KANE ENVIRONMENTAL INC

Soil Sampling Report

Peshastin-Dryden Elementary School
Facility ID # 18617191
10001 School Street
Peshastin, Washington

Prepared For:

Washington State Department of Ecology
Central Region Office
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

March 3, 2011

Project Number: 51111

Prepared By:

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KANE ENVIRONMENTAL INC

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1.0 INTRODUCTION

Soil boring and sampling was conducted at 10001 School Street in Peshastin, Washington (the Property, Figure 1, *Vicinity Map*). The purpose of this report is to describe the findings of the soil sampling investigation at the Property.

Historic site information indicated the contaminants likely to be encountered during soil sampling activities may include, but may not be limited to gasoline- and diesel-range petroleum hydrocarbons, benzene, toluene, ethylbenzene, and toluene (BTEX), 1,2-dibromoethane (EDB), 1,2-dichlroethane (EDC), methyl-tertiary-butyl ether (MTBE), naphthalenes, and lead in soil. These chemicals were considered to be the contaminants of concern (COCs) at the Property.

2.0 BACKGROUND

2.1 Subject Site

The Peshastin-Dryden Elementary School property (the Property) is located at 10001 School Street in Peshastin, Washington. The Property is located in a residential area. Two 1,000-gallon underground storage tanks (USTs) were removed from the bus garage at the Property in February 1993. The USTs were reportedly used for bus fueling and stored gasoline and diesel fuel, respectively, and were reportedly installed in 1969 and 1974. Visual and olfactory signs of leaking were observed in the UST excavation at the time of removal. The soils in the excavation consisted of medium sands and a sandy, cobbly material in a gravel matrix. Initial soil samples reported concentrations of gasoline-range petroleum hydrocarbons and BTEX exceeding the MTCA Method A Cleanup Level for Soils. Non-detectable concentrations of diesel-range petroleum hydrocarbons were reported in the soil samples. Soils were excavated to a depth of twenty-seven (27) feet below ground surface (bgs) before concerns for the structural integrity of the nearby bus garage prevented additional excavation. Soil samples collected from the excavation indicated that concentrations of gasoline-range petroleum hydrocarbons and BTEX exceeding the MTCA Method A Cleanup Level for Soils were left in-place. Excavated soils were taken to an off-site facility and aerated. Groundwater was not encountered in the excavation and was reportedly believed to be at least forty (40) feet bgs. No additional background information was reviewed for the subject site. School district staff did not provide any additional information about environmental conditions at the Property.

2.2 Geologic Setting

The City of Peshastin, Washington is located in the Northern Cascades physiographic province, which is characterized by Mesozoic crystalline and metamorphic rocks. The current appearance of the province has been shaped by glacial movement over the past 15,000 years. Due to the complex geology present in the Northern Cascades, soil types vary widely. Soils encountered during the soil sampling activities at

the site consisted of clayey sands and fine to coarse grained sands, with gravels and cobbles. Soil boring logs are included as Attachment C.

2.3 Hydrogeologic Setting

The U.S. Geological Survey (USGS) Peshastin, Washington 7.5-Minute Quadrangle Topographic Map (Figure 1), indicates that the ground surface of the Property is approximately 1,030 feet above mean sea level (amsl) and slopes slightly to the south. Groundwater is expected to flow in a generally southerly direction, towards the Wenatchee River. The elevation of the Wenatchee River directly to the south of the Property is approximately 1,010 feet amsl. Groundwater was not encountered in any soil borings.

3.0 METHODOLOGIES

The following sections present the methodologies for: soil boring locations, soil screening, and test boring soil sampling.

3.1 Soil Boring Locations

Nine soil borings were advanced at the site using a Geoprobe drill rig to depths ranging from nine (9) to twenty-eight (28) feet bgs (see Figure 2). The borings were located to the east and west of the former UST excavation and within the excavation. The location of the former USTs is currently unoccupied and paved. Before the commencement of drilling activities, public locate (Utility Notification Center) was contacted to locate underground utilities operated by service subscribers in and around the Property. All drilling locations were cleared by Kane Environmental using a magnetometer and available as-built plans.

3.2 Soil Screening and Sampling

Soil samples from the soil borings were collected in disposable acetate sample liners placed inside the Geoprobe rods. Subsurface soil samples were screened for indications of contamination, including visible free product, hydrocarbon sheen, soil discoloration, and odor. Soil samples were screened with a photoionization detector (PID) to determine the presence or absence of volatile organic vapors. (The PID is a direct-reading, real-time vapor analyzer that can detect most of the volatile hydrocarbon constituents present in the vapor phase of petroleum-affected soils). Petroleum odor and/or elevated PID readings were noted in soil borings PES-SB-1 and PES-SB-5 . Several of the borings met refusal at relatively shallow depths and no samples were collected from these borings. All soil borings were advanced until refusal.

Nine representative soil samples were collected during drilling activities, in laboratory-supplied containers, labeled, and placed in coolers (under chain-of-custody protocol) with ice for temporary storage until received by the analytical laboratory. Five soil samples were selected for analysis based on depth, presence of suspected petroleum contamination elsewhere in the soil boring, and field observations. Soil

sample CRO-PES-SB-5-24.5 was not analyzed because a soil sample collected at the depth of drilling refusal (CRO-PES-SB-5-27) was available for analysis. Soil samples CROS-PES-SB-1-27 and CRO-PES-SB-1-28 were both analyzed to determine if the vertical extent of the petroleum soil contamination extended to twenty-eight (28) feet bgs.

Soil sample identification began with "CRO" for Central Region Office. The Property was assigned the identification "PES". Soil sampling nomenclature identified each soil sample with an "SB" for samples from the soil boring. Following this designation was a number which corresponded to that particular boring, the last number designated the sample depth. For example, soil sample "CRO-PES-SB-1-27" was the first soil boring and the sample was collected at approximately twenty-seven feet below ground surface (bgs).

3.3 Groundwater Sampling

No groundwater samples were collected. Groundwater was not encountered in any of the soil borings.

4.0 LABORATORY ANALYSIS

Soil samples were submitted to ESN, Northwest under chain-of-custody protocol and on a standard turn-around schedule. Samples were analyzed for the COCs in accordance with analytical laboratory protocol and applicable methodology, as follows:

- Gasoline-range petroleum hydrocarbons and related constituents by NWTPH-Gx;
- Diesel and heavy oil-range petroleum hydrocarbons by NWTPH-Dx extended;
- BTEX by EPA Method 8260;
- EDB, EDC, MTBE, and Naphthalene by EPA Method 8260; and
- Total Lead by EPA Method 6020.

All analyses were performed in accordance with ESN Northwest's in-house Quality Assurance/Quality Control Plans. Sample analyses were performed in compliance with EPA analytical methods and Ecology guidelines. Samples were analyzed within specified holding times. All detection limits were within method requirements and no factors appeared to adversely affect data quality.

5.0 QUALITY CONTROL PROCEDURES

5.1 Field Quality Control

All equipment was calibrated in accordance with the manufacturers' instructions at the start of each day.

5.2 Laboratory QA/QC

Quality Assurance/Quality Control (QA/QC) is of fundamental importance to any chemical testing program. It is the goal to provide analytical data which is scientifically sound and of known and

documented quality. To achieve this objective, a quality system was established to ensure that adequate QA/QC procedures are followed and documented, from sample receipt through to the final report. The quality system has been established to meet the requirements of the National Environmental Laboratory Accreditation Program (NELAP). The policies and procedures established are designed to meet quality requirements, as well as those of accrediting authorities.

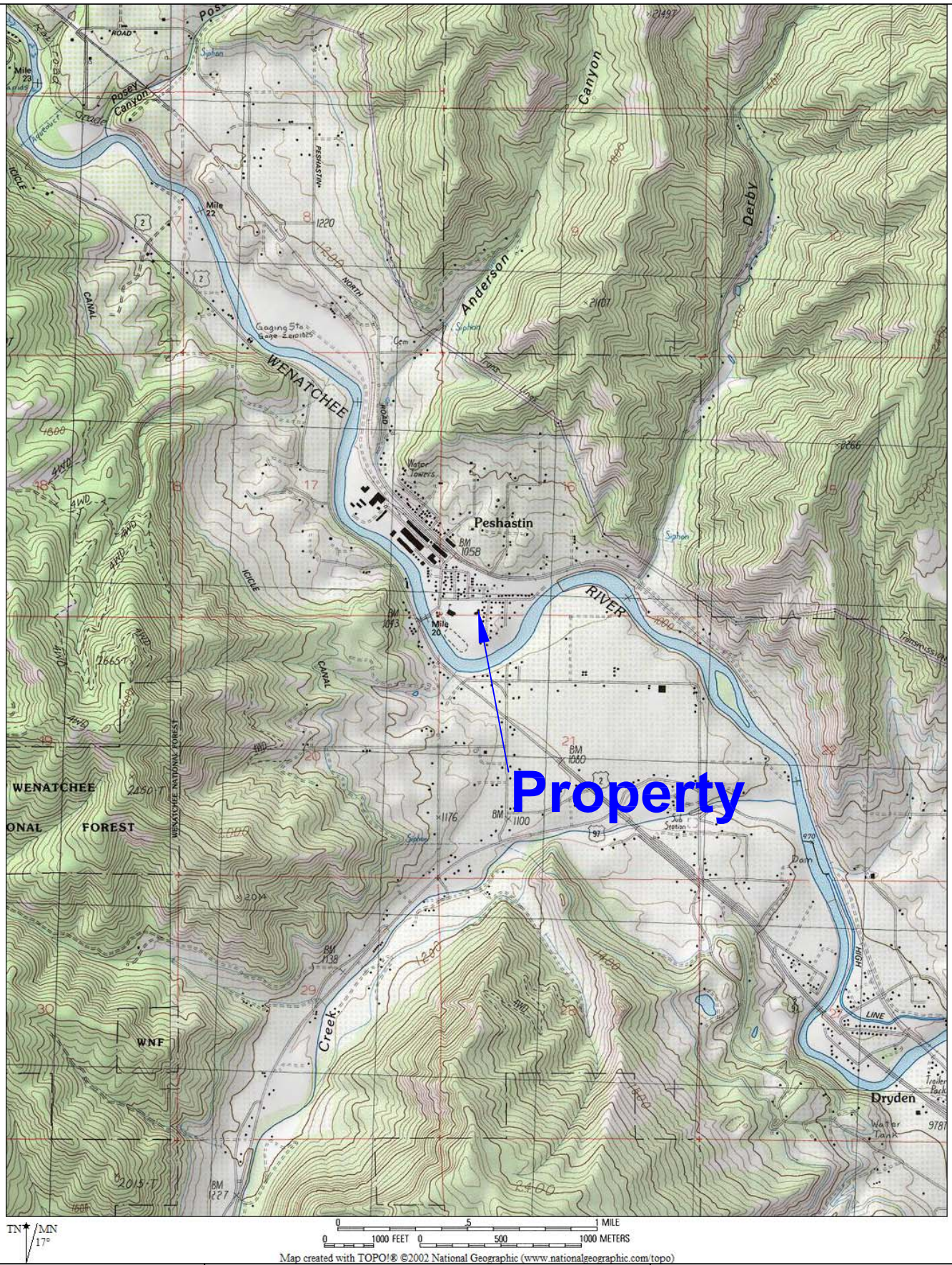
6.0 FINDINGS

The soil samples collected and analyzed from SB-4 and SB-8 reported non-detectable concentrations or concentrations below the MTCA Method A Soil Cleanup Level for Unrestricted Land Use for all of the analytes listed in Section 4.0. Concentrations of gasoline-range organics exceeding the MTCA Method A Soil Cleanup Level for Unrestricted Land Use were reported in SB-1 (1,900 mg/kg at 27 feet bgs) and SB-5 (6,700 mg/kg at 27 feet bgs). A concentration of toluene exceeding the MTCA Method A Soil Cleanup Level for Unrestricted Land Use was reported in SB-5 (300 mg/kg at 27 feet bgs). Concentrations of ethylbenzene exceeding the MTCA Method A Soil Cleanup Level for Unrestricted Land Use were reported in SB-1 (570 mg/kg at 27 feet bgs) and SB-5 (18,000 mg/kg at 27 feet bgs). Concentrations of total xylenes exceeding the MTCA Method A Soil Cleanup Level for Unrestricted Land Use were reported in SB-1 (5,500 mg/kg at 27 feet bgs, and 52 mg/kg at 28 feet bgs), and SB-5 (130,000 mg/kg at 27 feet bgs). A concentration of naphthalene exceeding the MTCA Method A Soil Cleanup Level for Unrestricted Land Use was reported in SB-5 (54,000 mg/kg at 27 feet bgs). All analyzed soil samples reported non-detectable concentrations of benzene. Soil sample analytical results are summarized in Tables 1 and 2. The laboratory analytical reports are included as Attachment B.

7.0 CONCLUSIONS

Based on the soil analytical results of the Soil Sampling conducted at the Property, soil has been impacted with petroleum products from the historic USTs at depth. The full vertical extents of the petroleum impacts at the Property were not found during the soil sampling activity. The elevation of the Wenatchee River is approximately 1,010 feet amsl, and assuming a relatively flat water table in the area, is approximately the elevation of groundwater in the vicinity of the Property. Based on the elevation of the Property (approximately 1,030 feet amsl), and the depths of petroleum impacted soil (26 to 28 feet bgs), there is potential for petroleum impacts to migrate to groundwater. Additional subsurface investigation is recommended at the Property to determine the vertical extents of the petroleum impacts and to determine if groundwater contamination has occurred.

FIGURES



KANE ENVIRONMENTAL INC

Soil Sampling
Peshastin-Dryden Elementary School
10001 School Street
Peshastin, Washington

Figure 1
Vicinity Map

LEGEND

SB-3 Approximate Location of Soil Boring with Analytes Below Soil Cleanup Levels

SB-5 Approximate Location of Soil Boring with Analytes Exceeding Soil Cleanup Levels

Former UST Excavation

0 40 80

Approximate Scale in Feet

Aerial Photograph Provided by Google Earth

Soil Boring Coordinates		
Soil Boring	Latitude	Longitude
SB-1	47.56813	-120.60093
SB-2	47.56820	-120.60098
SB-3	47.56813	-120.60093
SB-4	47.56812	-120.60091
SB-5	47.56809	-120.60088
SB-6	47.56815	-120.60098
SB-7	47.56810	-120.60097
SB-8	47.56818	-120.60089
SB-9	47.56814	-120.60087

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Soil Sampling
Peshastin-Dryden Elementary School
10001 School Street
Peshastin, Washington

Figure 2
Site Plan

TABLES

TABLE 1
Summary of Total Petroleum Hydrocarbons in Soil by TPH-HCID
10001 School Street
Peshastin, Washington

Sample ID	Sample Depth	Sample Date	Gasoline Range Organics	Diesel Range Organics	Lube Oil Range Organics
	(in feet)		*mg/kg*	*mg/kg*	*mg/kg*
CRO-PES-SB-1-27	27	8/11/2010	**Detected**	nd	nd
CRO-PES-SB-4-26	26	8/11/2010	nd	nd	nd
CRO-PES-SB-8-27	27	8/11/2010	nd	nd	nd
CRO-PES-SB-8-27 Duplicate*	27	8/11/2010	nd	nd	nd
Method Reporting Limit			*20*	*50*	*100*

Notes:
mg/kg = milligrams per kilogram [equivalent to parts per million (ppm)
– = Not analyzed
NV = no value for cleanup level
Shaded and Bold concentrations are above MTCA Method A Cleanup Level for Unrestricted Land Use.
nd = not detected at Method Reporting Limit
* = Laboratory Duplicate

TABLE 2
Summary of Gasoline, Diesel, Lube Oil, naphthalenes, BTEX, EDC, EDB, MTBE and Lead in Soil
10001 School Street
Peshastin, Washington

Sample ID	Sample Depth	Sample Date	Gasoline Range Organics	Diesel Range Organics	Lube Oil Range Organics	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	Acenapthalene	Napthalene	1-Methylnapthalene	2-Methylnapthalene	Pyrene	Methyl-t-butyl ether (MTBE)
	(in feet)		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
CRO-PES-SB-1-27	27	8/11/2010	**1,900**	nd	nd	nd	nd	**570**	**5,500**	8.7	nd	nd	nd	1.3	0.96	2.1	nd	nd
CRO-PES-SB-1-28	28	8/11/2010	nd	–	–	nd	nd	nd	**52**	–	nd	nd	–	nd	–	–	–	nd
CRO-PES-SB-4-26	26	8/11/2010	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CRO-PES-SB-4-26 Duplicate*	26	8/11/2010	–	–	–	–	–	–	–	nd	–	–	–	–	–	–	–	–
CRO-PES-SB-5-27[1]	27	8/11/2010	**6,700**	–	–	nd	**300**	**18,000**	**130,000**	–	nd	nd	–	**54,000**	–	–	–	nd
CRO-PES-SB-8-27	27	8/11/2010	18	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CRO-PES-SB-8-27 Duplicate*	27	8/11/2010	nd	nd	nd	–	–	–	–	–	–	–	–	–	–	–	–	–
Method Reporting Limit			*10*	*50*	*100*	*0.02*	*0.05*	*0.05*	*0.05*	*5.0*	*0.05*	*0.005*	*0.02*	*0.02*	*0.02*	*0.02*	*0.02*	*0.05*
MTCA Method A Cleanup Level for Unrestricted Land Use			*30[a]/100*	*2000*	*2000*	*0.03*	*7*	*6*	*9*	*250*	*11*	*0.005*	*4800*	*5^*	*5^*	*5^*	*NV*	*0.1*

Notes:
mg/kg = milligrams per kilogram [equivalent to parts per million (ppm)
– = Not analyzed
NV = no value for cleanup level
Shaded and Bold concentrations are above MTCA Method A Cleanup Level for Unrestricted Land Use
a = Cleanup level used if benzene is present or total of ethylbenzene, toluene and xylenes is greater than 1% of gasoline mixture
nd = not detected at Method Reporting Limit
^ = Total value for naphthalene, 1-methylnaphtalene, and 2-methylnaphthalene
* = Laboratory Duplicate
1 = Insufficient soil was available for collection for full suite of analyses. No four ounce jar was collected.

ATTACHMENT A
ABBREVIATIONS AND DEFINITIONS

ABBREVIATIONS AND DEFINITIONS

This section of the Soil Sampling Report for the Peshastin-Dryden Elementary School provides definitions of key terms used commonly in discussion of soil sampling. The purpose of this section is to assist the contractor and contractor personnel in the implementation of this plan. The sources of these definitions are for the most part 40 CFR 260, WAC 173-303: this source should be consulted both for the complete definitions of the terms below and for the definitions of other terms not included here.

Abbreviations

ASTM	American Society for Testing and Materials
BGS	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COCs	Contaminants of Concern
DNAPL	Dense Non-aqueous Phase Liquid
Ecology	Department of Ecology
DOT	Department of Transportation
Dx	Diesel- and Diesel-range Extended Petroleum Hydrocarbons
EPA	Environmental Protection Agency
FS	Feasibility Study
HASP	Health and Safety Plan
HSA	Hollow Stem Auger
HSWA	Hazardous and Solid Waste Amendments
Gx	Gasoline- and Gasoline-extended Range Petroleum Hydrocarbons
LNAPL	Light Non-aqueous Phase Liquid
mg/kg	Milligrams per kilogram (e.g. parts per million in solid)
mg/L	Milligrams per liter (e.g. parts per million in liquid)

µg/kg	Micrograms per kilogram (e.g. parts per billion in solid)
µg/L	Micrograms per liter (e.g. parts per billion in liquid)
MRL	Method Reporting Limits
MTCA	Model Toxics Control Act
MW	Monitoring Well
LUST	Leaking Underground Storage Tank
PCB	Polychlorinated Biphenyl
PID	Photoionization Device
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SAP	Sampling and Analysis Plan
SVOC	Semi-volatile Organic Compounds
SWP	Site Work Plan
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSD	Treatment, Storage, and Disposal Facility
TSS	Total Suspended Solids
TOC	Total Organic Carbon
UST	Underground Storage Tank
VCP	Voluntary Cleanup Program
VOC	Volatile Organic Compounds
WAC	Washington Administrative Code

Definitions

Accumulation Area: An area used to collect dangerous waste for less than 90 days.

Calibration: The act of adjusting the range and sensitivity of any direct-reading instrument used for field screening

Contaminated Soil: Soil determined by analytical testing to contain contaminant concentrations in quantities which require special handling and disposal practices by personnel.

Container: A portable device in which a material is stored, transported, treated, disposed of or otherwise handled.

Debris: Combustible and noncombustible wastes such as ashes and waste materials resulting from construction and repair work, leaves, and tree trimmings.

Decontamination: The process of removing contaminants from individuals and equipment.

Decontamination Area: Area delineated where personnel may effectively remove contaminants prior to leaving the exclusion zone.

Direct Reading Instrument: Instrumentation used by the oversight consultant to provide quantitative information regarding the potential concentrations of any given contaminant for field screening purposes.

Discharge or Hazardous Waste Discharge: The accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of hazardous or dangerous waste into or on land or water.

Exclusion Zone: Any area clearly delineated by flagging or signage as containing suspect soils.

Flammable Liquid: A liquid with a flash point of less than 100°F.

Flammable Solid: Any solid material that is liable to cause fires through friction or retained heat, or which can be readily ignited and when ignited burns vigorously and persistently.

Four-Gas Monitor: A direct reading instrument which is able to detect the concentrations of oxygen, carbon dioxide, hydrogen sulfide, and lower explosion limit of a COC in ambient air. Commonly used in confined-space entry and UST removal.

Hazardous Material: Any material that, due to its quantity, concentration, or physical, chemical, toxic or infectious characteristics, may pose a substantial hazard to human health or the environment if released.

Hazardous Substance: A hazardous material or hazardous waste that is designated as a hazardous substance under Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Hazardous substances that are regulated by the EPA are listed at 40 CFR 302.

Hazardous Waste: A solid waste that meets the definition of a hazardous waste under 40 CFR 261.3. Hazardous materials with an expired shelf life are not considered hazardous waste until designated as a waste.

Head Space: The vapor contained in any container which holds soil or suspect soils.

Hot: Term commonly used to describe soils or groundwater which contain or are considered likely to contain elevated concentrations of contaminants.

Hot Spot: Any area where evidence (as provided by historic, visual, olfactory, direct reading instruments or analytical data) suggests a concentrated location of contaminated soils.

Incompatible Waste: Waste which may cause corrosion or decay of a particular container; or waste which may produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases on mixing with another waste or substance under uncontrolled conditions.

Lab Pack: A container used for packaging smaller containers of compatible waste for disposal.

LUST: Leaking underground storage tank, usually used historically to hold petroleum or other regulated materials.

Manifest: The EPA hazardous waste shipping record, consisting of *EPA Form 8700-22*, Uniform Hazardous Waste Manifest, and the *Continuation Sheet 8700-22A*, where needed. Instructions for initiating, completing and retaining the manifest are included in 40 CFR 262, Subpart B, and in the Appendix to 40 CFR 262.

Oily Waste: Petroleum products and bituminous materials.

Overburden: Non-petroleum contaminated soils which need to be removed to gain access to petroleum-contaminated soils

PID: Photoionization Detector; a direct-reading instrument which can quantitatively screen for organic vapor concentrations.

Product: Term commonly used to describe any variety of petroleum products.

Problem Waste: Non-hazardous waste such as oily debris or contaminated soil which can be disposed of only after special requirements are met.

Release: The intentional or accidental loss of a hazardous substance into the environment through spillage, leakage, pumping, pouring, emitting, emptying, discharge, injection, escape, leaching, or disposal.

Screening: The process of using qualitative and quantitative information to determine whether soils are considered suspect.

Spill: Any accidental or un-permitted discharge of a hazardous substance into or upon surrounding lands or waters.

Solid Waste: A waste that meets the definition of a solid waste under 40 CFR 261.2.

Stockpile: Area where confirmed-contaminated soils are stored prior to disposal or treatment.

Storage: The temporary retention of a hazardous or dangerous waste prior to treatment, storage or disposal elsewhere.

Superfund Site: Also known as EPA Superfund Site, as dictated by the Comprehensive Environmental Response, Compensation, and Liability Act.

Suspect Soil: Soil which has been determined by the oversight consultant as likely to contain elevated concentrations of contaminants.

Tank: A stationary device constructed of non-earthen materials and used to contain or accumulate dangerous waste. In general, secondary containment structures meet the definition of a tank.

UST: Underground storage tank; a subsurface holding tank commonly used for petroleum and other regulated materials.

Velocity: Distance traveled per unit of time.

ATTACHMENT B
LABORATORY ANALYTICAL PACKAGE

ESN NORTHWEST, INC. | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: Kane Env.
ADDRESS: 3831 Stone Way N.
PHONE: 206-691-0476 FAX:
CLIENT PROJECT #: 51111 PROJECT MANAGER: LM

DATE: 8/12/10 PAGE 1 OF 1
PROJECT NAME: Cascade School Dist-CRO
LOCATION: Peshastin
COLLECTOR: Luke Martinkosky DATE OF COLLECTION 8/11/10

Sample Number	Depth	Time	Sample Type	Container Type	TPH-HCID	TPH - DIESEL & OIL	TPH - GASOLINE	BTEX	VOC 8260CL	VOC 8260	SemiVol 8270	PAH's 8270	PCB's 8082	CL Pesticides 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	Asbestos-PLM	GRO Suite	DRO Suite	WO Suite	EDB/EDC/MTBE	Naphthalenes	NOTES	Total Number of Containers	Laboratory Note Number
✓ 1 CRO-PES-SB1-27	27	935	soil	2VOA, 1jar	X	X	X	X									X				X	X				
2 CRO-PES-SB-1-28	28	937		2VOA, 1jar	[redacted]	[redacted]	X	X									[redacted]				X	[redacted]		contact LM for analysis		
3 CRO-PES-SB-2-15	15	1045		1 jar																				hold		
✓ 4 CRO-PES-SB-4-26	26	1210		2VOA, 1jar	X	X	X	X									X				X	X				
5 CRO-PES-SB-5-24.5	24.5	1310		↓																				hold		
6 CRO-PES-SB-5-26	26	1315																						hold		
✓ 7 CRO-PES-SB-5-27	27	1325		2VOA	[redacted]	[redacted]	X	X									[redacted]				X	[redacted]		contact LM for analysis		
✓ 8 CRO-PES-SB-8-27	27	1520		2VOA, 1jar	X	X	X	X									X				X	X				
9 CRO-PES-SB-9-15	15	1550	↓	↓																				hold		
10.																										
11.																										
12.																										
13.																										
14.																										
15.																										
16.																										
17.																										
18.																										

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
Luke Martinkosky	8-12-10/1540	[signature]	1540
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

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:
Analysis crossed-off due to inadequate sample amount submitted - Jennifer A.

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

ESN NORTHWEST CHEMISTRY LABORATORY

Department of Ecology
CASCADE SCHOOL DIST - CRO PROJECT
Client Project #51111
Peshastin, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Hydrocarbon Identification Analysis of Soil by Method NWTPH-HCID

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Gasoline Range Organics (mg/kg)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	8/13/2010	8/13/2010	124	nd	nd	nd
CRO-PES-SB-1-27	8/13/2010	8/13/2010	124	**D**	nd	nd
CRO-PES-SB-4-26	8/13/2010	8/13/2010	134	nd	nd	nd
CRO-PES-SB-8-27	8/13/2010	8/13/2010	110	nd	nd	nd
CRO-PES-SB-8-27 Dup	8/13/2010	8/13/2010	133	nd	nd	nd
Reporting Limits				20	50	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

Department of Ecology
CASCADE SCHOOL DIST - CRO PROJECT
Client Project #51111
Peshastin, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx/Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	8/13/2010	8/13/2010	124	nd	nd
CRO-PES-SB-1-27	8/13/2010	8/13/2010	124	nd	nd
CRO-PES-SB-4-26	8/13/2010	8/13/2010	134	nd	nd
CRO-PES-SB-8-27	8/13/2010	8/13/2010	110	nd	nd
CRO-PES-SB-8-27 Dup	8/13/2010	8/13/2010	133	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

Department of Ecology
CASCADE SCHOOL DIST - CRO PROJECT
Client Project #51111
Peshastin, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Gasoline Range Organics in Soil by Method NWTPH-Gx

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Gasoline Range Organics (mg/kg)
Method Blank	8/13/2010	8/13/2010	103	nd
LCS	8/13/2010	8/13/2010	110	65%
CRO-PES-SB-1-27	8/13/2010	8/13/2010	113	**1900**
CRO-PES-SB-1-28	8/13/2010	8/13/2010	111	nd
CRO-PES-SB-4-26	8/13/2010	8/13/2010	102	nd
CRO-PES-SB-5-27	8/13/2010	8/13/2010	114	**6700**
CRO-PES-SB-8-27	8/13/2010	8/13/2010	111	**18**
CRO-PES-SB-8-27 Dup.	8/13/2010	8/13/2010	112	nd
Reporting Limits				10

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE: 65% TO 135%

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lab@esnnw.com

Analysis of Gasoline Range Organics, BTEX in Water by Method NWTPH-Gx/8260

Sample Number	Date Analyzed	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Gasoline Range Organics (ug/L)	Surrogate Recovery (%)
Method Blank	8/17/2010	nd	nd	nd	nd	nd	95
LCS	8/17/2010	120%	109%	113%	111%	100%	94
Trip Blank	8/17/2010	nd	nd	nd	nd	nd	99
Reporting Limits		1.0	1.0	1.0	3.0	100	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

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Analytical Results

8260, µg/kg (Soil)	Reporting	**MTH BLK**	**LCS**	**CRO-PES-SB-1-27**	**CRO-PES-SB-4-26**
Date analyzed	Limits	08/13/10	08/13/10	08/13/10	08/13/10
1,2-Dichloroethane (EDC)	50	nd	109%	nd	nd
Benzene	20	nd	102%	nd	nd
Toluene	50	nd	100%	nd	nd
1,2-Dibromoethane (EDB)	5	nd	99%	nd	nd
Ethylbenzene	50	nd	100%	**570**	nd
Xylenes	50	nd	106%	**5,500**	nd
MTBE	50	nd	109%	nd	nd
Surrogate recoveries					
Dibromofluoromethane		98%	99%	104%	93%
Toluene-d8		102%	96%	100%	101%
4-Bromofluorobenzene		103%	104%	106%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analytical Results

8260, µg/kg (Soil)	Reporting	**CRO-PES-SB-8-27**	**MS**	**MSD**	**RPD**
Date analyzed	Limits	08/13/10	08/16/10	08/16/10	
1,2-Dichloroethane (EDC)	50	nd	116%	124%	6.7%
Benzene	20	nd	101%	102%	1.0%
Toluene	50	nd	95%	95%	0.0%
1,2-Dibromoethane (EDB)	5	nd	95%	102%	7.1%
Ethylbenzene	50	nd	95%	94%	1.1%
Xylenes	50	nd	95%	100%	5.1%
MTBE	50	nd	112%	115%	2.6%
Surrogate recoveries					
Dibromofluoromethane		100%	97%	103%	
Toluene-d8		101%	96%	93%	
4-Bromofluorobenzene		111%	94%	93%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Naphthalenes in Soil by Method 8270

Analytical Results

		MTH BLK	LCS	CRO-PES-SB-1-27	CRO-PES-SB-4-26	CRO-PES-SB-8-27	MS	MSD	RPD
Date extracted	Reporting	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	
Date analyzed	Limits	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	
Moisture, %	(mg/kg)			15%	19%	21%			
Acenaphthene	0.02	nd	120%	nd	nd	nd	97%	93%	4%
Naphthalene	0.02	nd	130%	**1.3**	nd	nd			
1-Methylnaphthalene	0.02	nd	ns	**0.96**	nd	nd			
2-Methylnaphthalene	0.02	nd	ns	**2.1**	nd	nd			
Pyrene	0.02	nd	100%	nd	nd	nd	118%	111%	6%
Total Carcinogens									
Surrogate recoveries:									
2-Fluorobiphenyl		101%	101%	84%	95%	102%	101%	97%	
p-Terphenyl-d14		94%	80%	76%	82%	86%	109%	114%	

Data Qualifiers and Analytical Comments

* - Carcinogenic Analyte
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: 50% TO 150%
Acceptable RPD limit: 35%
ns- not in the spiking solution

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Analytical Results

8260, µg/kg (Soil)	Reporting	**MTH BLK**	**LCS**	**CRO-PES-SB-1-28**	**CRO-PES-SB-5-27**
Date analyzed	Limits	08/13/10	08/13/10	08/13/10	08/13/10
1,2-Dichloroethane (EDC)	50	nd	109%	nd	nd
Benzene	20	nd	102%	nd	nd
Toluene	50	nd	100%	nd	**300**
1,2-Dibromoethane (EDB)	5	nd	99%	nd	nd
Ethylbenzene	50	nd	100%	nd	**18,000**
Xylenes	50	nd	106%	**52**	**130,000**
MTBE	50	nd	109%	nd	nd
Naphthalene	50	nd	109%	nd	**54,000**
Surrogate recoveries					
Dibromofluoromethane		98%	99%	97%	104%
Toluene-d8		102%	96%	100%	102%
4-Bromofluorobenzene		103%	104%	111%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analytical Results

8260, µg/kg (Soil)	Reporting	**MS**	**MSD**	**RPD**
Date analyzed	Limits	08/16/10	08/16/10	
1,2-Dichloroethane (EDC)	50	116%	124%	6.7%
Benzene	20	101%	102%	1.0%
Toluene	50	95%	95%	0.0%
1,2-Dibromoethane (EDB)	5	95%	102%	7.1%
Ethylbenzene	50	95%	94%	1.1%
Xylenes	50	95%	100%	5.1%
MTBE	50	112%	115%	2.6%
Naphthalene	50	108%	111%	2.7%
Surrogate recoveries				
Dibromofluoromethane		97%	103%	
Toluene-d8		96%	93%	
4-Bromofluorobenzene		94%	93%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Total Lead in Soil by Method 6020

Sample Number	Date Prepared	Date Analyzed	Lead (Pb) (mg/kg)
Method Blank	8/20/2010	8/20/2010	nd
CRO-PES-SB-1-27	8/20/2010	8/20/2010	**8.7**
CRO-PES-SB-4-26	8/20/2010	8/20/2010	nd
CRO-PES-SB-4-26 Dup.	8/20/2010	8/20/2010	nd
CRO-PES-SB-8-27	8/20/2010	8/20/2010	nd
Reporting Limit			5.0

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Analysis of Total Metals in Soil by Method 6020

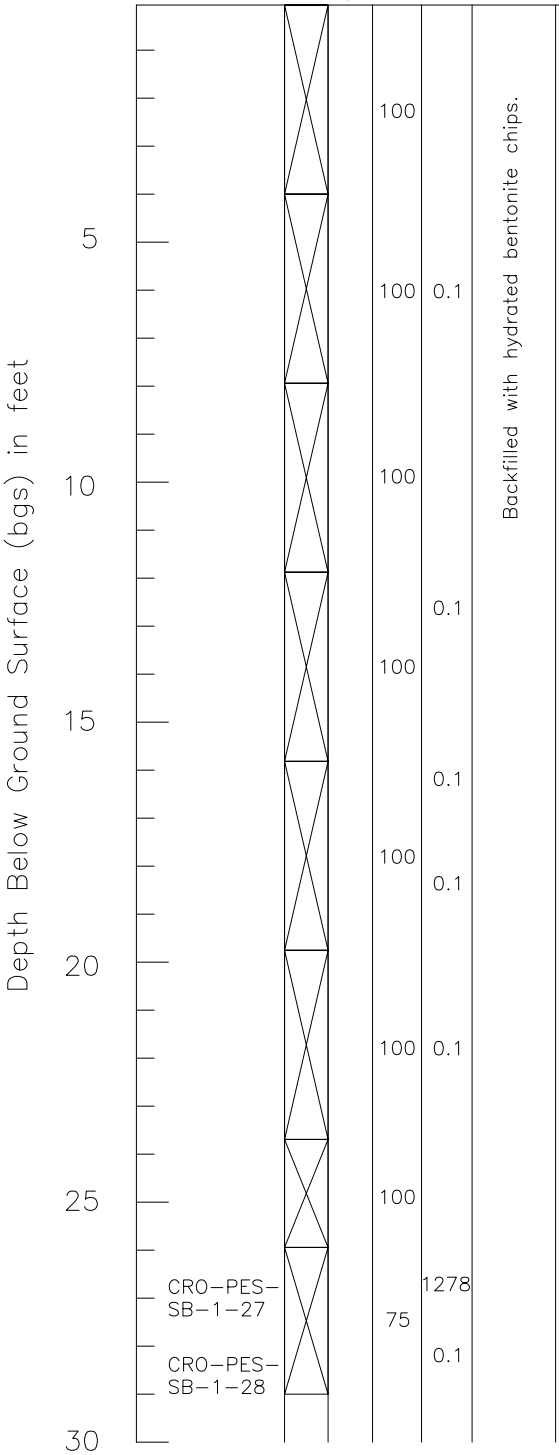
Sample Number: QC Batch

	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 (Pb)	36	34	94	35	34	97	2.82

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Lead (Pb)	50	43	86

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

ATTACHMENT C
SOIL BORING LOGS



Sample Number	Sample Interval	Groundwater	% Recovery	PID (ppm)	Well Construction	Soil Log	Soil Description
					Backfilled with hydrated bentonite chips.	SP	0'–6": Grayish brown, gravel and sand. Moist, no odor.
			100				
			100	0.1		SW	6"–11': Light brown, medium sand. Moist, no odor. Appeared to be fill.
			100				
				0.1		SC	11'–15': Medium brown, clayey sand with silt and trace gravel. Moist, no odor.
			100				
				0.1		SP	15'–18': Light brown, medium coarse sand with trace gravel. Moist, no odor.
			100	0.1		SC	18'–19': Medium brown, clayey sand with silt and trace gravel. Moist, no odor.
			100	0.1		SC/ SP	19'–24': Medium brown, alternating bands of clayey sand and medium coarse sand. Rounded gravels were present from 22'–24'. Moist, no odor.
			100				
							26'–26.5': No Recovery.
CRO-PES-SB-1-27			75	1278		SP	26.5'–27.5': Grey, poorly sorted sand with trace clay and gravel. Moist, petroleum odor.
CRO-PES-SB-1-28				0.1		SP	27.5'–28': Light brown, medium and coarse sand. Moist, no odor.
							Probe refusal at 28' bgs. Soil boring ended at 28' bgs. Groundwater was not encountered.

Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe
Sampling Method: Acetate Liner/ Split Spoon
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 28 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA
Soils classified visually using the Unified Soils Classification System

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

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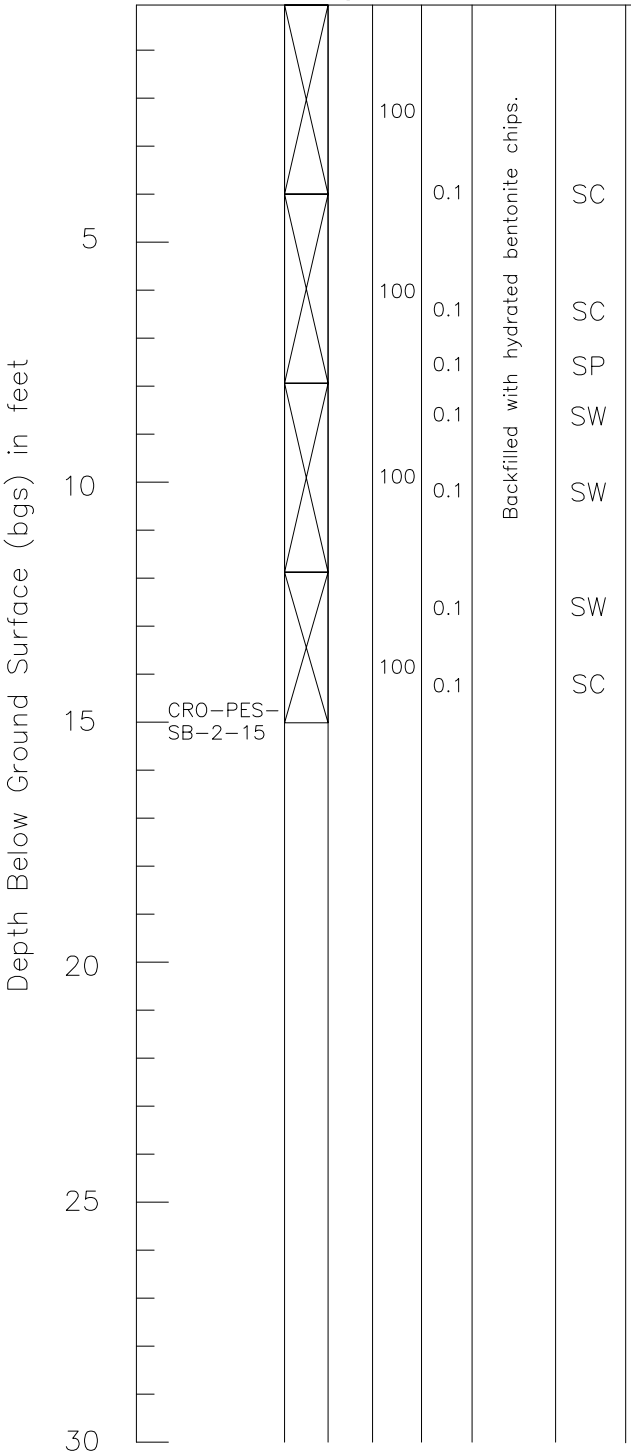
www.kane-environmental.com

Soil Sampling
Peshastin-Dryden Elementary School
10001 School Street
Peshastin, Washington

Soil Boring Log



Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe/Auger
Sampling Method: Acetate Liner
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 15 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

Soils classified visually using the Unified Soils Classification System

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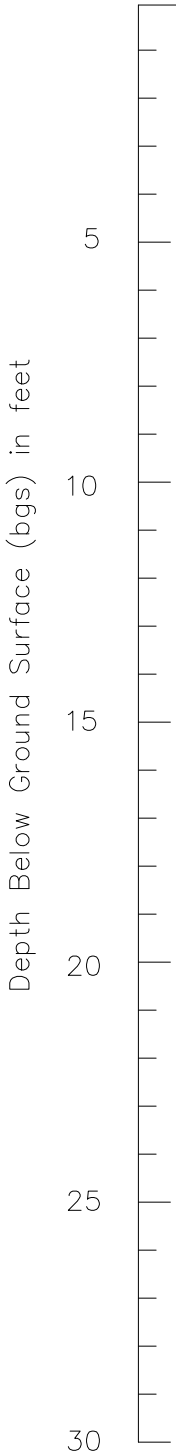
Soil Sampling
Peshastin-Dryden Elementary School
10001 School Street
Peshastin, Washington

Soil Boring Log



Sample Number	Sample Interval	Groundwater	% Recovery	PID (ppm)	Well Construction	Soil Log	Soil Description
				0.1	Backfilled with hydrated bentonite chips.	SP	0'–4": Gravel and sand.
			100	0.1		SC	4"–5': Medium brown, clayey sand with silt. Clay increasing with depth. Moist, no odor.
				0.1		SP	5'–6': Light brown, medium brown and orange, fine and medium sand. Moist, no odor.
			100	0.1		SP	6'–10': Medium brown, medium and very coarse sand with rounded gravels. Moist, no odor.
			100	0.1		SW	10'–10.5': Medium and light brown with white flecks, medium sand. Moist, no odor.
				0.1		SP	10.5'–11': White and black, medium and coarse sand. Moist, no odor.
				0.1		SW	11'–12': Medium brown, poorly sorted sand with trace clay and gravel. Moist, no odor.
			100	0.1		GP	12'–13': Light gray, pulverized rounded cobbles.
				0.1		SC	13'–14': Medium brown with orange mottles, poorly sorted sand with trace clay and gravel. Moist, no odor.
							Probe refusal at 14' bgs. Soil boring ended at 14' bgs. Groundwater was not encountered.

Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe
Sampling Method: Acetate Liner
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 14 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

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Soil Sampling
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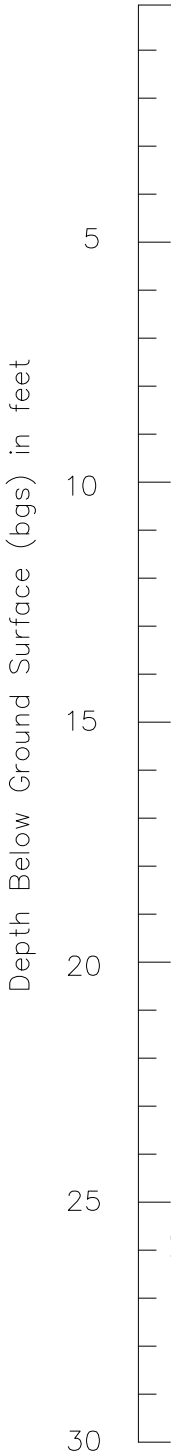
Peshastin, Washington

Soil Boring Log



Sample Number	Sample Interval	Groundwater	% Recovery	PID (ppm)	Well Construction	Soil Log	Soil Description
			100	0.1	Backfilled with hydrated bentonite chips.	SP	0'–6": Grayish brown, gravel and sand. Moist, no odor.
			100	0.1		SW	6"–9': Light brown, medium sand. Moist, no odor. Appeared to be fill.
			100	0.1		SC	9'–13': Medium brown, clayey sand with silt. Moist, no odor.
			100	0.1		SP	13'–15': Light brown, medium sand grading to coarse sand. Moist, no odor.
				0.1		SC	15'–16': Medium brown, clayey coarse sand with gravel. Moist, no odor.
				0.1		SP	16'–18': Light brown, medium sand. Moist, no odor.
			100				
				0.1		SP	18'–20': Medium brown, clayey sand. Moist, no odor.
				0.1		SC	20'–22': Medium brown, clayey coarse sand with gravel. Moist, no odor.
			100				
				0.1		SW	22'–24': Light brown with white and black flecks, coarse sand with gravel. Moist, no odor.
				0.1		SC	24'–25': Light brown, coarse sand with clay and gravel. Moist, no odor.
CRO–PES–SB–4–26			100	0.1		SW	25'–26': Light brown with white and brown flecks, coarse sand. Moist, no odor.
							Probe refusal at 28' bgs. Soil boring ended at 28' bgs. Groundwater was not encountered.

Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe
Sampling Method: Acetate Liner
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 26 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

Soils classified visually using the Unified Soils Classification System

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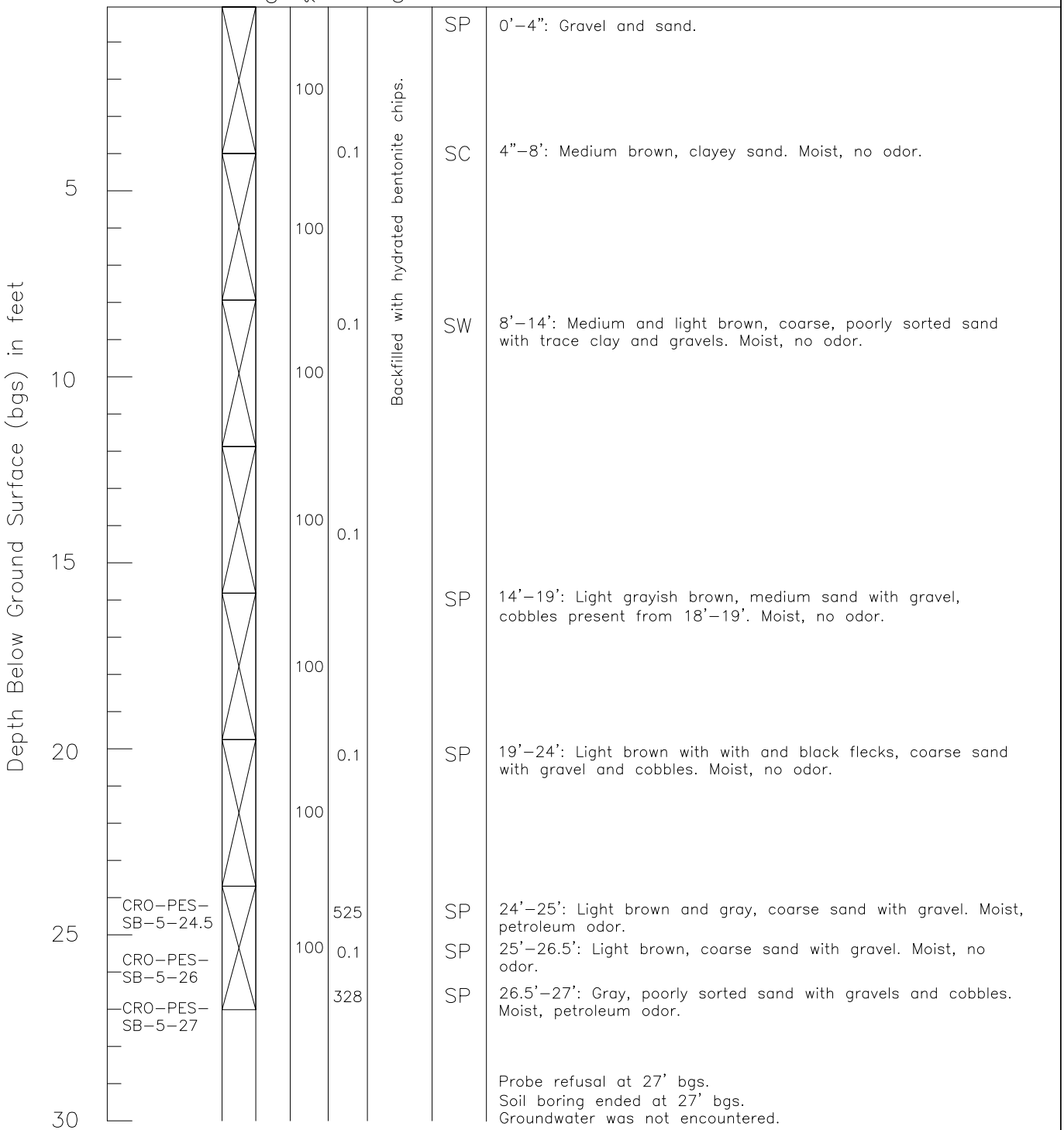
3831 Stone Way N, Seattle, WA - 206-691-6169
www.kane-environmental.com

Soil Sampling
Peshastin-Dryden Elementary School
10001 School Street
Peshastin, Washington

Soil Boring Log



Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe
Sampling Method: Acetate Liner
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 27 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

Soils classified visually using the Unified Soils Classification System

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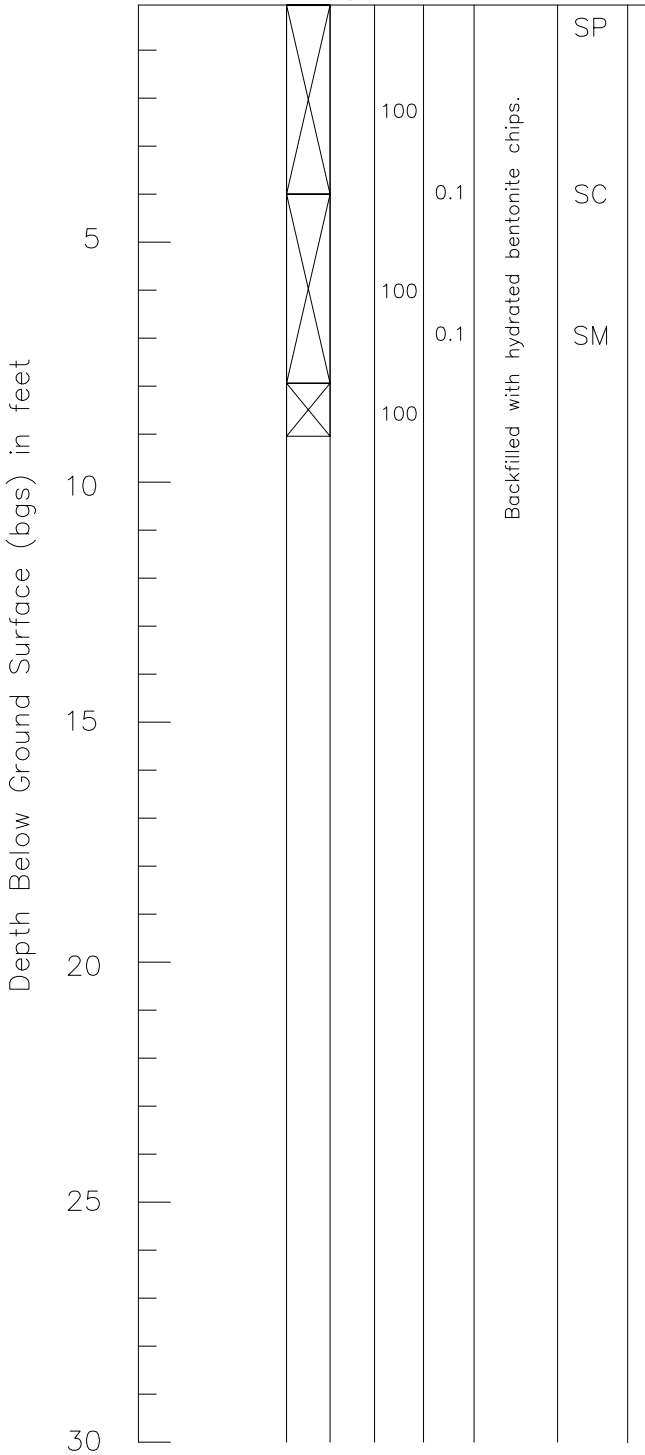
www.kane-environmental.com

Soil Sampling
Peshastin-Dryden Elementary School
10001 School Street
Peshastin, Washington

Soil Boring Log



Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe
Sampling Method: Acetate Liner
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 9 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

Soils classified visually using the Unified Soils Classification System

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Soil Sampling
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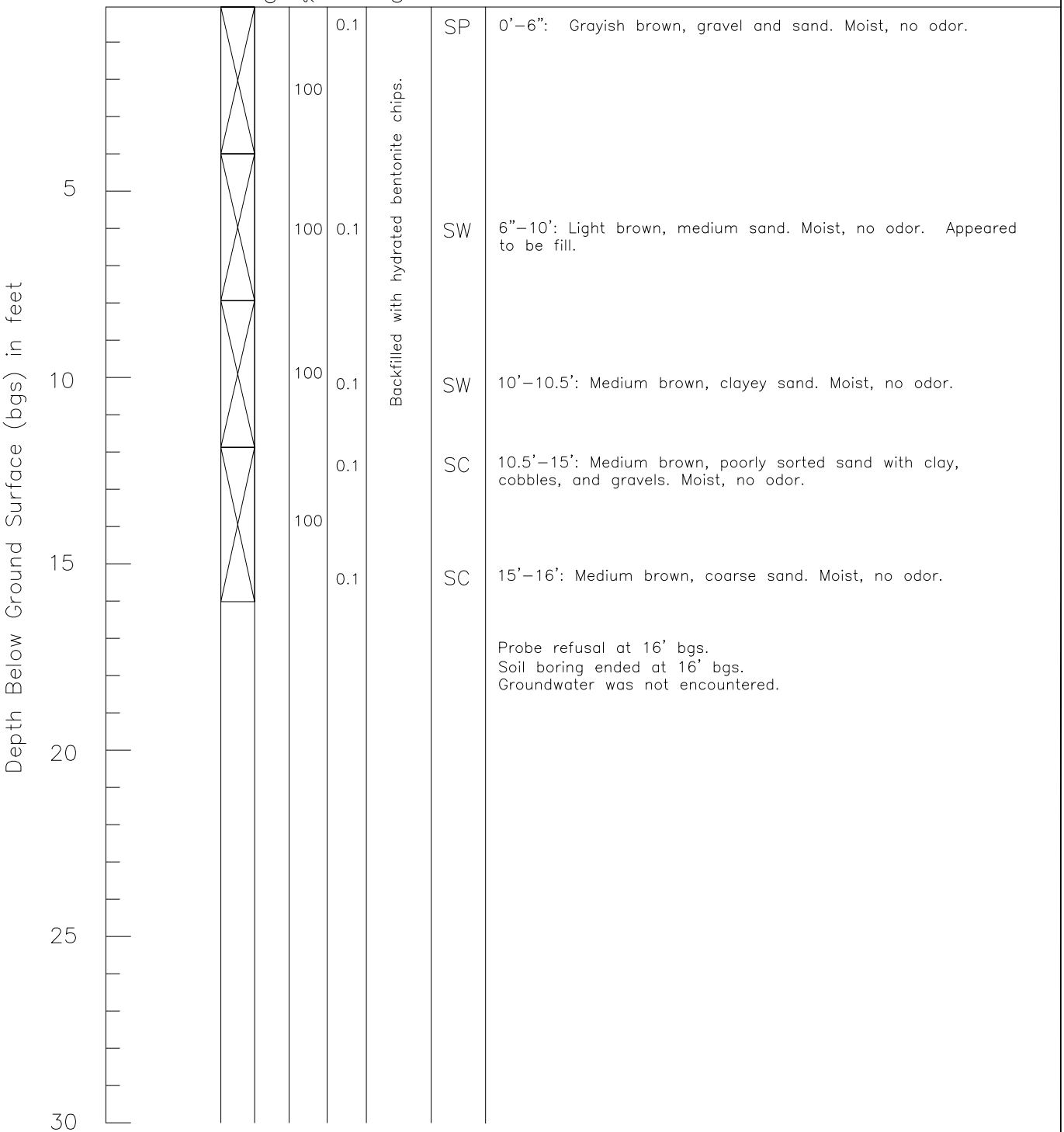
10001 School Street
Peshastin, Washington

Soil Boring Log

Boring PES SB–7
Page 1 of 1



Sample Number	Sample Interval	Groundwater	% Recovery	PID (ppm)	Well Construction	Soil Log	Soil Description
				0.1	Backfilled with hydrated bentonite chips.	SP	0'–6": Grayish brown, gravel and sand. Moist, no odor.
			100				
			100	0.1		SW	6"–10': Light brown, medium sand. Moist, no odor. Appeared to be fill.
			100	0.1		SW	10'–10.5': Medium brown, clayey sand. Moist, no odor.
				0.1		SC	10.5'–15': Medium brown, poorly sorted sand with clay, cobbles, and gravels. Moist, no odor.
			100				
				0.1		SC	15'–16': Medium brown, coarse sand. Moist, no odor.
							Probe refusal at 16' bgs. Soil boring ended at 16' bgs. Groundwater was not encountered.

Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe
Sampling Method: Acetate Liner
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 16 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

Soils classified visually using the Unified Soils Classification System

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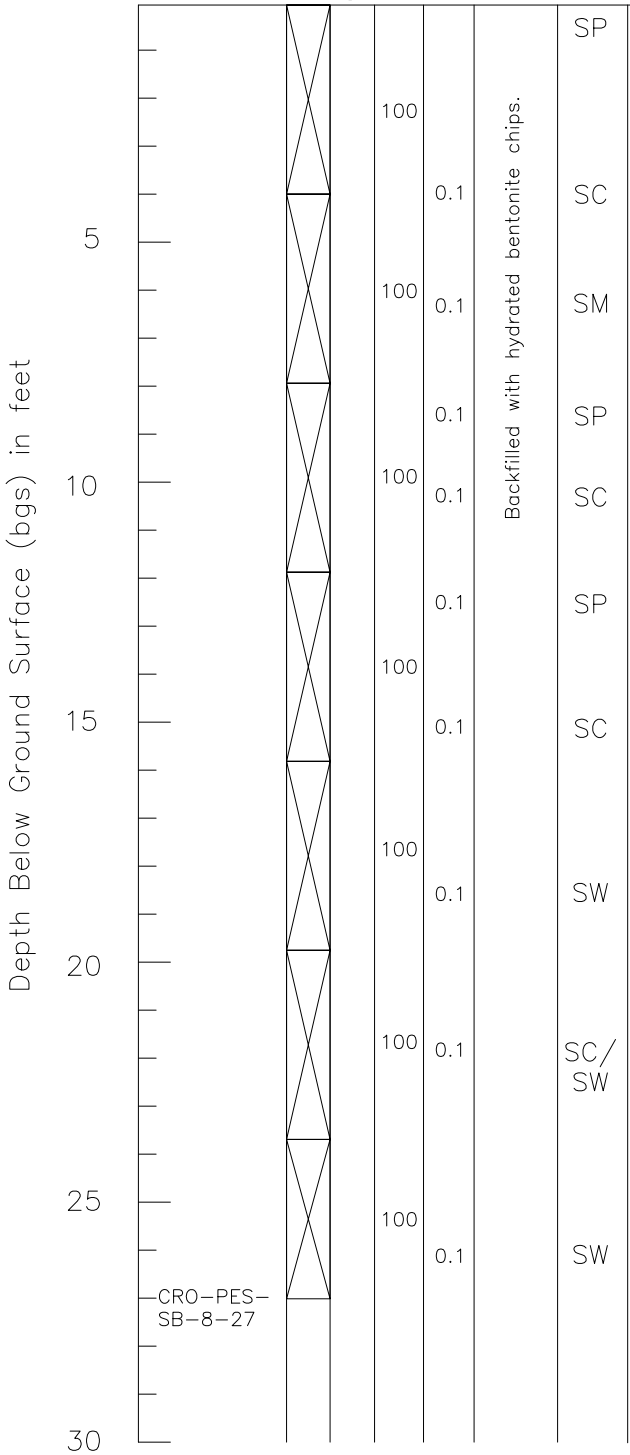
www.kane-environmental.com

Soil Sampling
Peshastin-Dryden Elementary School
10001 School Street
Peshastin, Washington

Soil Boring Log



Sample Number	Sample Interval	Groundwater	% Recovery	PID (ppm)	Well Construction	Soil Log	Soil Description
					Backfilled with hydrated bentonite chips.	SP	0'–4": Asphalt.
			100	0.1		SC	4"–6': Medium brown, clayey sand. Moist, no odor.
			100	0.1		SM	6'–8': Medium brown, poorly sorted sand with silt and cobbles. Moist, no odor.
				0.1		SP	8'–9': Light brown, poorly sorted sand with gravels. Dry, no odor.
			100	0.1		SC	9'–11.5': Medium brown, clayey sand with gravels. Moist, no odor.
				0.1		SP	11.5'–14': Light brown, medium sand with small, rounded gravels. Moist, no odor.
			100	0.1		SC	14'–18': Medium brown, clayey sand. Moist, no odor.
			100	0.1		SW	18'–19': Light brown, medium sand. Moist, no odor.
			100	0.1		SC/SW	19'–26': Medium brown, clayey sand with thin lenses of fine sand. Moist, no odor.
CRO-PES-SB-8-27			100	0.1		SW	26'–27': Light brown with white flecks, coarse sand. Moist, no odor.
							Probe refusal at 27' bgs. Soil boring ended at 27' bgs. Groundwater was not encountered.

Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe
Sampling Method: Acetate Liner
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 27 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

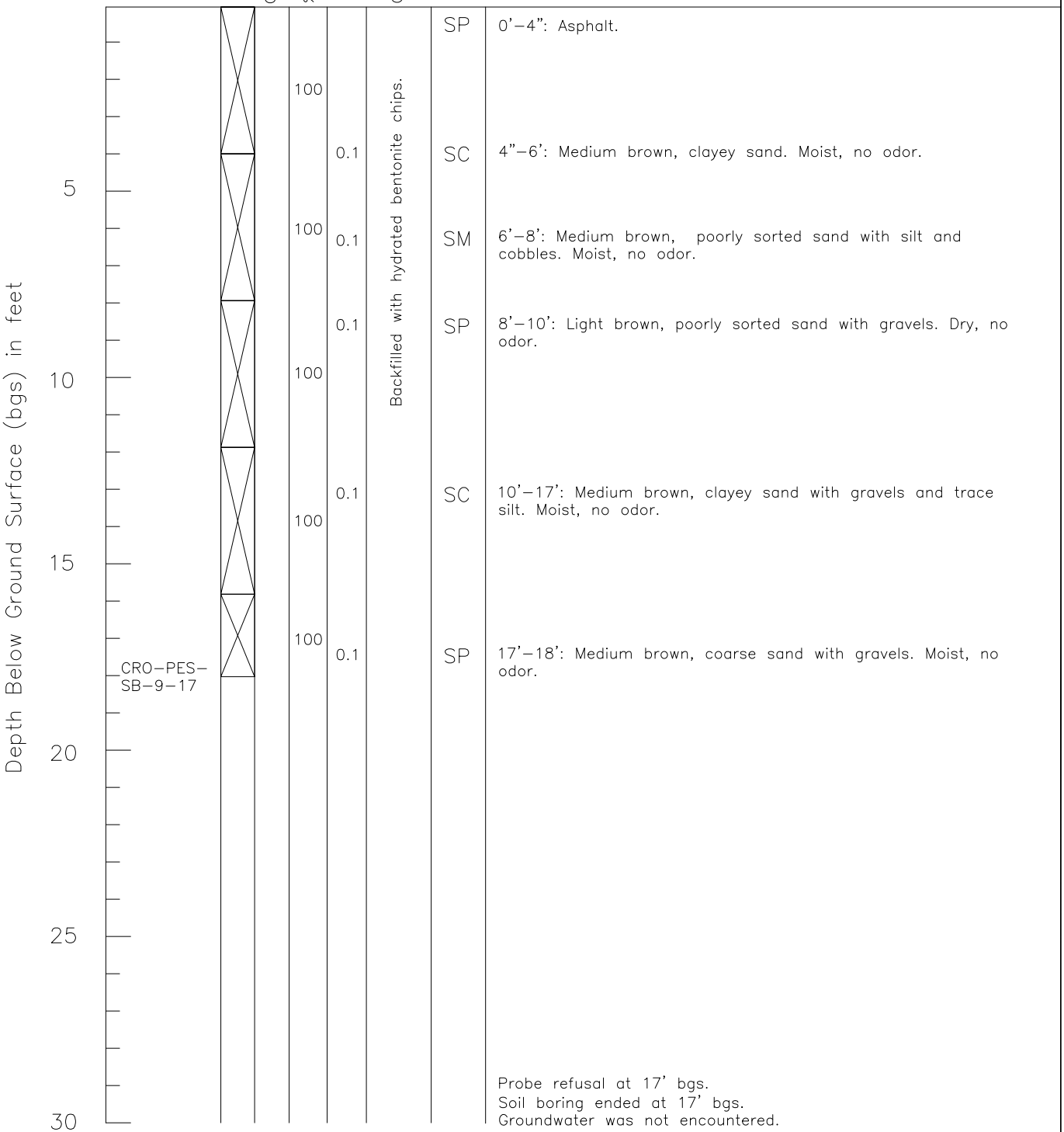
Soils classified visually using the Unified Soils Classification System

KANE ENVIRONMENTAL INC
3831 Stone Way N, Seattle, WA - 206-691-6169
www.kane-environmental.com

Soil Sampling
Peshastin-Dryden Elementary School
10001 School Street
Peshastin, Washington

Soil Boring Log

Boring PES SB–9
Page 1 of 1



Logged by: Luke Martinkosky
Driller: ESN Northwest
Drilling Method: Geoprobe
Sampling Method: Acetate Liner
Casing Type: Not Applicable (NA)
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 8/11/10
Hole Diameter: 2 inches
Hole Depth: 17 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Depth to Water (First Encountered): Not Encountered
Depth to Water (Static): Not Encountered

Soils classified visually using the Unified Soils Classification System

KANE ENVIRONMENTAL INC
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Peshastin, Washington

Soil Boring Log

ATTACHMENT D
FIELD NOTES

Peshastin Elementary School 8/11/10

LM onsite 7:55
ESN already onsite

Site ID - PES

private locater onsite
- cleared boring area

PID (b-ground 0.1)		
	SB-1	
	0-6"	gravel & sand, grey/brn moist, no odor
0.1	6"-8	lt. brn., med sand moist, no odor (fill)
0.1	8-11	same
0.1	11-15	med. brn, clayey sand w/ silt trace gravel, moist, no odor
0.1	15-16	lt. brn., med coarse sand w/ trace gravel, moist, no odor
0.1	16-18	same
0.1	18-19	med. brn, clayey sand w/ silt, trace gravel, moist, no odor
0.1	19-23	alternating bands of clayey sand & med coarse sand w/ large rounded gravels @ 22-23, moist no odor

Peshastin Elementary 8/11/18

SB-1 (cont.) PID

23-24 same 0.1

24-26 lt. brn & white, very coarse sand w/ rounded gravel moist, no odor

26-26.5 no recovery

26.5-27.5 grey, poor sand w/ trace clay & gravel, petro odor, moist 1278

27.5-28 lt. brn, med poor coats sand 0.1
moist, no odor,

CRO-PES-SB-1-27 @ 935
odor soil, 2 VOA 1, gr

CRO-PES-SB-1-28 @ 937
2 VOA, little odor

refusal @ 28'

SB-2 PID

0-4" asphalt

4"-4' med. brn. clayey sand w/ silt clay increasing w/ depth moist, no odor 0.1

4-6 same

Peshastin 8/11/18

SB-2 (cont.) PID

6-7 lt. brn w/ red & yellow mottles, poor coarse sand w/ clay & gravels moist, no odor 0.1

7-8 lt. greyish brn, poor fine sand w/ trace gravel, no odor, dry 0.1

8-9 med. brn, very coarse sand w/ trace clay moist, no odor 0.1

9-10 med. brn, coarse sand w/ trace clay no odor, very moist 0.1

10-12 same, grading to med sand 0.1

12-13 lt. brn, med sand w/ white & black flecks 0.1

13-15 med & lt brn, poor sand w/ gravel, clay & cobbles, moist, no odor 0.1

grave refusal @ 15'

switch to auger,

auger refusal @ 6'

Peshastin 8/11/10

CRO-PES-SB-2-15 @ 1045
1 jar, Hold

SB-3 PID

0-4"	gravel + sand	
4"-4'	med. brn., clayey sand (clay increasing w/ depth) moist, no odor	0.1
4-5	same	
5-6	lt. brn, med brn & orange finer med sands moist, no odor	0.1
6-8	med. brn med to very fine sand w/ rounded gravels moist, no odor	0.1
8-10	same	0.1
10-10.5	med & lt. brn. well sort med sand w/ white flecks moist, no odor	
10.5-11	white & black mod coarse sand, moist no odor	0.1

Peshastin 8/11/10

SB-3 (cont.) PID

11-12	med brn poor sand w/ trace clay & gravel, moist, no odor	0.1
12-13	lt. grey pulverized rounded cobbles	0.1
13-14	as 11-12 w/ orange mottles refusal @ 14'	0.1

SB-4

0-8	as SB-1 (asphalt fragment @ 8')	0.1
8-9	same sand	0.1
9-12	med. brn. clayey sand w/ gravel, moist, no odor	0.1
12-13	same	
13-15	lt. brn med sand grading to coarse, moist no odor	0.1
15-16	med. brn clayey coarse sand w/ gravel, moist, no odor	0.1
16-18	lt. brn. med sand	0.1
18-20	med. brn clayey sand	0.1

Peshastin 8/11/10

SB-4 cont.

		PID
20-22	as 15-16	0.1
22-24'	lt. brn, coarse sand w/ white + black flecks, gravel, moist no odor	0.1
24-25	lt. brwn, coarse sand w/ clay + gravel moist, no odor	0.1
25-26	lt. brn w/ white + brn flecks coarse sand refusal @ 26	0.1

CRO-PSE-SB-4-26 @ 1210
1 jar, 2 VOA

SB-5
0-4" gravel + sand
4'-8' Med. brn, clayey sand moist, no odor 0.1
8-12 med + lt. brn, coarse sand w/ clay + gravels moist, no odor 0.1

Peshastin 8/11/10

SB-5 cont.

		PID
12-14	same	0.1
14-16	lt greyish brn med sand w/ gravel moist, no odor	0.1
16-19	same, cobbles @ 18-19	0.1
19-20	lt. brn w/ white + black flecks coarse sand w/ gravel + cobbles, moist, no odor	0.1
20-22	same	0.1
22-24	same	
24-25	lt. brn grey coarse sand w/ gravels, moist petro odor	525
25-26	lt. brn, coarse sand w/ gravel, moist, no odor	0.1

CRO-PES-SB-5-24.5 @ 1310
2 VOA, 1 jar

CRO-PES-SB-5-26 @ 1315
2 VOA, 1 jar

Peshastin 8/11/10

CRO-PES-SB-5-27@1325
2 VOA insufficient vol. for jar
smelly

		PID
26-26.5	same	0.1
26.5-27	grey, poor sand w/ gravel & cobbles, moist odor	328

refusal @ 27'

SB-6

0-4'	asphalt	
4'-4"	med. brn, clayey sand, moist, no odor	0.1
4-6	same	0.1
6-8	med brn poor sand w/ silt & cobbles, white flecks	
8-9	same w/ increasing cobbles	0.1

refusal @ 9'

Peshastin 8/11/10

SB-7

		PID
0-8	as SB-1	0.1
8-10	same	0.1
10-10.5	med. brn, clayey sand, moist, no odor	
10.5-12	med. brn, poor sand w/ clay & gravels/cobbles moist, no odor	0.1
12-14	same	0.1
12-15	same	0.1
15-16	coarse sand	0.1

refusal @ 16

SB-8

0-8	as SB-6	
8-9	lt. brn poor sand w/ gravel, dry, no odor	0.1
9-11.5	med. brn clayey sand w/ gravel, moist no odor	0.1
11.5-14	lt. brn med sand w/ small rnd gravel, moist no odor	0.1
14-16	med. brn clayey sand	0.1

Peshastin 8/11/10

SB-8 cont.

		PID
16-18	same	
18-19	lt. brn med sand moist, no odor	0.1
19-20	Med. brun clayey med. sand w/ sand lenses	
20-24	same	0.1
24-26	same	
26-27	lt. brn w/ white flecks coarse sand, moist, no odor	0.1

CRO-PES-SB-8-27 @ 1520

refusal @ 27'

SB-9

0-4	as -8	0.1
4-10	same	0.1
10-16	med. brn. clayey sand w/ gravel & trace silt, moist, no odor	0.1

Peshastin 8/11/10

SB-9 (cont)

		PID
16-17	same	0.1
17-18	med brn, coarse sand w/ gravel, moist no odor	0.1

refusal @ 18' on cobble

CRO-PES-SB-9-18 2voA, 1jar @ 1550

1 soil 55-gal drum onsite

1 IDW offsite 1630