastic bag. The PID is not capable of differentiating between gasoline-, diesel-, or oil-range hydrocarbons and is merely a tool used to evaluate the presence of volatile compounds in soil.

The samples were stored in an iced chest at the site and taken to the laboratory in the chest. Each jar was labeled as to boring number, sample depth, and field personnel. EPA-recommended sample management protocol, including the maintenance of chain-of-custody documentation, will be observed at each stage of the project.

CLEANUP LEVELS

We identified the cleanup levels for the indicator hazardous substances as gasoline-, diesel-, and oil - range petroleum hydrocarbons, benzene, toluene, ethylbenzene, and xylenes (BTEX), and lead as those published in Table 740-1 *Method A Soil Cleanup Levels for Unrestricted Land Uses.* Gasoline-range hydrocarbons include automotive and aviation gasoline, mineral spirits, Stoddard solvent, and naphtha.

The Method A Soil cleanup levels for unrestricted uses are:

TPH Gasoline	100 parts per million (ppm) for gasoline mixtures without benzene and the total of ethylbenzene, toluene, and xylenes are less than 1% of the gasoline mixture
TPH Gasoline	30 ppm all other gasoline mixtures
TPH Diesel	2,000 ppm
TPH Heavy Oil	2,000 ppm
Benzene	0.03 ppm
Toluene	7 ppm
Ethylbenzene	6 ppm
Xylenes	9 ppm
Lead	250 ppm

LABORATORY ANALYSIS

Analysis of selected soil samples were analyzed by gas chromatography (GC) in accordance with Washington Method NWTPH-Gx for total petroleum hydrocarbons in the gasoline range and EPA Method 8260 for benzene, toluene, ethylbenzene, xylenes (BTEX), and halogenated volatile organic compounds (HVOCs). Analysis for diesel- and oil-range hydrocarbons was accomplished using Washington Method NWTPH-Dx(extended). Soil samples were analyzed for the presence of lead using EPA Method 7000.

The analytical approach was intended to provide a basis for comparing the site environment to existing standards offered in the Model Toxics Control Act (MTCA), Chapter 173-340, Washington Administrative Code.

FINDINGS

REVIEW OF PLANS AND PERMITS

We completed limited research and review of plans and permits at the Seattle Department of Planning and Development (DPD). No plans were available at DPD that showed the locations of the former underground storage tanks, pump island(s) or other appurtenances associated with the former service station developed on the northern half of the site. A limited electromagnetic (EM) survey of the property was conducted exterior to the east, south, and west sides of the building. No magnetic reflectors were identified exterior to the building. The EM was not effective inside the building due to the presence of conduits and rebar buried in the slab.

SURFACE

The subject property is located at the northwestern corner of the intersection of Northwest 24th Avenue and Northwest 57th Street in the Ballard District of Seattle, Washington. The property consists of a rectangular shaped parcel that covers 12,826 square feet. The property is developed with a wood-frame structure on the eastern three-quarters of the site that, according to King County Assessor's records, encloses 8,700 square feet. The majority of the property is covered by the footprint of the building or paving. Landscaped areas are located along the east and north sides of the building. The ground surface slopes down from the northeast to the southwest. Ground surface elevations shown on the King County Assessor's Office Geographic Information System (GIS) map range between 75 feet above sea level near the northeastern corner of the property to 70 feet above sea level near the southwestern corner of the property. The Vicinity Map, Plate 1, illustrates the general location of the site.

The building is currently vacant. However, the Seattle Public Library utilizes the building for storage of excess books and supplies from the recently closed Ballard Branch. A boiler room is located at the southeastern corner of the building in a partial basement. The boiler is fired by natural gas. Offices occupy the south-central portion of the building. The northern portion of the building was the main book depository.

GEOLOGIC SETTING

The site is located in the Puget Sound Lowland geomorphic province, which consists mainly of glacially deposited sediments. The Puget Sound Lowland is a basin lying between the Cascade Mountains to the east and the Olympic Mountains (coastal range) to the west. The site is located in the Puget Sound Lowland geomorphic province, which consists mainly of glacially deposited sediments. More specifically, the site is situated on the southwest-facing flank of Sunset Hill. The topography surrounding the site slopes down to the south-southwest.

The subject property lies in an area mapped as "Qt", and is referred to as glacial till. Till is described as a dense, glacially compressed mixture of silt, sand, gravel, and clay. Typically, till exhibits relatively low vertical hydraulic conductivity and this frequently results in the formation of a perched groundwater table along its upper contact. The "perched" water table (if present) is frequently seasonal and derives recharge primarily from the infiltration of precipitation through more permeable overlying soil.

Based upon local drainage patterns and upon our review of a U.S. Geological Survey map of the area, it is likely that the flow of surface or shallow-seated subsurface, water across the property would be toward the south-southwest. According to a U.S. EPA Ground Water Handbook, shallow water tables typically conform to surface topography (Chapter 4, page 78).

SUBSURFACE

The borings were drilled on December 15, 2005. Geoprobe sampling equipment was provided and operated by Environmental Services Network (ESN). A limited access, tractor-mounted unit was used for drilling of all five borings. The soil was continuously sampled from the surface to a maximum depth of approximately 12 feet below the existing ground surface in B3E. The boring locations are illustrated on the Site Exploration Map, Plate 2. We also refer the reader to the

Boring Logs, attached as Appendix A, for the specific conditions encountered at each boring location.

Borings B1E through B5E were drilled exterior to the east side of the building in a landscaped area. Borings B6E and B7E were drilled inside the building. Beneath the landscape bark in borings B1E through B5E, and the concrete and gravel sub-base in borings B6E and B7E, the upper soil layer generally consisted of brown to brownish gray, silty sand with gravel. Designated as fill, this material varied in thickness from approximately 2.5 feet in B4E to a maximum of 8.5 feet in B7E. The fill was underlain in borings B1E through B4E and B6E and B7E by brown to brownish gray, silty sand. This native soil extended to the maximum explored depths in all of these borings. An obstruction was encountered at approximately 2 feet below grade in boring B5E, which prevented deeper exploration at this location.

The fill was damp to moist. No groundwater was observed in any of the borings we drilled to a maximum explored depth of 12 feet in boring B3E. Shannon & Wilson reportedly encountered perched groundwater in borings drilled along the planting strip at approximately 7 to 9 feet below ground surface. It should be noted that groundwater levels vary seasonally with rainfall and other factors.

As noted on the boring logs, we detected very low organic vapors in headspace measurements in three of the samples obtained from B2E, B4E, and B5E. Hydrocarbon odors and detectable readings were noted in borings B1E, B3E, B6E, and B7E. The hydrocarbon odors were noted in the samples obtained from borings B1E and B3E starting at approximately 5.5 feet below the surface in the silty sand and in borings B6E and B7E at approximately 7 feet below grade. We used a Photovac 2020 Photoionization Device (PID) to measure headspace vapors in a plastic bag.

RESULTS OF LABORATORY ANALYSIS

Environmental Services Northwest in Lacey, Washington conducted soil and groundwater analyses for petroleum compounds, for the halogenated volatile organic compounds, and the soil analysis for metals. The complete laboratory reports and chain-of-custody documents are presented in Appendix B, Laboratory Reports. The following Tables 1 and 2 summarize the laboratory analysis results.

SOIL - TOTAL PETROLEUM HYDROCARBONS & BTEX

Analysis of selected soil samples from borings B1E, B3E, B6E, and B7E revealed that no gasoline-, diesel-, or oil-range hydrocarbons were detected in the submitted samples. Mineral spirits were detected in all four borings. No benzene or toluene, were detected in any of the samples submitted for analysis. Ethylbenzene and xylenes were detected in borings B1E and B3E. The following table summarizes the Total Petroleum Hydrocarbons (TPH) and BTEX quantification analyses. Bold typeface and shaded cells indicate concentrations in excess pf published cleanup levels.

TABLE 1
LABORATORY RESULTS TPH & BTEX
SOIL SAMPLES[1]

Sample Number	Mineral Spirits	Gasoline	Benzene	Toluene	Ethyl - benzene	Xylenes	Kerosene/ Diesel	Heavy Oil
B1E @ 7' – 7.5'	**1,600**	ND[2]	ND	ND	1.4	ND	ND	ND
B1E @ 7.5' – 8'	ND	ND	ND	ND	ND	ND	ND	ND
B3E @ 6' to 6.5'	**4,500**	ND	ND	ND	**13**	7.0	ND	ND
B3E @ 7.5' to 8'	ND	ND	ND	ND	0.51	0.28	ND	ND
B6E @ 7' to 7.5'	85	ND	ND	ND	ND	ND	ND	ND
B6E @ 9 to 10'	ND	ND	ND	ND	ND	ND	ND	ND
B7E @ 7 to 7.5'	52	ND	ND	ND	ND	ND	ND	ND
B7E @ 9 to 9.5'	ND	ND	ND	ND	ND	ND	ND	ND
Current Cleanup Level[3]	**100[4] 30[5]**	**100[4] 30[5]**	**0.03**	**7**	**6**	**9**	**2,000**	**2,000**

Notes:

1. Results are reported in parts per million (ppm).
2. ND denotes not detected above the practical quantitation limit.
3. Method A Soil Cleanup Levels for Unrestricted Land Use: MTCA Table 740-1.
4. Gasoline mixtures without benzene and the total of ethylbenzene, toluene, and xylenes are less than 1% of the gasoline mixture.
5. All other gasoline mixtures.

Based upon the results of field screening of a continuous core of soil from borings B2E and B4E, it appears that soil has not been affected by petroleum hydrocarbons or organic compounds. The concentrations of mineral spirits, ethylbenzene, and xylenes detected in the samples from boring B6E and B7E are below current cleanup levels. No lead was detected above the method detection limit of 5 parts per million (ppm) in any of the eight samples submitted for analysis

The concentrations of mineral spirits in boring B1E and mineral spirits and ethylbenzene in soil from boring 3E exceeded their individual Method A cleanup levels. The likely source of the mineral spirits appears to be due to the former use of the site as an automotive repair facility as documented in the Shannon & Wilson report.

SOIL –HALOGENATED VOLATILE ORGANIC COMPOUNDS

Quantification analysis of soil for volatile organic compounds (VOCs) revealed that ethylbenzene; xylenes; n-Propylbenzene; 1,2,4-Trimethylbenzene; sec-Butylbenzene; isopropyltoluene; n-Butylbenzene; and napthalene were detected in soil samples B1E, B3E, B6E, and B7E. The following table summarizes the VOC quantification analysis for compounds detected above the method detection limits. Bold typeface and shaded cells indicate concentrations in excess of published cleanup levels. The complete list of analytes and their respective method detection limits can be found in Appendix B, Laboratory Report.

TABLE 2
LABORATORY RESULTS HVOCs
SOIL SAMPLES[1]

Sample Number	B1E @ 7' – 7.5'	B1E @ 7.5' –8'	B3E @ 6' to 6.5'	B3E @ 7.5' to 8'	B6E @ 7' to 7.5'	B6E @ 9 to 10'	B7E @ 7 to 7.5'	B7E @ 9 to 9.5'	Current Cleanup Level[3]
ethylbenzene	1.4	ND[3]	13	0.51	ND	ND	ND	ND	6
xylenes	ND	ND	7.0	0.28	ND	ND	ND	ND	9
n-propylbenzene	6.3	ND	7.5	0.44	ND	ND	0.15	ND	NA[4]
1,2,4-Trimethylbenzene	28	ND	35	2.1	ND	ND.	ND	ND	NA
sec-Butylbenzene	2.3	ND	2.2	0.15	0.069	ND.	0.19	ND	NA
isopropyltoluene	4.7	ND	5.0	0.34	ND	ND	0.13	ND	NA
n-Butylbenzene	4.4	ND	4.4	0.32	ND	ND	0.24	ND	NA
napthalene	7.5	ND	5.0	1.0	ND	ND	ND	ND	1,600

Notes:

1. Results are reported in parts per million (ppm).
2. Method A Soil Cleanup Levels for Unrestricted Land Use: MTCA Table 740-1, Method B Soil Cleanup Levels CLARC II.
3. ND denotes not detected above the practical quantitation limit.
4. NA denotes not applicable.

Based upon the results of laboratory analyses completed for selected soil samples from borings B1E, B3E, B6E, and B7E, with the exception of the sample from B3E at 6 to 6.5 feet, it appears that soil has not been contaminated by with VOCs above applicable cleanup levels.

CONCLUSIONS/RECOMMENDATIONS

The purpose of this study was to conduct a supplemental assessment of the condition of the soil on the subject property near the location of a former service station that was not explored by Shannon & Wilson.

Due to interference from metallic conduits and rebar in the building slab, the EM survey presented inconclusive results. No records were found at the Seattle DPD documenting removal of the USTs that were formerly associated with the former service station. It is therefore our opinion that there is a potential that USTs may exist beneath the Ballard Library building. Should a UST be discovered, we recommend contacting a licensed tank removal company to remove the tank. Soil samples should be collected to document the soil condition at the time of the tank removal.

Our field observations completed for this assessment suggest that the soil near the sample locations B2E and B4E, and the results of the laboratory analyses of soil from boring locations B6E and B7E does not appear to be contaminated with gasoline-, diesel, oil-range hydrocarbons, benzene, toluene, ethylbenzene, or xylenes (BTEX) or halogenated volatile organic compounds (HVOCs) above applicable Method A or Method B cleanup levels. No groundwater was encountered during drilling of the borings in December.

In contrast, soil near boring locations B1E and B3E has been contaminated by gasoline-range hydrocarbons (as mineral spirits) and/or ethylbenzene above Method A cleanup levels. The lateral extent of contamination near borings B1E and B3E has not been completely defined. The vertical extent appears to be limited to approximately 1 to 1.5 feet. Soil with residual concentrations of petroleum hydrocarbons that are below cleanup levels, but has odors or other indications of contamination exists at the site. It has been our experience at several sites undergoing redevelopment where soil with odors or other indications of contamination exists, the soil has to be disposed of for additional cost.

After review of the Phase 2 report prepared by S&W in February 2005, along with the information we developed from our December 15, 2005 supplemental sampling and analysis, we estimated volumes of petroleum-contaminated soil and petroleum-affected soil. We define petroleum-contaminated soil as having residual petroleum concentrations greater than the Model Toxics Control Act *Method A Soil Cleanup Levels For Unrestricted Land Use* and petroleum-affected soil as having concentrations of residual petroleum concentrations less than the Model Toxics Control Act *Method A Soil Cleanup Levels For Unrestricted Land Use.* Based on the explorations conducted to date, it appears that approximately 285 tons of non-hazardous petroleum-contaminated soil may exist across the east-central and southern portions of the site. Assuming redevelopment of the site will involve extensive excavation for below grade parking, we estimate that approximately 500 tons of non-hazardous petroleum-affected soil may exist. These volume estimates are based strictly on the results of the isolated borings and laboratory analyses. The actual volumes will not be fully evident until demolition and site development begin.

WDOE NOTIFICATION

We recommend that a copy of this report should be provided to the owner or operator of the property to inform them of the discovery of contaminated soil near the northeastern corner of the property. We also recommend that the owner or operator notify the Washington Department of Ecology of the contaminated soil and groundwater discovered at the site. Notification of such discovery, by phone or mail should be made to the WDOE within 90 days of receipt of a copy of the report (Model Toxics Control Act Chapter 173-340-300).

Finally, we recommend that you consult with an environmental attorney regarding appropriate procedures for preserving your legal rights under the Model Toxics Control Act.

LIMITATIONS

This report has been prepared for specific application to this project 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 the area, and in accordance with the terms and conditions set forth in our proposal dated December 15, 2005. This report is for the exclusive use of KeyBank, Pryde Johnson Urban Environments, and their several representatives, for specific application to this site. No warranty is expressed or implied. If new information is developed in future site work, which may include excavations, borings, or studies, Geotech Consultants, Inc. should be allowed to re-evaluate the conclusions of this report and provide amendments as required.

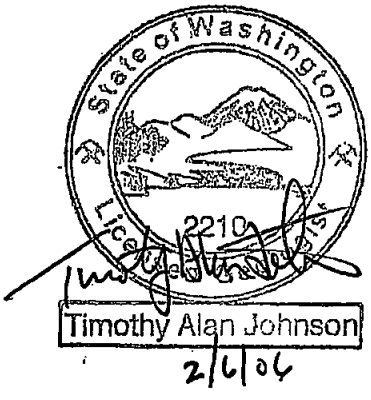
The following documents are attached to complete this report:

Plate 1	Vicinity Map
Plate 2	Site Exploration Map
Appendix A	Boring Logs
Appendix B	Laboratory Report

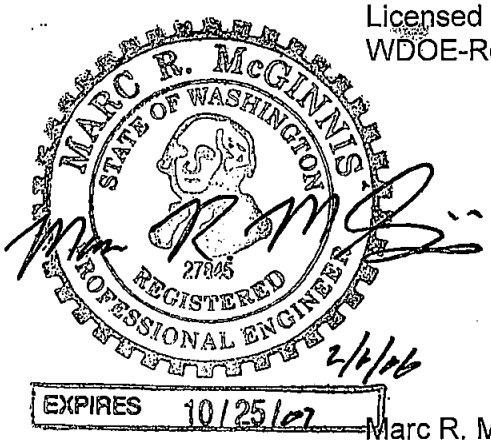
We appreciate this opportunity to provide environmental consulting services on this project. If you have any questions, or if we can be of further assistance, please do not hesitate to contact us.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

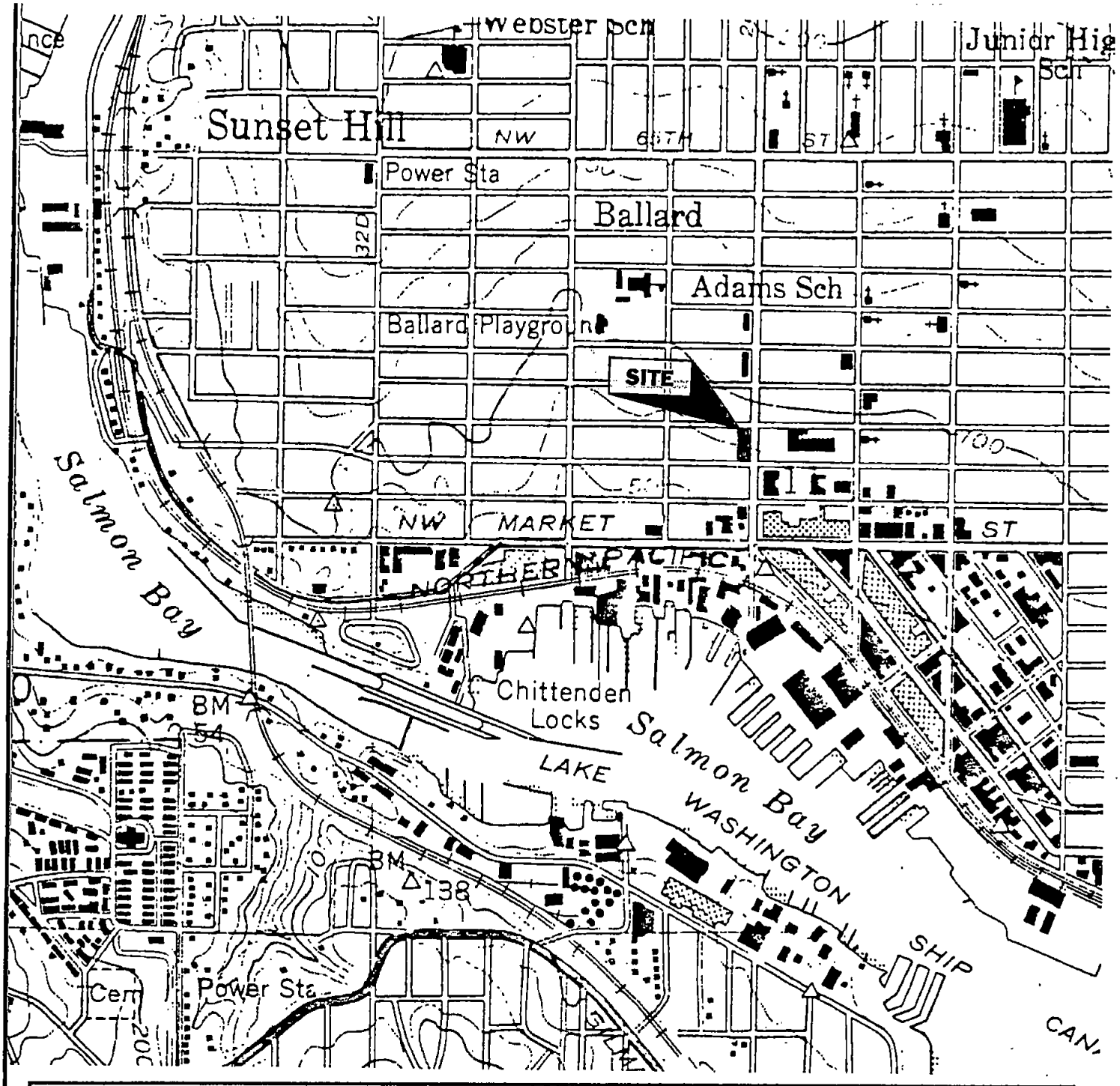


Timothy A. Johnson
Licensed Hydrogeologist
WDOE-Registered Site Assessor



Marc R. McGinnis, P.E.
Principal

TAJ/MRM: esn



LEGEND:

CONTOUR INTERVAL: 25 FEET
SCALE: 1" =1,000'

PROBABLE DIRECTION OF REGIONAL SHALLOW GROUNDWATER FLOW

N

(SOURCE: U.S. Geologic Survey map of Shilshole Bay, Washington Quadrangle. 1949, photoinspected 1971)

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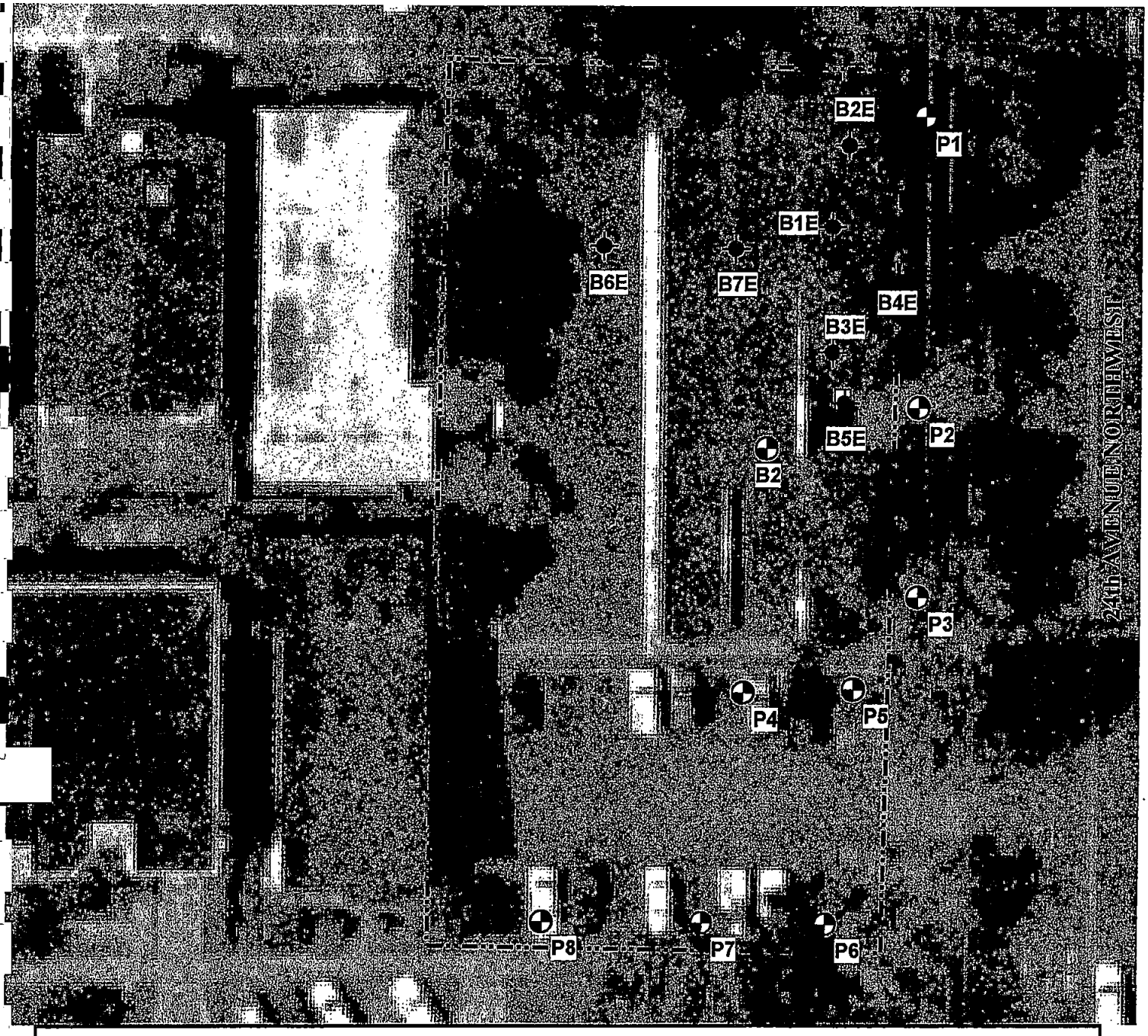
VICINITY MAP

Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Plate:
05483E	February 2006		1



LEGEND:

Approximate project boundary

P1 — Approximate location of Shannon & Wilson direct push environmental boring.

B1E — Approximate location of Geotech Consultants direct push environmental boring.

Inferred Direction of Shallow Groundwater Flow

Approximate location of obstruction

N

No Scale

(SOURCE: Tera Server 2002 Aerial Photograph)

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EXPLORATION MAP

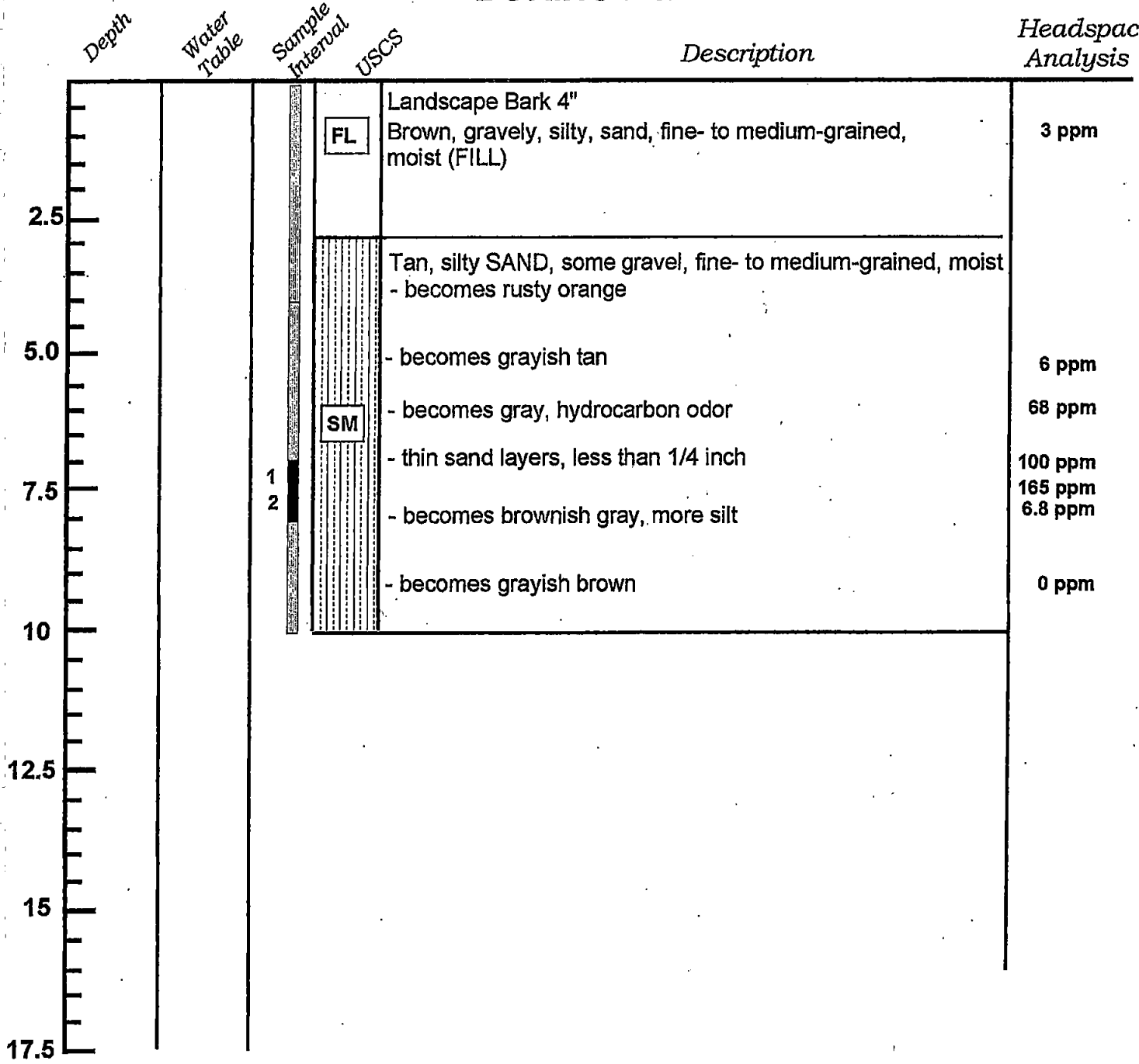
Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Plate:
05483E	February 2006		2

APPENDIX A

Boring Logs

BORING B1E



* Boring drilled to 10 feet on December 15, 2005 using the Geoprobe™ sampling system. Continuously sampled in 4-foot increments from surface to 10 feet below ground surface (bgs).
* ■ Indicates sample collected from 4-foot interval for possible laboratory analysis.
* Visual and olfactory indications of contamination in soil.
* No groundwater observed at time of drilling.
* Headspace measured in a sealed plastic container using a Photovac 2020 PID.

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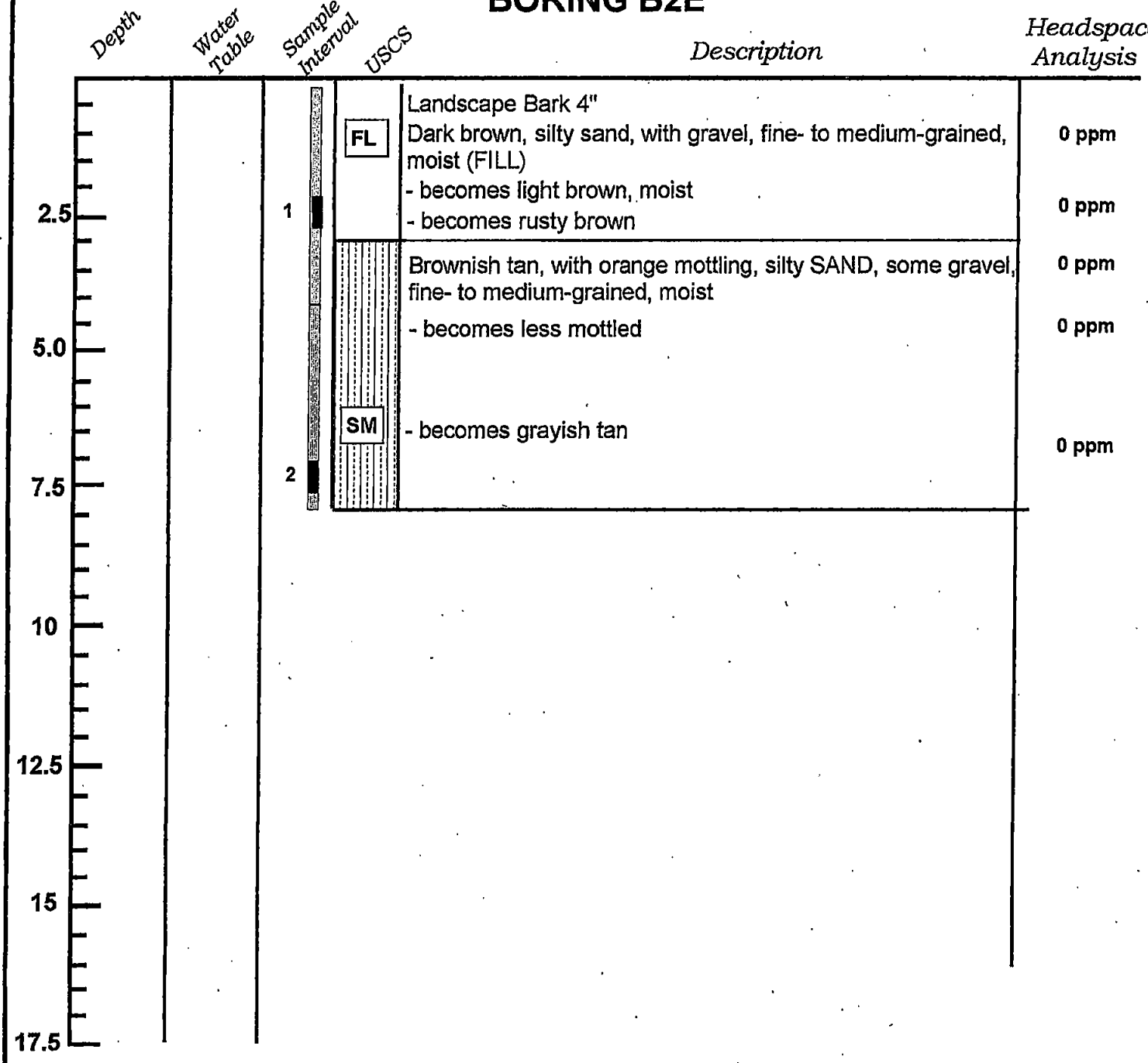
BORING LOG

Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Appendix:
05483E	February 2006		A1

BORING B2E



* Boring drilled to 8 feet on December 15, 2005 using the Geoprobe™ sampling system. Continuously sampled in 4-foot increments from surface to 8 feet below ground surface (bgs).
* ■ Indicates sample collected from 4-foot interval for possible laboratory analysis.
* No visual and olfactory indications of contamination in soil.
* No groundwater observed at time of drilling.
* Headspace measured in a sealed plastic container using a Photovac 2020 PID.

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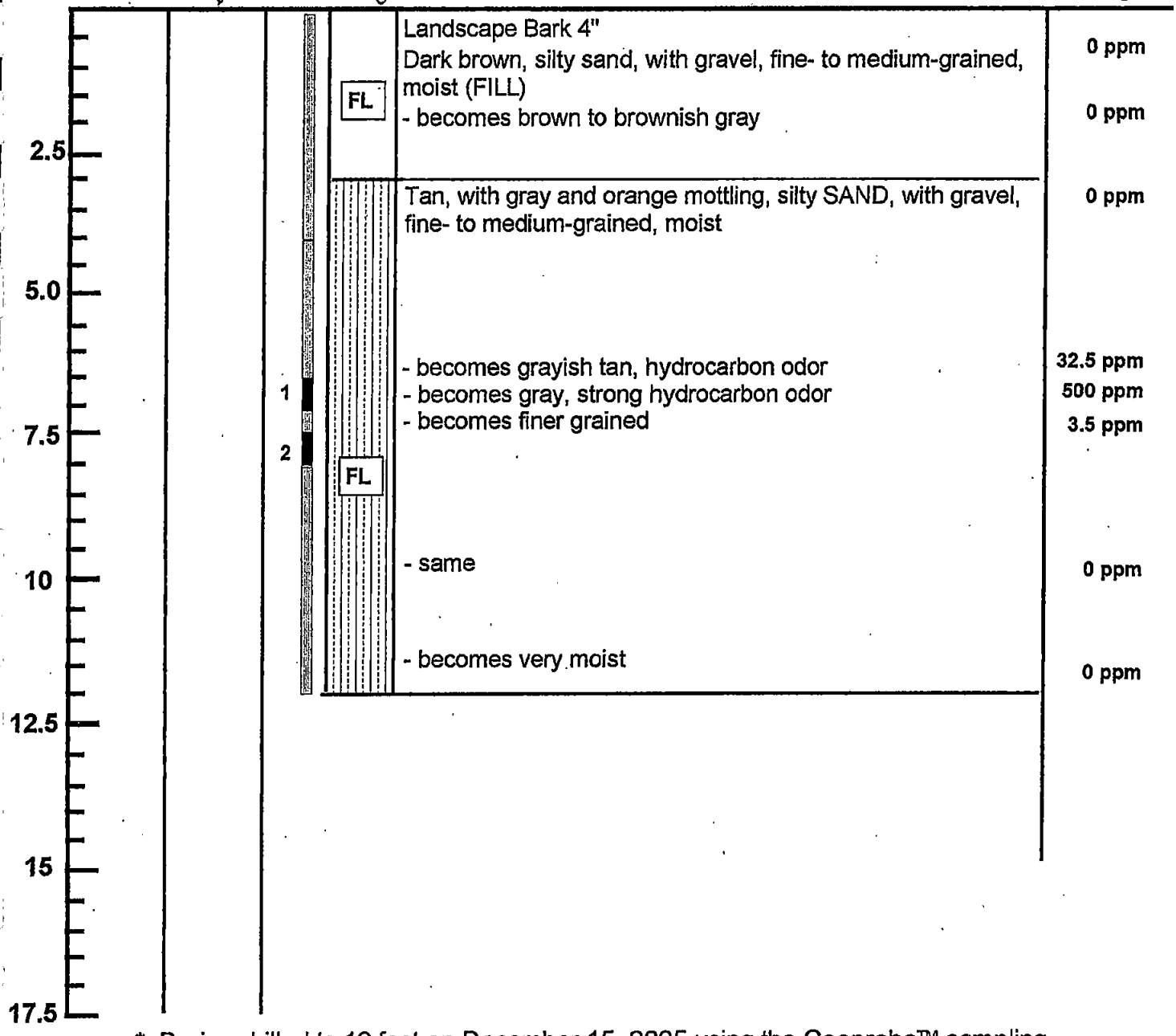
BORING LOG
Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Appendix:
05483E	February 2006		A2

BORING B3E



* Boring drilled to 12 feet on December 15, 2005 using the Geoprobe™ sampling system. Continuously sampled in 4-foot increments from surface to 12 feet below ground surface (bgs).
* ■ Indicates sample collected from 4-foot interval for possible laboratory analysis.
* Visual and olfactory indications of contamination in soil.
* No groundwater observed at time of drilling.
* Headspace measured in a sealed plastic container using a Photovac 2020 PID.

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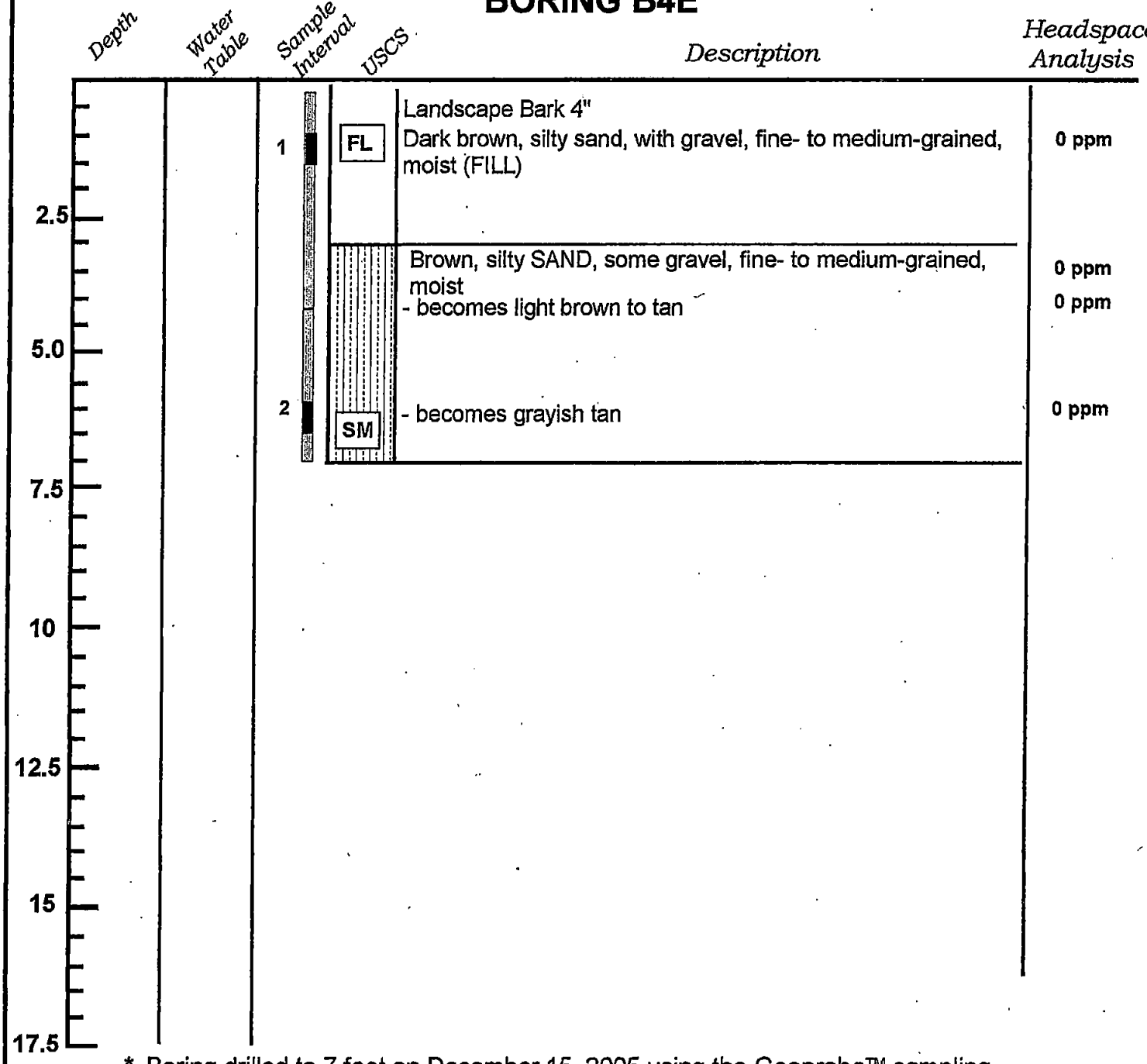
BORING LOG
Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Appendix:
05483E	February 2006		A3

BORING B4E



* Boring drilled to 7 feet on December 15, 2005 using the Geoprobe™ sampling system. Continuously sampled from surface to 7 feet below ground surface (bgs) in 4-foot increments.
* ■ Indicates sample collected from sample interval for possible laboratory analysis.
* No visual and olfactory indications of contamination in soil.
* No groundwater observed at time of drilling.
* Headspace measured in a sealed plastic container using a Photovac 2020 PID.

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BORING LOG
Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Appendix:
05483E	February 2006		A4

BORING B5E

Depth	Water Table	Sample Interval	USCS	Description	Headspace Analysis
			FL	Landscape Bark 4" Dark brown SAND, with silt and gravel, moist (FILL)	00 ppm
				- obstruction, moved 2 feet southwest, encountered obstruction	
2.5					
5.0					
7.5					
10					
2.5					
15					
7.5					

* Boring drilled to 2 feet on December 15, 2005 using the Geoprobe™ sampling system. Obstruction encountered at approximately 2 feet below ground surface (bgs).
* No visual and olfactory indications of contamination in soil.
* No groundwater observed at time of drilling.
* Headspace measured in a sealed plastic container using a Photovac 2020 PID.

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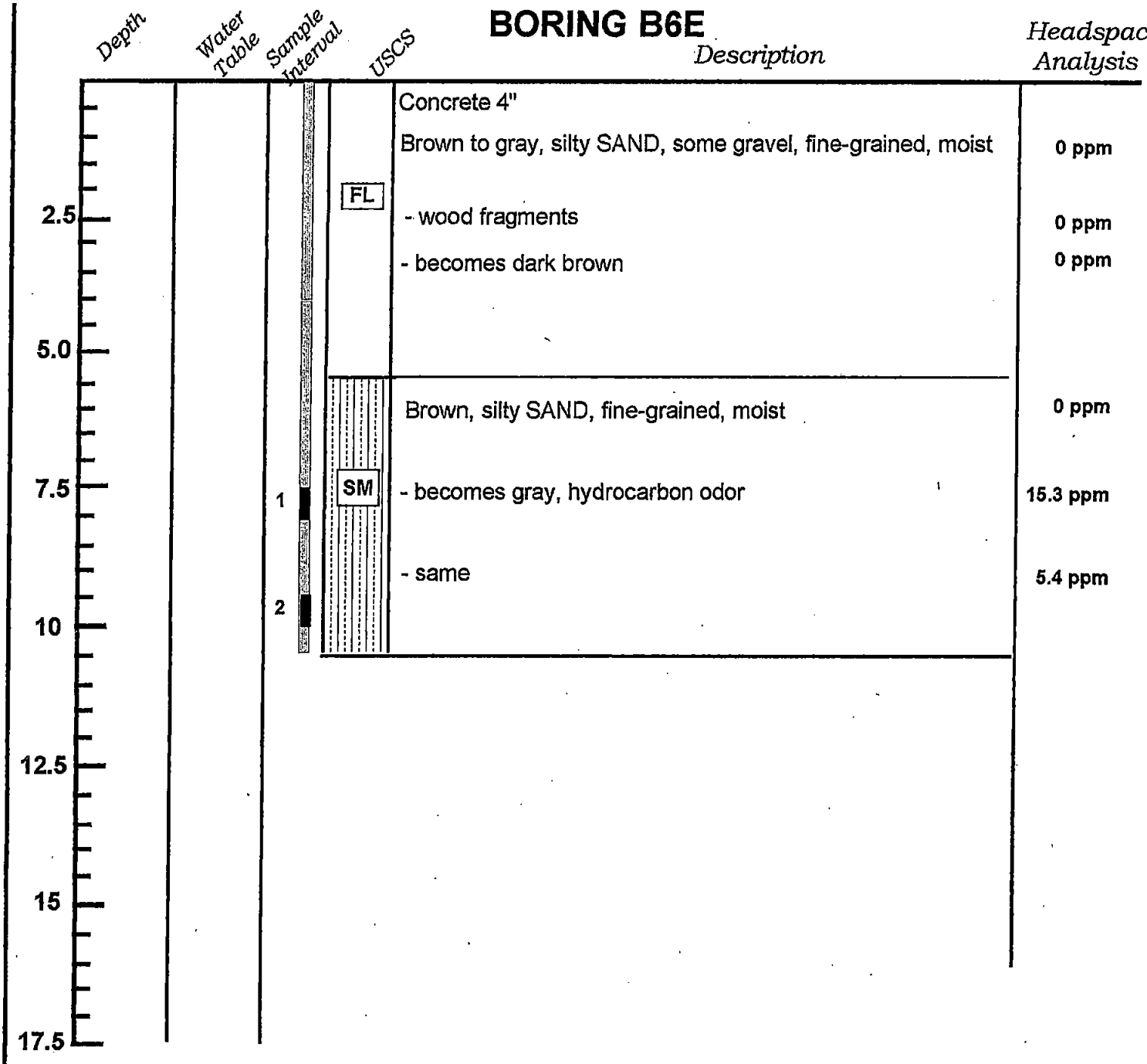
BORING LOG
Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Appendix:
05483E	February 2006		A5

BORING B6E



* Boring drilled to 11 feet on December 15, 2005 using the Geoprobe™ sampling system. Continuously sampled in 4-foot increments from surface to 11 feet below ground surface (bgs).
* ▮ Indicates sample collected from 4-foot interval for possible laboratory analysis.
* Visual and slight olfactory indications of contamination in soil.
* No groundwater observed at time of drilling.
* Headspace measured in a sealed plastic container using a Photovac 2020 PID.

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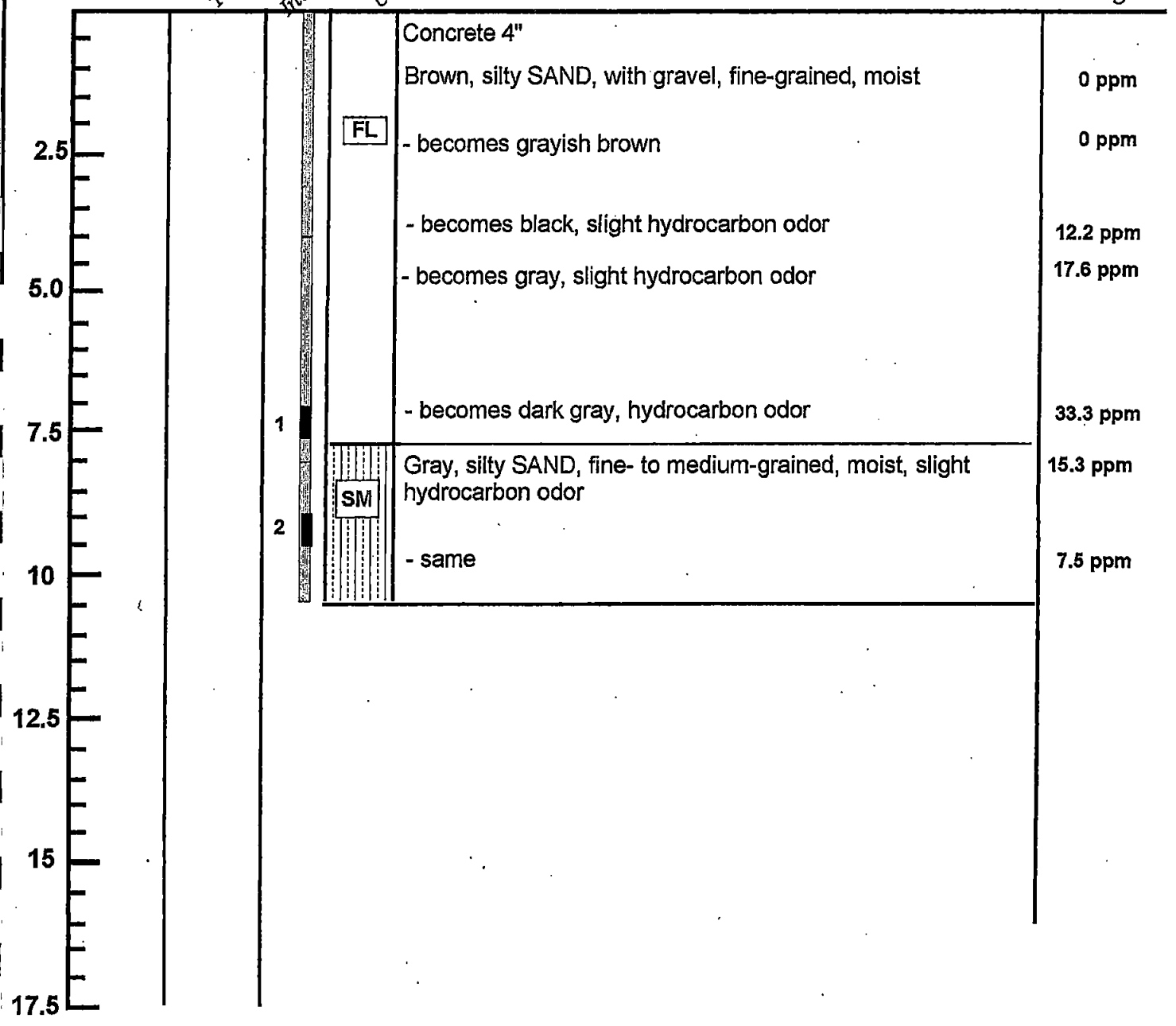
BORING LOG
Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Appendix:
05483E	February 2006		A6

BORING B7E



* Boring drilled to 11 feet on December 15, 2005 using the Geoprobe™ sampling system. Continuously sampled in 4-foot increments from surface to 11 feet below ground surface (bgs).
* ▮ Indicates sample collected from 4-foot interval for possible laboratory analysis.
* Visual and slight olfactory indications of contamination in soil.
* No groundwater observed at time of drilling.
* Headspace measured in a sealed plastic container using a Photovac 2020 PID.

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BORING LOG
Former Ballard Library
5711 - 24th Avenue Northwest
Seattle, Washington

Job No:	Date:		Appendix:
05483E	February 2006		A7

APPENDIX B

Laboratory Report

ESN NORTHWEST
Environmental Services Network

December 22, 2005

Tim Johnson
Geotech Consultants, Inc.
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Mr. Johnson:

Please find enclosed the analytical data report for the BAL LIB Project in Seattle, Washington. Soil samples were analyzed for Diesel and Oil by NWTPH-Dx/Dx Extended, Gasoline by NWTPH-Gx, VOC's by Method 8260, and Pb by Method 7420 on December 15 – 19, 2005.

The results of these analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to Geotech Consultants for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

1210 Eastside Street SE, Suite 200 ▪ Olympia, Washington 98501 ▪ 360.459.4670 ▪ FAX 360.459.3432
Web Site: *www.esnnw.com* E-Mail: *info@esnnw.com*

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

ESN Job Number:	S51215-3
Client:	GEOTECH CONSULTANTS
Client Job Name:	BAL LIB
Client Job Number:	05483E

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	B1E 7-7.5	B1E 7.5-8	B3E 6-6.5	B3E 7.5-8
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05
Moisture, %			7%	7%	5%	10%
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd	nd
Heavy oil	50	nd	nd	nd	nd	nd
Surrogate recoveries:						
Fluorobiphenyl		93%	115%	82%	106%	86%
o-Terphenyl		90%	92%	83%	87%	87%

Data Qualifiers and Analytical Comments

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

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

ESN Job Number:	S51215-3
Client:	GEOTECH CONSULTANTS
Client Job Name:	BAL LIB
Client Job Number:	05483E

Analytical Results

NWTPH-Dx, mg/kg		B6E 7-7.5	B6E 9.5-10	B8E 7-7.5	B7E 9-9.5	DUP B7E 9-9.5
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05
Moisture, %		6%	9%	12%	10%	10%
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd	nd
Heavy oil	50	nd	nd	nd	nd	nd
Surrogate recoveries:						
Fluorobiphenyl		99%	85%	99%	86%	80%
o-Terphenyl		87%	90%	92%	89%	84%

Data Qualifiers and Analytical Comments

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

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

ESN Job Number:	S51215-3
Client:	GEOTECH CONSULTANTS
Client Job Name:	BAL LIB
Client Job Number:	05483E

NWTPH-Gx / BTEX (8260)

Analytical Results

NWTPH-Gx, mg/kg		MTH BLK	B1E 7-7.5	B1E 7.5-8	B3E 6-6.5
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05	12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/16/05	12/16/05	12/16/05
Moisture, %			7%	7%	5%
Mineral spirits/Stoddard solvent	5.0	nd	**1,600**	nd	**4,500**
Gasoline	5.0	nd	nd	nd	nd
Surrogate recoveries:					
Fluorobiphenyl		93%	115%	82%	106%
o-Terphenyl		90%	92%	83%	87%

BTEX (8260), mg/kg		MTH BLK	LCS	B1E 7-7.5	B1E 7.5-8	B3E 6-6.5
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05		12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/19/05	12/16/05	12/16/05	12/16/05
Moisture, %				7%	7%	5%
Benzene	0.02	nd	97%	nd	nd	nd
Toluene	0.05	nd	95%	nd	nd	nd
Ethylbenzene	0.05	nd		**1.4**	nd	**13**
Xylenes	0.05	nd		nd	nd	**7.0**
Surrogate recoveries:						
Dibromofluoromethane		92%	105%	92%	88%	88%
Toluene-d8		102%	99%	106%	102%	105%
4-Bromofluorobenzene		96%	101%	72%	96%	78%

Data Qualifiers and Analytical Comments

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

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

ESN Job Number:	S51215-3
Client:	GEOTECH CONSULTANTS
Client Job Name:	BAL LIB
Client Job Number:	05483E

NWTPH-Gx / BTEX (8260)

Analytical Results

NWTPH-Gx, mg/kg		B3E 7.5-8	B6E 7-7.5	B6E 9.5-10	~~B8E~~ B7E 7-7.5
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05	12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/16/05	12/16/05	12/16/05
Moisture, %		10%	6%	9%	12%
Mineral spirits/Stoddard solvent	5.0	nd	**85**	nd	**52**
Gasoline	5.0	nd	nd	nd	nd
Surrogate recoveries:					
Fluorobiphenyl		86%	99%	85%	99%
o-Terphenyl		87%	87%	90%	92%

BTEX (8260), mg/kg		B3E 7.5-8	B6E 7-7.5	B6E 9.5-10	B8E 7-7.5
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05	12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/16/05	12/19/05	12/16/05
Moisture, %		10%	6%	9%	12%
Benzene	0.02	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	**0.51**	nd	nd	nd
Xylenes	0.05	**0.28**	nd	nd	nd
Surrogate recoveries:					
Dibromofluoromethane		86%	90%	104%	88%
Toluene-d8		101%	101%	100%	102%
4-Bromofluorobenzene		95%	95%	101%	95%

Data Qualifiers and Analytical Comments

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

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

ESN Job Number:	S51215-3
Client:	GEOTECH CONSULTANTS
Client Job Name:	BAL LIB
Client Job Number:	05483E

NWTPH-Gx / BTEX (8260)

Analytical Results			DUP
NWTPH-Gx, mg/kg		**B7E 9-9.5**	**B7E 9-9.5**
Matrix	Soil	Soil	Soil
Date extracted	Reporting	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/16/05
Moisture, %		10%	10%
Mineral spirits/Stoddard solvent	5.0	nd	nd
Gasoline	5.0	nd	nd
Surrogate recoveries:			
Fluorobiphenyl		86%	80%
o-Terphenyl		89%	84%

BTEX (8260), mg/kg		**B7E 9-9.5**	**MS**	**MSD**	**RPD**
Matrix	Soil	Soil	Soil	Soil	
Date extracted	Reporting	12/15/05	12/15/05	12/15/05	
Date analyzed	Limits	12/16/05	12/15/05	12/15/05	
Moisture, %		10%			
Benzene	0.02	nd	111%	109%	2%
Toluene	0.05	nd	109%	109%	0%
Ethylbenzene	0.05	nd			
Xylenes	0.05	nd			
Surrogate recoveries:					
Dibromofluoromethane		90%	89%	93%	
Toluene-d8		100%	102%	102%	
4-Bromofluorobenzene		97%	98%	98%	

Data Qualifiers and Analytical Comments

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

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

ESN Job Number: S51215-3
Client: GEOTECH CONSULTANTS
Client Job Name: BAL LIB
Client Job Number: 05483E

Analytical Results

8260, mg/kg		MTH BLK	LCS	B1E 7-7.5	B1E 7.5-8	B3E 6-6.5
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05		12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/19/05	12/16/05	12/16/05	12/16/05
Moisture, %				7%	7%	5%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.01	nd		nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.50	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	116%	nd	nd	nd
Methylene chloride	0.50	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.50	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd		nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	97%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	82%	nd	nd	nd
1,2-Dichloropropane	0.05	nd		nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone	0.05	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	95%	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.05	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd		nd	nd	nd
1,2-Dibromoethane (EDB)(*)	0.005	nd		nd	nd	nd
Chlorobenzene	0.05	nd	90%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd		1.4	nd	13
Xylenes	0.05	nd		nd	nd	7.0
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		6.3	nd	7.5
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		28 E	nd	35 E
sec-Butylbenzene	0.05	nd		2.3	nd	2.2
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		4.7	nd	5.0
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		4.4	nd	4.4
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		7.5	nd	5.0
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd

*-Instrument detection limits

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

ESN Job Number:	S51215-3
Client:	GEOTECH CONSULTANTS
Client Job Name:	BAL LIB
Client Job Number:	05483E

Analytical Results

8260, mg/kg		MTH BLK	LCS	B1E 7-7.5	B1E 7.5-8	B3E 6-6.5
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05		12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/19/05	12/16/05	12/16/05	12/16/05
Moisture, %				7%	7%	5%
Surrogate recoveries:						
Dibromofluoromethane		92%	105%	92%	88%	88%
Toluene-d8		102%	99%	106%	102%	105%
4-Bromofluorobenzene		96%	101%	72%	96%	78%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
E - estimated quantitation, above quantitation limit
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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

ESN Job Number: S51215-3
Client: GEOTECH CONSULTANTS
Client Job Name: BAL LIB
Client Job Number: 05483E

Analytical Results

B7E

8260, mg/kg		B3E 7.5-8	B6E 7-7.5	B6E 9.5-10	B8E 7-7.5	B7E 9-9.5
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/16/05	12/19/05	12/16/05	12/16/05
Moisture, %		10%	6%	9%	12%	10%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd	nd
Vinyl chloride	0.01	nd	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd	nd
Acetone	0.50	nd	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd	nd
Methylene chloride	0.50	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd	nd
2-Butanone (MEK)	0.50	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd	nd
1,2-Dichloroethane	0.05	nd	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd	nd
Benzene	0.02	nd	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd	nd
4-Methyl-2-pentanone	0.05	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd	nd
2-Hexanone	0.05	nd	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)(*)	0.005	nd	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd
Ethylbenzene	0.05	0.51	nd	nd	nd	nd
Xylenes	0.05	0.28	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd	nd
n-Propylbenzene	0.05	0.44	nd	nd	0.15	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	2.1	nd	nd	nd	nd
sec-Butylbenzene	0.05	0.15	0.069	nd	0.19	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd	nd
Isopropyltoluene	0.05	0.34	nd	nd	0.13	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd	nd
n-Butylbenzene	0.05	0.32	nd	nd	0.24	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd	nd
Naphthalene	0.05	1.0	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd	nd

*-Instrument detection limits

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

ESN Job Number: S51215-3
Client: GEOTECH CONSULTANTS
Client Job Name: BAL LIB
Client Job Number: 05483E

Analytical Results

B7E

8260, mg/kg		B3E 7.5-8	B6E 7-7.5	B6E 9.5-10	~~B6E~~ 7-7.5	B7E 9-9.5
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05
Date analyzed	Limits	12/16/05	12/16/05	12/19/05	12/16/05	12/16/05
Moisture, %		10%	6%	9%	12%	10%
Surrogate recoveries:						
Dibromofluoromethane		86%	90%	104%	88%	90%
Toluene-d8		101%	101%	100%	102%	100%
4-Bromofluorobenzene		95%	95%	101%	95%	97%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
E - estimated quantitation, above quantitation limit
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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

ESN Job Number: S51215-3
Client: GEOTECH CONSULTANTS
Client Job Name: BAL LIB
Client Job Number: 05483E

Analytical Results

8260, mg/kg		MS	MSD	RPD
Matrix	Soil	Soil	Soil	
Date extracted	Reporting	12/15/05	12/15/05	
Date analyzed	Limits	12/15/05	12/15/05	
Moisture, %				
Dichlorodifluoromethane	0.05			
Chloromethane	0.05			
Vinyl chloride	0.01			
Bromomethane	0.05			
Chloroethane	0.05			
Trichlorofluoromethane	0.05			
Acetone	0.50			
1,1-Dichloroethene	0.05	85%	84%	1%
Methylene chloride	0.50			
Methyl-t-butyl ether (MTBE)	0.05			
trans-1,2-Dichloroethene	0.05			
1,1-Dichloroethane	0.05			
2-Butanone (MEK)	0.50			
cis-1,2-Dichloroethene	0.05			
2,2-Dichloropropane	0.05			
Chloroform	0.05			
Bromochloromethane	0.05			
1,1,1-Trichloroethane	0.05			
1,2-Dichloroethane	0.05			
1,1-Dichloropropene	0.05			
Carbon tetrachloride	0.05			
Benzene	0.02	111%	109%	2%
Trichloroethene (TCE)	0.02	104%	103%	1%
1,2-Dichloropropane	0.05			
Dibromomethane	0.05			
Bromodichloromethane	0.05			
4-Methyl-2-pentanone	0.05			
cis-1,3-Dichloropropene	0.05			
Toluene	0.05	109%	109%	0%
trans-1,3-Dichloropropene	0.05			
1,1,2-Trichloroethane	0.05			
2-Hexanone	0.05			
1,3-Dichloropropane	0.05			
Dibromochloromethane	0.05			
Tetrachloroethene (PCE)	0.02			
1,2-Dibromoethane (EDB)(*)	0.005			
Chlorobenzene	0.05	108%	109%	1%
1,1,1,2-Tetrachloroethane	0.05			
Ethylbenzene	0.05			
Xylenes	0.05			
Styrene	0.05			
Bromoform	0.05			
1,1,2,2-Tetrachloroethane	0.05			
Isopropylbenzene	0.05			
1,2,3-Trichloropropane	0.05			
Bromobenzene	0.05			
n-Propylbenzene	0.05			
2-Chlorotoluene	0.05			
4-Chlorotoluene	0.05			
1,3,5-Trimethylbenzene	0.05			
tert-Butylbenzene	0.05			
1,2,4-Trimethylbenzene	0.05			
sec-Butylbenzene	0.05			
1,3-Dichlorobenzene	0.05			
1,4-Dichlorobenzene	0.05			
Isopropyltoluene	0.05			
1,2-Dichlorobenzene	0.05			
n-Butylbenzene	0.05			
1,2-Dibromo-3-Chloropropane	0.05			
1,2,4-Trichlorobenzene	0.05			
Naphthalene	0.05			
Hexachloro-1,3-butadiene	0.05			
1,2,3-Trichlorobenzene	0.05			

*-instrument detection limits

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

ESN Job Number:	S51215-3
Client:	GEOTECH CONSULTANTS
Client Job Name:	BAL LIB
Client Job Number:	05483E

Analytical Results

8260, mg/kg		MS	MSD	RPD
Matrix	Soil	Soil	Soil	
Date extracted	Reporting	12/15/05	12/15/05	
Date analyzed	Limits	12/15/05	12/15/05	
Moisture, %				

Surrogate recoveries:

Dibromofluoromethane	89%	93%
Toluene-d8	102%	102%
4-Bromofluorobenzene	98%	98%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
E - estimated quantitation, above quantitation limit
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

BAL LIB PROJECT
Ballard, Washington
Geotech Consultants, Inc.
Client Project #05483E

Heavy Metals in Soil by EPA-7000 Series

Sample Number	Date Analyzed	Lead (Pb) EPA 7420 (mg/kg)
Method Blank	12/19/05	nd
B1E 7-7.5	12/19/05	nd
B1E 7.5-8	12/19/05	nd
B3E 6.5	12/19/05	nd
B3E 7.5-8	12/19/05	nd
B6E 7-7.5	12/19/05	nd
B6E 9.5-10	12/19/05	nd
B7E 7-7.5	12/19/05	nd
B7E 9-9.5	12/19/05	nd
B7E 9-9.5 Dup.	12/19/05	nd
Method Detection Limits		5

"nd" Indicates not detected at listed detection limits.

ANALYSES PERFORMED BY:M.Sebonia

ESN NORTHWEST CHEMISTRY LABORATORY

BAL LIB PROJECT
Ballard, Washington
Geotech Consultants, Inc.
Client Project #05483E

QA/QC Data - Total Metals EPA-7000 Series Analyses

Sample Number: B7E 9-9.5

	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	(%)
Lead	250	253	101	250	249	100	1.59

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Lead	250	247	99

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY:M.Sebonia

ESN NORTHWEST | Environmental Services Network

S51215-3

CHAIN-OF-CUSTODY RECORD

CLIENT: Geotech Consultants, Inc

ADDRESS: 13256 NE 20th St #16, Bellevue WA 98005

PHONE: (425) 747-5618 FAX: (425) 747-8561

CLIENT PROJECT #: 05483E PROJECT MANAGER: Tim Johnson

DATE: 12/15/05 PAGE 1 OF 1

PROJECT NAME: BALLIB

LOCATION: BALLARD

COLLECTOR: Timothy Johnson DATE OF COLLECTION 12/15/05

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	TPH - HCID	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (d & o)	PAH 8100	PAH 8270	PCBs 8082	Pesticides 8081	EPH	VPH	Methamphetamine	Pb	Hex Chrome	NOTES	Total Number of Containers	Laboratory Nots Number
1. B1E	7-7.5	11:20	Soil	4oz 40ml	X	X			X		X									X			3	
2. B1E	7.5-8	11:25	soil	4oz 40ml	X	X			X		X									X			3	
3. B3E	6-6.5	12:01	soil	4oz 40ml	X	X			X		X									X			3	
4. B3E	7.5-8	12:05	soil	4oz 40ml	X	X			X		X									X			3	
5. B6F	7-7.5	1:42	soil	4oz 40ml	X	X			X		X									X			3	
6. B6E	9.5-10'	1:45	soil	4oz 40ml	X	X			X		X									X			3	
7. B7E	7-7.5	2:13	soil	4oz 40ml	X	X			X		X									X			3	
8. B7E	9-9.5	2:34	soil	4oz 40ml	X	X			X		X									X			3	
9.																								
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RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
Timothy Johnson	12/15/05	3:30 John Mafford	12/15/05 3:30
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
		Jeri Bu	12/15/05 1630

SAMPLE DISPOSAL INSTRUCTIONS

☒ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR (48 HR) 5 DAY

APPENDIX A

Shannon and Wilson Phase 1 and 2 Report

PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENT
BALLARD LIBRARY PROPERTY
SEATTLE, WASHINGTON

1.0 INTRODUCTION

Shannon & Wilson, Inc. has completed a combined Phase I and Phase II Environmental Site Assessment (ESA) for the Ballard Library property (referred to herein as the site or subject property) located at 5711 24th Avenue NW in Seattle, Washington (Figures 1 and 2). The Phase I work was conducted based on our proposal dated November 12, 2004, which was authorized by Ms. Joan Rosenstock of the City of Seattle in anticipation of selling the subject property.

The purpose of the Phase I ESA was to evaluate the likelihood for the presence of recognized environmental conditions (RECs) at the site. The term "recognized environmental conditions" means the presence or likely presence of regulated hazardous or dangerous wastes and/or substances, including petroleum products, under conditions that indicate an existing release, a past release, or a material threat of a release into the structures of the property or into the ground, groundwater, or surface water of the property. Hazardous or dangerous wastes and/or substances are defined by the Washington State Model Toxics Control Act (MTCA) and the Dangerous Waste Regulations.

Several potential sources of contamination were identified during the Phase I ESA, and follow-up Phase II site investigations were recommended. Shannon & Wilson then developed a Phase II scope of work to evaluate whether site soil and groundwater had been contaminated by past uses. This revised scope of work was approved on February 7, 2005, by Ms. Rosenstock of the City of Seattle.

1.1 Phase I Scope of Work

The Phase I ESA scope of work was in accordance with our proposal and in general accordance with the American Society for Testing and Materials (ASTM) Standard E 1527-00. The scope of work included the following subtasks:

- Review of readily available information with respect to current uses of the property and its surroundings.
- Review of readily available information from various sources with respect to the historical uses of the property, including assessor's records, permits, historical maps, and aerial photographs.
- Review of state and federal databases of known and suspected contaminated sites.
- Detailed visual reconnaissance of the property and cursory reconnaissance of the immediate site vicinity.
- Review of information related to the physical setting of the site.

The scope of the Phase I ESA did not include an audit of environmental regulatory compliance issues or permits, wetland delineation, an evaluation of hazardous building materials within or associated with the library, or collection and testing of environmental samples, including asbestos, lead-based paint, radon gas, molds, polychlorinated biphenyls (PCBs), soil, and/or groundwater. The scope of the Phase II ESA consisted of subsurface explorations in accessible areas to observe subsurface conditions and to obtain soil and groundwater samples for environmental testing, and preparation of this report. The Phase II scope and findings are presented in Sections 8 through 10 following the discussion of the Phase I ESA findings and recommendations.

1.2 Site Location

The site is located at 5711 24th Avenue SW in the Ballard district of Seattle, Washington, as shown in Figure 1. The site is located in the NW quarter of Section 11, Township 25 North, Range 3 East, Willamette Meridian. The site layout and adjoining property uses are shown in Figure 2.

The site is a rectangular, 0.46-acre property (tax parcel number 2767605130) that is located west of 24th Avenue NW between NW 57th Street and NW 58th Street. The site is currently occupied by the Ballard Public Library building and a paved parking lot (Photograph 1/Appendix A). The site slopes to the south and west and is located approximately 75 to 80 feet above mean sea level.

2.0 GEOLOGIC AND HYDROGEOLOGIC SETTING

Seattle lies in the central portion of the Puget Lowland, a north-south-trending topographic and structural depression between the Olympic Mountains to the west and the Cascade Mountains to the east. The subsurface soils in the Seattle area were deposited immediately before and during the latest glacial episode, known as the Vashon glaciation, which receded from the area about 13,500 years ago. Four distinct lithologic units were deposited in the Seattle area during the Vashon glaciation: Lawton Clay, Esperance Sand, Vashon Till, and Vashon recessional deposits. Based on "Geology of Seattle, Washington, United States of America" (Galster et al., 1991), the soils in the site vicinity are comprised of Vashon Till.

Pacific Testing Laboratories (1990), in an environmental report for the former gas station on the adjoining property to the south, described soil in the site vicinity as loose to medium dense, poorly graded sand with traces of silt and gravel, overlying very dense, well to poorly graded sand with traces of silt and gravel. Silty clay overlying very dense sandy silt was encountered in one boring. Groundwater was encountered in three of the five borings at 11 to 14 feet below ground surface (bgs).

3.0 SITE HISTORY

The history of land use for the subject property was evaluated to identify past uses that might have had adverse effects on the environmental conditions of the property, primarily through the use of potentially hazardous materials. Historical information was obtained by reviewing readily available data from the following public agencies and library resources:

- Sanborn Fire Insurance Maps of Seattle (1905, 1917, 1950, and 1968)
- King County Tax Assessor records
- Puget Sound Regional Archives
- Historic aerial photographs (1936, 1946, 1956, 1960, 1969, 1974, 1980, 1985, 1990, 1995, 2000, and 2002)
- Polk City Directories (1938, 1940, 1943/1944, 1948/1949, 1956, 1960, 1965, 1970, 1975, 1980, 1985, 1989/1990, and 1996)

From 1905 to 1950, the southern half of the site was occupied by one to three commercial buildings along 24th Avenue NW. A clothes cleaner was located at 5709 24th Avenue NW from

at least 1938 to 1940. A garage was located immediately south of the cleaner's location at 5707 24th Avenue NW from 1940 to 1955. The northern half of the site was vacant in 1905 and occupied by a commercial building in 1917. A gas station and auto repair shop occupied the northern half of the property from 1936 to 1962. The gas station included one 1,000-gallon underground storage tank (UST) and two 550-gallon USTs, and may have been heated with oil. In 1962, the existing library building was constructed. Based on current tax assessor records, the library is heated with hot water.

The adjoining property to the north has been occupied by a duplex since 1900. The duplex may have been heated with oil.

The adjoining property to the northeast was occupied by a small building (most likely a residence) in the mid-1920s. In 1936, the property was vacant, grassy land, and in 1946, a building was under construction on the property. By 1948, the existing drive-thru restaurant was constructed. The restaurant may have been heated with oil.

The adjoining property to the east was occupied by two residences in the mid-1920s. The southern of these two residences was constructed in 1901 and was heated with oil. No information on the northern residence is available. In 1940, the northern residence was demolished and a gas station was constructed. No information on the gas station USTs is available. The gas station and southern residence occupied the property until 1961, when the existing grocery store and associated parking lot were constructed.

The adjoining property to the southeast was occupied by a lumberyard from 1921 to 1951 and a gas station from 1954 to at least 2002. The gas station was heated with oil and included one 3,000-gallon UST, one 4,000-gallon UST, one 5,000-gallon UST, one 550-gallon UST, and one 300-gallon UST. The gas station is no longer present and the property is currently under construction.

The adjoining property to the south was occupied by National Cleaners in 1905 and an auto repair garage in 1917. By 1948, the cleaners/garage building was demolished and a gas station was constructed on the property. The gas station may have been heated with oil and included two 3,000-gallon USTs and one 550-gallon UST. The gas station occupied the property until at least 1990 and was demolished by 1995. The property has been a parking lot since 1995, and is currently under construction.

The adjoining property to the southwest was occupied by a residence from 1905 to 1917 and was vacant land in 1936, 1946, and 1950. In 1951, a residence was moved onto the property. The residence may have been heated with oil. In 1964, the residence was demolished and the existing apartment building was constructed. The apartment building is heated with electricity.

The adjoining properties to the west were vacant land until 1957, when the existing apartment buildings were constructed. The buildings are heated with electricity.

The adjoining property to the northwest was occupied by a residence from 1900 to 2000. The former residence may have been heated with oil. In 2001, the existing condominium building was constructed.

The results of our historical review are summarized in Table 1. A selection of historical records is provided in Appendix B. Property uses of concern identified during our historic records review include heating oil historically stored on the site and adjoining properties; former gas stations and/or auto repair shops on the site and the adjoining properties to the east, south, and southeast; and cleaners located on the site and the adjoining property to the south.

4.0 RESULTS OF VISUAL RECONNAISSANCE

A Shannon & Wilson, Inc. representative conducted a visual reconnaissance of the site on January 5, 2005. The purpose of the site visit was to identify visible indications of hazardous or potentially hazardous substances that were historically used or are currently used, generated, stored, or disposed of on the subject property. A general visual reconnaissance of adjacent properties was also conducted during this site visit, but was restricted to what could be observed from public areas.

4.1 Subject Property

The site consists of the Ballard Library building on the northern two-thirds of the site and a paved parking lot on the southern third of the site (Photographs 1 and 2/Appendix A). We did not observe the interior of the building. In addition, a fenced area west of the building was not accessible (Photograph 3). One utility vault was observed south of the site building but was not opened; however, no staining was noted around the utility vault.

The site generally slopes to the south and west. One storm drain was observed on the southwest corner of the site. The drains most likely lead to a municipal sewer line along NW 57th Street. No significant staining was observed in the storm drain vicinity or in the parking lot.

No transformers, drums, indications of underground storage tanks (USTs) (such as fill ports or vent pipes), or other environmental conditions were observed in the accessible areas of the site.

4.2 Surrounding Properties

The adjoining properties to the north, southwest, and west are occupied by apartments. Scooter's Burgers and Shakes restaurant and a QFC grocery store occupy the adjoining properties to the northeast and east, respectively. During our site reconnaissance, the adjoining properties to the southeast and south were both being excavated, presumably for redevelopment. No potential RECs were noted on the adjoining properties during our visual reconnaissance.

5.0 RESULTS OF ENVIRONMENTAL RECORDS REVIEW

A review of regulatory agency records was conducted for the subject properties and nearby properties to identify known or potential sources of contamination that could adversely impact the subject property. Records were obtained using Environmental Data Resources, Inc. (EDR), which searches U.S. Environmental Protection Agency (EPA) and Washington State Department of Ecology (Ecology) databases. The complete EDR report is included in Appendix C and contains figures identifying the locations of the reportable sites within one mile of the center of the subject property.

Four listed sites (Chuck's Ballard Service Station, Former Unocal Service Station, Home Toxic Disposal HTD, and Gronvold Construction) are located within 1/8 mile of the subject property. These properties are summarized in Table 2 and are discussed in more detail in the following sections. Properties located greater than 1/8 mile from the subject property that were listed on state and/or federal databases reviewed were not considered RECs based on the their type of database listing, their distance from the subject property, and/or and their elevation relative to the subject property.

5.1 Chuck's Ballard Service Station Property

The Chuck's Ballard Service Station property, located on the adjoining property to the south, is listed on the state UST, Leaking Underground Storage Tank (LUST), and Washington Independent Cleanup Report (WA ICR) databases. In 1990, four USTs were removed from the northern half of the property. Pacific Testing Laboratories (PTL) completed six borings on the site in June 1990. Soil samples from one of the two borings closest to the subject property (in the former USTs location) contained petroleum, benzene, and xylenes concentrations above the MTCA Method A cleanup levels. Soil samples from two other borings located on the southern half of the site also contained petroleum and benzene concentrations above MTCA Method A cleanup levels. Groundwater was encountered in all six borings at 11 to 14 feet bgs; however, no groundwater samples were collected.

In October 1990, soil was excavated from the former USTs location, and in the vicinity of the other two borings that contained petroleum and benzene contamination. PTL completed more soil sampling on October 5, 1990. Based on their results, PTL concluded that further remediation was necessary. No laboratory results were available in PTL's report for these samples. Contaminated soil was stockpiled in two areas on the property. It appears that some or all of the excavated areas were backfilled, but the fill source is not known.

In November 1990, additional excavation was completed north of the former USTs location, adjacent to the sidewalk, and in the vicinity of the former service station building. PTL sampled soil from the walls of the excavations. Based on their analytical data, PTL concluded that the northern portion of the site was not contaminated with petroleum products but that the southern portion of the site needed further remediation. No laboratory results were available in PTL's report for these samples.

In June 1991, PTL performed six borings south of the Chuck's Ballard Service Station property and installed four monitoring wells. One soil sample from the borings contained 976.5 parts per million (ppm) petroleum hydrocarbons. Two of the four groundwater samples contained petroleum hydrocarbons above MTCA Method A cleanup levels. No groundwater flow direction was indicated in PTL's progress report dated January 7, 1991.

In September 1991, Adler Wheeler Enviro-Consultants (AWEC) took one soil sample from the excavation adjacent to the northern sidewalk and submitted it for total petroleum hydrocarbon

analysis. The soil sample reportedly had petroleum concentrations below regulatory cleanup levels, and the excavation was filled. The fill source is not known. AWEC concluded that the northern portion of the property was not contaminated above regulatory cleanup levels based on their review of PTL's progress report for the site (dated January 7, 1991). AWEC removed approximately 1,261 cubic yards of petroleum-contaminated soil (PCS) from the stockpiles on the property and from further excavation on the southern portion of the property and disposed of the soil off site. AWEC then imported 1,000 cubic yards of soil and filled the southern excavation. In December 1991, the property was leveled and crushed rock was spread over the property.

This property is considered a REC because no groundwater sampling was conducted on the property, laboratory data was unavailable for most of the soil sampling conducted, and because the origin of the fill material used on the property is not known.

5.2 Former Unocal Service Station Property

The former Unocal Service Station, located on the adjoining property to the southeast, is listed on the state UST, LUST, Confirmed & Suspected Contaminated Sites List (CSCSL), and Voluntary Cleanup Program (VCP) databases. No files were available for review at Ecology. This property is considered a REC.

5.3 Home Toxic Disposal HDT Property

The Home Toxic Disposal HDT, located approximately 650 north of the subject property, is listed on the federal Resource Conservation & Recovery Act Information System Small-Quantity Generator (RCRIS-SQG) database. Although this property is up-slope from the subject property, it is not considered a REC because no violations were found and because it is not listed on any state and/or federal databases that would indicate contamination is present.

5.4 Gronvold Construction Property

The Gronvold Construction property, located approximately 670 feet north of the subject property, is listed on the state UST, LUST, and WA ICR databases. In 1994, PCS was encountered during the removal of three USTs associated with a former gas station on the property. Approximately 440 cubic yards of PCS were excavated and disposed of off site. Based on one soil sample taken from the south wall of the UST excavation, some PCS may still

exist on the southern boundary of the property (adjacent to NW 60th Street). The remaining soil samples from the walls and floor of the excavation had petroleum concentrations below regulatory cleanup levels. Groundwater was reportedly not encountered. Although some soil contamination may exist south of this property along NW 60th Street, the property is not considered a REC because it is located approximately 670 north of the subject property and because groundwater was reportedly not impacted.

6.0 SUMMARY OF PHASE I FINDINGS

Based on our studies and observations, Shannon & Wilson, Inc. identified several RECs associated with the site and adjoining/nearby properties. Specific findings regarding the RECs follow.

6.1 Site Uses

Based on our historic review, a clothes cleaner was located on the southern half of the site from at least 1938 to 1940. A garage was located immediately south of the cleaners from 1940 to 1955. In addition, the northern half of the site was occupied by a gas station and auto repair shop from 1936 to 1962. The gas station included one 1,000-gallon UST and two 550-gallon USTs, and may have been heated with oil. The subject property is not listed on the state LUST database and it is not known whether the gasoline station and/or auto repair shop USTs were removed and/or whether contamination associated with the former gasoline station, auto repair shop, and/or cleaners is present. These former site uses are considered RECs.

6.2 Potential Off-site Sources

Based on assessor records, former structures on the adjoining properties to the east, southeast, south, and southwest may have been heated with oil. Existing structures on the adjoining properties to the north and northeast may have been heated with oil. The use of heating oil on these properties is not considered a REC because: (1) the properties have been redeveloped and are no longer heated with oil, and/or (2) they are separated from the subject property by a road and it is unlikely that a subsurface release of oil would have migrated to the subject property.

The adjoining property to the east was occupied by a gas station from 1940 to 1961. This property is not listed on the state LUST database and it is not known whether the gasoline station

USTs were removed and/or whether contamination associated with the former gas station is present. This adjoining property is considered a REC.

The adjoining property to the southeast was occupied by a gas station from 1954 to at least 2002, and is listed on the state CSCSL, LUST, UST, and VCP databases. The property is currently being redeveloped. No files were available for review at Ecology. This property is considered a REC.

The adjoining property to the south was occupied by National Cleaners in 1905, an auto repair garage in 1917, and a gas station from 1948 until at least 1990. The property was a parking lot from 1995 to 2004, and is currently being redeveloped. This property is listed on the state LUST, UST, and WA ICR databases. Based on our review of Ecology files, the gas station USTs were removed in 1990 and petroleum-contaminated soil (PCS) was encountered. PCS was excavated and stockpiled on the site; however, not all of the PCS was excavated. Fill from an unknown source was used to backfill the excavation. Groundwater was encountered during excavation activities but no samples were taken. In 1991, additional soil was excavated and disposed of off-site with the stockpiled soil. This property is considered a REC because no groundwater sampling was conducted on the property, laboratory data was unavailable for most of the soil sampling conducted, and because the origin of the fill material used on the property is not known.

7.0 PHASE I CONCLUSIONS AND RECOMMENDATIONS

The Phase I ESA of the Ballard Library property was conducted in general accordance with the scope and limitations of ASTM E 1527-00. Based on this research, the following RECs, as defined in ASTM E 1527-00, and environmental concerns were identified.

- The former clothes cleaner, if it included on-site dry cleaning, could have released dry cleaning solvents into the site soils and groundwater.
- The former garage and gasoline station on the site could have released petroleum hydrocarbons, metals, and solvents to the site soil and groundwater from surface spills and/or underground storage tanks.
- The former gasoline stations and/or auto repair shops on the adjoining properties to the east, southeast, and south could have released petroleum hydrocarbons, metals and solvents that could have migrated to the site in groundwater.

- The former cleaners on the adjoining property to the south, if it included on-site dry cleaning, could have released dry cleaning solvents to soil and groundwater, which could then have migrated to the site in groundwater.

A Phase II ESA was recommended to evaluate whether site contamination resulted from releases of hazardous materials from the above past site and/or adjoining property uses. Specifically, subsurface soil and groundwater sampling was recommended below accessible parts of the property to the east and south of the library building.

8.0 PHASE II INVESTIGATIONS

On February 21, 2005, Shannon & Wilson, Inc. conducted a Phase II ESA investigation at the site. The objective of the Phase II investigation was to evaluate if the RECs identified in the Phase I ESA have adversely affected the site. The Phase II included advancing eight geoprobes to between 9 and 13 feet below ground surface to obtain soil and groundwater samples for chemical analysis. The probing was subcontracted to ESN Northwest (ESN) of Lacey, Washington.

8.1 Methodology

A geoprobe is a direct-push boring that is advanced using a percussive force rather than using an auger to remove soils in its path. The geoprobe installation used involves advancing 2-inch outside-diameter (O.D.) casing the below the ground surface then driving a 4-foot-long, 2-inch O.D., plastic-lined sample to retrieve a soil sample.

Soil samples collected from the geoprobes were classified according to their physical soil properties and field screened for volatile organic compounds (VOCs) and hydrocarbon contamination using a photoionization detector (PID).

Soil sampling for volatile and gasoline compounds was conducted in accordance with EPA Method 5035A for analysis of VOCs and gasoline-range hydrocarbons. This method requires the use of soil sampling syringes such as Environmental Sampling Supply "Lock N' Load" syringes to withdraw approximately 5 grams of soil at a time from the geoprobe sampler. The soil is then inserted into a laboratory-supplied 40-milliliter (mL) volatile organic analysis (VOA) vial with a 0.25-millimeter thick PTFE-lined septa. Three VOA vials were collected per sample. Soil samples for analysis of lower-volatility constituents were collected by filling a laboratory-supplied 4-ounce jar with soil using a dedicated stainless-steel spoon.

Ground water sampling was conducted by inserting a 1-inch-diameter PVC pipe with a 5-foot-long slotted section into the open geoprobe hole such that the slotted interval of the pipe spanned the groundwater interface. A peristaltic pump was then used to withdraw groundwater from the geoprobe location and fill laboratory-supplied glassware.

All soil and groundwater samples were logged on a chain-of-custody report and immediately placed into a cooler with ice following sampling for transport to the laboratory. The probe logs are provided Appendix D.

8.2 Fieldwork

The approximate locations of the probes are shown on Figure 3. Probes P-1 through P-3 were advanced along the east and northeast perimeter of the subject property to evaluate the potential off-to-on-site migration of contamination associated with the former gas station to the east. Probes P-4 and P-5 were advanced near the southeast corner of the library building to evaluate the potential for on-site contamination associated with the gas station and dry cleaners formerly located at the site. The remaining probes, P-6 through P-8, were advanced along the southern boundary of the property to evaluate the potential for both contamination associated with the on-site gas station and dry cleaners and off-site contamination associated with the former gas station and cleaners that once occupied the property immediately to the south.

Each probe was sampled continuously to refusal, which typically occurred from 9.5 to 12 feet bgs. It is likely that refusal was caused by dense till that the geoprobe could not penetrate. Samples were selected for analysis based on field screening. If the field screening showed no indications of contamination, then a sample was selected from the upper 2 to 3 feet to screen for near-surface contamination, and groundwater interface where VOCs and hydrocarbons are most likely to be present, or at the till interface if groundwater was not encountered.

Two soil samples were collected from each probe location. One groundwater sample was collected from each probe location where groundwater was encountered. The samples were submitted to CCI Analytical, Inc. (CCI) for chemical analyses. Each sample was analyzed for VOCs and total lead. Samples where field screening indicated that contamination was likely present were analyzed for total gasoline-, diesel-, and oil-range petroleum hydrocarbons (TPH-G, TPH-D, and TPH-O). Samples where field screening showed a low potential for contamination were analyzed for hydrocarbon identification (HCID), which is an inexpensive qualitative

analysis that indicates if, and what type of, petroleum hydrocarbons are present, but does not provide the concentration. Samples with positive HCID results were subsequently analyzed for the appropriate TPH compound(s) to quantify the concentration of the compound.

9.0 PHASE II SAMPLING RESULTS

Soils encountered at the site generally consisted of medium to fine sand and silt with varying amounts of silt, sand, and gravel. Perched groundwater was encountered in probes P-1 through P-6 and was typically present 7 to 9 feet bgs.

A summary of the analytical results from the geoprobe sampling is presented in Tables 3 and 4. The complete analytical laboratory reports are included in Appendix E. Gasoline-range petroleum hydrocarbons (TPH-G) were detected in soil samples collected from probe locations P-4 and P-7 in the library parking lot. The concentrations detected in probe P-4 (73 milligrams per kilogram [mg/kg] in sample P4-S1 and 13mg/kg in P4-S2) do not exceed Ecology's MTCA Method A cleanup level of 100 mg/kg for TPH-G when benzene is not also present. In contrast, the TPH-G concentration of 540 mg/kg detected in P7-S1 is well above the Method A cleanup level. TPH-G was also detected in the groundwater samples collected from probes P-4 and P-5, at 51 micrograms per liter (ug/L) and 86 ug/L, respectively. These levels do not exceed the Method A level for TPH-G of 1,000 ug/L when benzene is not also present.

Diesel- and oil-range hydrocarbons (TPH-D and TPH-O) were detected at 84 mg/kg and 420 mg/kg, respectively, in one soil sample from probe P-6. These contaminant levels do not exceed the Method A level of 2,000 mg/kg for these compounds. Diesel- and oil-range hydrocarbons were not detected in site groundwater.

Arsenic, barium, chromium, lead, and mercury were detected in soil and groundwater samples collected from many of the geoprobe locations at levels that do not exceed the MTCA Method A cleanup levels. A Method A cleanup level for barium has not be established by Ecology, however, using the procedures in Washington Administrative Code (WAC) 173-340-740(3)(b)(iii)(B)(I) a Method B level of 11,200 mg/kg can be calculated. The barium levels detected at this site are well below this cleanup criterion.

With the exception of P-isopropyltoluene, no VOCs were detected in either site soil or groundwater samples. P-isopropyltoluene was detected at 44 mg/kg in soil sample P7-S1, which

also contained the single elevated TPH-G concentration. A Method A cleanup level has not been established for this chemical, and Method B level could not be calculated because reference dose data, which is required for the calculation, is not available for this chemical.

10.0 PHASE II CONCLUSIONS AND RECOMMENDATIONS

Geoprobe sampling at the Ballard Library property identified gasoline-range hydrocarbons in one probe location at a concentration that is above Ecology's MTCA cleanup criterion. Specifically, a shallow soil sample soil from probe P-7 along the southern boundary of the property contained gasoline-range petroleum hydrocarbons at a concentration of 540 mg/kg, which is approximately five times higher than the MTCA Method A cleanup level for this compound. Petroleum hydrocarbons were also detected in soil from probes P-4 and P-6, but at concentrations that were below MTCA cleanup criteria. In addition, hydrocarbon odors and elevated readings on a PID vapor detector were also noted during soil sampling from probes P-4, P-5, P-7, and P-8. No chemical evidence was detected of a release of dry cleaning solvents; similarly, no metals were detected at concentrations that exceed MTCA cleanup criteria. Although total chromium was detected at concentrations that are above the cleanup level for hexavalent chromium, there is no reason to suspect use of hexavalent chromium in the site vicinity; rather the chromium detected is likely to be trivalent chromium, which is a naturally occurring metal with a cleanup criterion well above the concentrations detected at the site. No contaminants were detected in groundwater water samples collected from perched groundwater in probes P-1 through P-6; no groundwater was encountered in probes P-7 and P-8.

No evidence was found to indicate that contamination has migrated to the site from adjoining properties. Rather, the relatively shallow distribution of contamination suggests that the hydrocarbon contamination resulted from spills and/or leaks at the site gasoline station and/or auto repair shop that occupied the site before the library was constructed. Similarly, the shallow distribution and lack of contaminants detected in the perched groundwater suggests that contaminants have not likely migrated off site.

The contamination identified in this study is in relatively shallow soil below the asphalt-paved parking lot. The pavement serves as a cap to protect against exposure to contaminated soil and to impede infiltration of surface water, which could carry contaminants down through the soil column to the water table. Accordingly, the site does not appear to pose a risk to human health

or the environment under the current use. However, institutional controls should be imposed to prevent installation of wells and exposure to subsurface soils until contaminant concentrations no longer exceed the applicable regulatory criteria, either through natural attenuation or remediation. Also, for any future development that would require excavation or dewatering for foundations, it would be necessary to provide for the safety of site workers and for testing and proper disposition of soil and groundwater removed from the site.

Site soil and groundwater in the former gasoline station location on the northern portion of the site could not be evaluated during this study because the library building covers the former gasoline station footprint. Therefore, we recommend that soil and groundwater sampling be conducted in this area if the library building is demolished in the future. Similarly, additional soil and groundwater sampling should be conducted in the parking lot area to better define the horizontal and vertical extent of the contamination that was identified in this study.

11.0 LIMITATIONS, UNCERTAINTY, AND RISK

Shannon & Wilson, Inc. has prepared this report in a professional manner, using that level of skill and care normally exercised for similar projects under similar conditions by reputable and competent environmental consultants currently practicing in the area, and in accordance with the terms and conditions set forth in our proposal dated October 29, 2004. Shannon & Wilson, Inc. is not responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared. We also note that the facts and conditions referenced in this report may change over time, and that the conclusions set forth here are applicable to the facts and conditions as described only at the time of this report.

Shannon & Wilson, Inc. has reviewed historical records, conducted interviews with the property owner's representative, and conducted an on-site visual inspection of the subject property. We have examined and relied on documents referenced in the report and on oral statements made by certain individuals. Shannon & Wilson, Inc. has not conducted an independent examination of the facts contained in referenced materials and statements. We have assumed that these documents are genuine, and that the information provided in these documents and statements is true and accurate. We have no knowledge or indication to the contrary unless otherwise stated in the body of this report.

The City of Seattle did not provide any information regarding environmental liens or any specialized knowledge that related to previous ownership or use of the property. Data generated from the site reconnaissance reflect that which can be reasonably inferred or is obvious by direct visual observation. Shannon & Wilson, Inc. assumes no responsibility for identifying characteristics of the subject property that were not readily identifiable by visual reconnaissance at the time of our site visit.

The scope of work for the Phase II ESA was intended to address only those environmental concerns with significant potential to result in contamination to the subject property. The sampling effort was considered limited in extent and served as a screening effort only. It was not intended to absolutely define the lateral extent of soil and/or groundwater contamination, if any.

The data presented in this report are based on limited research and sampling at the site and should be considered representative at the time of our observations. Other areas of contamination that were not obvious during our site work could be present at the site.

Conclusions were made within the operative constraints of the scope, budget, and schedule for this project. We believe that the conditions stated here are factual, but no guarantee is made or implied. Appendix F contains information about the qualifications of the personnel who conducted this ESA.

This report is for the exclusive use of the City of Seattle and its representatives. Shannon & Wilson, Inc. has prepared Appendix G, "Important Information About Your Environmental Site Assessment/Evaluation Report," to help you and others understand the use and limitations of our reports.

SHANNON & WILSON, INC.

Becki Kniveton
Environmental Scientist

Daniel N. Clayton, R.G., C.E.G.
Senior Vice President

BSK:DNC/bsk

12.0 REFERENCES

Adler Wheeler Enviro-Consultants, 1991, Remediation of contaminated soils at 5615 24th Avenue NW, Seattle, WA 98119: Edmonds, Wash., January 20.

American Society for Testing and Materials, 2000, Standard practice for environmental site assessments: phase I environmental site assessment process: West Conshohocken, Penn., American Society for Testing and Materials E 1527-00, 24 p.

Galster, Richard W., and Laprade, William T., 1991, Geology of Seattle, Washington, United States of America: College Station, Tex., Bulletin of the Association of Engineering Geologists, v. XXVIII, no. 3, p. 235-302.

Pacific Testing Laboratories, 1990, Results of soil contamination testing at 5615 24th Avenue Northwest, Seattle, Washington: Seattle, Wash., July 3.

TABLE 1
HISTORICAL RECORDS SUMMARY

Property	Block	Lot	Address	Building Information	Site Summary
Site	47	10 to 13	5711 24th Avenue NW	One to three commercial buildings on the property along 24th Avenue NW from 1905-1950 - no additional building info known. Former gas station constructed in 1936, demolished in 1962, heated with stove. Existing library building constructed in 1962, hot water heat.	Property uses of concern include a gas station and auto repair shop on the northern half of the property (at 5711-5715 24th Avenue NW) from 1936 to 1962, a clothes cleaners on the southern half of the property (at 5709 24th Avenue NW) from 1938 to 1940, and an auto repair shop on the southern half of the property (at 5707 24th Avenue NW) from 1940 to 1955. Gas station included one 1,000-gallon UST and two 550-gallon USTs. Gas station was formerly heated with a stove, which may have burned oil.
Adjoining - north	38	12 & 13	5803 24th Avenue NW	Existing duplex building constructed in 1900, current heat source not known, formerly heated with stove.	Existing building is or was heated with stove (may have burned oil for heat).
Adjoining - northeast	39	24	5802 24th Avenue NW	Existing restaurant constructed in 1948, heated with space heaters (formerly heated with stove). Former building on property in mid-1920s based on Kroll Map (most likely residence, no building info known).	Stove may have been heated with oil.
Adjoining - east	46		2237 NW 58th Street	Former residence (1901-1962) on south half of property closest to site was heated with oil. Former gas station (1940-1960) on north half of property closest to site (3 USTs adjacent to 24th Ave. NW based on Sanborn map - no building info known). Existing grocery store constructed in 1961, heated with suspended gas units.	Property uses of concern include a gas station on the north half of the property closest to the site from 1940 to 1960. Former residence on south half of property closest to site was heated with oil.
Adjoining - southeast	51	1 &2	5614 24th Avenue NW	Former gas station/service garage constructed in 1954, heated with space heaters (formerly heated with oil burner). Gas station present until at least 2002. Property is currently under development.	Property uses of concern include gas station (1954 to 2002) and lumber yard (1921 to 1951). Gas station included one 3,000-gallon UST, one 4,000-gallon UST, one 5,000-gallon UST, one 550-gallon UST, and one 300-gallon UST. Gas station was formerly heated with oil.

TABLE 1
HISTORICAL RECORDS SUMMARY

Property	Block	Lot	Address	Building Information	Site Summary
Adjoining - south	50	10 & 11	5615 24th Avenue NW	Former National Laundry building present on property in 1905. Used as a garage in 1917. No other info on building. Former gas station constructed on property in 1948, heated with stove, demolished between 1990 and 1995.	Property use of concern includes a laundry facility on the property in 1905, an auto repair garage located in the laundry building in 1917, and a gas station on the property from 1948 to 1990. The gas station included two 3,000-gallon USTs and one 550-gallon UST. Gas station was formerly heated with a stove, which may have burned oil.
Adjoining - southwest	50	9	2411 NW 57th Street	Former small residence or outbuilding on the southern half of the property from 1905-1917. No building info known. Property vacant land in 1936, 1946, and 1950. Small residence moved onto property in 1951, heated with stove, demolished in 1964. Existing Kari Apartments building constructed in 1964, heated with electric wall units and/or baseboards.	Former residence heated with stove (may have burned oil for heat).
Adjoining - west	47	14	2410 NW 57th Street	Existing apartment building constructed in 1957, heated with electric wall units and/or baseboards.	Property vacant land until 1957 when existing apartment building was constructed. No property uses of concern.
Adjoining - west	47	9	2411 NW 58th Street	Existing apartment building constructed in 1957, heated with electric wall units and/or baseboards.	Property vacant land until 1957 when existing apartment building was constructed. No property uses of concern.
Adjoining - northwest	38	14	2410 NW 58th Street	Former residence constructed 1900, heated with stove and/or gas, demolished 2000/2001. Existing condominium building constructed in 2001, heat source not known.	Former residence heated with stove (may have burned oil for heat).

TABLE 2
LISTED SITES WITHIN 1/8 MILE OF THE SUBJECT PROPERTY

Site	Location	Distance Relative to Subject Property	EDR No.	Database Listing	Summary
Chuck's Ballard Service Station	5615 24th Avenue NW	Adjoining (south), downslope	A1, A2	LUST, UST, WA ICR	Four USTs removed, soil and groundwater impacted, soil is reportedly cleaned up, groundwater status not known.
Former Unocal Service Station	5600-5614 24th Avenue NW	Adjoining (southeast), downslope	B3, B4, B5, B6, B7	CSCSL, LUST, UST, VCP	Five USTs removed, soil and groundwater impacted, awaiting cleanup.
Home Toxic Disposal HTD	6000 24th Avenue NW	650 feet north, upslope	C8	RCRIS-SQG	Small quantity generator, no violations found.
Gronvold Construction	6001 24th Avenue NW	670 feet north, upslope	C9, C10	LUST, UST, WA ICR	Three USTs removed, soil impacted, reportedly cleaned up

CSCSL = Confirmed & Suspected Contaminated Sites List
EDR = Environmental Data Resources, Inc.
LUST = leaking underground storage tank
RCRIS-SQG = Resource Conservation & Recovery Act Information System Small-Quantity Generator
UST = Underground Storage Tank
VCP = Voluntary Cleanup Program
WA ICR = Washington Independent Cleanup Report

TABLE 3
ANALYTICAL RESULTS OF SOIL SAMPLES

Sample Number	Compound													
	HCID	TPH-G	TPH-D	TPH-O	VOCs[1]	p-Isopropyltoluene	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
P1-S1	ND	NA	NA	NA	ND	ND	ND	110	ND	25	99	0.04	ND	ND
P1-S2	ND	NA	NA	NA	ND	ND	ND	33	ND	16	ND	0.02	ND	ND
P2-S1	ND	NA	NA	NA	ND	ND	ND	150	ND	39	13	0.08	ND	ND
P2-S2	ND	NA	NA	NA	ND	ND	ND	51	ND	24	ND	0.02	ND	ND
P3-S1	ND	NA	NA	NA	ND	ND	ND	200	ND	38	220	0.07	ND	ND
P3-S2	ND	NA	NA	NA	ND	ND	ND	39	ND	23	ND	ND	ND	ND
P4-S1	NA	73	ND	ND	ND	ND	ND	68	ND	27	ND	0.04	ND	ND
P4-S2	NA	13	ND	ND	ND	ND	13	42	ND	17	ND	ND	ND	ND
P5-S1	NA	ND	ND	ND	ND	ND	ND	58	ND	30	ND	0.02	ND	ND
P5-S2	NA	ND	ND	ND	ND	ND	ND	42	ND	16	ND	0.03	ND	ND
P6-S1	ND	NA	NA	NA	ND	ND	5.0	44	ND	23	6.6	ND	ND	ND
P6-S2	DET	NA	84	420	ND	ND	8.6	45	ND	23	5	ND	ND	ND
P7-S1	NA	**540**	ND	ND	ND	44	18	100	ND	34	8.5	0.03	ND	ND
P7-S2	ND	NA	NA	NA	ND	ND	ND	36	ND	15	ND	ND	ND	ND
P8-S1	NA	ND	ND	ND	ND	ND	9.4	63	ND	19	5.3	0.02	ND	ND
P8-S2	NA	ND	ND	ND	ND	ND	ND	26	ND	10	ND	ND	ND	ND
MTCA Method A Cleanup Level	–	**30/100[2]**	**2,000**	**2,000**	**Varies**	**NE**	**20**	**NE**	**2**	**19/2,000[3]**	**250**	**2**	**NE**	**NE**

Notes:

[1] See analytical reports for full list of VOCs analytes

[2] Lower value is used if benzene is also present

[3] Lower value is for hexavalent chromium

All concentrations are in milligrams per kilogram (mg/kg)
Bold values exceed MTCA Method A cleanup level
DET = Detection
HCID = Hydrocarbon Identification
MTCA = Model Toxics Control Act
NA = Not analyzed
ND = Not detectable
NE = Not established
TPH-D = Diesel-range Total Petroleum Hydrocarbons
TPH-G = Gasoline-range Total Petroleum Hydrocarbons
TPH-O = Oil-range Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds

TABLE 4
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES

	Compound												
Sample Number	HCID	TPH-G	TPH-D	TPH-O	VOCs[1]	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
P1-GW	ND	NA	NA	NA	ND	0.026	3.0	ND	1.6	0.19	ND	ND	ND
P2-GW	ND	NA	NA	NA	ND	0.009	0.55	ND	0.27	0.069	ND	ND	ND
P3-GW	ND	NA	NA	NA	ND	0.026	0.97	ND	0.77	0.12	0.0002	ND	ND
P4-GW	NA	51	ND	ND	ND	0.011	0.19	ND	0.10	0.017	ND	ND	ND
P5-GW	NA	86	ND	ND	ND	0.006	2.1	ND	1.6	0.036	ND	ND	ND
P6-GW	NA	ND	ND	ND	ND	ND	0.11	ND	0.052	0.005	ND	ND	ND
MTCA Method A Cleanup Level	--	800/1000[2]	500	500	Varies	5	NE	5	50	15	2	NE	NE

Notes:

[1] See analytical reports for full list of VOCs analytes

[2] Lower value is used if benzene is also present

All concentrations are in micrograms per liter (µg/kg)

Bold values exceed MTCA Method A cleanup level

HCID = Hydrocarbon Identification

MTCA = Model Toxics Control Act

NA = Not analyzed

ND = Not detectable

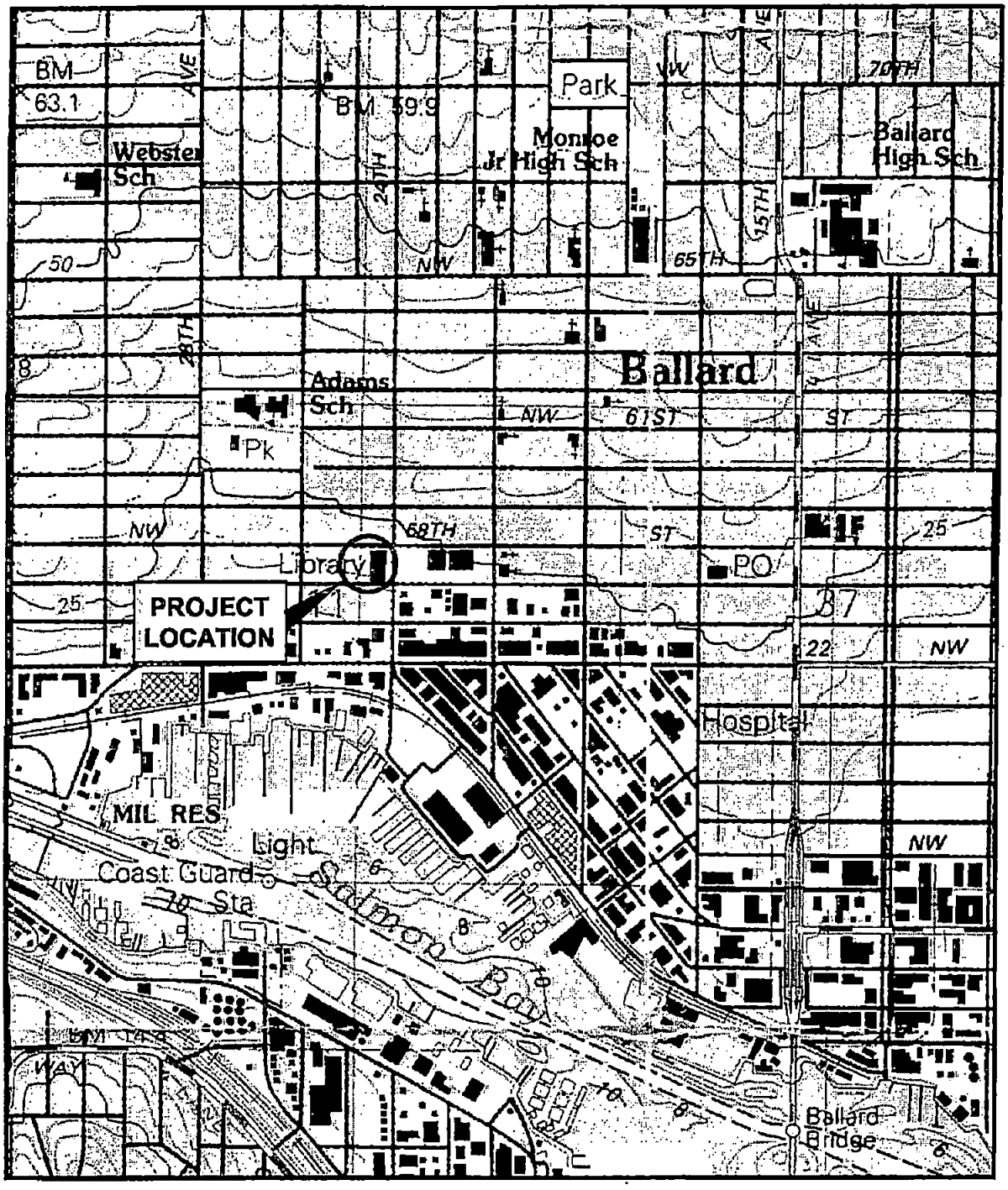
NE = Not established

TPH-D = Diesel-range Total Petroleum Hydrocarbons

TPH-G = Gasoline-range Total Petroleum Hydrocarbons

TPH-O = Oil-range Total Petroleum Hydrocarbons

VOCs = Volatile Organics Compounds



0 1/4 1/2

Scale in Miles

NOTE

Map adapted from 1:25,000 USGS topographic map of Seattle North, WA; quadrangle, dated 1983.

Ballard Library Property
Phase 1 and 2 ESA
Seattle, Washington

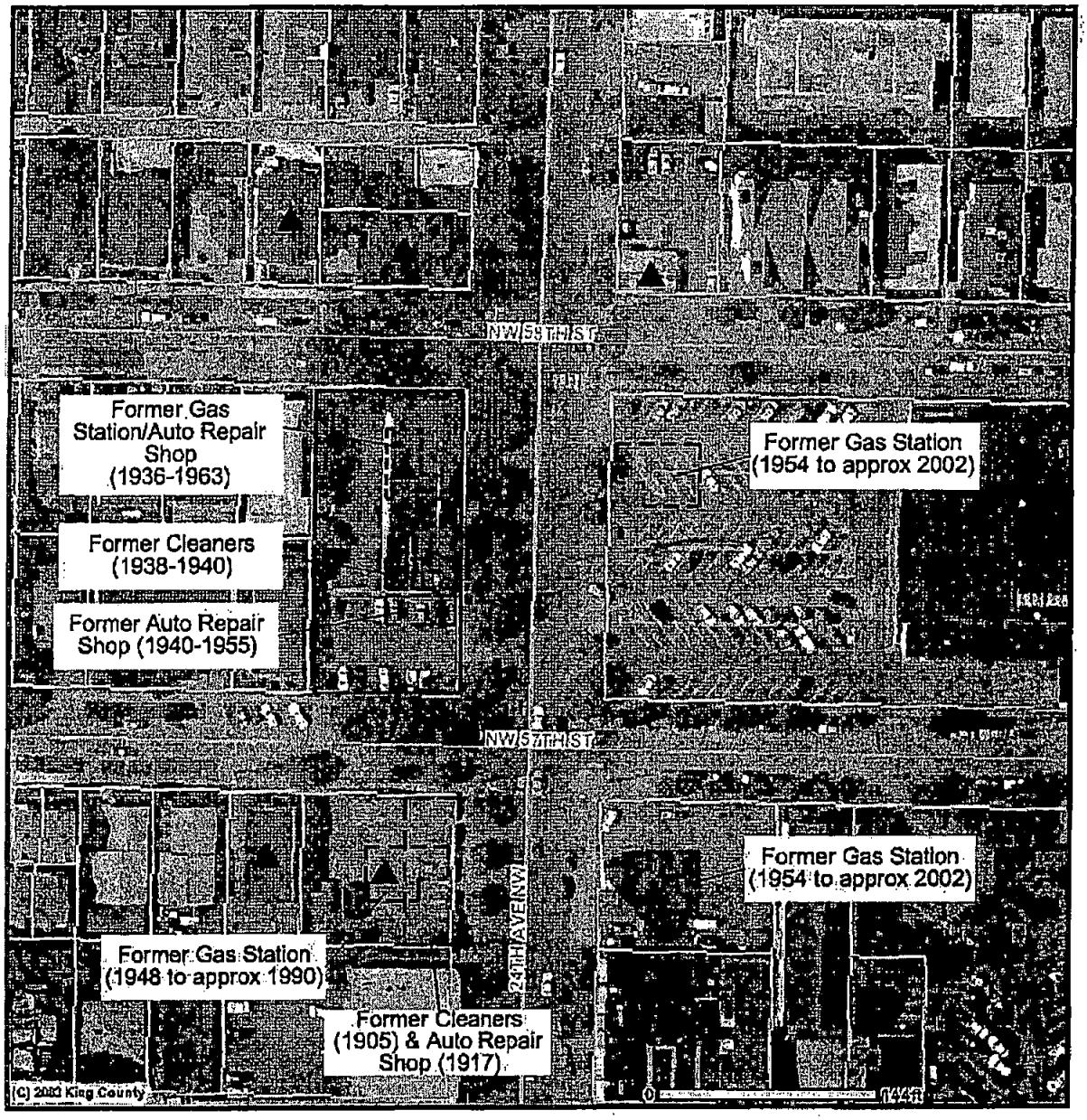
VICINITY MAP

March 2005 21-1-12164-004

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 1

File: J:\21\1\12164-004\21-1-12164-004 Fig 1.dwg Date: 03-15-2005 Author: SAC



0 1/4 1/2

Scale in Miles

LEGEND

▲ Known or Suspected Oil Heat

NOTE

Map adapted from King County, iMap Interactive Mapping, King County Maps. Copyright © 2003.

Ballard Library Property
Phase 1 and 2 ESA
Seattle, Washington

SITE AND ADJOINING PROPERTIES MAP

March 2005 21-1-12164-004

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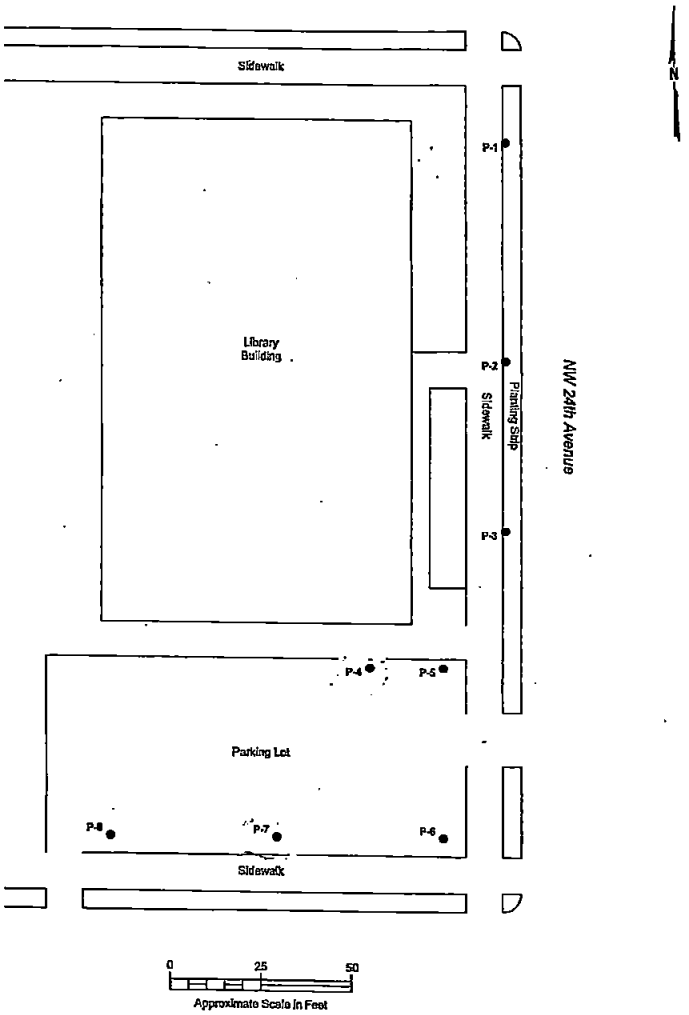
FIG. 2

File: J:\21\1\12164-004\21-1-12164-004 Fig 2.dwg Date: 03-15-2005 Author: SAC

File: J:\21\1\12164-004\21-1-12164-004 Fig 3.dwg Date: 03-15-2005 Author: SAC



LEGEND

P-1 ● Geoprobe Sample Designation and Approximate Location

FIG. 3

Ballard Library Property
Phase 1 and 2 ESA
Seattle, Washington

GEOPROBE INVESTIGATION SAMPLING LOCATIONS

March 2005 21-1-12164-004

SHANNON & WILSON, INC. Geotechnical and Environmental Consultants

FIG. 3

APPENDIX B

FSTC Search Summary Report
FSTC Site Summary Report
ASTM Radius Maps

TRACK ➤ INFO SERVICES, LLC

Environmental FirstSearch™ Report

TARGET PROPERTY:

5711 24TH AVENUE NORTHWES

SEATTLE WA 98107

Job Number: 05483A2

PREPARED FOR:

Geotech Resources, Inc.

13256 NE 20th St. Suite 16

Bellevue, WA 98005

01-31-06

Tel: (866) 664-9981 *Fax: (818) 249-4227*

Environmental FirstSearch
Search Summary Report

Target Site: 5711 24TH AVENUE NORTHWES
SEATTLE WA 98107

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	10-07-05	1.00	0	0	0	0	0	0	0
CERCLIS	Y	01-13-06	0.50	0	0	0	0	-	0	0
NFRAP	Y	08-01-05	0.12	0	0	-	-	-	0	0
RCRA TSD	Y	09-22-05	0.50	0	0	0	0	-	0	0
RCRA COR	Y	12-10-05	1.00	0	0	0	0	0	0	0
RCRA GEN	Y	12-10-05	0.12	0	0	-	-	-	0	0
RCRA NLR	Y	12-10-05	0.12	0	0	-	-	-	0	0
ERNS	Y	12-31-04	0.12	0	1	-	-	-	0	1
State Sites	Y	01-03-06	1.00	0	1	1	14	48	0	64
Spills-1990	Y	04-11-05	0.12	0	0	-	-	-	0	0
SWL	Y	04-07-05	0.50	0	0	0	0	-	0	0
Other	Y	09-30-03	0.50	0	0	0	0	-	0	0
REG UST/AST	Y	01-03-06	0.12	0	2	-	-	-	0	2
Leaking UST	Y	01-03-06	0.50	0	1	5	4	-	0	10
- TOTALS -				0	5	6	18	48	0	77

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to TRACK Info Services, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in TRACK Info Services's databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although TRACK Info Services uses its best efforts to research the actual location of each site, TRACK Info Services does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of TRACK Info Services's services proceeding are signifying an understanding of TRACK Info Services's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch
Sites Summary Report

TARGET SITE: 5711 24TH AVENUE NORTHWES
SEATTLE WA 98107

JOB: 05483A2

TOTAL: 77 **GEOCODED:** 77 **NON GEOCODED:** 0 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
1	ERNS	584092/UNKNOWN (NRC)	2445 NW 57TH STREET APT 601 SEATTLE WA 98107	0.03 SW	1
2	LUST	CHUCKS BALLARD SVC/LUST 732/CLEANUP STARTED	5615 24TH NW SEATTLE WA 98107	0.04 SE	2
3	STATE	SERVICE STATION FORMER CSCR:1738043	5600-5614 24TH AVE NW SEATTLE WA 98107	0.04 SE	3
5	UST	CHUCKS BALLARD SVC/LUST 732/REMOVED	5615 24TH NW SEATTLE WA 98107	0.04 SE	2
6	UST	MARKET STREET SPIRIT SERVICE 10904/REMOVED	5505 24TH AVE NW SEATTLE WA 98107	0.12 SE	4
7	LUST	KEN GRONVOLD 102125/REPORTED CLEANED UP	6001 24TH AVE NW SEATTLE WA 98107	0.13 NE	5
8	LUST	BALLARD TRANSFER CO OF WASHINGTON 2481/REPORTED CLEANED UP	2417 NW MARKET ST SEATTLE WA 98107	0.14 SW	6
9	LUST	7-ELEVEN STORE 2307-16365C 8666/MONITORING	6111 24TH AVE NW SEATTLE WA 98107	0.19 NE	7
11	LUST	ARNOLDS DELI & GAS 11260/AWAITING CLEANUP	2654 NW MARKET ST SEATTLE WA 98107	0.19 SW	8
12	STATE	ARNOLDS DELI BALLARD ARCO NFA:2556	2654 NW MARKET ST SEATTLE WA 98107	0.19 SW	8
12	LUST	NORTHWEST MARKET STREEET 9776/CLEANUP STARTED	2801 NW MARKET ST SEATTLE WA 98107	0.24 SW	9
13	STATE	GASTON PROPERTY CSCR:16886119	2838 NW 57TH ST SEATTLE WA 98107	0.26 SW	10
15	STATE	GASTON PROPERTY NFA:16886119	2838 NW 57TH ST SEATTLE WA 98107	0.26 SW	10
15	LUST	CHEVRON 90968 5069/CLEANUP STARTED	2021 MARKET NW SEATTLE WA 98107	0.27 SE	11
16	STATE	CHEVRON 60090968 CSCR:2472	2021 NW MARKET ST SEATTLE WA 98107	0.27 SE	11
18	STATE	NW MARKET ST SITE CSCR:2234	2801 NW MARKET ST SEATTLE WA 98107	0.28 SW	12
20	STATE	SPARKLE CLEANERS CSCR:17554653	2011 NW MARKET ST SEATTLE WA 98107	0.30 SE	13
22	LUST	RESIDENCE 20TH AVE NW 515466/CLEANUP STARTED	6016 20TH AVE NW SEATTLE WA 98107	0.31 NE	14
23	STATE	WILSON FORD - EAST PORTION CSCR:9298014	5440 LEARY AVE NW SEATTLE WA 98107	0.31 SE	15
25	STATE	WILSON FORD CSCR:79516349	5433 LEARY NW SEATTLE WA 98107	0.32 SE	16
27	STATE	WILSON FORD NFA:79516349	5433 LEARY NW SEATTLE WA 98107	0.32 SE	16

Environmental FirstSearch
Sites Summary Report

TARGET SITE: 5711 24TH AVENUE NORTHWES
SEATTLE WA 98107

JOB: 05483A2

TOTAL: 77 **GEOCODED:** 77 **NON GEOCODED:** 0 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
28	STATE	WYMAN PROPERTY CSCR:2283	5330 BALLARD AV NW SEATTLE WA 98107	0.32 SE	17
31	STATE	JACOBSON TERMINALS CSCR:33177895	5355 28TH NW SEATTLE WA 98107	0.32 SW	18
32	STATE	SALMON BAY CENTER CSCR:2129	5301-5309 SHILSHOLE AV NW SEATTLE WA 98107	0.35 SE	19
34	STATE	JACOBSON TERMINALS INC NFA:6662658	5350 30TH AVE NW SEATTLE WA 98107	0.37 SW	20
35	LUST	COWMAN CAMPBELL PAINT COMPANY 4806/CLEANUP STARTED	5221 BALLARD AVENUE N.W. SEATTLE WA 98107	0.41 SE	21
36	STATE	OLSEN FURNITURE FORMER CSCR:6917319	5205 BALLARD AVE NW SEATTLE WA 98107	0.43 SE	22
37	LUST	HIRAM M CHITTENDEN LOCKS 6687/REPORTED CLEANED UP	3015 NORTHWEST 54TH STREET SEATTLE WA 98107	0.47 SW	23
38	STATE	US ARMY COE LAKE WASHINGTON SHIP C CSCR:2460	3015 NW 54TH ST SEATTLE WA 98107	0.47 SW	23
40	STATE	SAGSTAD MARINA NFA:2549	5109 SHILSHOLE AVE NW SEATTLE WA 98107	0.54 SE	24
41	STATE	TEXACO STATION 632320049 CSCR:32794934	5500 15TH NW SEATTLE WA 98107	0.57 SE	25
43	STATE	THE TUX SHOP CSCR:6819	5409 15TH AVE NW SEATTLE WA 98107	0.58 SE	26
45	STATE	TIME OIL BILLS TIRES PR 01443 CSCR:85572141	4910 NW LEARY WAY SEATTLE WA 98107	0.60 SE	27
47	STATE	TIME OIL CO SEATTLE TERMINAL CSCR:75486194	2737 W COMMODORE WAY SEATTLE WA 98199	0.60 SW	28
48	STATE	TIME OIL SEATTLE CSCR:79565863	2750 2737 2805 W COMMODORE SEATTLE WA 98199	0.60 SW	28
50	STATE	SEATTLE MONORAIL PROJECT CSCR:9906721	GREEN LINE BALLARD TO W SEA SEATTLE WA	0.63 SE	29
51	STATE	TIME OIL CO UST 102423 CSCR:9711372	3031 W COMMODORE WAY SEATTLE WA 98199	0.63 SW	30
52	STATE	TIME OIL CO COMMODORE WAY NFA:9711372	3031 W COMMODORE WAY SEATTLE WA 98199	0.63 SW	30
52	STATE	SPRINGER PROPERTY NFA:2303	26TH AVE W SEATTLE WA 98199	0.63 SW	31
53	STATE	LOUIES CUISINE OF CHINA CSCR:5268606	5100 15TH AVE NW SEATTLE WA 98107	0.64 SE	32
55	STATE	BALLARD BROWN BEAR CAR WASH CSCR:87894637	5111 15TH NW SEATTLE WA 98107	0.64 SE	33

Environmental FirstSearch
Sites Summary Report

TARGET SITE: 5711 24TH AVENUE NORTHWES
SEATTLE WA 98107

JOB: 05483A2

TOTAL: 77 **GEOCODED:** 77 **NON GEOCODED:** 0 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
57	STATE	ASP PROPERTY CSCR:38962161	4459 26TH AVE W SEATTLE WA 98199	0.64 SW	34
60	STATE	SPRINGER DAVID CSCR:2303	4459 26TH AV W SEATTLE WA 98199	0.64 SW	34
63	STATE	EXXON CO USA 77539 CSCR:22643168	6500 15TH NW SEATTLE WA 98117	0.65 NE	35
65	STATE	SHELL EXCEL PROP & WALTS RADIATOR NFA:2560	15TH AV NW & NW 65TH SEATTLE WA 98107	0.65 NE	35
66	STATE	SHINING OCEAN CSCR:31234452	2440 W COMMODORE WAY SEATTLE WA 98199	0.65 SW	36
68	STATE	ER & JR SUTTER LLC CSCR:2069	2360 W COMMODORE WAY SEATTLE WA 98199	0.68 SE	37
71	STATE	BALLARD RECYCLING CSCR:2355	1509 NW 49TH ST SEATTLE WA 98107	0.69 SE	38
74	STATE	FORMER STEWART INDUSTRIES CSCR:55333545	5202 & 5210 14TH AVE NW SEATTLE WA 98107	0.69 SE	39
76	STATE	STEWART INDUSTRIES NFA:55333545	5202 & 5210 14TH AVE NW SEATTLE WA 98107	0.69 SE	39
77	STATE	BALLARD AUTO WRECKING FORMER CSCR:2346	1515 NW LEARY WAY SEATTLE WA 98107	0.72 SE	40
79	STATE	BARDAHL CSCR:2308	1400 NW 52ND ST SEATTLE WA 98107	0.73 SE	41
81	STATE	BALLARD PARTNERS PROPERTY CSCR:2974452	1455 NW LEARY WAY SEATTLE WA 98107	0.75 SE	42
83	STATE	BALLARD PARTNERS PROPERTY NFA:2974452	1455 NW LEARY WAY SEATTLE WA 98107	0.75 SE	42
84	STATE	WASHINGTON MARINE ENG CORP CSCR:2281	4403 24TH AVE W SEATTLE WA 98199	0.75 SE	43
86	STATE	PACIFIC COAST HEMPHILL UNOCAL SEAT NFA:2530	4410 24TH AVE W SEATTLE WA 98199	0.75 SE	44
87	STATE	1526 NW 46TH LLC CSCR:597237	1526 NW 46TH ST SEATTLE WA 98107	0.76 SE	45
89	STATE	NEUVANT AEROSPACE SEATTLE CSCR:2477	1411 NW 50TH ST SEATTLE WA 98107	0.76 SE	46
91	STATE	MAMCO MFG BLDGS B&C CSCR:2478	1415 & 1427 NW 49TH ST SEATTLE WA 98107	0.77 SE	47
93	STATE	ERNST BALLARD PARCEL B NFA:86618111	1401 NW LEARY WAY SEATTLE WA 98107	0.81 SE	48
93	STATE	GILMAN COURT NFA:65212754	1116 NW 54TH ST SEATTLE WA 98107	0.81 SE	49

Environmental FirstSearch
Sites Summary Report

TARGET SITE: 5711 24TH AVENUE NORTHWES
SEATTLE WA 98107

JOB: 05483A2

TOTAL: 77 **GEOCODED:** 77 **NON GEOCODED:** 0 **SELECTED:** 0

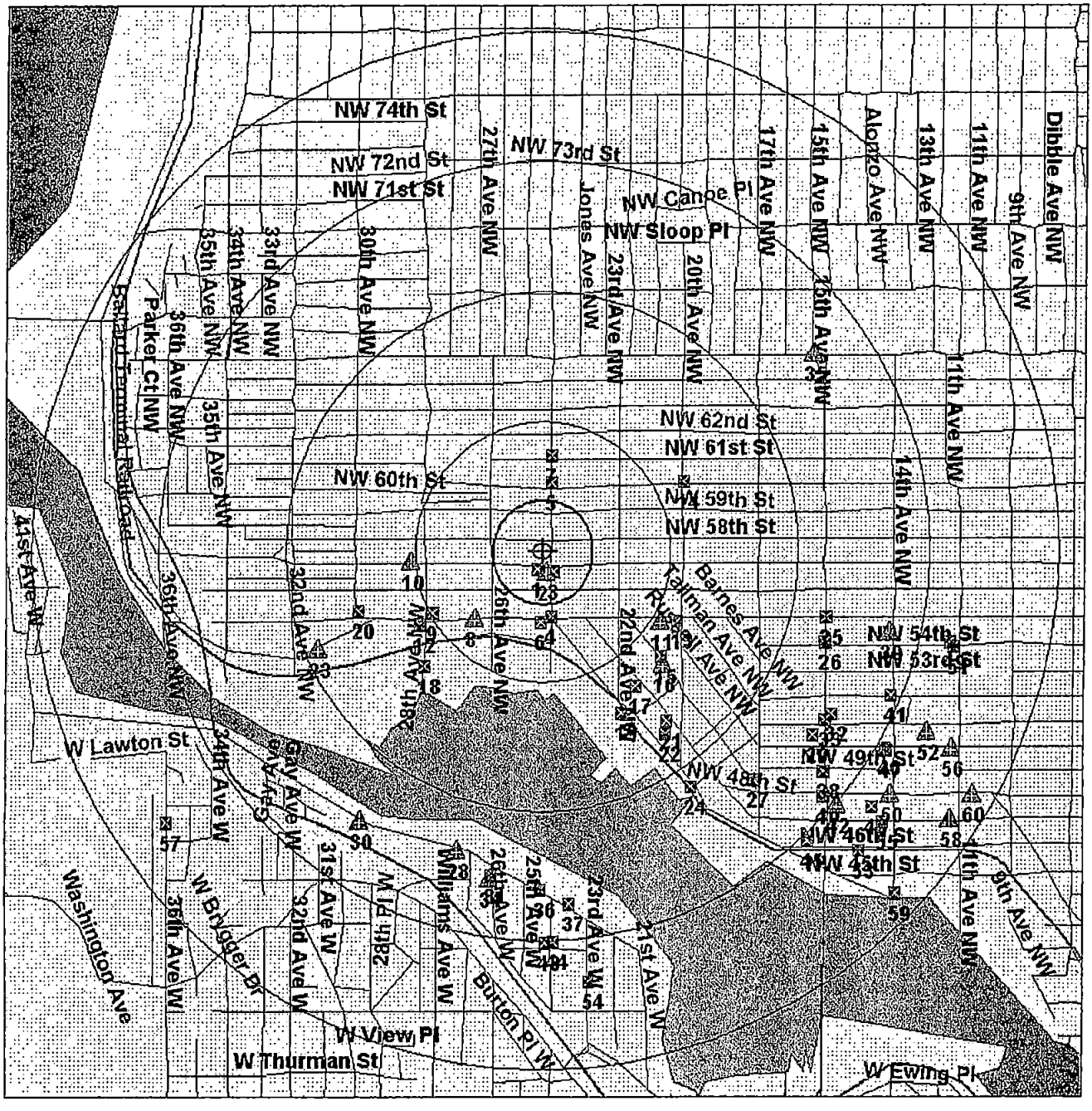
Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
94	STATE	NIX AUTO WRECKING INC CSCR:76466586	1406 NW LEARY WAY SEATTLE WA 98107	0.82 SE	50
95	STATE	WESTERN BATTERIES INC CSCR:2248	1127 NW 54TH ST SEATTLE WA 98107	0.82 SE	51
96	STATE	NIX AUTO WRECKING CSCR:42972957	999 LEARY WAY NW SEATTLE WA 98107	0.82 SE	50
97	STATE	ECI CONSTRUCTION NFA:55638923	1115 NW 51ST ST SEATTLE WA 98107	0.82 SE	52
98	STATE	ECI CONSTRUCTION CSCR:55638923	1115 NW 51ST ST SEATTLE WA 98107	0.82 SE	52
100	STATE	WESMAR COMPANY INC NFA:2194	1451 NW 46TH SEATTLE WA 98107	0.84 SE	53
101	STATE	DYNO BATTERY CO CSCR:72957545	4248 23RD AVE W SEATTLE WA 98199	0.84 SE	54
104	STATE	GENERAL DISPOSAL CORP CSCR:2122	1415 NW BALLARD WAY SEATTLE WA 98107	0.84 SE	55
107	STATE	OLYMPIC HOME CARE PRODUCTS CSCR:2157/INDEPENDENT REMEDIAL	1141 NW 50TH SEATTLE WA 98107	0.88 SE	56
109	STATE	OLYMPIC HOME CARE PRODUCTS NFA:2157	1141 NW 50TH SEATTLE WA 98107	0.88 SE	56
110	STATE	US ARMY CENTER FORT LAWTON CSCR:31548659	4570 TEXAS WAY W SEATTLE WA 98199	0.90 SW	57
111	STATE	MAGNOLIA FERTILIZER NFA:2143	1144 BALLARD WAY SEATTLE WA 98107	0.94 SE	58
112	STATE	MAGNOLIA FERTILI CSCR:2143	1144 BALLARD WAY SEATTLE WA 98107	0.94 SE	58
113	STATE	ALASKA DIESEL ELECTRIC INC NFA:42374577	4420 14TH AVE NW SEATTLE WA 98107	0.95 SE	59
113	STATE	NOBLE METALS NFA:2447	928 NW LEARY WY SEATTLE WA 98107	0.96 SE	60
114	STATE	NOBLE METALS CSCR:2447	928 NW LEARY WY SEATTLE WA 98107	0.96 SE	60

Environmental FirstSearch

1 Mile Radius

Single Map:

5711 24TH AVENUE NORTHWES , SEATTLE WA 98107



Source: U.S. Census TIGER Files

Target Site (Latitude: 47.670461 Longitude: -122.387919) .....

Identified Site, Multiple Sites, Receptor .....

NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste

Railroads .....

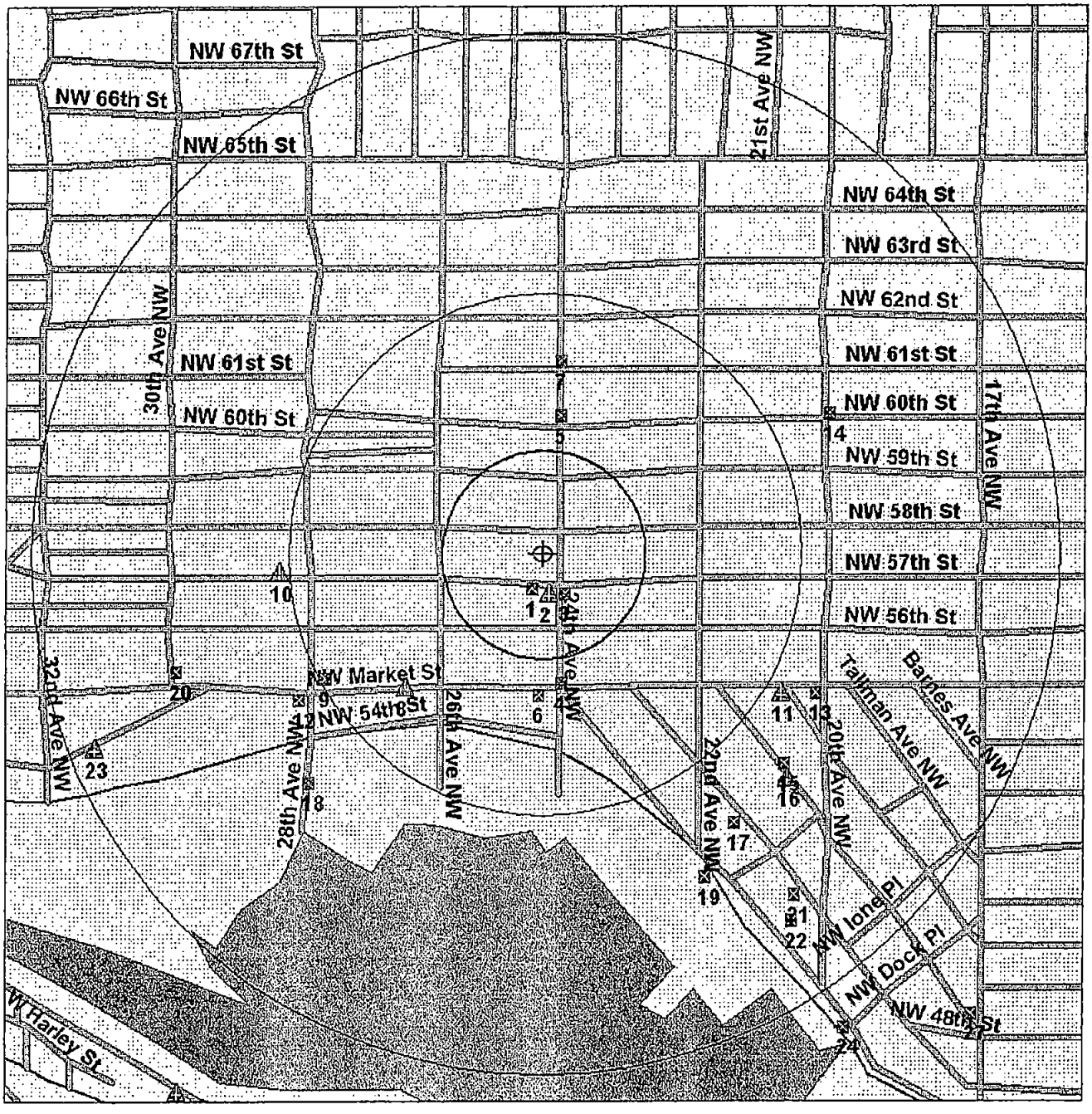
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.5 Mile Radius

Single Map:

5711 24TH AVENUE NORTHWES , SEATTLE WA 98107



Source: U.S. Census TIGER Files

Target Site (Latitude: 47.670461 Longitude: -122.387919) .....

Identified Site, Multiple Sites, Receptor .....

NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste

Railroads .....

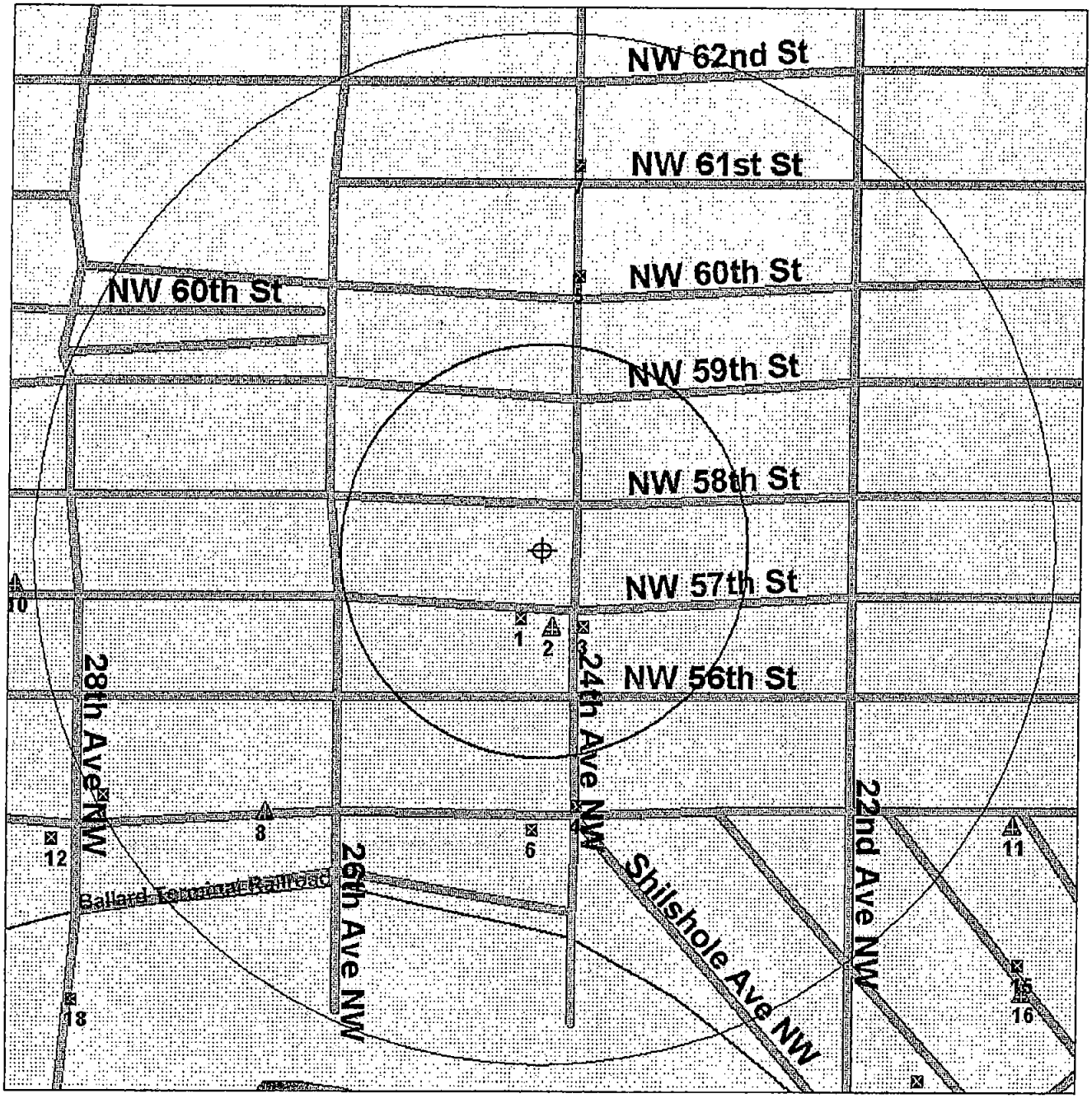
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.25 Mile Radius

Single Map:

5711 24TH AVENUE NORTHWES , SEATTLE WA 98107



Source: U.S. Census TIGER Files

Target Site (Latitude: 47.670461 Longitude: -122.387919) .....

Identified Site, Multiple Sites, Receptor .....

NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius