July 8, 2022

Alena Tuttle
Associate Planner
City of SeaTac
4800 South 188th Street
SeaTac, Washington 98188

SUBJECT: Response to SEPA DNS Letter Dated June 27, 2022
SeaTac Hotel & Apartments
File #SPR-21-0002/SEP21-0002, Ecology SEPA #202202996
SeaTac, Washington

Dear Ms. Tuttle:

G-Logics has prepared this letter in response to the letter from Ms. Kelli Sheldon, State Environmental Protection Act (SEPA) Coordinator at the Washington State Department of Ecology (Ecology) to you dated June 27, 2022 regarding the SEPA determination of nonsignificance (DNS) checklist for the property referenced above (Property). The letter describes two site environmental concerns for the Property and includes recommendations from Ecology for addressing those conditions. This letter has been developed to provide additional information regarding the environmental conditions at the Property and to respond to the Ecology recommendations for additional investigation of those conditions in support of the ongoing SEPA and building permit process for the Property.

The two environmental conditions that Ecology identified at the Property include:

- An underground storage tank (UST) previously containing petroleum product that remains at the Property; and
- A former janitorial service with a sign indicating a "rug cleaning, janitorial supply, and cleaning supply company" that operated at the Property after 1983 but prior to 1999.

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Regarding the two concerns, Ecology states, *"…Ecology is concerned that the former oil tank could have leaked or that chemicals used by the former rug cleaning operations could have been disposed onsite.*"

For the UST, Ecology states, *"We recommend drilling 2-4 soil borings near the former oil tank and collecting soil samples at the depth of the bottom of the tank for analyses of oil range petroleum hydrocarbons.*"

Regarding the former janitorial business, Ecology states, "*We also recommend drilling at least 4-6 soil borings near the former building used for rug cleaning and collecting soil samples at 2-3 depths for analyses of volatile organic chemicals and per- and poly-fluorinated alkyl substances.*"

Discussion of these environmental concerns and response to the Ecology recommendations are provided in the sections below.

UNDERGROUND STORAGE TANK

The UST at the Property is of unknown capacity and is suspected of historically containing heating oil serving heating infrastructure in a former building or buildings at the Property. The UST installation and use history are unknown, but the UST is expected to be 1,100 gallons in capacity or less, based on the likely former use of the UST. No licensing or other information is available for the UST through Ecology databases; however, USTs used solely for heating structures on the property where the UST is located are exempt from Washington licensing requirements under the UST Regulation Chapter 173-360A-0110(1)(d) Washington Administrative Code.

The Property owner is aware of the UST and currently has plans for UST decommissioning, site assessment, and removal of contaminated soil, if encountered, as part of the initial redevelopment efforts at the Property. If contamination is present, the Property owner has a contingency for additional site characterization and remediation in parallel with Property redevelopment. The scope of work planned by the Property owner is more robust than the scope of work proposed by Ecology to address the UST. The scope requested by Ecology would be redundant with the current plans to address the UST and to respond to releases identified during the UST decommissioning. If a release is present, the proposed Ecology scope would not likely provide sufficient information regarding the scale of a potential release that would be meaningful to inform the SEPA process. It is G-Logics' opinion that

the existing UST decommissioning and release contingency plan established by the Property owner sufficiently addresses the expressed concern.

FORMER JANITORIAL BUSINESS

Previous Phase I Environmental Site Assessment (ESA) reports for the Property available to G-Logics (Landau and Associates, Inc. [Landau] in 1999 and Hart Crowser in 2018) did not identify potential concerns regarding operations at the former Kleener Way facility and did not indicate that the business constituted a recognized environmental condition at the Property. The 2018 Hart Crowser report indicates that the Phase I ESA met the requirements of the American Society for Testing and Materials E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process; and the All Appropriate Inquiry Final Rule of 40 Code of Federal Regulations 312.

Available documentation from the Landau and Hart Crowser reports indicates that the Kleener Way business was a "rug cleaning, janitorial supply, and cleaning supply company." While chemicals were likely stored at the facility, there is no evidence that dry cleaning or other use of hazardous material was conducted at the facility. There is also no evidence that rug cleaning of any kind occurred at the facility. Because of the ambiguous grammar in available descriptions, it is unclear whether the facility was solely a retail shop for cleaning and janitorial supplies or if it also supported a rug cleaning business.

The available historical records indicate that the janitorial business was not present at the Property in 1983 and had vacated the Property by 1999. G-Logics is not aware of any Ecology or U.S. Environmental Protection Agency (USEPA) documentation of the business being a hazardous waste generator, which would have been required under the Resource Conservation and Recovery Act for dry cleaning operations in business during that time period. The lack of any indication of hazardous waste management activities supports the conclusion that significant quantities of dry cleaning or other hazardous chemicals were not likely used at the business.

In a Phase II ESA completed for the Property in 2015, Hart Crowser indicated that in a Phase I ESA for the Property completed earlier that year, they had identified the former Kleener Way business as a "potential area of concern" but not a "recognized environmental condition." Note that the 2015 Hart Crowser Phase I ESA report was not available for G-Logics review. As part of the Phase II ESA, Hart Crowser collected three soil samples from

three soil borings in the vicinity of the former business and analyzed the samples for volatile organic compounds (VOCs) or petroleum hydrocarbons. No petroleum hydrocarbons or VOCs were detected in the soil samples. This Phase II ESA report is attached to this letter.

Regarding per- and poly-fluorinated alkyl substances (PFAS), G-Logics is unaware of PFAS-related environmental impacts from similar carpet cleaning and janitorial services as intimated by Ecology in the letter. An online search of Ecology and USEPA information does not indicate that carpet cleaning or janitorial supply businesses are of particular concern for PFAS contamination. Available information does indicate that carpets commonly contain PFAS compounds used for stain resistance, but there is no credible evidence identified by G-Logics that these compounds significantly affect carpet cleaning wastes at concentrations that would be of concern for release to the environment.

Three Phase I ESA investigations have been conducted at the Property in accordance with industry and regulatory standards indicating that the former Kleener Way janitorial business does not constitute a recognized environmental condition under the AAI standard. A Phase II ESA performed at the Property also has not identified indications of a release of VOCs related to the former business. Reviewed Ecology and USEPA information on PFAS, considered along with investigations performed at the Property, do not support nor suggest a PFAS contamination concern associated with former Kleener Way operations. It is the opinion of G-Logics that no further investigation of VOC or PFAS issues related to the former Kleener Way business is warranted based on the available information.

CLOSING

Please contact Mike Arnold of G-Logics at (425) 996-2866 or at mikea@g-logics.com if you have questions or comments regarding this submittal.

Sincerely,
G-Logics

Mike Arnold, LG, LHG
Director of Technical Services

Attachment: Hart Crowser 2015 Phase II Environmental Site Assessment Report

cc: Andrew Clapham, Andrew Clapham & Associates, LLC
Steven Lou, 98188 Place, LLC
Kelli Sheldon, Washington Department of Ecology
Priscilla Tomlinson. Washington State Department of Ecology

August 7, 2015

98188 Place LLC
Attn: Mr. Steven Lou
1120 Spring Street, Suite #1403
Seattle, WA 98104

Re: Phase II Environmental Site Assessment
Jet Motel Property
17234 to 17300 International Boulevard
SeaTac, Washington
19159-00

Dear Mr. Lou:

This letter report summarizes the results of our Phase II Environmental Site Assessment (Phase II) at the 17234 to 17300 International Boulevard property in SeaTac, Washington (Figure 1). Hart Crowser completed this work to assess the current subsurface conditions on the subject property compared with the conditions found during the Phase I Environmental Site Assessments (Phase I's) conducted on the property in December 1999 and March 2015.

Our report is organized as follows:

- Background and Objectives;
- Scope of Work;
- Site Background;
- Subsurface Soil and Groundwater Assessment;
- Summary and Recommendations; and
- Limitations.

Soil analytical results are summarized in Table 1. Figure 1 is a vicinity map showing the location of the property. A site plan showing site features and exploration locations is presented on Figure 2. Field methods and exploration logs are in Appendix A. The chemical data quality review and laboratory reports are in Appendix B.

Background and Objectives

We reviewed the previous Phase I's on the subject property, as well as our existing data on nearby and surrounding sites. The most recent Phase I report (March 2015) identified existing recognized

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environmental conditions (RECs) and potential areas of concern (PAOCs), all from off site. These off-site RECs and POACs were located primarily either downgradient of the subject property or north of it in an upgradient/cross-gradient position.

The identified downgradient REC was "Sea-Tac International Airport," located across International Boulevard to the west. However, areas that underwent previous cleanups and areas of Sea-Tac International Airport that are being monitored are downgradient of the subject property, so risks to the property are likely low.

The three off-site PAOCs to the north (Circle K Convenience Store at 17040 International Boulevard and Shell Oil Products at 17010 International Boulevard) and to the northeast (Preferred Park-N-Fly at 17047 31st Avenue South) are all over 500 feet from the subject property. Because these sites have undergone investigations and cleanups involving the Washington State Department of Ecology (Ecology), including a no further action (NFA) determination for the Shell site, the risk of any ongoing or previous releases significantly affecting the subject property appears to be low.

The Phase II focused on two PAOCs **on** the subject property that were **not** identified as such in the March 2015 Phase I report; these are:

1. The heating oil underground storage tank (UST) removed in 1999 (according to a copy of a removal permit found in the City of SeaTac office). No documentation was available indicating any soil or groundwater sampling or analyses conducted during the UST removal.
2. A business previously located in the north building, named "Kleener Way," apparently a rug cleaning, janitorial supply, and cleaning supply company. No documentation was available indicating any sampling or analyses of soil or groundwater conducted in the area of this building.

From our review of the existing documents provided to us and those in our own library, we prepared a scope of work that focused on the two on-site PAOCs as well as on collecting data on the perimeter of the subject property to assess the likelihood of contamination migrating from the identified off-site REC and PAOCs.

Scope of Work

Soil and groundwater on the subject property were assessed to identify subsurface conditions for significant potential impacts associated with the RECs and PAOCs identified in the Phase I reports. The following tasks were performed:

- Completed 12 push probe borings (JM-SB-1 through JM-SB-12) to depths of 10 to 15 feet on the subject property.

- Collected soil samples for soil classification and field screening by photoionization detector (PID) and sheen testing. Soil samples were selected for chemical analysis of one or more of the following: petroleum hydrocarbons (gasoline, diesel, and/or heavy oil), total metals (arsenic, cadmium, chromium, lead, and mercury), and volatile organic compounds (VOCs).

- Placed soil cuttings from the push probe exploration activities in a 15-gallon drum and stored the drum in the southeast corner of the subject property for disposal, pending analytical results.

Groundwater was not encountered during sampling, so groundwater samples were not collected.

Site Background

Site Description

The property consists of two tax parcels located at 17234 to 17300 International Boulevard in SeaTac, Washington. The parcels are owned by Mr. Tang Gordon and total approximately 124,000 square feet in area. The property is bordered to the north by a Denny's restaurant and a residential building, to the east by a community center, to the south by a parking lot and Holiday Inn, and to the west by International Boulevard and the airport expressway. The property currently has two structures, a two-story building and a three-story building (Jet Motel).

Geology and Hydrogeology

Regional groundwater appears to be at depths of 40 to 50 feet. We expected to encounter perched groundwater in the upper 15 feet, overlying a weathered glacial till, but groundwater was not encountered during this assessment. The subject property slopes east to west as well as north to south; the east and northeast portion of the property appears to contain an abundance of fill behind retaining walls to provide level platforms. There is also a storm drain system near the center of the property that may affect the groundwater levels and flow direction.

The general subsurface profile at the subject property consists of fine sand with gravel or fill, sandy silt, and medium sand. According to the USGS Geologic Map of Des Moines, the property is predominantly underlain by recessional outwash deposits. The property is within the central Puget lowlands, which are glacially carved and include glacial deposits from multiple glacial advances and retreats. The glacial deposits in this lowland include interbedded gravel, sand, silt, till, and peat lenses.

Subsurface Soil and Groundwater Assessment

Field Investigation Activities and Observations

On July 9, 2015, 12 push-probe explorations (JM-SB-1 through JM-SB-12) were advanced to 10 to 15 feet below ground surface (bgs) at the subject property (Figure 2). During the push probe explorations, soil

samples were collected from the acetate liner in 5-foot intervals and field screened every two feet. Groundwater samples were not collected during this assessment because groundwater elevations were low.

Soil samples were field screened using headspace vapor (PID) and sheen tests and visual observations. Black staining was observed in soil boring JM-SB-7 between 10 and 12 feet bgs, and in soil boring JM-SB-11 between 4 and 5 feet bgs. The PID did not detect any elevated concentrations of VOCs, and no sheen was observed in any of the samples. Field screening results are presented on the exploration logs in Appendix A.

Soil Sample Chemical Analysis and Results

A total of 11 soil sample locations were selected as representative near the identified RECs and in the vicinity of PAOC as well as other general representative areas around the property. The soil sample analytical results are summarized in Table 1.

For screening purposes, the results were compared with MTCA Method A soil cleanup levels for unrestricted land use; highlights of results are:

- 11 soil samples were analyzed for diesel- and heavy-oil-range petroleum hydrocarbons; concentrations were not detected at or above laboratory reporting limits, with the following exceptions:
  - Heavy-oil-range hydrocarbons were detected in soil sample JM-SB-7-10 at 2,100 milligrams per kilogram (mg/kg), above the MTCA Method A cleanup level of 2,000 mg/kg. This soil sample was collected at a depth of approximately 10 to 12 feet.
  - Heavy-oil-range hydrocarbons were also detected in soil sample JM-SB-11-4 at 850 mg/kg, below the MTCA Method A cleanup level. This soil sample was collected at a depth of approximately 4 feet.
- Two soil samples were analyzed for gasoline-range petroleum hydrocarbons; concentrations were not at or above laboratory reporting limits.
- Six soil samples were analyzed for VOCs; concentrations were not at or above laboratory reporting limits.
- Four soil samples were analyzed for total metals (arsenic, cadmium, chromium, lead, and mercury); concentrations were not at or above laboratory reporting limits, with the following exceptions:
  - Lead was detected in soil samples JM-SB-7-10 and JM-SB-11-4 at 1.5 mg/kg and 3.4 mg/kg, respectively. Both detections were below the MTCA Method A cleanup level of 250 mg/kg.

- Chromium was detected in soil samples JM-SB-7-10 and JM-SB-11-4 at 25 mg/kg and 4.5 mg/kg, respectively. Both detections were below the MTCA Method A cleanup level of 2,000 mg/kg, assuming chromium is present as chromium III.

Summary and Recommendations

Our Phase II indicates that there are residual petroleum impacts remaining from the former heating oil UST location at a depth of approximately 10 to 12 feet at the boring location JM-SB-7. This boring location is approximately 35 feet to the west of the former UST's presumed location (based on a visible asphalt patch). The impacted area is horizontally delineated to the northeast by soil boring JM-SB-5 (which is presumed to be in an upgradient position from the former UST) and limited to the southeast corner of the Jet Motel building. Additional residual petroleum-impacted soil may extend beyond the location of boring JM-SB-7 as well as beyond the edges of the previously removed UST. However, based on the narrow lense of petroleum-impacted soil identified in boring JM-SB-7 and the fact that the UST has been removed, the likelihood of significant petroleum-impacts on the property appears to be low.

In addition, heavy oil was detected in boring JM-SB-10 in the near-surface soil, indicating that isolated areas of heavy oil could be encountered during redevelopment. Because of this heavy oil detection in the near-surface soil, the long-time use of a large percentage of the property as a parking lot, and the limited number of borings, other isolated near-surface petroleum-impacted soil could be encountered in other areas of the property during grading and excavation for any future redevelopment. Therefore, subsurface conditions should be monitored during construction using visual observations and other screening methods (e.g., PID and/or sheen testing), and a construction contingency plan (CCP) should be developed and followed.

We recommend preparing a CCP prior to construction that will include procedures to follow for any suspected adverse environmental conditions or unknown USTs that may be encountered during redevelopment. The CCP will outline protocols for screening, segregating, and managing contaminated soil, as well as procedures for performing confirmation sampling and analysis and managing USTs.

Limitations

Work for this project was performed, and this letter report prepared, in accordance with professional practices generally accepted for work done at the time our work was done and similar to our work in terms of nature, locality, and conditions. It is intended for the exclusive use of 98188 Place LLC for specific application to the referenced property. This letter report is not meant to be a legal opinion. No other warranty, express or implied, is made.

The MTCA cleanup levels in this report are provided for comparison only and are based on our understanding of cleanup levels required by Ecology for similar projects. They are not MTCA interpretations. By using them for comparison, we are not implying that remedial actions at this site are

required under MTCA. Specific MTCA interpretations may involve separate calculations and determinations upon which a range of cleanup standards may be established by Ecology.

Please call if you have any questions about our work or this letter report, the presentation of the information, or the interpretation of the data.

Sincerely,

HART CROWSER, INC.

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JULIE K. W. WUKELIC
Senior Principal
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Attachments:
Table 1 – Analytical Results for Soil Samples
Figure 1 – Vicinity Map
Figure 2 – Site and Exploration Plan
Appendix A – Field Exploration Methods and Exploration Logs
Appendix B – Chemical Data Quality Review and Laboratory Report

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Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA Method A	JM-SB-1-4	JM-SB-2-13	JM-SB-3-4	JM-SB-4-5.5
Sampling Date	Cleanup Level	7/9/2015	7/9/2015	7/9/2015	7/9/2015
NWTPH-Dx in mg/kg					
Kerosene/jet fuel	2000			20 U	
Diesel/fuel oil	2000			20 U	
Heavy oil	2000			50 U	
NWTPH-Gx in mg/kg					
Mineral spirits/Stoddard					
Gasoline	30/100[a]				
Metals in mg/kg					
Lead	250			1.0 U	
Chromium	19/2000[b]			2.0 U	
Cadmium	2			1.0 U	
Arsenic	20			1.0 U	
Mercury	2			0.5 U	
Volatiles in µg/kg					
MTBE	100	100 U	100 U		100 U
Dichlorodifluoromethane		50 U	50 U		50 U
Chloromethane		50 U	50 U		50 U
Vinyl chloride		50 U	50 U		50 U
Bromomethane		50 U	50 U		50 U
Chloroethane		50 U	50 U		50 U
Trichlorofluoromethane		50 U	50 U		50 U
1,1-Dichloroethene		50 U	50 U		50 U
Methylene chloride	20	20 U	20 U		20 U
trans-1,2-Dichloroethene		50 U	50 U		50 U
1,1-Dichloroethane		50 U	50 U		50 U
2,2-Dichloropropane		50 U	50 U		50 U
cis-1,2-Dichloroethene		50 U	50 U		50 U
Chloroform		50 U	50 U		50 U
1,1,1-Trichloroethane		50 U	50 U		50 U
Carbon tetrachloride		50 U	50 U		50 U
1,1-Dichloropropene		50 U	50 U		50 U
Benzene	30	20 U	20 U		20 U
1,2-Dichloroethane (EDC)		20 U	20 U		20 U
Trichloroethene	30	20 U	20 U		20 U
1,2-Dichloropropane		50 U	50 U		50 U
Dibromomethane		50 U	50 U		50 U
Bromodichloromethane		50 U	50 U		50 U
cis-1,3-Dichloropropene		50 U	50 U		50 U
Toluene	7000	50 U	50 U		50 U
trans-1,3-Dichloropropene		50 U	50 U		50 U
1,1,2-Trichloroethane		50 U	50 U		50 U
Tetrachloroethene	50	50 U	50 U		50 U
1,3-Dichloropropane		50 U	50 U		50 U
Dibromochloromethane		20 U	20 U		20 U
1,2-Dibromoethane (EDB)	5	5 U	5 U		5 U
Chlorobenzene		50 U	50 U		50 U
1,1,1,2-Tetrachloroethane		50 U	50 U		50 U
Ethylbenzene	6000	50 U	50 U		50 U
Xylenes	9000	50 U	50 U		50 U
Styrene		50 U	50 U		50 U
Bromoform		50 U	50 U		50 U
Isopropylbenzene		50 U	50 U		50 U
1,2,3-Trichloropropane		50 U	50 U		50 U
Bromobenzene		50 U	50 U		50 U
1,1,2,2-Tetrachloroethane		50 U	50 U		50 U
n-Propylbenzene		50 U	50 U		50 U
2-Chlorotoluene		50 U	50 U		50 U
4-Chlorotoluene		50 U	50 U		50 U
1,3,5-Trimethylbenzene		50 U	50 U		50 U
tert-Butylbenzene		50 U	50 U		50 U
1,2,4-Trimethylbenzene		50 U	50 U		50 U
sec-Butylbenzene		50 U	50 U		50 U
1,3-Dichlorobenzene		50 U	50 U		50 U
Isopropyltoluene		50 U	50 U		50 U
1,4-Dichlorobenzene		50 U	50 U		50 U
1,2-Dichlorobenzene		50 U	50 U		50 U
n-Butylbenzene		50 U	50 U		50 U
1,2-Dibromo-3-Chloropropane		50 U	50 U		50 U
1,2,4-Trichlorobenzene		50 U	50 U		50 U
Hexachloro-1,3-butadiene		50 U	50 U		50 U
Naphthalene	5000	50 U	50 U		50 U
1,2,3-Trichlorobenzene		50 U	50 U		50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA Method A	JM-SB-5-9	JM-SB-6-3	JM-SB-6-11	JM-SB-7-4	JM-SB-7-10
Sampling Date	Cleanup Level	7/9/2015	7/9/2015	7/9/2015	7/9/2015	7/9/2015
NWTPH-Dx in mg/kg						
Kerosene/jet fuel	2000	20 U	20 U	20 U	20 U	20 U
Diesel/fuel oil	2000	20 U	20 U	20 U	20 U	20 U
Heavy oil	2000	50 U	50 U	50 U	50 U	**2100**
NWTPH-Gx in mg/kg						
Mineral spirits/Stoddard						5.0 U
Gasoline	30/100[a]					5.0 U
Metals in mg/kg						
Lead	250					**1.5**
Chromium	19/2000[b]					**25**
Cadmium	2					1.0 U
Arsenic	20					1.0 U
Mercury	2					0.5 U
Volatiles in µg/kg						
MTBE	100					100 U
Dichlorodifluoromethane						50 U
Chloromethane						50 U
Vinyl chloride						50 U
Bromomethane						50 U
Chloroethane						50 U
Trichlorofluoromethane						50 U
1,1-Dichloroethene						50 U
Methylene chloride	20					20 U
trans-1,2-Dichloroethene						50 U
1,1-Dichloroethane						50 U
2,2-Dichloropropane						50 U
cis-1,2-Dichloroethene						50 U
Chloroform						50 U
1,1,1-Trichloroethane						50 U
Carbon tetrachloride						50 U
1,1-Dichloropropene						50 U
Benzene	30					20 U
1,2-Dichloroethane (EDC)						20 U
Trichloroethene	30					20 U
1,2-Dichloropropane						50 U
Dibromomethane						50 U
Bromodichloromethane						50 U
cis-1,3-Dichloropropene						50 U
Toluene	7000					50 U
trans-1,3-Dichloropropene						50 U
1,1,2-Trichloroethane						50 U
Tetrachloroethene	50					50 U
1,3-Dichloropropane						50 U
Dibromochloromethane						20 U
1,2-Dibromoethane (EDB)	5					5 U
Chlorobenzene						50 U
1,1,1,2-Tetrachloroethane						50 U
Ethylbenzene	6000					50 U
Xylenes	9000					50 U
Styrene						50 U
Bromoform						50 U
Isopropylbenzene						50 U
1,2,3-Trichloropropane						50 U
Bromobenzene						50 U
1,1,2,2-Tetrachloroethane						50 U
n-Propylbenzene						50 U
2-Chlorotoluene						50 U
4-Chlorotoluene						50 U
1,3,5-Trimethylbenzene						50 U
tert-Butylbenzene						50 U
1,2,4-Trimethylbenzene						50 U
sec-Butylbenzene						50 U
1,3-Dichlorobenzene						50 U
Isopropyltoluene						50 U
1,4-Dichlorobenzene						50 U
1,2-Dichlorobenzene						50 U
n-Butylbenzene						50 U
1,2-Dibromo-3-Chloropropane						50 U
1,2,4-Trichlorobenzene						50 U
Hexachloro-1,3-butadiene						50 U
Naphthalene	5000					50 U
1,2,3-Trichlorobenzene						50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA Method A	JM-SB-8-3	JM-SB-9-3	JM-SB-10-4	JM-SB-10-9	JM-SB-11-4	JM-SB-12-10
Sampling Date	Cleanup Level	7/9/2015	7/9/2015	7/9/2015	7/9/2015	7/9/2015	7/9/2015
NWTPH-Dx in mg/kg							
Kerosene/jet fuel	2000	20 U	20 U		20 U	20 U	20 U
Diesel/fuel oil	2000	20 U	20 U		20 U	20 U	20 U
Heavy oil	2000	50 U	50 U		50 U	**850**	50 U
NWTPH-Gx in mg/kg							
Mineral spirits/Stoddard							5.0 U
Gasoline	30/100[a]						5.0 U
Metals in mg/kg							
Lead	250					**3.4**	1.0 U
Chromium	19/2000[b]					**4.5**	2.0 U
Cadmium	2					1.0 U	1.0 U
Arsenic	20					1.0 U	1.0 U
Mercury	2					0.5 U	0.5 U
Volatiles in µg/kg							
MTBE	100					100 U	100 U
Dichlorodifluoromethane						50 U	50 U
Chloromethane						50 U	50 U
Vinyl chloride						50 U	50 U
Bromomethane						50 U	50 U
Chloroethane						50 U	50 U
Trichlorofluoromethane						50 U	50 U
1,1-Dichloroethene						50 U	50 U
Methylene chloride	20					20 U	20 U
trans-1,2-Dichloroethene						50 U	50 U
1,1-Dichloroethane						50 U	50 U
2,2-Dichloropropane						50 U	50 U
cis-1,2-Dichloroethene						50 U	50 U
Chloroform						50 U	50 U
1,1,1-Trichloroethane						50 U	50 U
Carbon tetrachloride						50 U	50 U
1,1-Dichloropropene						50 U	50 U
Benzene	30					20 U	20 U
1,2-Dichloroethane (EDC)						20 U	20 U
Trichloroethene	30					20 U	20 U
1,2-Dichloropropane						50 U	50 U
Dibromomethane						50 U	50 U
Bromodichloromethane						50 U	50 U
cis-1,3-Dichloropropene						50 U	50 U
Toluene	7000					50 U	50 U
trans-1,3-Dichloropropene						50 U	50 U
1,1,2-Trichloroethane						50 U	50 U
Tetrachloroethene	50					50 U	50 U
1,3-Dichloropropane						50 U	50 U
Dibromochloromethane						20 U	20 U
1,2-Dibromoethane (EDB)	5					5 U	5 U
Chlorobenzene						50 U	50 U
1,1,1,2-Tetrachloroethane						50 U	50 U
Ethylbenzene	6000					50 U	50 U
Xylenes	9000					50 U	50 U
Styrene						50 U	50 U
Bromoform						50 U	50 U
Isopropylbenzene						50 U	50 U
1,2,3-Trichloropropane						50 U	50 U
Bromobenzene						50 U	50 U
1,1,2,2-Tetrachloroethane						50 U	50 U
n-Propylbenzene						50 U	50 U
2-Chlorotoluene						50 U	50 U
4-Chlorotoluene						50 U	50 U
1,3,5-Trimethylbenzene						50 U	50 U
tert-Butylbenzene						50 U	50 U
1,2,4-Trimethylbenzene						50 U	50 U
sec-Butylbenzene						50 U	50 U
1,3-Dichlorobenzene						50 U	50 U
Isopropyltoluene						50 U	50 U
1,4-Dichlorobenzene						50 U	50 U
1,2-Dichlorobenzene						50 U	50 U
n-Butylbenzene						50 U	50 U
1,2-Dibromo-3-Chloropropane						50 U	50 U
1,2,4-Trichlorobenzene						50 U	50 U
Hexachloro-1,3-butadiene						50 U	50 U
Naphthalene	5000					50 U	50 U
1,2,3-Trichlorobenzene						50 U	50 U

Notes
Detected concentrations are bolded.
Concentration that exceeds cleanup level is shaded.
U = Not detected at the reporting limit indicated
a. 30 mg/kg for gasoline mixtures with benzene.
100 mg/kg for gasoline mixtures without benzene.
b. 19 as chromium VI; 2000 as chromium III.

Jet Motel Property
SeaTac, Washington

Vicinity Map

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Figure
1

EAL 07/14/15 1915900-AB (VMap).mxd

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- Exploration
- Property boundary

110 55 0 110

Scale in Feet

N

Jet Motel Property
SeaTac, Washington

Site and Exploration Plan

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Figure 2

EAL 07/14/15 1915900-AC (SPlan).mxd

APPENDIX A
Field Exploration Methods and Exploration Logs

APPENDIX A
FIELD EXPLORATION METHODS AND EXPLORATION LOGS

This appendix describes the field exploration methods we used to advance explorations, collect soil samples, and field screen the soil for visible impacts, headspace vapor, and sheen. The exploration logs at the end of this appendix show our interpretation of the exploration sampling and testing data. The logs indicate the depth where the soils change. The change may be gradual. In the field, we classified the samples taken from the explorations according to the methods on Figure A-1 – Key to Exploration Logs. This figure also provides a legend explaining the symbols and abbreviations used in the logs.

Exploration Locations

The exploration locations were located and marked in the field by a Hart Crowser field representative. We contracted with a private utility-locating contractor to search for potential utilities at the proposed probe locations.

Direct Push Probes

12 push probe explorations (JM-SB-1 through JM-SB-12) were advanced on July 9, 2015, to depths of 10 to 15 feet below ground surface. The push probe explorations used a 2-inch-diameter probe and were advanced with a truck-mounted rig subcontracted by Hart Crowser. A field representative from Hart Crowser continuously observed the probing and collected the samples using a plastic sleeve sampler pushed by the push probe rig. Sample liners were made of heavy-duty clear acetate plastic for convenient inspection of the soil sample. Soil samples were generally collected at 5-foot depth intervals. Samples were classified in general accordance with ASTM D2488. Push probes JM-SB-1 through JM-SB-12 were screened for potential soil contamination. Detailed logs for each probe are on Figures A-2 through A-13 at the end of this appendix.

Soil Screening and Analysis

Field screening results were used as a general guideline to identify potential chemical constituents in soil samples. Soil samples were field screened for evidence of impacts related to petroleum and/or volatile organic compounds (VOCs) using (1) visual and olfactory observations, (2) sheen testing, and (3) headspace vapor screening using a MultiRAE photoionization detector (PID). Field screening results were site-specific. The effectiveness of field screening varies with temperature, moisture content, organic content, soil type, and age of constituents. Visual examination consists of inspecting the soil for stains indicative of impacts. Visual screening is generally more effective when impacts are related to heavy petroleum hydrocarbons, such as motor or hydraulic oil, or when hydrocarbon concentrations are high.

We tested for sheen by placing a small volume of soil in a pan of water and observing the water surface for signs of sheen. Sheens were classified as follows:

No sheen (NS)	No visible sheen on water surface.
Slight sheen (SS)	Light colorless film, spotty to globular; spread was irregular, not rapid, areas of no sheen remain, film dissipates rapidly.
Moderate sheen (MS)	Light to heavy film, may have some color or iridescence, globular to stringy, spread was irregular to flowing; few remaining areas of no sheen on water surface.
Heavy sheen (HS)	Heavy colorful film with iridescence; stringy, spread was rapid; sheen flows off the sample; most of the water surface might be covered with sheen.

Headspace vapor screening was used to indicate the presence of volatile organic vapors. It involved placing a 3- to 6-ounce soil sample in a pint-sized plastic sample bag. The plastic bag was shaken for several minutes to expose the soil sample to the air captured in the plastic bag headspace and volatilize any VOCs. The probe of the PID was inserted into the bag and the instrument measured the concentration of organic vapors in the bag headspace. The highest vapor reading was recorded for each sample. The PID measures concentrations in parts per million (ppm) and is calibrated to isobutylene. The PID is typically designed to quantify organic vapor concentrations in the range of 0 to 1,000 ppm. The presence (or absence) of a sheen or headspace vapors does not definitively determine whether petroleum hydrocarbons are present (or absent); positive results do indicate that further testing may be warranted. The results of field screening are on the exploration logs at the end of this appendix.

Sample Handling and Laboratory Analysis

Soil samples were collected for chemical analysis with clean disposable nitrile gloves and placed in pre-cleaned, laboratory-supplied sample containers. Soil and groundwater samples were delivered under chain of custody protocols to Advanced Analytical Laboratory of Redmond, Washington.

Investigation-Derived Waste Storage and Disposal

Soil cuttings generated during the push probe exploration activities were placed in a labeled 15-gallon drum and left on site, pending analysis of the soil and groundwater samples collected during the Environmental Site Assessment.

Key to Exploration Logs

Sample Description

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits and probes is estimated based on visual observation and is presented parenthetically on the logs.

SAND or GRAVEL Density	Standard Penetration Resistance (N) in Blows/Foot	SILT or CLAY Consistency	Standard Penetration Resistance (N) in Blows/Foot	Approximate Shear Strength in TSF
Very loose	0 to 4	Very soft	0 to 2	<0.125
Loose	4 to 10	Soft	2 to 4	0.125 to 0.25
Medium dense	10 to 30	Medium stiff	4 to 8	0.25 to 0.5
Dense	30 to 50	Stiff	8 to 15	0.5 to 1.0
Very dense	>50	Very stiff	15 to 30	1.0 to 2.0
		Hard	>30	>2.0

Sampling Test Symbols

- 1.5" I.D. Split Spoon
- Grab (Jar)
- 3.0" I.D. Split Spoon
- Shelby Tube (Pushed)
- Bag
- Cuttings
- Core Run

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE			GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

Moisture

Dry	Little perceptible moisture
Damp	Some perceptible moisture, likely below optimum
Moist	Likely near optimum moisture content
Wet	Much perceptible moisture, likely above optimum

Minor Constituents	Estimated Percentage
Trace	<5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Laboratory Test Symbols

GS	Grain Size Classification
CN	Consolidation
UU	Unconsolidated Undrained Triaxial
CU	Consolidated Undrained Triaxial
CD	Consolidated Drained Triaxial
QU	Unconfined Compression
DS	Direct Shear
K	Permeability
PP	Pocket Penetrometer Approximate Compressive Strength in TSF
TV	Torvane Approximate Shear Strength in TSF
CBR	California Bearing Ratio
MD	Moisture Density Relationship
AL	Atterberg Limits
	Water Content in Percent Liquid Limit Natural Plastic Limit
PID	Photoionization Detector Reading
CA	Chemical Analysis
DT	In Situ Density in PCF
OT	Tests by Others

Groundwater Indicators

- Groundwater Level on Date or (ATD) At Time of Drilling
- Groundwater Seepage (Test Pits)

Sample Key

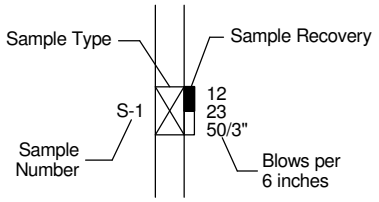

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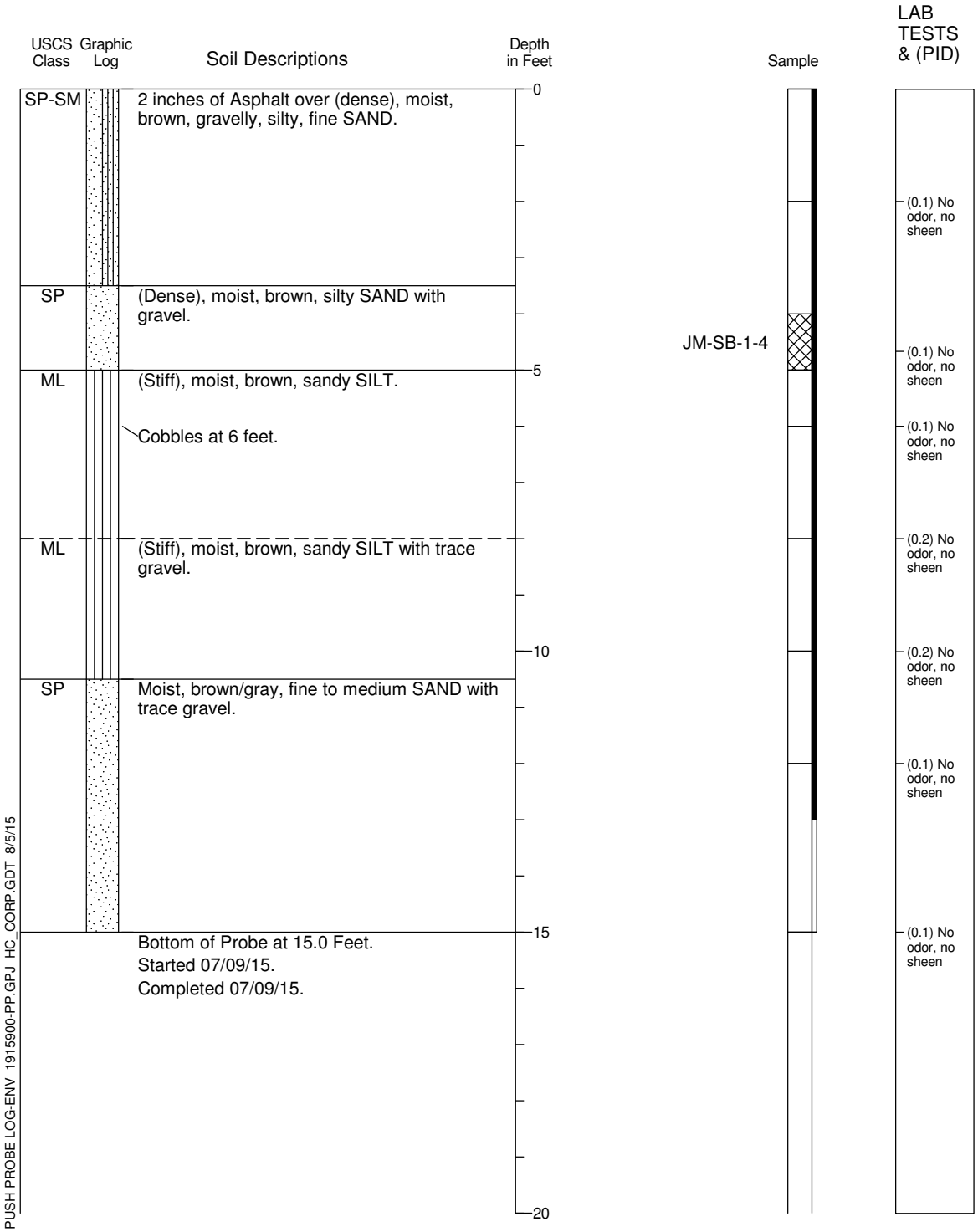
Figure A-1

KEY SHEET 1915900-PP.GPJ HC_CORP.GDT 7/27/15

Push Probe Log JM-SB-1

Location: Lat: 47.4483 Long: -122.29587
Approximate Ground Surface Elevation: 366 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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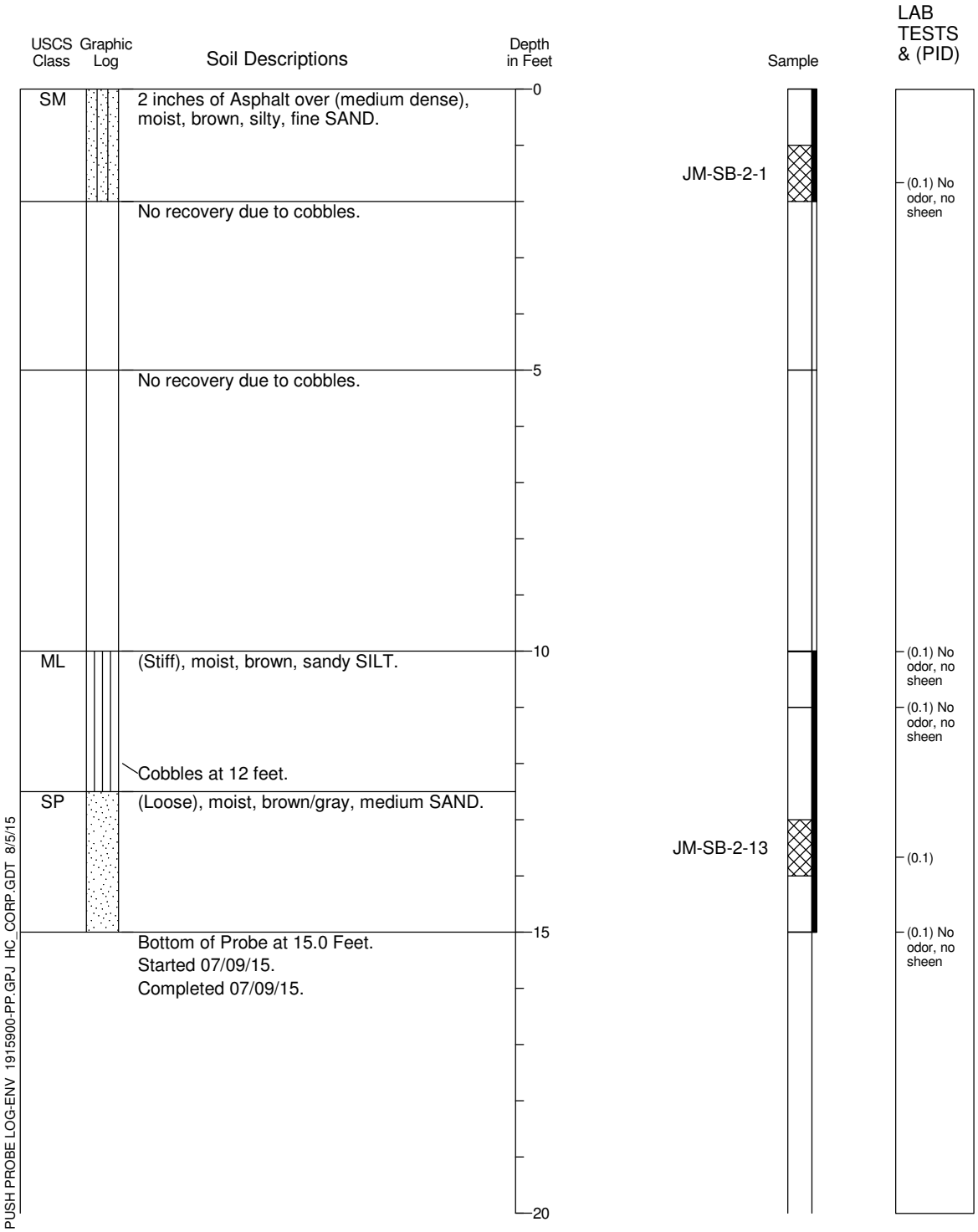
Figure A-2

Push Probe Log JM-SB-2

Location: Lat: 47.44818 Long: -122.29579
Approximate Ground Surface Elevation: 365 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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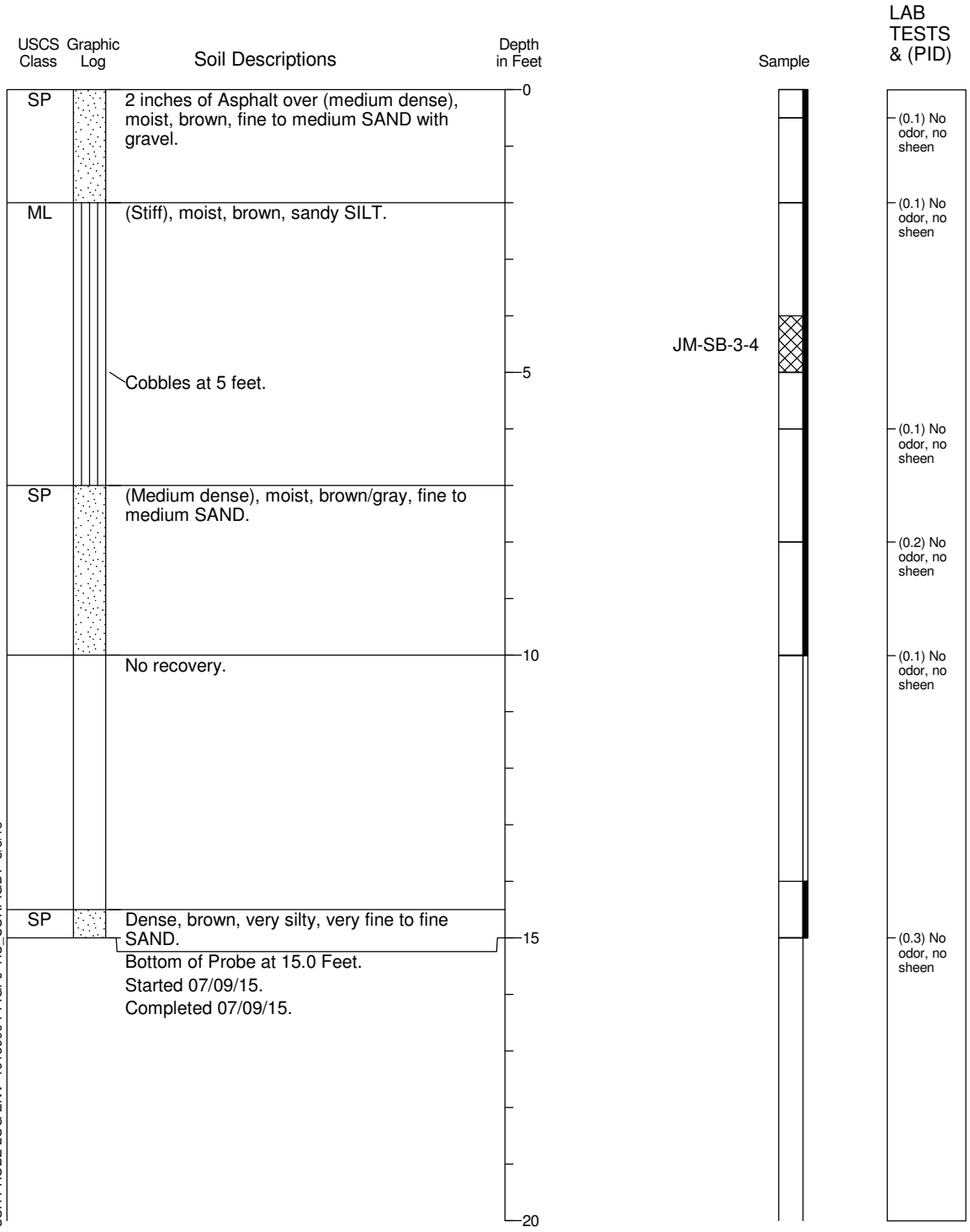
Figure A-3

Push Probe Log JM-SB-3

Location: Lat: 47.44835 Long: -122.29614
Approximate Ground Surface Elevation: 365 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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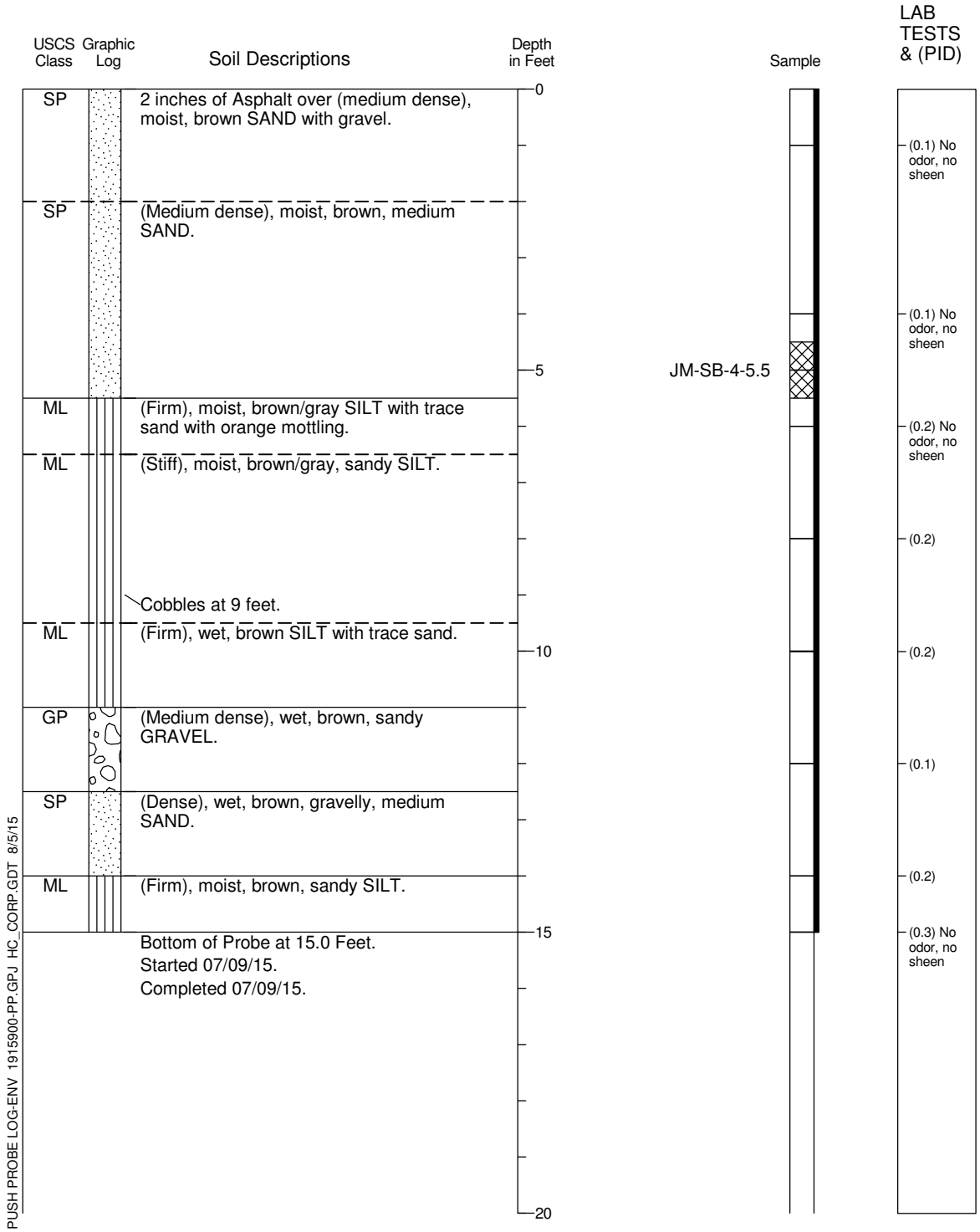
Figure A-4

Push Probe Log JM-SB-4

Location: Lat: 47.44817 Long: -122.29507
Approximate Ground Surface Elevation: 369 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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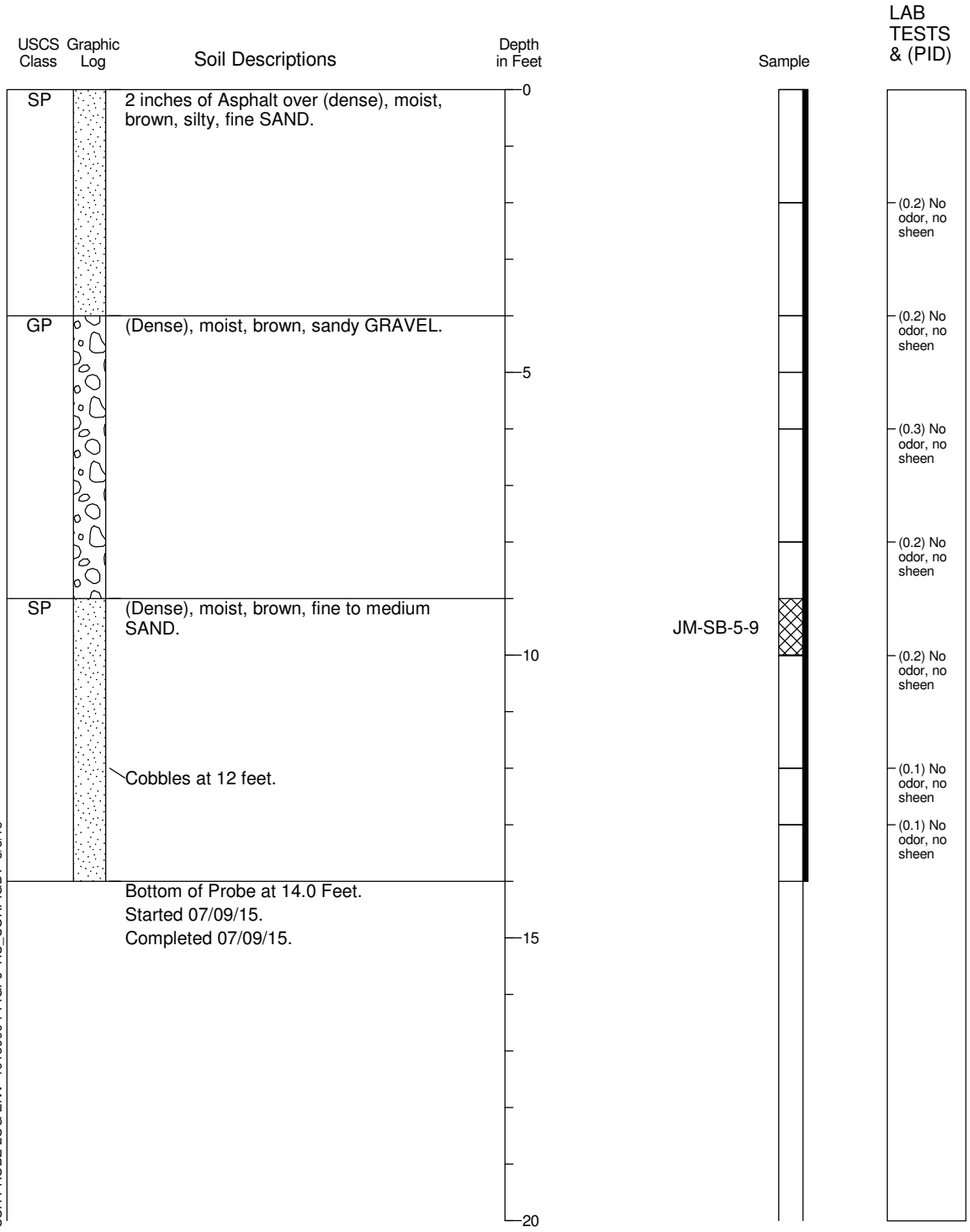
Figure A-5

Push Probe Log JM-SB-5

Location: Lat: 47.44793 Long: -122.29494
Approximate Ground Surface Elevation: 367 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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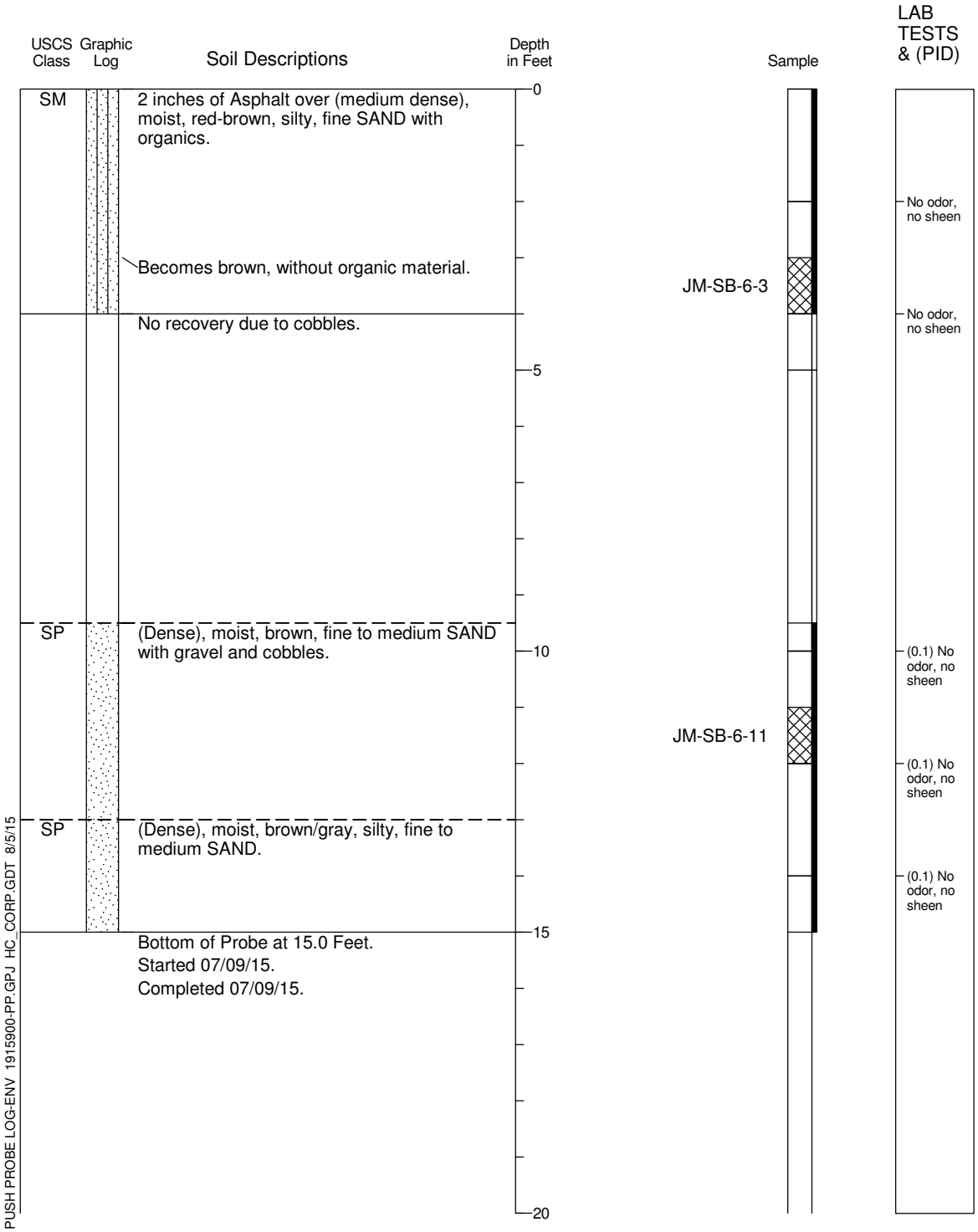
Figure A-6

Push Probe Log JM-SB-6

Location: Lat: 47.44783 Long: -122.29496
Approximate Ground Surface Elevation: 366 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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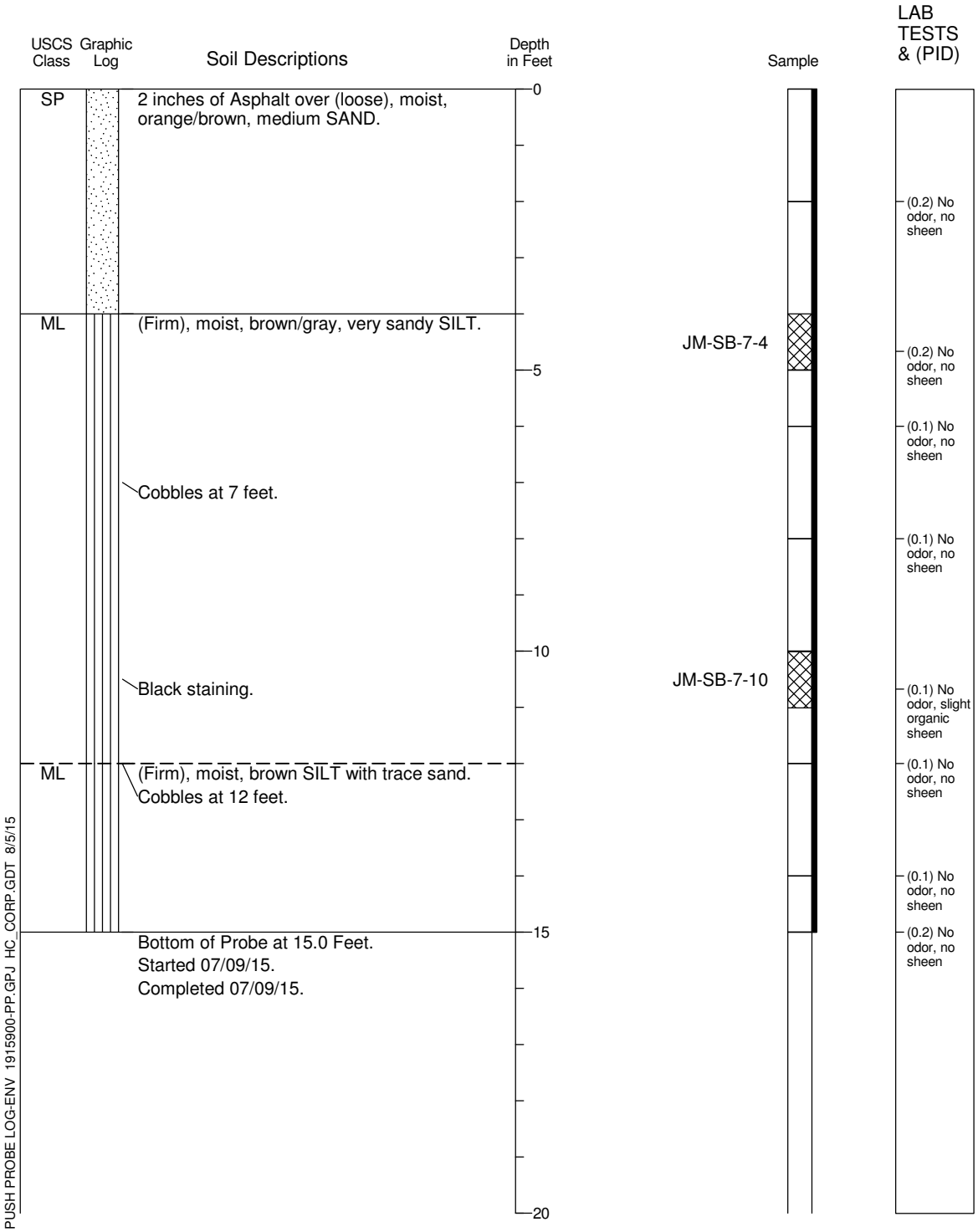
Figure A-7

Push Probe Log JM-SB-7

Location: Lat: 47.4478 Long: -122.29516
Approximate Ground Surface Elevation: 365 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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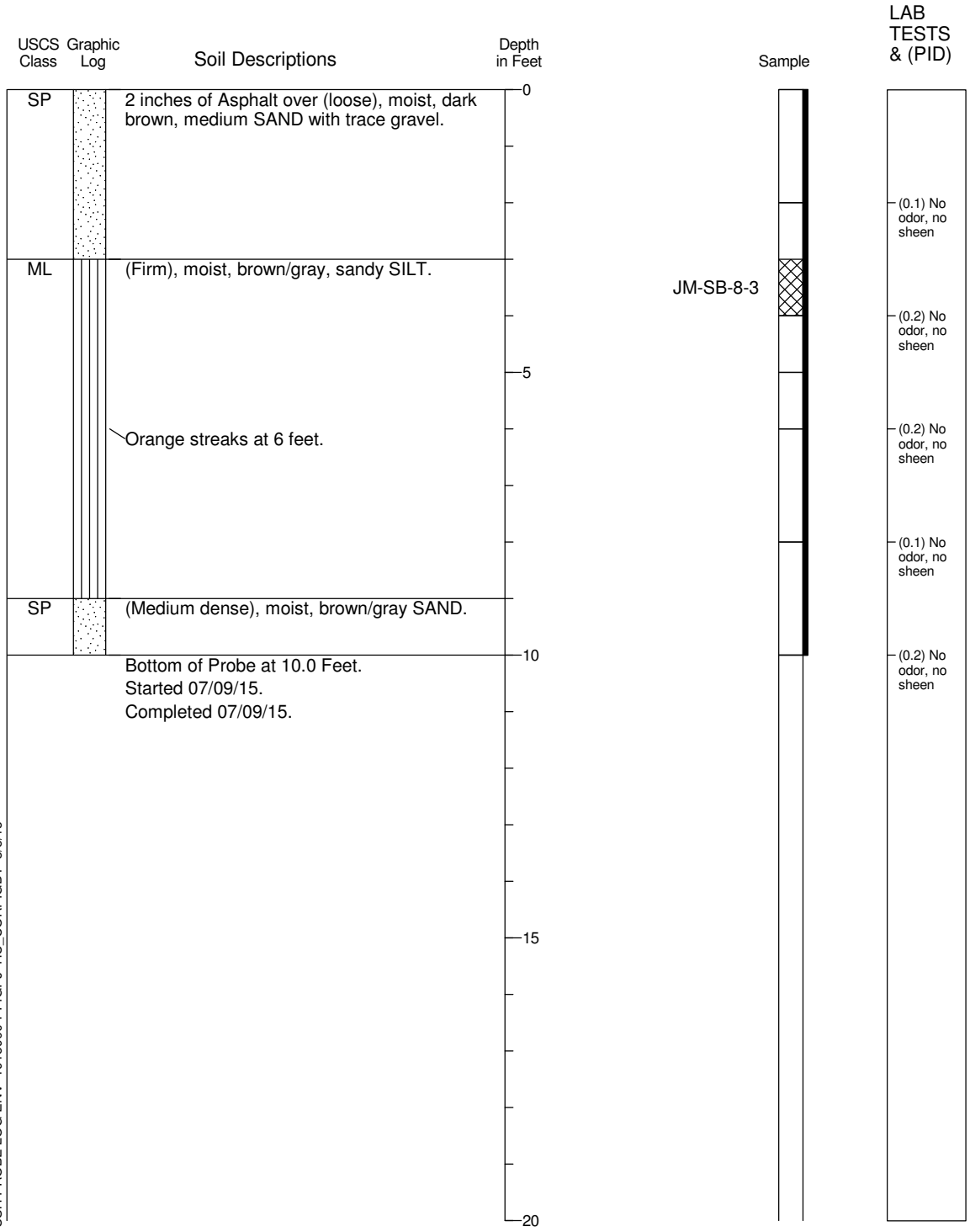
Figure A-8

Push Probe Log JM-SB-8

Location: Lat: 47.44785 Long: -122.29589
Approximate Ground Surface Elevation: 365 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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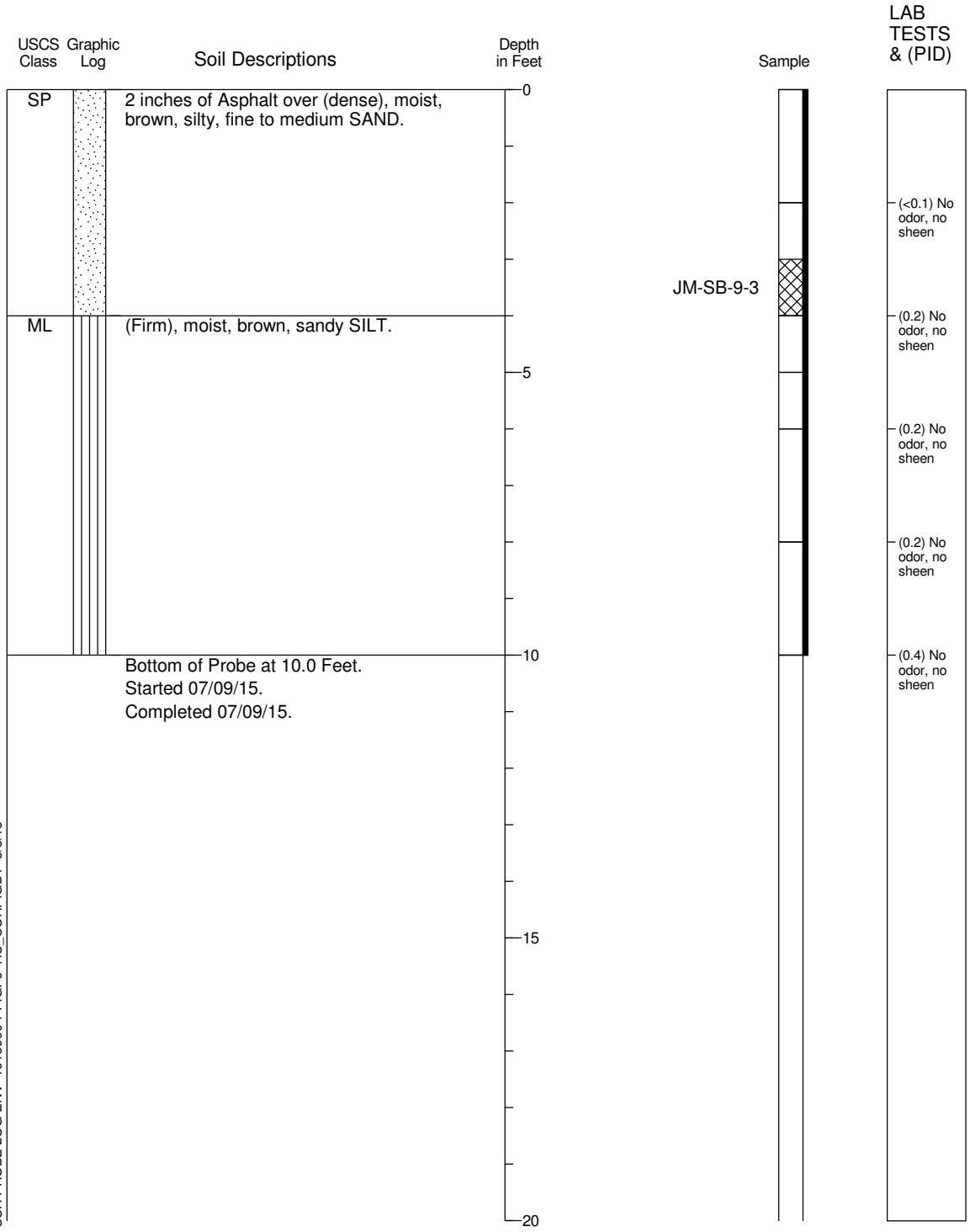
Figure A-9

Push Probe Log JM-SB-9

Location: Lat: 47.44783 Long: -122.29617
Approximate Ground Surface Elevation: 361 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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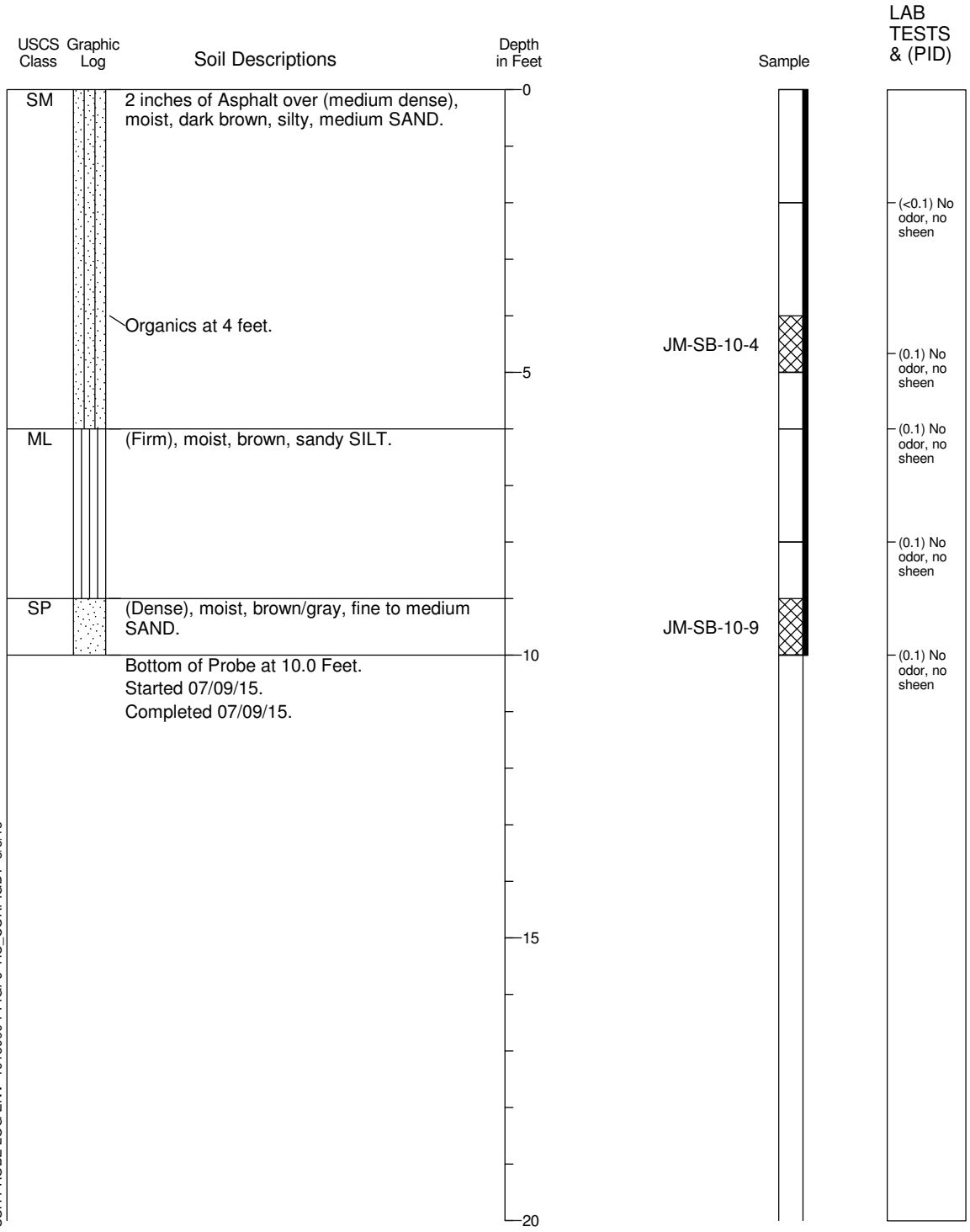
Figure A-10

Push Probe Log JM-SB-10

Location: Lat: 47.44847 Long: -122.2954
Approximate Ground Surface Elevation: 370 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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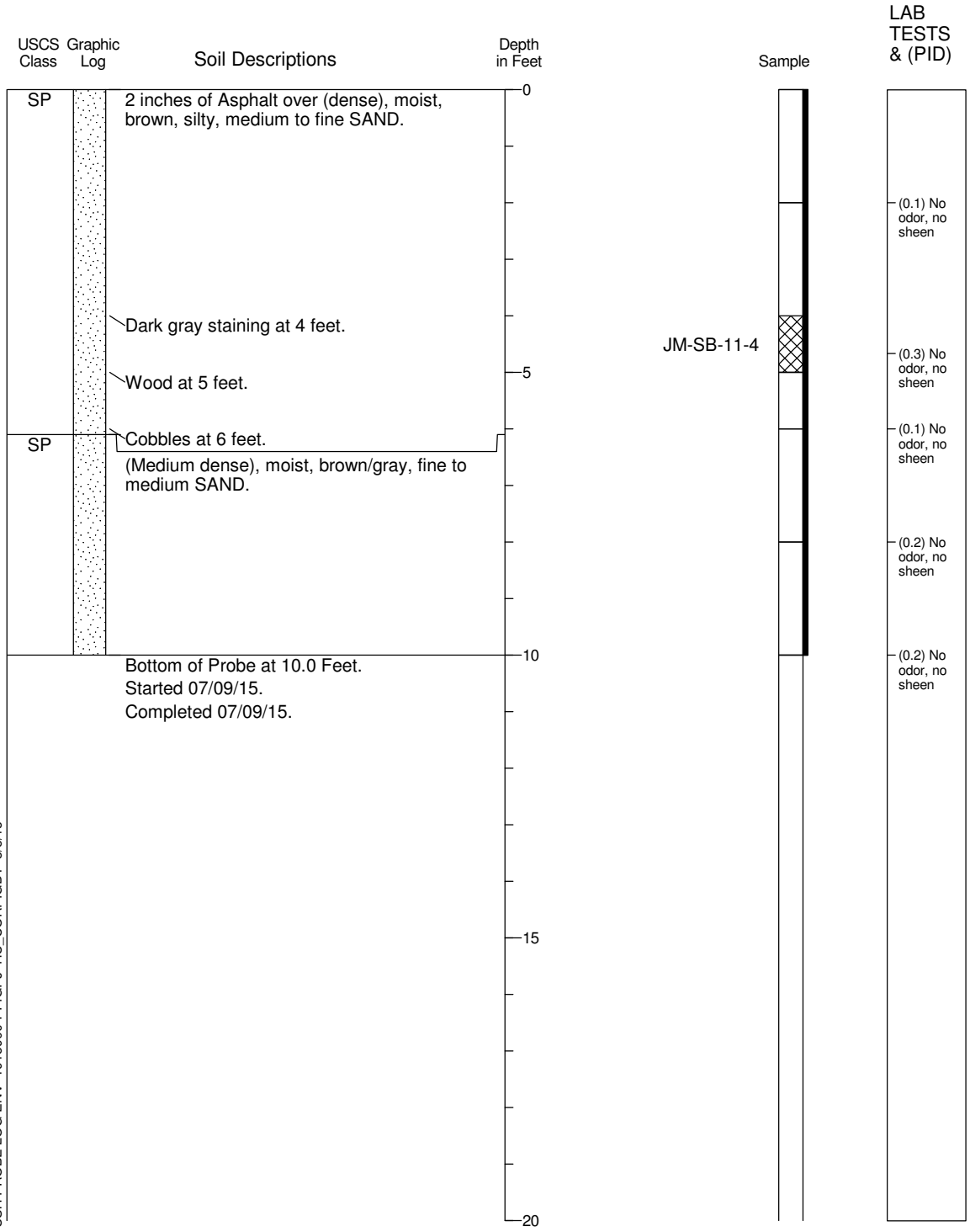
Figure A-11

Push Probe Log JM-SB-11

Location: Lat: 47.44862 Long: -122.29467
Approximate Ground Surface Elevation: 386 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



PUSH PROBE LOG-ENV 1915900-PP.GPJ HC_CORP.GDT 8/5/15

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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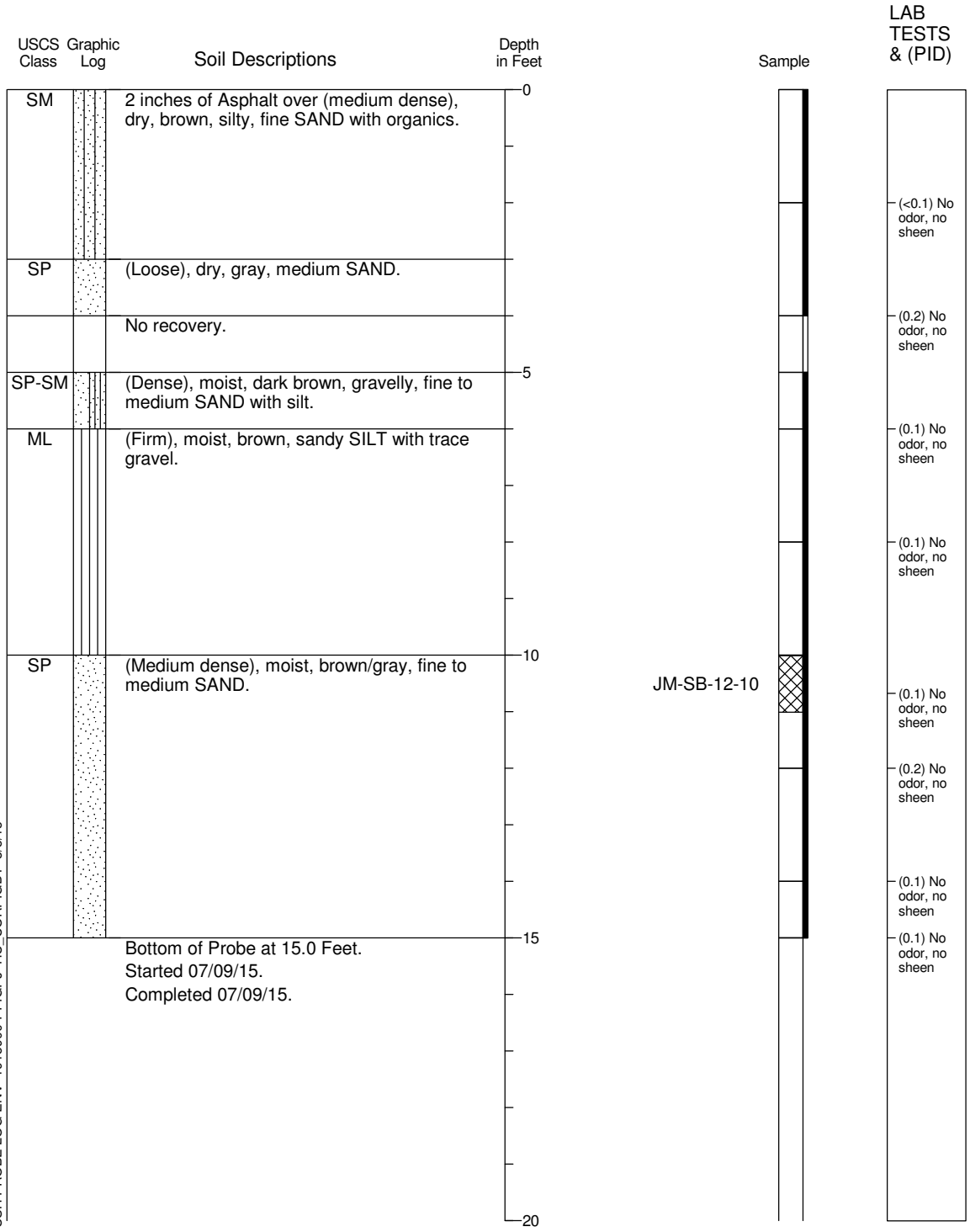
Figure A-12

Push Probe Log JM-SB-12

Location: Lat: 47.4488 Long: -122.29512
Approximate Ground Surface Elevation: 381 Feet
Horizontal Datum: WGS84
Vertical Datum: NAVD88

Drill Equipment: Direct Push
Sample Type: Continuous
Hole Diameter: 2 inches
Logged By: J. Green Reviewed By: N. Galvin



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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19159-00 ***7/15***

Figure A-13

APPENDIX B
Chemical Data Quality Review and Laboratory Report

APPENDIX B
CHEMICAL DATA QUALITY REVIEW AND LABORATORY REPORT

Chemical Data Quality Review

On July 9, 2015, 16 soil samples were collected. The samples were submitted to Advanced Analytical Laboratory in Bellevue, Washington, for chemical analysis.

Soil samples were analyzed for one or more of the following:

- Diesel- and heavy-oil-range organics by Washington State Department of Ecology (Ecology) method NWTPH-Dx;
- Gasoline-range organics by Ecology method NWTPH-Gx;
- Volatile organic compounds by EPA method 8260B;
- Total metals (arsenic, cadmium, chromium, and lead) by EPA Method 6010;
- Total mercury by EPA Method 7471; and
- Percent moisture.

The laboratory performed ongoing quality assurance/quality control (QA/QC) reviews. Hart Crowser reviewed summary reports to check that they met data quality objectives for the project and recorded the results on laboratory QC summary sheets.

The following criteria were evaluated during the standard data quality review process:

- Holding times;
- Reporting limits;
- Method blanks;
- Surrogate recoveries;
- Laboratory control samples (LCSs);
- Laboratory duplicate relative percent differences (RPDs); and
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries.

The data were determined to be acceptable for use without qualification; the complete laboratory report is at the end of this appendix. The data review is summarized below.

Sample Receiving Notes

The initial chain of custody (COC) placed soil samples JM-SB-2-13, JM-SB-6-11, and JM-SB-10-9 on hold with the laboratory. Additional COC changes were made by Jamalyn Green of Hart Crowser and submitted to the laboratory on July 14, 2015.

Soil Results

Diesel- and Heavy-Oil-Range Organics by NWTPH-Dx

Holding times and reporting limits were acceptable. No method blank contamination was detected. Surrogate recoveries were within laboratory control limits. No LCS or MS samples were included in this analysis. The laboratory duplicate results were not applicable because the sample results and the duplicate results were below the reporting limit.

Gasoline-Range Organics by NWTPH-Gx

Holding times and reporting limits were acceptable. No method blank contamination was detected. Surrogate recoveries were within laboratory control limits. No LCS or MS samples were included in this analysis. The laboratory duplicate results were not applicable because the sample results and the duplicate results were below the reporting limit.

VOCs by EPA 8260B

Holding times and reporting limits were acceptable. No method blank contamination was detected. Surrogate recoveries were within laboratory control limits. LCS or MS recoveries were within laboratory control limits.

Total Metals by Method 6010/7471

Holding times and reporting limits were acceptable. No method blank contamination was detected. LCS and MS recoveries were within laboratory control limits. The laboratory duplicate results and associated RPDs were within the laboratory control limits.

Percent Moisture

Holding times and reporting limits were acceptable.

Laboratory Report
Advanced Analytical Laboratory

ADVANCED ANALYTICAL

Environmental Testing Laboratory

July 22, 2015

Julie Wukelic
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109

Dear Ms. Wukelic:

Please find enclosed the analytical data report for the *Jet Motel - SeaTac, 19159-00* ***(B50710-4)*** Project.

Samples were received on *July 10, 2015*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

V. Ivanov

Val G. Ivanov, Ph.D.
Laboratory Manager

13256 NE 20th Street, Suite 8 ■ Bellevue, WA 98005
ph 425.747.7009
E-mail: aachemlab@yahoo.com

Advanced Analytical Laboratory
(425)497-0110, fax(425)497-8089

AAL Job Number:	B50710-4
Client:	Hart Crowser, Inc.
Project Manager:	Julie Wukelic, Jamalyn Green
Client Project Name:	Jet Motel - SeaTac
Client Project Number:	19159-00
Date received:	07/10/15

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number:	B50710-4
Client:	Hart Crowser, Inc.
Project Manager:	Julie Wukelic, Jamalyn Green
Client Project Name:	Jet Motel - SeaTac
Client Project Number:	19159-00
Date received:	07/10/15

Analytical Results

8260B, µg/kg		MTH BLK	LCS	JM-SB-1-4	JM-SB-4-5.5
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/15	07/10/15	07/10/15	07/10/15
Date analyzed	Limits	07/10/15	07/10/15	07/10/15	07/10/15
MTBE	100	nd		nd	nd
Dichlorodifluoromethane	50	nd		nd	nd
Chloromethane	50	nd		nd	nd
Vinyl chloride	50	nd		nd	nd
Bromomethane	50	nd		nd	nd
Chloroethane	50	nd		nd	nd
Trichlorofluoromethane	50	nd		nd	nd
1,1-Dichloroethene	50	nd		nd	nd
Methylene chloride	20	nd		nd	nd
trans-1,2-Dichloroethene	50	nd		nd	nd
1,1-Dichloroethane	50	nd		nd	nd
2,2-Dichloropropane	50	nd		nd	nd
cis-1,2-Dichloroethene	50	nd		nd	nd
Chloroform	50	nd		nd	nd
1,1,1-Trichloroethane	50	nd		nd	nd
Carbontetrachloride	50	nd		nd	nd
1,1-Dichloropropene	50	nd		nd	nd
Benzene	20	nd	104%	nd	nd
1,2-Dichloroethane(EDC)	20	nd		nd	nd
Trichloroethene	20	nd	101%	nd	nd
1,2-Dichloropropane	50	nd		nd	nd
Dibromomethane	50	nd		nd	nd
Bromodichloromethane	50	nd		nd	nd
cis-1,3-Dichloropropene	50	nd		nd	nd
Toluene	50	nd	104%	nd	nd
trans-1,3-Dichloropropene	50	nd		nd	nd
1,1,2-Trichloroethane	50	nd		nd	nd
Tetrachloroethene	50	nd		nd	nd
1,3-Dichloropropane	50	nd		nd	nd
Dibromochloromethane	20	nd		nd	nd
1,2-Dibromoethane (EDB)*	5	nd		nd	nd
Chlorobenzene	50	nd	111%	nd	nd
1,1,1,2-Tetrachloroethane	50	nd		nd	nd
Ethylbenzene	50	nd		nd	nd
Xylenes	50	nd		nd	nd
Styrene	50	nd		nd	nd
Bromoform	50	nd		nd	nd
Isopropylbenzene	50	nd		nd	nd
1,2,3-Trichloropropane	50	nd		nd	nd
Bromobenzene	50	nd		nd	nd
1,1,2,2-Tetrachloroethane	50	nd		nd	nd
n-Propylbenzene	50	nd		nd	nd
2-Chlorotoluene	50	nd		nd	nd
4-Chlorotoluene	50	nd		nd	nd
1,3,5-Trimethylbenzene	50	nd		nd	nd
tert-Butylbenzene	50	nd		nd	nd

Advanced Analytical Laboratory
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AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

8260B, µg/kg		MTH BLK	LCS	JM-SB-1-4	JM-SB-4-5.5
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/15	07/10/15	07/10/15	07/10/15
Date analyzed	Limits	07/10/15	07/10/15	07/10/15	07/10/15
1,2,4-Trimethylbenzene	50	nd		nd	nd
sec-Butylbenzene	50	nd		nd	nd
1,3-Dichlorobenzene	50	nd		nd	nd
Isopropyltoluene	50	nd		nd	nd
1,4-Dichlorobenzene	50	nd		nd	nd
1,2-Dichlorobenzene	50	nd		nd	nd
n-Butylbenzene	50	nd		nd	nd
1,2-Dibromo-3-Chloropropane	50	nd		nd	nd
1,2,4-Trichlorobenzene	50	nd		nd	nd
Hexachloro-1,3-butadiene	50	nd		nd	nd
Naphthalene	50	nd		nd	nd
1,2,3-Trichlorobenzene	50	nd		nd	nd

*-instrument detection limits

Surrogate recoveries					
Dibromofluoromethane		99%	104%	89%	107%
Toluene-d8		93%	96%	81%	105%
1,2-Dichloroethane-d4		102%	106%	94%	94%
4-Bromofluorobenzene		120%	106%	101%	95%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
M-matrix interference
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
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AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results			MS	MSD
8260B, µg/kg		**JM-SB-12-10**	**JM-SB-12-10**	**JM-SB-12-10**
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/15	07/10/15	07/10/15
Date analyzed	Limits	07/10/15	07/10/15	07/10/15
MTBE	100	nd		
Dichlorodifluoromethane	50	nd		
Chloromethane	50	nd		
Vinyl chloride	50	nd		
Bromomethane	50	nd		
Chloroethane	50	nd		
Trichlorofluoromethane	50	nd		
1,1-Dichloroethene	50	nd		
Methylene chloride	20	nd		
trans-1,2-Dichloroethene	50	nd		
1,1-Dichloroethane	50	nd		
2,2-Dichloropropane	50	nd		
cis-1,2-Dichloroethene	50	nd		
Chloroform	50	nd		
1,1,1-Trichloroethane	50	nd		
Carbontetrachloride	50	nd		
1,1-Dichloropropene	50	nd		
Benzene	20	nd	109%	101%
1,2-Dichloroethane(EDC)	20	nd		
Trichloroethene	20	nd	107%	100%
1,2-Dichloropropane	50	nd		
Dibromomethane	50	nd		
Bromodichloromethane	50	nd		
cis-1,3-Dichloropropene	50	nd		
Toluene	50	nd	112%	96%
trans-1,3-Dichloropropene	50	nd		
1,1,2-Trichloroethane	50	nd		
Tetrachloroethene	50	nd		
1,3-Dichloropropane	50	nd		
Dibromochloromethane	20	nd		
1,2-Dibromoethane (EDB)*	5	nd		
Chlorobenzene	50	nd	121%	110%
1,1,1,2-Tetrachloroethane	50	nd		
Ethylbenzene	50	nd		
Xylenes	50	nd		
Styrene	50	nd		
Bromoform	50	nd		
Isopropylbenzene	50	nd		
1,2,3-Trichloropropane	50	nd		
Bromobenzene	50	nd		
1,1,2,2-Tetrachloroethane	50	nd		
n-Propylbenzene	50	nd		
2-Chlorotoluene	50	nd		
4-Chlorotoluene	50	nd		
1,3,5-Trimethylbenzene	50	nd		
tert-Butylbenzene	50	nd		

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AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results			MS	MSD
8260B, µg/kg		**JM-SB-12-10**	**JM-SB-12-10**	**JM-SB-12-10**
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/15	07/10/15	07/10/15
Date analyzed	Limits	07/10/15	07/10/15	07/10/15
1,2,4-Trimethylbenzene	50	nd		
sec-Butylbenzene	50	nd		
1,3-Dichlorobenzene	50	nd		
Isopropyltoluene	50	nd		
1,4-Dichlorobenzene	50	nd		
1,2-Dichlorobenzene	50	nd		
n-Butylbenzene	50	nd		
1,2-Dibromo-3-Chloropropane	50	nd		
1,2,4-Trichlorobenzene	50	nd		
Hexachloro-1,3-butadiene	50	nd		
Naphthalene	50	nd		
1,2,3-Trichlorobenzene	50	nd		
*-instrument detection limits				
Surrogate recoveries				
Dibromofluoromethane		112%	99%	99%
Toluene-d8		101%	97%	97%
1,2-Dichloroethane-d4		102%	105%	91%
4-Bromofluorobenzene		97%	95%	97%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
M-matrix interference
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
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AAL Job Number:	B50710-4
Client:	Hart Crowser, Inc.
Project Manager:	Julie Wukelic, Jamalyn Green
Client Project Name:	Jet Motel - SeaTac
Client Project Number:	19159-00
Date received:	07/10/15

Analytical Results

8260B, µg/kg		JM-SB-12-10	RPD	MTH BLK	LCS	JM-SB-2-13
Matrix	Soil	Soil		Soil	Soil	Soil
Date extracted	Reporting	07/10/15		07/14/15	07/14/15	07/14/15
Date analyzed	Limits	07/10/15		07/14/15	07/14/15	07/14/15
MTBE	100			nd		nd
Dichlorodifluoromethane	50			nd		nd
Chloromethane	50			nd		nd
Vinyl chloride	50			nd		nd
Bromomethane	50			nd		nd
Chloroethane	50			nd		nd
Trichlorofluoromethane	50			nd		nd
1,1-Dichloroethene	50			nd		nd
Methylene chloride	20			nd		nd
trans-1,2-Dichloroethene	50			nd		nd
1,1-Dichloroethane	50			nd		nd
2,2-Dichloropropane	50			nd		nd
cis-1,2-Dichloroethene	50			nd		nd
Chloroform	50			nd		nd
1,1,1-Trichloroethane	50			nd		nd
Carbontetrachloride	50			nd		nd
1,1-Dichloropropene	50			nd		nd
Benzene	20		7%	nd	87%	nd
1,2-Dichloroethane(EDC)	20			nd		nd
Trichloroethene	20		7%	nd	85%	nd
1,2-Dichloropropane	50			nd		nd
Dibromomethane	50			nd		nd
Bromodichloromethane	50			nd		nd
cis-1,3-Dichloropropene	50			nd		nd
Toluene	50		15%	nd	91%	nd
trans-1,3-Dichloropropene	50			nd		nd
1,1,2-Trichloroethane	50			nd		nd
Tetrachloroethene	50			nd		nd
1,3-Dichloropropane	50			nd		nd
Dibromochloromethane	20			nd		nd
1,2-Dibromoethane (EDB)*	5			nd		nd
Chlorobenzene	50		10%	nd	101%	nd
1,1,1,2-Tetrachloroethane	50			nd		nd
Ethylbenzene	50			nd		nd
Xylenes	50			nd		nd
Styrene	50			nd		nd
Bromoform	50			nd		nd
Isopropylbenzene	50			nd		nd
1,2,3-Trichloropropane	50			nd		nd
Bromobenzene	50			nd		nd
1,1,2,2-Tetrachloroethane	50			nd		nd
n-Propylbenzene	50			nd		nd
2-Chlorotoluene	50			nd		nd
4-Chlorotoluene	50			nd		nd
1,3,5-Trimethylbenzene	50			nd		nd
tert-Butylbenzene	50			nd		nd

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AAL Job Number: B50710-4
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Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

8260B, µg/kg		JM-SB-12-10	MTH BLK	RPD LCS	JM-SB-2-13
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/15	07/14/15	07/14/15	07/14/15
Date analyzed	Limits	07/10/15	07/14/15	07/14/15	07/14/15
1,2,4-Trimethylbenzene	50		nd		nd
sec-Butylbenzene	50		nd		nd
1,3-Dichlorobenzene	50		nd		nd
Isopropyltoluene	50		nd		nd
1,4-Dichlorobenzene	50		nd		nd
1,2-Dichlorobenzene	50		nd		nd
n-Butylbenzene	50		nd		nd
1,2-Dibromo-3-Chloropropane	50		nd		nd
1,2,4-Trichlorobenzene	50		nd		nd
Hexachloro-1,3-butadiene	50		nd		nd
Naphthalene	50		nd		nd
1,2,3-Trichlorobenzene	50		nd		nd

*-instrument detection limits

Surrogate recoveries					
Dibromofluoromethane			97%	96%	86%
Toluene-d8			109%	113%	107%
1,2-Dichloroethane-d4			123%	123%	120%
4-Bromofluorobenzene			106%	104%	93%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
M-matrix interference
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
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AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

8260B, µg/kg		JM-SB-7-10	JM-SB-11-4
Matrix	Soil	Soil	Soil
Date extracted	Reporting	07/14/15	07/14/15
Date analyzed	Limits	07/14/15	07/14/15
MTBE	100	nd	nd
Dichlorodifluoromethane	50	nd	nd
Chloromethane	50	nd	nd
Vinyl chloride	50	nd	nd
Bromomethane	50	nd	nd
Chloroethane	50	nd	nd
Trichlorofluoromethane	50	nd	nd
1,1-Dichloroethene	50	nd	nd
Methylene chloride	20	nd	nd
trans-1,2-Dichloroethene	50	nd	nd
1,1-Dichloroethane	50	nd	nd
2,2-Dichloropropane	50	nd	nd
cis-1,2-Dichloroethene	50	nd	nd
Chloroform	50	nd	nd
1,1,1-Trichloroethane	50	nd	nd
Carbontetrachloride	50	nd	nd
1,1-Dichloropropene	50	nd	nd
Benzene	20	nd	nd
1,2-Dichloroethane(EDC)	20	nd	nd
Trichloroethene	20	nd	nd
1,2-Dichloropropane	50	nd	nd
Dibromomethane	50	nd	nd
Bromodichloromethane	50	nd	nd
cis-1,3-Dichloropropene	50	nd	nd
Toluene	50	nd	nd
trans-1,3-Dichloropropene	50	nd	nd
1,1,2-Trichloroethane	50	nd	nd
Tetrachloroethene	50	nd	nd
1,3-Dichloropropane	50	nd	nd
Dibromochloromethane	20	nd	nd
1,2-Dibromoethane (EDB)*	5	nd	nd
Chlorobenzene	50	nd	nd
1,1,1,2-Tetrachloroethane	50	nd	nd
Ethylbenzene	50	nd	nd
Xylenes	50	nd	nd
Styrene	50	nd	nd
Bromoform	50	nd	nd
Isopropylbenzene	50	nd	nd
1,2,3-Trichloropropane	50	nd	nd
Bromobenzene	50	nd	nd
1,1,2,2-Tetrachloroethane	50	nd	nd
n-Propylbenzene	50	nd	nd
2-Chlorotoluene	50	nd	nd
4-Chlorotoluene	50	nd	nd
1,3,5-Trimethylbenzene	50	nd	nd
tert-Butylbenzene	50	nd	nd

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AAL Job Number:	B50710-4
Client:	Hart Crowser, Inc.
Project Manager:	Julie Wukelic, Jamalyn Green
Client Project Name:	Jet Motel - SeaTac
Client Project Number:	19159-00
Date received:	07/10/15

Analytical Results

8260B, µg/kg		JM-SB-7-10	JM-SB-11-4
Matrix	Soil	Soil	Soil
Date extracted	Reporting	07/14/15	07/14/15
Date analyzed	Limits	07/14/15	07/14/15
1,2,4-Trimethylbenzene	50	nd	nd
sec-Butylbenzene	50	nd	nd
1,3-Dichlorobenzene	50	nd	nd
Isopropyltoluene	50	nd	nd
1,4-Dichlorobenzene	50	nd	nd
1,2-Dichlorobenzene	50	nd	nd
n-Butylbenzene	50	nd	nd
1,2-Dibromo-3-Chloropropane	50	nd	nd
1,2,4-Trichlorobenzene	50	nd	nd
Hexachloro-1,3-butadiene	50	nd	nd
Naphthalene	50	nd	nd
1,2,3-Trichlorobenzene	50	nd	nd

*-instrument detection limits

Surrogate recoveries			
Dibromofluoromethane		95%	92%
Toluene-d8		96%	97%
1,2-Dichloroethane-d4		124%	126%
4-Bromofluorobenzene		99%	99%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
M-matrix interference
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

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AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
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Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

NWTPH-Gx		MTH BLK	JM-SB-7-10	JM-SB-12-10	JM-SB-12-10 Dupl
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/16/15	07/16/15	07/16/15	07/16/15
Date analyzed	Limits	07/16/15	07/16/15	07/16/15	07/16/15
NWTPH-Gx, mg/kg					
Mineral spirits/Stoddard	5.0	nd	nd	nd	nd
Gasoline	5.0	nd	nd	nd	nd
Surrogate recoveries:					
Trifluorotoluene		98%	90%	93%	92%
Bromofluorobenzene		102%	101%	100%	103%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
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AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	JM-SB-3-4	JM-SB-5-9	JM-SB-6-3
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/13/15	07/13/15	07/13/15	07/13/15
Date analyzed	Limits	07/13/15	07/13/15	07/13/15	07/13/15
Kerosene/Jet fuel	20	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd
Heavy oil	50	nd	nd	nd	nd
Surrogate recoveries:					
Fluorobiphenyl		125%	122%	118%	119%
o-Terphenyl		122%	120%	118%	113%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

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AAL Job Number: B50710-4
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Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

NWTPH-Dx, mg/kg		JM-SB-7-4	JM-SB-7-10	JM-SB-8-3	JM-SB-9-3
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/13/15	07/13/15	07/13/15	07/13/15
Date analyzed	Limits	07/13/15	07/13/15	07/13/15	07/13/15
Kerosene/Jet fuel	20	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd
Heavy oil	50	nd	2,100	nd	nd
Surrogate recoveries:					
Fluorobiphenyl		120%	117%	115%	117%
o-Terphenyl		117%	124%	123%	126%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

NWTPH-Dx, mg/kg		JM-SB-11-4	JM-SB-12-10	Dupl JM-SB-12-10	MTH BLK
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/13/15	07/13/15	07/13/15	07/16/15
Date analyzed	Limits	07/13/15	07/13/15	07/13/15	07/16/15
Kerosene/Jet fuel	20	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd
Heavy oil	50	850	nd	nd	nd
Surrogate recoveries:					
Fluorobiphenyl		117%	122%	119%	96%
o-Terphenyl		125%	128%	127%	95%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

NWTPH-Dx, mg/kg		JM-SB-6-11	JM-SB-10-9	JM-SB-10-9 Dupl
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/16/15	07/16/15	07/16/15
Date analyzed	Limits	07/16/15	07/16/15	07/16/15
Kerosene/Jet fuel	20	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd
Heavy oil	50	nd	nd	nd
Surrogate recoveries:				
Fluorobiphenyl		107%	111%	104%
o-Terphenyl		93%	97%	102%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
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Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

Metals (7010/7471), mg/kg		MTH BLK	LCS	JM-SB-3-4	JM-SB-12-10	Dupl JM-SB-12-10
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/15	07/10/15	07/10/15	07/10/15	07/10/15
Date analyzed	Limits	07/10/15	07/10/15	07/10/15	07/10/15	07/10/15
Lead (Pb)	1.0	nd	100%	nd	nd	nd
Chromium (Cr)	2.0	nd	101%	nd	nd	nd
Cadmium (Cd)	1.0	nd	85%	nd	nd	nd
Arsenic (As)	1.0	nd	95%	nd	nd	nd
Mercury (Hg) (7471)	0.5	nd	101%	nd	nd	nd

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
M- matrix interference
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

		MS				
Metals (7010/7471), mg/kg		**JM-SB-12-10**	**MTH BLK**	**LCS**	**JM-SB-7-10**	**JM-SB-11-4**
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/15	07/15/15	07/15/15	07/15/15	07/15/15
Date analyzed	Limits	07/10/15	07/15/15	07/15/15	07/15/15	07/15/15
Lead (Pb)	1.0	86%	nd	95%	1.5	3.4
Chromium (Cr)	2.0	112%	nd	95%	25	4.5
Cadmium (Cd)	1.0	107%	nd	85%	nd	nd
Arsenic (As)	1.0	100%	nd	83%	nd	nd
Mercury (Hg) (7471)	0.5	106%	nd	92%	nd	nd

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
M- matrix interference
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

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(425) 497-0110, fax (425) 497-8089

AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results		Dupl	RPD	MS
Metals (7010/7471), mg/kg		**JM-SB-11-4**	**JM-SB-11-4**	**JM-SB-11-4**
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/15/15	07/15/15	07/15/15
Date analyzed	Limits	07/15/15	07/15/15	07/15/15
Lead (Pb)	1.0	3.5	3%	92%
Chromium (Cr)	2.0	3.9	14%	79%
Cadmium (Cd)	1.0	nd		77%
Arsenic (As)	1.0	nd		76%
Mercury (Hg) (7471)	0.5	nd		74%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
M- matrix interference
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

Moisture, SM2540B	JM-SB-1-4	JM-SB-2-1	JM-SB-3-4	JM-SB-4-5.5
Matrix	Soil	Soil	Soil	Soil
Date analyzed	07/13/15	07/13/15	07/13/15	07/13/15
Moisture, %	10%	14%	11%	10%

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Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

Moisture, SM2540B	JM-SB-5-9	JM-SB-6-3	JM-SB-7-4	JM-SB-7-10	JM-SB-8-3
Matrix	Soil	Soil	Soil	Soil	Soil
Date analyzed	07/13/15	07/13/15	07/13/15	07/13/15	07/13/15
Moisture, %	16%	11%	11%	16%	16%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

Moisture, SM2540B	JM-SB-9-3	JM-SB-10-4	JM-SB-11-4	JM-SB-12-10
Matrix	Soil	Soil	Soil	Soil
Date analyzed	07/13/15	07/13/15	07/13/15	07/13/15
Moisture, %	11%	13%	15%	11%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: B50710-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic, Jamalyn Green
Client Project Name: Jet Motel - SeaTac
Client Project Number: 19159-00
Date received: 07/10/15

Analytical Results

Moisture, SM2540B	JM-SB-6-11	JM-SB-10-9
Matrix	Soil	Soil
Date analyzed	07/16/15	07/16/15
Moisture, %	10%	14%

Sample Custody Record

1 of 2

B50710-4 (1) - Original

Samples Shipped to: _____

HARTCROWSER

Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, Washington 98109-6212
Office: 206.324.9530 • **Fax** 206.328.5581

JOB 19159-00 LAB NUMBER AAL

PROJECT NAME Jet Motel - SeaTac

HART CROWSER CONTACT Julie Wukelic

SAMPLED BY: Jamalyn Green

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	REQUESTED ANALYSIS: TPH-Dx	TPH-Gx	VOCs 8260	MTCA 5 Metals	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
	JM-SB-1	-4	7/9/15	0930	Soil			X		2	1 VOA, 1 4oz jar
	JM-SB-2	-1		1005				X		2	
	JM-SB-2	-13		1010						2	HOLD
	JM-SB-3	-4		1050		X	X	X	X	2	
	JM-SB-4	-5.5		1145		X		X		2	
	JM-SB-5	-9		1225		X				2	
	JM-SB-6	-3		1310		X	X	X	X	2	
	JM-SB-6	-11		1338						2	HOLD
	JM-SB-7	-4		1400		X				2	
	JM-SB-7	-10		1420		X				2	
	JM-SB-8	-3		1458		X				2	
	JM-SB-9	-3		1522		X				2	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE: Jamalyn Green	7/10/15	SIGNATURE: V Ivanov	07/10/15
PRINT NAME: Jamalyn Green	TIME	PRINT NAME: PAL Ivanov	TIME
COMPANY: Hart Crowser	1200	COMPANY: AAL	14 00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE	TIME	SIGNATURE	TIME
PRINT NAME		PRINT NAME	
COMPANY		COMPANY	

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:
cc jamalyn.green@hartcrowser.com

TOTAL NUMBER OF CONTAINERS

SAMPLE RECEIPT INFORMATION
CUSTODY SEALS: ☐YES ☐NO ☐N/A
GOOD CONDITION ☐YES ☐NO
TEMPERATURE _____
SHIPMENT METHOD: ☐HAND ☐COURIER ☐OVERNIGHT

COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. _____ for Other Contract Requirements

TURNAROUND TIME:
☐ 24 HOURS ☐ 1 WEEK
☐48 HOURS ☒STANDARD
☐72 HOURS OTHER _____

White and Yellow Copies to Lab Pink to Project Manager Lab to Return White Copy to Hart Crowser Gold to Sample Custodian

Sample Custody Record

1 of 2

B50710-4 (2) - Original

Samples Shipped to: _____

HARTCROWSER

Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, Washington 98109-6212
Office: 206.324.9530 • **Fax** 206.328.5581

JOB 19159-00 LAB NUMBER AAL

PROJECT NAME Jet Motel - SeaTac

HART CROWSER CONTACT Julie Wukelic

Jamalyn Green

SAMPLED BY:

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	REQUESTED ANALYSIS: TPH-Dx	TPH-Gx	VOCs 8260	MTCA 5 Metals	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
	JM-SB-10-4		7/9/15	1612	SOIL	X				2	1 VOA, 1 4oz jar
	JM-SB-10-9			1615						2	HOLD
	JM-SB-11-4			1635		X				2	
	JM-SB-12-10			1700		X	X	X	X	2	

7/10/15

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Jamalyn Green	7/10/15	V Ivanov	07/10/15
SIGNATURE	TIME	SIGNATURE	TIME
Jamalyn Green	1200	VAL IVANOV	14 00
PRINT NAME		PRINT NAME	
HART CROWSER		AAL	
COMPANY		COMPANY	
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE	TIME	SIGNATURE	TIME
PRINT NAME		PRINT NAME	
COMPANY		COMPANY	

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:

cc jamalyn.green@hartcrowser.com

TOTAL NUMBER OF CONTAINERS

SAMPLE RECEIPT INFORMATION

CUSTODY SEALS: ☐YES ☐NO ☐N/A

GOOD CONDITION ☐YES ☐NO

TEMPERATURE _____

SHIPMENT METHOD: ☐HAND ☐COURIER ☐OVERNIGHT

COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. _____ for Other Contract Requirements

TURNAROUND TIME:

☐ 24 HOURS ☐ 1 WEEK

☐48 HOURS ☒STANDARD

☐72 HOURS OTHER _____

White and Yellow Copies to Lab Pink to Project Manager Lab to Return White Copy to Hart Crowser Gold to Sample Custodian

Sample Custody Record

BSU710-4 (1) – Revised

Samples Shipped to: _____

HART CROWSER

Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, Washington 98109-6212
Office: 206.324.9530 • Fax 206.328.5581

JOB 19159-00 LAB NUMBER AAL

PROJECT NAME Jet Motel - SeaTac

HART CROWSER CONTACT Julie Wukelic

SAMPLED BY: Jamalyn Green

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	REQUESTED ANALYSIS: TPH-Dx	TPH-Gx	VOCs 8260	MTCA 5 Metals	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
	Jm-SB-1-4		7/9/15	0930	Soil			X		2	1 VOA, 1 4oz jar
	Jm-SB-2-1			1005				X		2	
	Jm-SB-2-13			1010				X		2	HOLD
	Jm-SB-3-4			1050		X	X	X	X	2	
	Jm-SB-4-5.5			1145		X		X		2	JRG 7/14/15
	Jm-SB-5-9			1225		X				2	
	Jm-SB-6-3			1310		X	X	X	X	2	
	Jm-SB-6-11			1338		X				2	HOLD
	Jm-SB-7-4			1400		X				2	
	Jm-SB-7-10			1420		X	X	X	X	2	
	Jm-SB-8-3			1458		X				2	
	Jm-SB-9-3			1522		X				2	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		V. Ivanov	07/14/15
	TIME	VAL IVANOV	TIME
PRINT NAME		PRINT NAME	
COMPANY		COMPANY AAL	
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE	
	TIME		TIME
PRINT NAME		PRINT NAME	
COMPANY		COMPANY	

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:
CC jamalyn.green@hartcrowser.com

TOTAL NUMBER OF CONTAINERS

SAMPLE RECEIPT INFORMATION
CUSTODY SEALS: ☐YES ☐NO ☐N/A
GOOD CONDITION ☐YES ☐NO
TEMPERATURE _____
SHIPMENT METHOD: ☐HAND ☐COURIER ☐OVERNIGHT

COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. _____ for Other Contract Requirements

TURNAROUND TIME:
☐ 24 HOURS ☐ 1 WEEK
☐48 HOURS ☒STANDARD
☐72 HOURS OTHER _____

White and Yellow Copies to Lab Pink to Project Manager Lab to Return White Copy to Hart Crowser Gold to Sample Custodian

Sample Custody Record

B50710-4 (2) - Revised

Samples Shipped to: _____

HART CROWSER

Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, Washington 98109-6212
Office: 206.324.9530 • Fax 206.328.5581

JOB 19159-00 LAB NUMBER AAL

PROJECT NAME Jet Motel - SeaTac

HART CROWSER CONTACT Julie Wukelic

SAMPLED BY: Jamalyn Green

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	TPH-Dx	TPH-Gx	VOCs 8260	MTCA 5 Metals	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
	JM-SB-10-4		7/9/15	1612	SOIL	X				2	1 VOA, 1 4oz jar
	JM-SB-10-9			1615		X				2	HOLD
	JM-SB-11-4			1635		X		X	X	2	
	JM-SB-12-10			1700		X	X	X	X	2	

RLG 7/14/15

Jamalyn Green 7/10/15

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE V IVANOV	07/14/15
PRINT NAME	TIME	PRINT NAME VAL IVANOV	TIME
COMPANY		COMPANY AAL	
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE	
PRINT NAME	TIME	PRINT NAME	TIME
COMPANY		COMPANY	

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:
cc jamalyn.green@hartcrowser.com

COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. _____ for Other Contract Requirements

TOTAL NUMBER OF CONTAINERS

SAMPLE RECEIPT INFORMATION
CUSTODY SEALS: ☐YES ☐NO ☐N/A
GOOD CONDITION ☐YES ☐NO
TEMPERATURE _____
SHIPMENT METHOD: ☐HAND ☐COURIER ☐OVERNIGHT

TURNAROUND TIME:
☐ 24 HOURS ☐ 1 WEEK
☐48 HOURS ☒STANDARD
☐72 HOURS OTHER _____

White and Yellow Copies to Lab Pink to Project Manager Lab to Return White Copy to Hart Crowser Gold to Sample Custodian