

Technical Memorandum

To: Stephanie Labbe

PAR Electrical Contractors

From: Balin Strickler

Quanta Subsurface 4308 N Barker Road

Spokane Valley, WA 99027

Date: November 10, 2016

Re: Northern Pass – Underground Trench Geotechnical Study

Trench Technical Memorandum, 16004-101

Introduction

Job Number: 16004

In accordance with our proposal dated March 18, 2016 and your authorization, we have completed a geotechnical drilling and a laboratory testing program for the Northern Pass Transmission line project in New Hampshire. The work was authorized in phases and completed under Par Electrical Contractors (PAR) job number of 29-6-1683 and 29-6-1684. The Northern Pass Transmission line project consists of the construction both overhead and underground new transmission lines over much of New Hampshire. The underground portions of this alignment traverses approximately 60 miles of the proposed alignment. As part of the underground design, thermal resistivity properties of the subsurface materials must be evaluated at the anticipated bottom of trench elevation. Previous evaluations performed by others resulting in thermal resistivity data at approximately 1 mile intervals.

In order to complete the underground design, Quanta Subsurface (QS) was contracted to perform a geotechnical field exploration and laboratory testing program at approximately 1,000 foot intervals to compliment the work that has been previously completed. The purpose of QS's geotechnical exploration and laboratory testing services for this phase of the project was to further characterize the subsurface materials at specific locations and to collect samples for thermal resistivity testing at specific depths.

Figure 1 provides a map of the proposed route through New Hampshire. The area investigated included the middle section of underground construction as shown. The area of underground construction at the northern end of the project was not included in this investigation.

Scope of Work

The scope of work for this project generally includes:

- Review of the readily available aerial photographs and published geologic literature, including maps and reports pertaining to the project vicinity.
- Mark out the boring locations and notification of the local utility locating service prior to drilling.
- Drilling, logging, and sampling 206 borings to depths of approximately 15 feet below the existing ground surface. The boring logs and core photos are presented in Appendix A.
- Perform laboratory tests on selected samples obtained from the borings to evaluate thermal resistivity. The results of the thermal resistivity testing are presented in Appendix B.
- Perform laboratory tests on selected bulk samples to evaluate dry density and moisture content when bulk samples were required in the upper five feet of the borehole. The results of the material property testing are presented in Appendix C.
- Preparation of this memorandum presenting our findings of geotechnical investigation for this phase of the project.

Geotechnical Exploration and Laboratory Testing

QS's geotechnical field exploration program was conducted to evaluate the existing subsurface conditions and to collect samples to evaluate the thermal resistivity properties of the subsurface materials at selected depths. Our evaluation included the drilling and logging of the subsurface materials as well as the collection of samples for laboratory testing. The exploration program was performed between May and September of 2016. SW Cole Exploration of Londonderry, New Hampshire advanced 206 borings using either hollow stem or solid flight augers along the proposed underground alignment to depths approximately 15 feet below the existing ground surface and performed Standard Penetration Tests (SPT), in accordance with ASTM D1586, at 5-foot intervals. An auto-hammer was used for the SPT sampling. 10 of the 206 borings were terminated above 15 feet (between 2 and 8 feet bgs) due to either utility conflicts or suspected hydrocarbon or solvent odors. When rock was encountered the boreholes were advanced using wet rotary wash methods with either a roller bit or double tube coring methods.

Permits were required from the New Hampshire Department of Transportation for all of the borings. Shoreland permits were required for select borings. One-call utility locates were utilized for the entire project and a private utility locator was employed by SW Cole Exploration in areas of heightened concern. Traffic control and police details were subcontracted by SW Cole Exploration to provide support during the drilling program.

The drilling program was conducted under the supervision of QS representatives. The subsurface materials encountered at each boring location were visually classified by QS personnel in the field in general accordance with the USCS soil classification system and the QS rock core logging procedure, generally in accordance with International Society of Rock Mechanics procedures. Soil samples were collected using 6 inch stainless steel sleeves, capped and then bagged for storage to protect from moisture loss and material disturbance.

Bulk samples were collected when the SPT sample did not recover sufficient material within the stainless steel sleeves. Rock core was logged, boxed, and photographed in the field.

The thermal resistivity samples were collected from our field activities typically at the 5-foot depth, although occasionally a sample near 10 feet bgs was selected. The samples were packaged and shipped to the GeoTherm USA (GeoTherm) laboratory located in Livermore, California. Stainless steel sleeves (when available) were prioritized for testing. When only bulk samples were available, sufficient material was sampled and submitted for dry density testing by SW Cole Engineering, Inc. Occasionally rock core samples were selected for testing. Samples where then delivered to GeoTherm for thermal resistivity testing. The samples were packaged and shipped in such a manner as to minimize any moisture loss or disturbance resulting from transport. Remaining samples are stored in a storage unit located in Lincoln, NH. Thermal resistivity samples were unable to be collected from BH-74, BH-125, and BH-128 due to the presence of hydrocarbon odors. Insufficient volume of sample was collected from BH-214 and BH-259 due to the presence of coarse gravels and poor sample recovery from the split spoon and bulk sampling activities. The results for BH-185 are pending.

Table 1 provides a summary of the boreholes, locations, depths (borehole, bedrock, and groundwater) and the thermal resistivity sample info and results. The table includes previous work completed by others at the request of PAR.

Geological Unit Descriptions

The following section describes the regional and local geology of the project area. The units described are included on the borehole logs as the likely genesis of the subsurface material.

Regional Geology

The surficial geology of the White Mountains in New Hampshire is derived from the erosional and depositional processes of the continental and mountain glaciers of the Wisconsin Glacial Episode during the late Pleistocene Epoch. The dominant glacial soils that are found in this region are glacial till, glaciofluvial and glacio-lacustrine deposits. Younger post glacial deposits formed from the numerous rivers, streams and lakes that dominate the landscape. These include alluvium and stream terrace deposits.

Bedrock in the White Mountains are comprised of folded and faulted Paleozoic sedimentary and volcanic rocks that have been regionally metamorphosed and intruded by large and small bodies of plutonic rocks. The grade of metamorphism ranges from the chlorite zone at one extreme to the sillimanite zone at the other (Billings, 1980). The majority of the rocks mapped in this region consist of granite, quartz diorite, schist, granofels/gneiss, and localized zones of felsic pegmatites.

Site Geology and Unit Descriptions

The following surficial soil units were encountered during the trench portion of the underground investigation.

Organic Soil/Wetland Deposits

An approximate 2 foot to 6 foot layer of organic soil was encountered in several borings that were drilled away from the edge of the roadway. This unit consists of very loose to loose, dark brown to brown, Silty Sand and Sandy Silt with varying amounts of organics. Organic soils were also found underlying the fill in areas within the vicinity of existing wetlands.

Artificial Fill

Artificial fill has been placed within the existing roadways and is present in the majority of the borings advanced for this investigation. The approximate thickness of the fill ranged from 2 feet to upwards of 10 feet. This unit consists of loose to medium dense, brown to reddish brown, fine to medium grained, Silty Sand, Poorly Graded Sand with Silt, and Sandy Silt with varying amounts of gravel.

Alluvium

Alluvium is present at numerous locations along the alignment. It is primarily found proximal to existing rivers and streams as flood plain deposits. The thickness of the alluvium is variable with transitions to underlying units being gradual. Typically, this unit consists of very loose to dense, pale brown to olive gray to light brown, fine grained or fine to medium grained, Poorly Graded Sand with Silt, Silty Sand or Poorly Graded Sand with varying amounts of gravel.

Stream Terrace Deposits

The stream terrace deposits are mapped in the vicinity of existing streams and rivers on terraces cut into glacial deposits in the valleys. The approximate thickness of these units ranged from 3 feet to 20 feet. Typically, this unit consists of medium dense to very dense, moderate brown to olive brown to yellowish brown, Silty Sand with Gravel, Poorly Graded Sand with Silt and Gravel, Silty Gravel with Sand, or Poorly Graded Gravel with Sand. Cobbles and boulders were also present in varying amounts.

Glaciolacustrine Deposits

The glaciolacustrine deposits are generally described as sand, gravel, silt and clay that were laid down during deglaciation of the region. Material from these sediments was derived mostly from within ice sheet and transported by meltwater and deposited as deltas into ponded water bodies (Koteff, 2009). The approximate thickness of these units was less than 50 feet. Typically, this unit consists of soft to stiff, loose to medium dense, gray to light olive gray, Sandy Silt and Silty Sand with varying amounts of clay and thin to varyed bedding planes present.

Glaciofluvial Deposits

The glaciofluvial deposits are described as sands and gravels with minor amounts of silt and clay that were deposited within high energy meltwater channels draining into the valleys. The approximate thickness of these units was less than 50 feet. Typically, this unit consist of

medium dense to very dense, light brown to grayish brown, Poorly Graded Sand with Gravel and Silt, Poorly Graded Gravel with Sand, or Silty Gravel with Sand with varying amounts of cobbles and boulders.

<u>Till</u>

The glacial till is described as light to dark gray, nonsorted to poorly sorted mixture of clay, silt sand, gravel, cobbles and boulders. Varying proportions of silt and sand form the matrix along with a variety of irregular shapes rock fragments. Most of the till deposits are found in the upland portions of the region and thicknesses can range from 20 feet to more than 100 feet (Hildreth, 2014). Typically, this unit consists of medium dense to very dense, gray to dark gray, Silty Sand with Gravel, Sandy Silt with Gravel, Silty Gravel with Sand, or Clayey Sand with Gravel with varying amounts of boulders.

Bedrock

The majority of the rocks mapped in this region consist of granite, quartz diorite, schist, granofels/gneiss, and localized zones of felsic pegmatites. All of these rock types were encountered within the project alignment. The weathering profile was typically fresh to slightly weathered, with occasional zones of highly weathered material at the contact with overburden soils. The rock strength ranges from medium strong to very strong and is largely dependent on weathering profiles. Numerous felsic dikes and sills were observed within many of the metamorphic units along with localized pegmatite zones.

References

Billings, Marland P., 1980, "The Geology of New Hampshire Part II Bedrock Geology".

Hildreth, Carol T., 2014, Surficial geologic map of the Woodstock 7.5 minute quadrangle, New Hampshire: New Geologic Survey, scale 1:24,000.

Koteff, Carl, 2009, Surficial geologic map of the Webster 7.5 minute quadrangle, New Hampshire: New Hampshire Geologic Survey, scale 1:24,000.

Closure

We appreciate the opportunity to assist PAR with this geotechnical investigation. If you have any questions, please contact Balin Strickler at 509.789.7747 or bstrickler@quantasubsurface.com.

Attachments

Figure 1 – Alignment Overview Map

Table 1 – Trench Thermal Resistivity Results

Appendices

Appendix A – Exploratory Test Boring Logs

Appendix B – Thermal Resistivity Test Results

Appendix C – Dry Density Test Results



Project: 16004 Date: Oct 2016

THE NORTHERN PASS"

Site Location Map

Figure 1

			BOREHOL	E DATA								THERMAL	RESISTIVITY DAT	'A				
Alignment Name	Geotech Company	Borehole ID	Date Drilled	Borehole (Coordinates	Borehole Depth (ft)	Depth to Rock (ft)	Depth to Groudwater (ft)	GeoTherm Report	Sample ID	Sample Type	Sample Depth	Material Type	Thermal	termined Resistivity cm/W)	Moisture Content	Dry Density (pcf)	Notes
	1 0		•	Latitude	Longitude		, ,		Date		Type	(ft)	13pc	Wet	Dry	(%)	(PCI)	
ROT3 ROT3	H&A H&A	HA-1 HA-1	8/22/2012 8/23/2012			51.5 51.5	32 32	34 34										
ROT3	H&A	HA-6	12/2/2013	45.022091	-71.463952	41	35	7.9	12/31/2013	HA-6	S3	9.5'-11'	SOIL (GP)	38	114	10	124	
ROT3	H&A	HA-6	12/2/2013	45.022091	-71.463952	41	35	7.9	12/31/2013	HA-6	S5	19.5'-21'	SOIL (GP)	41	119	11	123	
ROT3	H&A	HA-6	12/2/2013	45.022091	-71.463952	41	35	7.9	12/31/2013	HA-6	S7	29.5'-29.7'	SOIL (SP)	43	126	12	122	
ROT3 ROT3	H&A H&A	HA-6 C-1 HA-7 (OW)	12/2/2013 11/22/2013	45.022091 45.021738	-71.463952 -71.465329	41	28	3.1	12/31/2013 12/19/2013	HA-6 C-1 HA-7 (OW)	S3	40'-40.5' 9'-11'	ROCK SOIL (SM)	38 37	79 104	0.5	177 127	
ROT3	H&A	HA-7 (OW)	11/22/2013	45.021738	-71.465329	40	28	3.1	12/19/2013	HA-7 (OW)	S5	19'-20.5'	SOIL (ML)	41	110	11	123	
ROT3	H&A	HA-7 (OW)	11/22/2013	45.021738	-71.465329	40	28	3.1	12/19/2013	HA-7 (OW)	C1	29.3'-29.7'	ROCK	33	64	0.6	171	
ROT3	H&A	HA-7 (OW)	11/22/2013	45.021738	-71.465329	40	28	3.1	12/19/2013	HA-7 (OW)	C4	38'-38.5' 3'-4'	ROCK	32	58	0.5	178	
NRTH NRTH	H&A H&A	A B	10/29/2013 10/30/2013	45.010198 45.00704	-71.421637 -71.419618	17.6 14.5	2.3 5.5	12.2 4.1	11/26/2013 11/26/2013	A B	Bulk Core	3'-4'	SOIL (SP-SM) ROCK	55 63	203 231	8	112 114	
NRTH	H&A	B CoreC-1	10/30/2013	45.00704	-71.419618	14.5		Not Observed	12/9/2013	B CoreC-1	Core	8'-8.5	ROCK	36	89	2	162	
NRTH	H&A	С	10/29/2013	45.002585	-71.418045	22.3	16	4.1	11/26/2013	C	Bulk	3'-5'	SOIL	45	161	14	114	
NRTH NRTH	H&A H&A	C D	10/29/2013 10/28/2013	45.002585 44.995343	-71.418045 -71.414956	22.3	16 13	4.1 5.3	11/26/2013 11/26/2013	C D	Bulk	7'-9' 4'-6'	SOIL SOIL	47 51	166	14	113 114	
NRTH	H&A	D D	10/28/2013	44.995343	-71.414956	20.5	13	5.3	11/26/2013	D D	Bulk Bulk	8'-10'	SOIL	55	182 199	14	115	
NRTH	H&A	E	10/25/2013	44.992581	-71.414653	15	6	5.3	11/26/2013	E	Bulk	5'-7'	SOIL	56	239	22	101	
NRTH	H&A	Е	10/25/2013	44.992581	-71.414653	15	6	5.3	11/26/2013	Е	Bulk	7'-9'	SOIL	57	228	12	107	
NRTH	H&A	F	10/24/2013	44.989168	-71.41614	20.5		3.1	11/26/2013	F	Bulk	3'-5'	SOIL	44 50	142	14	115	
NRTH NRTH	H&A H&A	F G	10/24/2013 10/24/2013	44.989168 44.984025	-71.41614 -71.417035	20.5	14.5	3.1 10.8	11/26/2013 11/26/2013	F G	Bulk Bulk	7'-9' 3'-5'	SOIL SOIL	50 47	160	17	109 115	
NRTH	H&A	G	10/24/2013	44.984025	-71.417035	21	14.5	10.8	11/26/2013	G	Core	7'-9'	ROCK	53	185	15	112	
NRTH	H&A	Н	11/14/2013	44.979458	-71.415877	20.5	10.8	3.6	12/9/2013	Н	Core	7'-9'	ROCK	52	174	13	117	
NRTH	H&A	I	10/23/2013	44.972261	-71.420033	17	11	2.3	11/26/2013	I	Bulk	3'-5'	SOIL	46	152	15	112	
NRTH NRTH	H&A H&A	I I	10/23/2013 10/22/2013	44.972261 44.970692	-71.420033 -71.421771	17 20	6	2.3 4.8	11/26/2013 12/19/2013	<u>I</u> I	Core Bulk	7'-9' 3-5	ROCK SOIL	54 54	195 219	17 16	112 112	
NRTH	H&A	K	10/21/2013	44.970092	-71.421771	23	18	8.9	11/26/2013	K	Bulk	3'-5'	SOIL	63	251	22	97	
NRTH	H&A	K	10/21/2013	44.964685	-71.424357	23	18	8.9	11/26/2013	K	Bulk	7'-9'	SOIL	45	149	14	113	
NRTH	H&A	L	10/31/2013	44.95902	-71.424873	20	2	6.3	12/9/2013	L	Core	3'-5'	ROCK	50	179	12	110	
NRTH NRTH	H&A H&A	L M	10/31/2013 11/4/2013	44.95902 44.955639	-71.424873 -71.424257	20 20	2	6.3 4.1	12/9/2013 12/9/2013	L M	Core Bulk	7'-9' 3'-5'	ROCK SOIL	67 61	219 261	32	112 84	
NRTH	H&A	M	11/4/2013	44.955639	-71.424257	20		4.1	12/9/2013	M	Bulk	7'-9'	SOIL	47	161	17	108	
NRTH	H&A	N1	11/4/2013			18.6	12	13.7	12/9/2013	N1	Bulk	3'-5'	SOIL	38	128	13	116	
NRTH	H&A	N-1 CoreC-1	11/4/2013			18.6	11.0	Not Observed	12/9/2013	N-1 CoreC-1	Core	8'-8.5'	ROCK	32	79	1	166	
NRTH NRTH	H&A H&A	N2 N2	11/5/2013 11/5/2013			20 20	11.2 11.2	6.9 6.9	12/9/2013 12/9/2013	N2 N2	Bulk Bulk	3'-5' 7'-9'	SOIL SOIL	52 35	195 128	14	111 111	
NRTH	H&A	0	11/6/2013	44.949851	-71.415889	20	11.2	2.8	12/9/2013	0	Bulk	3'-5'	SOIL	43	150	18	109	
NRTH	H&A	0	11/6/2013	44.949851	-71.415889	20		2.8	12/9/2013	0	Bulk	7'-9'	SOIL	49	189	18	108	
NRTH	H&A	R	11/14/2013	44.945834	-71.400571	20		3.6	12/9/2013	R	Bulk	8'-10'	SOIL	41	135	18	107	
NRTH NRTH	H&A H&A	S S	11/5/2013 11/5/2013	44.945354 44.945354	-71.395349 -71.395349	20		3.2 3.2	12/9/2013 12/9/2013	S S	Bulk Bulk	3'-5' 7'-9'	SOIL SOIL	50 44	160 127	13	117 115	
NRTH	H&A	T	11/3/2013	44.944209	-71.393349	20	6.5	6.8	12/9/2013	T	Bulk	3'-5'	SOIL	36	162	15	113	
NRTH	H&A	T	11/1/2013	44.944209	-71.391016	20	6.5	6.8	12/9/2013	T	Core	7'-9'	ROCK	44	153	11	120	
NRTH	H&A	U	11/7/2013	44.942037	-71.378399	20	18.3	3.8	12/9/2013	U	Bulk	3'-5'	SOIL	40	169	17	114	
NRTH NRTH	H&A H&A	U V	11/7/2013 11/13/2013	44.942037 44.939839	-71.378399 -71.376818	20	18.3	3.8 2.5	12/9/2013 12/9/2013	U V	Bulk Bulk	7'-9' 3'-5'	SOIL SOIL	41 48	152 219	14 29	115 90	
NRTH	H&A	V	11/13/2013	44.939839	-71.376818	21		2.5	12/9/2013	V	Bulk	7'-9'	SOIL	51	234	19	102	
NRTH	H&A	X	11/12/2013	44.935925	-71.373327	22	16.5	6.2	12/9/2013	X	Bulk	4'-6'	SOIL	47	147	11	119	
NRTH	H&A	X	11/12/2013	44.935925	-71.373327	22	16.5	6.2	12/9/2013	X	Bulk	8'-10'	SOIL	35	116	18	106	
NRTH NRTH	H&A H&A	Y	11/7/2013 11/7/2013	44.933751 44.933751	-71.369558 -71.369558	21.5 21.5	15 15	Not Observed Not Observed	12/19/2013 12/19/2013	Y	Bulk Bulk	3-5 7-9	SOIL SOIL	52 44	207 157	14	115 120	
ROCK	Quanta Subsurface	BH-53	8/31/2016	44.282256	-71.726688	15.5	13	Not Observed	9/30/2016	S1	Sleeve	4'-5.1'	SOIL (SM)	58	151	8	122	
ROCK	Quanta Subsurface	BH-54	8/31/2016	44.283071	-71.729493	15.5		Not Observed	9/30/2016	S 1	Sleeve	4'-5.5'	SOIL (SM)	54	175	26	102	
ROCK	Quanta Subsurface	BH-55	8/31/2016	44.283952	-71.733923	15.5	4.4	Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SM)	50	161	18	120	
ROCK ROCK	Quanta Subsurface Quanta Subsurface	BH-56 BH-57	8/30/2016 8/30/2016	44.28483 44.284691	-71.737519 -71.741322	16 15.5	11	Not Observed Not Observed	9/30/2016 9/30/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-5.5'	SOIL (SP) SOIL (SM/GM)	60 69	202 155	13	112 128	
ROCK	Quanta Subsurface	BH-58	8/30/2016	44.282293	-71.741322	15.5		Not Observed	9/30/2016	S1	Sleeve	4-5.5'	SOIL (SM/GM)	72	175	3	128	
ROCK	Quanta Subsurface	BH-59	8/30/2016	44.279629	-71.742141	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SW)	68	146	4	117	
ROCK	Quanta Subsurface	BH-60	8/30/2016	44.27699	-71.742593	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP/SM)	65	201	8	121	
ROCK ROCK	Quanta Subsurface Quanta Subsurface	BH-61 BH-62	8/30/2016 8/29/2016	44.274307 44.271611	-71.742535 -71.742879	15.5 15.5		Not Observed Not Observed	9/30/2016 9/30/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-5.5'	SOIL (SP/SM) SOIL (SP/SM)	59 56	177 157	11 7	123 121	
ROCK	Quanta Subsurface	BH-63	8/29/2016	44.271011	-71.742912	15.5		Not Observed	9/30/2016	S1 S1	Sleeve	4-5.5'	SOIL (SP/SM)	62	198	8	114	
ROCK	Quanta Subsurface	BH-64	8/29/2016	44.266377	-71.74452	14.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP/SM)	56	155	4	127	
ROCK	Quanta Subsurface	BH-65	8/29/2016	44.26399	-71.746373	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP/SM)	63	159	6	117	
ROCK ROCK	Quanta Subsurface Ouanta Subsurface	BH-66 BH-67	8/26/2016 8/26/2016	44.261814	-71.748566 -71.751245	15.5 15.5		Not Observed Not Observed	9/30/2016 9/30/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-4.5'	SOIL (SP/SM) SOIL (SP/SM)	52 62	155 170	11	126 106	
ROCK	Quanta Subsurface	BH-68	8/29/2016	44.259353	-71.751245	16.5		11	10/7/2016	S1 S1	Sleeve	5'-6.5'	SOIL (SF/SM)	80	242	7	106	
SHEB	H&A	B-15	12/8/2015	44.014215	-71.684964	14.3		5.7	12/22/2015	B-15	S3	4'-4.3'	SOIL (SW)	51	131	8	120	
SHEB	H&A	B-15A	12/11/2015	43.999264	-71.683679	15		Not Observed	1/4/2016	B-15A	S3	4'-6'	SOIL (SW)	74	166	5	120	
SHEB SHEB	H&A H&A	B-16 B-16A	12/8/2015 12/8/2015	43.986633 43.973212	-71.683254 -71.684331	15 15		12.3 5.7	12/22/2015 12/22/2015	B-16 B-16A	S3 S3	4'-6' 4'-6'	SOIL (SP)	52 57	228	15	110 110	
SHEB	H&A	B-10A B-17	12/8/2015	43.973212	-71.681623	15		Not Observed	12/22/2015	B-17	S3	4'-4.5'	SOIL (SM)	61	285	29	118	
SHEB	H&A	B-17A	12/9/2015	43.946784	-71.676692	15		7	12/22/2015	B-17A	S3	4'-6'	SOIL (SP)	95	393	37	80	
SHEB	H&A	B-18	12/9/2015	43.934658	-71.683673	15		9.4	12/22/2015	B-18	S3	4'-6'	SOIL (SP)	60	196	7	110	
SHEB SHEB	H&A H&A	B-18A B-19	12/9/2015 12/9/2015	43.921062 43.906389	-71.68565 -71.68351	15 15		13 Not Observed	12/22/2015 12/22/2015	B-18A B-19	S3 S3	4'-6' 4'-5'	SOIL (SW) SOIL (SP)	48 59	146 227	6	120 110	
SHEB	H&A	B-19A	12/9/2013	43.893805	-71.675908	15	5	Not Observed Not Observed	1/4/2016	B-19A	S3	4'-5'	SOIL (SP)	61	257	14	110	
SHEB	H&A	B-20	12/10/2015	43.880183	-71.667369	15		5.4	12/22/2015	B-20	S3	4'-6'	SOIL (SW)	55	208	10	120	
SHEB	H&A	B-20A	12/10/2015	43.868058	-71.668735	15		7.9	12/22/2015	B-20A	S3	4'-6'	SOIL (SP)	47	196	13	110	
SHEB SHEB	H&A H&A	B-21 B-21A	12/10/2015 12/10/2015	43.854108 43.840962	-71.666582 -71.661218	15 15		7.4 2.9	12/22/2015 12/22/2015	B-21 B-21A	S3 S3	4'-6' 4'-6'	SOIL (SM) SOIL (SP)	53 55	243 264	12	118 110	
SHED	11¢A	D-21A	14/10/4013	+3.040702	-/1.001218	13		4. 7	14/44/4013	D-21A	ນນ	+ -0	SOIL (SF)	JJ		12	110	L

			BOREHOI	LE DATA								THERMAL	RESISTIVITY DAT	°A				
Alignment Name	Geotech Company	Borehole ID	Date Drilled	Borehole (Coordinates	Borehole Depth (ft)	Depth to Rock (ft)	Depth to Groudwater (ft)	GeoTherm Report Date	Sample ID	Sample Type	Sample Depth (ft)	Material Type	Thermal	termined Resistivity cm/W)	Moisture Content (%)	Dry Density (pcf)	Notes
SHEB	11 0- A	B-22	12/10/2015	Latitude 43.827541	Longitude -71.662212	15		11.1	12/22/2015	B-22	S3	4'-6'	SOIL (SW)	Wet 50	Dry 207	` ′	120	
SHEB	H&A H&A	B-22A	12/10/2015	43.813744	-71.664682	15		11.1 10.1	12/22/2015	B-22A	S3	4 -6 4'-6'	SOIL (SW)	60	280	12 15	110	
SHEB	Terracon	B-2A	1/15/2016	44.245206	-71.762253	17	4		2/17/2016	B-2A	Bulk	6' - 9'	ROCK	64	210	11	110	
SHEB	Terracon	B-4A	1/15/2016	44.193542	-71.751657	17		9	2/17/2016	B-4A	Bulk	8' - 10'	SOIL (SP)	48	163	7	119	
SHEB SHEB	Terracon Terracon	B-5 B-5A	1/15/2016 1/15/2016	44.181974 44.168781	-71.756322 -71.764208	17		16	2/17/2016 2/17/2016	B-5 B-5A	Bulk Bulk	8' - 10' 8' - 10'	SOIL (SM) SOIL (ML)	35 39	106 147	12	131 118	
SHEB	Terracon	B-6	1/15/2016	44.158589	-71.777301	17		5	2/17/2016	B-5A B-6	Bulk	8' - 10'	SOIL (SM)	34	127	13	124	
SHEB	Terracon	B-6A	1/15/2016	44.1475	-71.789025	17		8	2/17/2016	B-6A	Bulk	8' - 10'	SOIL (SM)	36	137	14	120	
SHEB	Terracon	B-7	1/12/2016	44.134031	71.785166	15.8	14.5	9	2/17/2016	B-7	Bulk	8' - 10'	SOIL (SM)	44	227	21	104	
SHEB SHEB	Terracon Quanta Subsurface	B-7A BH-69	1/12/2016 8/24/2016	44.123974 44.256305	-71.799756 -71.761142	15 15.7	14.5	9 Not Observed	2/17/2016 10/7/2016	B-7A S1	Bulk Sleeve	8' - 10' 4'-5.5'	SOIL (SP/SM) SOIL (SM)	40 78	131 168	10	128	
SHEB	Quanta Subsurface	BH-70	8/24/2016	44.25363	-71.761712	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP/SM)	59	223	17	110	
SHEB	Quanta Subsurface	BH-71	8/24/2016	44.251005	-71.762614	15.5		Not Observed	10/7/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	77	322	10	98	
SHEB	Quanta Subsurface	BH-72 BH-73	8/26/2016 8/24/2016	44.248483 44.243616	-71.762799 -71.761687	15.2 15.5		Not Observed	9/30/2016	<u>S1</u>	Sleeve	4'-5.5'	SOIL (SP/SM)	57	166	5	129	
SHEB SHEB	Quanta Subsurface Quanta Subsurface	BH-73 BH-74	8/24/2016	44.243616	-71.761687	15.5		Not Observed Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	68	190	/	98 NO SAMPLE TA	KEN, HYDROCARBON ODORS AT 2'
SHEB	Quanta Subsurface	BH-75	8/26/2016	44.238341	-71.758831	15.5		14	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SM/GM)	73	168	5	127	MEN, IT BROCK MEDON OBORS 711 2
SHEB	Quanta Subsurface	BH-76	8/26/2016	44.235737	-71.757865	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SM)	57	185	15	105	
SHEB	Quanta Subsurface	BH-77	8/4/2016	44.233334	-71.756589	15		8.2	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (GM)	105	194	1.8	105	
SHEB SHEB	Quanta Subsurface Quanta Subsurface	BH-78 BH-81	8/25/2016 8/31/2016	44.231328 44.224299	-71.755665 -71.749053	14.6 15.5		Not Observed	9/30/2016 9/30/2016	S1 S1	Sleeve Sleeve	5'-6.5' 4'-5.5'	SOIL (SM/GM) SOIL (OL)	79 127	180 397	8	90	
SHEB	Quanta Subsurface	BH-82	8/23/2016	44.221527	-71.750035	15.5	<u></u>	14	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SM/GM)	66	186	12	101	
SHEB	Quanta Subsurface	BH-83	8/23/2016	44.218713	-71.750149	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	77	222	5	105	
SHEB	Quanta Subsurface	BH-84	8/23/2016	44.215882	-71.750239	15.5 15.5	<u> </u>	8.5 7.5	9/30/2016 9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP) SOIL (CL)	68 82	290	27 25	99	
SHEB SHEB	Quanta Subsurface Quanta Subsurface	BH-85 BH-86	8/23/2016 8/23/2016	44.213173 44.210674	-71.7503 -71.750434	15.5		7.5 Not Observed	9/30/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-5.5'	SOIL (CL) SOIL (SM)	82 58	285 180	17	108	
SHEB	Quanta Subsurface	BH-87	8/23/2016	44.207983	-71.751475	15.5	<u></u>	Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	70	185	3	102	
SHEB	Quanta Subsurface	BH-88	8/23/2016	44.20621	-71.75265	15.5		Not Observed	9/30/2016	S 1	Sleeve	4'-5.5'	SOIL (SM/GM)	55	162	13	115	
SHEB SHEB	Quanta Subsurface	BH-89 BH-90	8/23/2016 8/23/2016	44.203278 44.200968	-71.754078 -71.754343	15.5 15.5		Not Observed	9/30/2016 9/30/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-5.5'	SOIL (SP/SM) SOIL (SP)	50 58	140 170	9	130	
SHEB	Quanta Subsurface Quanta Subsurface	BH-91	8/17/2016	44.198192	-71.754343	15.5		Not Observed 9	9/30/2016	S1	Sleeve	4-5.5'	SOIL (SP)	75	223	8	119 104	
SHEB	Quanta Subsurface	BH-92	8/17/2016	44.195533	-71.752372	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	64	170	7	109	
SHEB	Quanta Subsurface	BH-94	8/4/2016	44.190538	-71.750294	15.5		Not Observed	8/25/2016	S 1	Sleeve	4' - 5.5'	SOIL (SW/SM)	56	177	7	110	
SHEB SHEB	Quanta Subsurface Quanta Subsurface	BH-95 BH-96	8/17/2016 8/17/2016	44.186398 44.184516	-71.751817 -71.754086	15.5 15.5		Not Observed Not Observed	9/30/2016 9/30/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-5.5'	SOIL (SP)	60 56	155 165	7	117 116	
SHEB	Quanta Subsurface	BH-98	8/4/2016	44.179542	-71.75778	15.5		13.5	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (GM)	94	218	3.8	99	
SHEB	Quanta Subsurface	BH-99	8/4/2016	44.173201	-71.761464	15.5		8.5	8/25/2016	S 1	Sleeve	4' - 5.5'	SOIL (SP/SM)	65	198	19	96	
SHEB	Quanta Subsurface	BH-100	8/17/2016	44.165963	-71.766066	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SW)	62	181	3	112	
SHEB SHEB	Quanta Subsurface Quanta Subsurface	BH-101 BH-102	8/31/2016 8/4/2016	44.156819 44.154624	-71.78101 -71.783513	16.5 15.5		11	10/7/2016 8/25/2016	S1 S1	Sleeve Sleeve	5.5'-7' 4' - 5.5'	SOIL (SM) SOIL (ML)	79 54	287 233	10 24	96 89	
SHEB	Quanta Subsurface	BH-103	8/16/2016	44.152381	-71.785341	15.5		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	59	263	16	105	
SHEB	Quanta Subsurface	BH-104	8/4/2016	44.149929	-71.787051	15.5		14	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (SW/SM)	66	167	7	108	
SHEB	Quanta Subsurface	BH-105	8/31/2016	44.144151	-71.789799	16.5		3.5	10/7/2016	<u>S1</u>	sleeve	5.5'-7'	SOIL (SP)	65	158	15	123	
SHEB SHEB	Quanta Subsurface Quanta Subsurface	BH-106 BH-107	8/17/2016 8/16/2016	44.141967 44.139454	-71.788444 -71.786657	15		Not Observed Not Observed	9/30/2016 9/30/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-5.2'	SOIL (SP/SM) SOIL (GM)	66 60	228 218	17 8	111	
SHEB	Quanta Subsurface	BH-107	8/16/2016	44.13716	-71.784667	15		Not Observed	10/7/2016	S1	Sleeve	9.5'-11'	SOIL (GW/SP)	64	174	14	117	
SHEB	Quanta Subsurface	BH-109	8/16/2016	44.12858	-71.792834	15		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SW)	63	142	6	120	
WMNF	H&A	B-23 B-23A	12/11/2015	43.801101 43.788569	-71.673994	15		3.8	1/4/2016	B-23	S3	4'-6'	SOIL (SP/SM)	46	188	14	115	
WMNF WMNF	H&A H&A	B-23A B-24	12/14/2015 12/11/2015	43.778912	-71.668006 -71.679923	15		Not Observed 7.8	1/4/2016 1/4/2016	B-23A B-24	S3 S3	4'-6' 4'-6'	SOIL (SM) SOIL (SP)	51 60	226 258	15 12	118 110	
WMNF	H&A	B-24A	12/15/2015	43.765116	-71.687067	15	8	12	1/4/2016	B-24A	S3	4'-6'	SOIL (SW)	60	179	8	120	
WMNF	H&A	B-25	12/15/2015	43.751006	-71.686953	15		5.5	1/4/2016	B-25	S3	4'-6'	SOIL (ML)	62	257	29	108	
WMNF WMNF	H&A H&A	B-25A B-26	12/14/2015 12/14/2015	43.73839 43.725875	-71.676438 -71.676485	15	12	7.4	1/4/2016 1/4/2016	B-25A B-26	S3 S3	4'-6' 4'-6'	SOIL (SM) SOIL (ML)	56 63	190 267	26 27	118 108	
WMNF	H&A	B-26A	12/14/2015	43.71697	-71.661321	15	12	13	1/4/2016	B-26A	S3	4'-6'	SOIL (SP)	78	267	5	110	
WMNF	Terracon	B-8	1/12/2016	44.113134	-71.813851	15.8	15.8	6	2/17/2016	B-8	Bulk	8' - 10'	SOIL (GM)	58	253	23	101	
WMNF	Terracon	B-8A	1/12/2016	44.103156	-71.821477	17		12	2/17/2016	B-8A	Bulk	8' - 10'	SOIL (SP)	68	196	4	115	
WMNF WMNF	Terracon Terracon	B-9 B-9A	1/8/2016 1/8/2016	44.093082 44.08395	-71.827365 -71.81225	17		8 12	2/17/2016 2/17/2016	B-9 B-9A	Bulk Bulk	10' - 14' 10' - 14'	SOIL (GW/GM) SOIL (SP/SM)	40 52	141 176	12 12	122 118	
WMNF	Terracon	B-10	1/8/2016	44.076164	-71.795459	16.7		10	2/17/2016	B-10	Bulk	8' - 11'	SOIL (SM)	51	209	22	112	
WMNF	Terracon	B-10A	1/8/2016	44.062669	-71.792333	17		9	2/17/2016	B-10A	Bulk	8' - 10'	SOIL (GP/GM)	51	191	16	114	
WMNF WMNF	Terracon	B-11 B-11A	1/7/2016 1/7/2016	44.047567 44.037327	-71.79316 -71.785886	15 1	13.5		2/17/2016 2/17/2016	B-11 B-11A	Bulk Bulk	8' - 10' 9' - 12'	SOIL (SM) SOIL (SM)	68 45	174	6 14	116 116	
WMNF WMNF	Terracon Terracon	B-11A B-12	1/6/2016	44.037327	-/1./85886 -71.768103	15.1 15.3	13.3		2/17/2016	B-11A B-12	Bulk	6'- 10'	SOIL (SM) SOIL (SP/SM)	45	168 215	23	104	
WMNF	Terracon	B-12A	1/7/2016	44.024317	-71.752317	17	7		2/17/2016	B-12A	Bulk	10'-14'	SOIL	45	191	10	120	
WMNF	Terracon	B-12A	1/8/2016	44.024317	-71.752317	17	7		2/17/2016	B-12A	Core	12' - 12.5'	ROCK	49	68	<1	171	
WMNF WMNF	Terracon Terracon	B-13A B-14	1/6/2016 1/6/2016	44.028594 44.031538	-71.719139 -71.701313	14	8	4	2/17/2016 2/17/2016	B-13A B-14	Core Bulk	11' - 12' 8' - 10'	ROCK SOIL	53 45	71 126	<1 11	169 131	
WMNF	Quanta Subsurface	BH-110	8/16/2016	44.126831	-71.701313	15		Not Observed	9/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	66	205	9	112	
WMNF	Quanta Subsurface	BH-112	8/16/2016	44.123109	-71.800882	15	10	Not Observed	10/20/2016	RC1	Core	9.6'-10.5'	ROCK	36	73	<1	164	
WMNF	Quanta Subsurface	BH-113	8/5/2016	44.119297	-71.805637	15	6.5	Not Observed	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (SM)	48	214	27	87	
WMNF WMNF	Quanta Subsurface Quanta Subsurface	BH-114 BH-115	8/5/2016 8/5/2016	44.117818 44.116062	-71.808605 -71.81201	15.5 14.2	13	Not Observed 8	8/25/2016 8/25/2016	S1 S1	Sleeve Sleeve	4' - 5.5' 4' - 5.5'	SOIL (SM) SOIL (SM)	65 56	289 228	26	53 80	
WMNF	Quanta Subsurface	BH-117	8/5/2016	44.113671	-71.816327	14.5		Not Observed	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (GM)	78	175	7	103	
WMNF	Quanta Subsurface	BH-118	8/5/2016	44.112152	-71.818869	14.3		3	10/7/2016	S1	Sleeve	9.5'-11'	SOIL (GM)	62	144	12	131	
WMNF	Quanta Subsurface	BH-119	8/5/2016	44.109253	-71.819989 71.810752	15.5	12.5	Not Observed	8/25/2016	S1 PCS1	Sleeve	4' - 5.5'	SOIL (PT)	44	298	38	56	
WMNF WMNF	Quanta Subsurface Quanta Subsurface	BH-120 BH-120	8/3/2016 8/3/2016	44.107177 44.107177	-71.819752 -71.819752	15 15	8.5 8.5	Not Observed Not Observed	10/20/2016 10/26/2016	RCS1 RC1	Core Core	9'-12' 12.4'-12.95'	ROCK ROCK	49 41	69 76	<1 <1	160 175	
WMNF	Quanta Subsurface	BH-121	8/3/2016	44.104394	-71.820177	14.6		Not Observed	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (SW/SM)	53	244	25	75	
WMNF	Quanta Subsurface	BH-122	8/3/2016	44.10232	-71.82255	10.5		Not Observed	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (SW/SM)	70	148	4.3	116	
WMNF WMNF	Quanta Subsurface Ouanta Subsurface	BH-123 BH-124	8/3/2016 8/3/2016	44.100259 44.098299	-71.824592 -71.827671	15 15	7.5	Not Observed Not Observed	8/25/2016 8/25/2016	S1 S1	Sleeve Sleeve	4' - 5.5' 4' - 5.5'	SOIL (SP) SOIL (SW/SM)	49 77	162 318	12 42	118 50	
AATAITAL	Zuania Suosunace	11-124	0/3/2010	++ .U70477	-/1.02/0/1	13	1.3	THOI ODSEIVED	0/23/2010	31	SICEVE	7 - 2.2	DOIL (DW/DIVI)	//	310	1 42	<u> </u>	

No. Control				BOREHOI	LE DATA								THERMAL	RESISTIVITY DAT	ГА				
Prop. Op. Op. Cont. Section Cont.			Borehole ID	Date Drilled	Borehole (Coordinates		_	_	Report	-		Depth		Thermal	Resistivity	Content	Dry Density	Notes
Section Continues Contin	WAOTE		DII 125	0/2/2017					N. Ol	Date			(It)	1	Wet	Dry	(%)		NO SAMPLE TAYEN INVENOS APPON OPONS AT A
West							15.4			8/25/2016	S 1	Sleeve	4' - 5.5'	SOIL (SP/SM)	88	227	7	100	NO SAMPLE TAKEN, HYDROCARBON ODORS AT 4
1.00 1.00	WMNF	Quanta Subsurface	BH-128	8/1/2016	44.090733	-71.824626	6.8		Not Observed									N	IO SAMPLE RECOVERED, HYDROCARBON ODORS AT
Color														, , ,			-	75	
No. Control		_												` /	+			110	
Windows Control Cont		 `												, ,		+	_	+	
Decomposition Composition		_			.		_		7					` /	+			+	
Wilson		_ `												` /				+	
March Marc		_ `												` ′					
Value														` ′	†	+	-	63	
Value		_			.									` ′			7	+	
Value														` /			6		
Value		`						8.1						` ′		+	4.2	+	
Visit					.									\ /		-	-	+	
Visit		_			.			_						` /	†			+	
Vision Control Contr		- `			.			12.2						` '			,	+	
Port Column Col		_		7/27/2016	.	-71.756551	15.5							SOIL (SM)	†		-		
March Color State March Color State								10.7	6.2					` /	+		Ů,		
No. Control		 `							Not Observed					` '				+	
No. Continued 11.50 Section 17.50 Continued 17.50		_ `					10							` ′	+		_		
		_		7/26/2016	.		_		6			Sleeve		SOIL (OL)	+		_		
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No. Commachement 10.50 St. 2000 St							_							. ,					
Wilson Depart Analysis Wilson W		_ `												` ′			-		
NATION Commandation Politic STORY Commandation Command		 `					-							` /		+	_		
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WAST Quan Selection \$0.118 \$1.200 \$1.08815 \$1.48815 \$1.63 \$1.000 \$1.4 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.00		`												` '			25		
Width Quan Scheduler Rice 2772115 H197254 71,6785 11 4 National 2772105 31 Syr. F. T. SSB 2871 7 10 17 10 10 10 10 1														` ′			4		
Wilson Constitution Shieles Strong Constitution Shieles Strong Shieles		_			.			6						` ′	†	+	12	+	
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WRICK Quant Substantian SH-172 \$572006 44,0000 11,00004 55 No Chewrood 82,0000 51 \$58000 20,000 51 \$58000 20,000 51 \$58000 52,000 50 \$50000 52,000 50 \$50000 52,000 50 \$50000 52,000 50 \$50000 52,000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$500000 50 \$5000000 50 \$50000000 50 \$50000000000		`					- 10		7.5					` /		+		-	
WRST Quant Schemer Health St. School Health Hea		_							Not Observed					` ′			ű	+	
WHIRE Quants Subscripton St. 178 \$70-2011 \$410-208 \$71-208-208 \$85 \$72 \$650-2016 \$11.177 \$550-2016 \$410-2016 \$75-2016 \$15.5 \$860-2016 \$18.5 \$860-2016		_												\ /			_		
WRIST Quant Streamfore Rel 1-17 V-5/2-016 43/97116 77 /26/140 43/9716 77 /26/140 43/9716 77 /26/140 43/9716 77 /26/140 43/9716 77 /26/140 43/9716 77 /26/140 43/9716 77 /26/9716 43/9716 77 /26/9716 7		Quanta Subsurface							Not Observed		S1			` ′		103	1.0		
WRIST Quant Schemin St.						1				ł		- 		\ /				+	
WRIB Quant Schwarfee BH 18 59/2016 43/99807 71/84598 15.5 No Observed 63/9016 81 85/evc 45.5 50L (83) (2 - 24) 6.0 97														` ′				+	
WBIS Quant Shibouline	WBR3				.					6/30/2016			4'-5.5'	` ′	62	193	14.0		
WHIGH Quanta Nationative Quanta Statistics Quanta Statisti					.									` ′					
WBR3					.		Ŭ							` ′					
Wilk Quart Substrates														\ /					
WHR Quarta Substratice HI-186 \$3.575.016 \$3.976.080 71.084251 14.8 Nucleoresis Nucleoresis \$0.000 \$1.5 \$1.5 \$1.0 \$1.0 \$1.5 \$1.0 \$		`			.		-							, ,					
WRR Quarta Subsurface BH1-88 6242016 43-97037 71.68567 15.5 Nac Observed 107/2016 S1 Sleeve 9.5-11 S01.(SM) 62 171 12.0 12.2 11.9 12.5 14								11.3										+	
WRR Quarta Subsurface BH 190 \$252-5016 \$43.06780 \$71.08566 \$15 \$13 Na Observed \$825.016 \$3.05858 \$71.08566 \$15 \$13 Na Observed \$825.016 \$3.05858 \$71.08566 \$15 \$13 Na Observed \$8.058.016 \$15.058 \$1		_												` ′					
WBR3 Quant Subsurface BH-191 \$52,5016 \$43,963016 71,68479 15.5 Not Observed \$630,016 \$11 \$16,000 \$11 \$16,000 \$12,000 \$10,000								13						` ′	+		-	+	
WBR3 Quarta Subsurface BH-193 624/2016 43.954718 -71.60359 15.5 Not Observed No.22016 S1 Sleeve 47.5.5 SDIL (SM) 82 20.6 11.8 100					.		_							` ′		<u> </u>			
WBR3		_			.									` /				+	
WBR3	WBR3	Quanta Subsurface	BH-194	5/25/2016	43.954718	-71.680359	15.5			6/30/2016			4'-5.5'	SOIL (SM)			11.0	1	
WBR3 Quanta Subsurface BH-197 5724/2016 43.94846 7-11.077571 15 Not Observed 630/2016 S1 Sleeve 44-4.2° SOIL (SM) 50 108 7.0 120					.				7					\ /					
WBR3 Quanta Subsurface BH-199 5742-2016 43.943589 -71.678624 15.5 Not Observed 10.77.2016 S1 Sleeve 4.55.5 SOII. (SP) 83 379 10.0 99		`							Not Observed					` /					
WBR3 Quanta Subsurface BH-201 \$524/2016 43,938137 71,679826 15.5 8.5 7/14/2016 \$52 Sleeve 4*5.5' SOIL (SM/ML) 85 31.5 18.0 99		`					_												
WBR3 Quanta Subsurface BH-202 5/24/2016 43.936396 71.681493 15.5 12.3 7/14/2016 52 Sleeve 4*5.5* SOIL (SM) 78 382 20.0 75							_							` ′					
WBR3 Quanta Subsurface BH-204 5/23/2016 43.930101 -71.685076 15.5 6.5 10.77/2016 S1 Bulk 04' SOIL_(SM) 64 179 11.0 122														` ′					
WBR3		_			.									` ′	†				
WBR3 Quanta Subsurface BH-208 5/23/2016 43.919277 -71.685079 15.5 13 9/16/2016 S1 Bulk 0'-4' SOIL (SM) 46 142 6 118	WBR3	Quanta Subsurface	BH-205	8/31/2016	43.92721	-71.685553	16.5		14.5	10/7/2016	S1	Sleeve		SOIL (SP)	89	267		107	
WBR3 Quanta Subsurface BH-209 6/24/2016 43.916247 -71.685027 15.5 13 8/25/2016 S1 Sleeve 4'-5.5' SOIL (SP) 55 152 17 118 WBR3 Quanta Subsurface BH-210 5/23/2016 43.914006 -71.685406 15 8.5 9/16/2016 S1 Bulk 0'-4' SOIL (SM) 52 144 4 118 WBR3 Quanta Subsurface BH-211 6/24/2016 43.909037 -71.684513 15.5 13 8/25/2016 S1 Sleeve 4'-5.5' SOIL (SM) 61 188 8 105 WBR3 Quanta Subsurface BH-212 6/23/2016 43.909376 -71.682221 15.5 10 8/25/2016 S1 Sleeve 4'-5.5' SOIL (SM) 61 188 8 105 WBR3 Quanta Subsurface BH-213 5/23/2016 43.901083 -71.682271 15.5 13.5 13.5 Bulk 0'-4' SOIL (SM) 39		`												` /			Ü		
WBR3 Quanta Subsurface BH-210 5/23/2016 43.914006 -71.685406 15 8.5 9/16/2016 S1 Bulk 0'-4' SOIL (SM) 52 144 4 118 WBR3 Quanta Subsurface BH-211 6/24/2016 43.909037 -71.684513 15.5 13 8/25/2016 S1 Sleeve 4' - 5.5' SOIL (SM) 61 188 8 105 WBR3 Quanta Subsurface BH-212 6/23/2016 43.903706 -71.682422 15.5 10 8/25/2016 S1 Sleeve 4' - 5.5' SOIL (SM) 61 188 8 105 WBR3 Quanta Subsurface BH-212 6/23/2016 43.901083 -71.682472 15.5 13.5 9/16/2016 S1 Bulk 0'-4' SOIL (SM) 39 160 14 118 WBR3 Quanta Subsurface BH-214 5/23/2016 43.898609 -71.68151 15.5 Not Observed 51 Sleeve 4'-5.5' SOIL (SM) 78<					.									` ′			_		
WBR3 Quanta Subsurface BH-212 6/23/2016 43.903706 -71.682422 15.5 10 8/25/2016 S1 Sleeve 4'-5.5' SOIL (SP) 59 178 15 105 105 WBR3 Quanta Subsurface BH-213 5/23/2016 43.901083 -71.682271 15.5 13.5 9/16/2016 S1 Bulk 0'-4' SOIL (SM) 39 160 14 118 WBR3 Quanta Subsurface BH-214 5/23/2016 43.898609 -71.681551 15.5 Not Observed 51 Sleeve 4'-5.5' SOIL (SM) 39 160 14 118 WBR3 Quanta Subsurface BH-214 5/23/2016 43.898609 -71.67951 15.5 12.5 6/30/2016 S1 Sleeve 4'-5.5' SOIL (SM) 78 259 6.0 102 102 102 102 102 102 102 103 103 103 103 103 103 103 103 103 103 <td>WBR3</td> <td>- `</td> <td>BH-210</td> <td>5/23/2016</td> <td>43.914006</td> <td>-71.685406</td> <td>15</td> <td></td> <td>8.5</td> <td>9/16/2016</td> <td>S1</td> <td></td> <td>0'-4'</td> <td>, ,</td> <td></td> <td></td> <td>-</td> <td>118</td> <td></td>	WBR3	- `	BH-210	5/23/2016	43.914006	-71.685406	15		8.5	9/16/2016	S1		0'-4'	, ,			-	118	
WBR3 Quanta Subsurface BH-213 5/23/2016 43.901083 -71.682271 15.5 13.5 9/16/2016 S1 Bulk 0'-4' SOIL (SM) 39 160 14 118 WBR3 Quanta Subsurface BH-214 5/23/2016 43.898609 -71.681551 15.5 Not Observed S1 Bulk 0'-4' SOIL (SM) 39 160 14 118 WBR3 Quanta Subsurface BH-214 5/23/2016 43.898609 -71.681551 15.5 Not Observed S1 Sleeve 4'-5.5' SOIL (SM) 78 259 6.0 102 WBR3 Quanta Subsurface BH-217 5/27/2016 43.892134 -71.675054 15 10 Not Observed 6/30/2016 S1 Sleeve 4'-5.5' SOIL (SM) 41 293 19.0 93 WBR3 Quanta Subsurface BH-218 5/27/2016 43.89864 -71.673882 15.5 Not Observed 6/30/2016 S1 Sleeve 4'-5.5' SOIL (S		_			.									` ′	+		_	+	
WBR3 Quanta Subsurface BH-214 5/23/2016 43.898609 -71.681551 15.5 Not Observed Sleeve 4'-5.5' SOIL (SM) 78 259 6.0 102 WBR3 Quanta Subsurface BH-217 5/27/2016 43.896297 -71.67951 15.5 12.5 6/30/2016 S1 Sleeve 4'-5.5' SOIL (SM) 78 259 6.0 102 WBR3 Quanta Subsurface BH-217 5/27/2016 43.892134 -71.675054 15 10 Not Observed 6/30/2016 S1 Sleeve 4'-5.5' SOIL (SM) 41 293 19.0 93 WBR3 Quanta Subsurface BH-218 5/27/2016 43.889664 -71.673882 15.5 Not Observed 6/30/2016 S1 Sleeve 4'-5.5' SOIL (SM) 88 379 16.0 79		_					_							` ′					
WBR3 Quanta Subsurface BH-217 5/27/2016 43.892134 -71.675054 15 10 Not Observed 6/30/2016 S1 Sleeve 4'-5.5' SOIL (SM) 41 293 19.0 93 WBR3 Quanta Subsurface BH-218 5/27/2016 43.889664 -71.673882 15.5 Not Observed 6/30/2016 S1 Sleeve 4'-5.5' SOIL (SM) 88 379 16.0 79		_ `							Not Observed					(()		- 50			INSUFFICIENT MATERIAL FOR TESTING
WBR3 Quanta Subsurface BH-218 5/27/2016 43.889664 -71.673882 15.5 Not Observed 6/30/2016 S1 Sleeve 4'-5.5' SOIL (SM) 88 379 16.0 79					.			10						` ′	†				
		_						10						` ′					
ризина вирмитасе ФП-215 27/2012 45.87 7/20/2014 5.5 6.61 6.50/2014 5.0 45.87 7/20/2014 5.0 98	WBR3	Quanta Subsurface	BH-219	5/26/2016	43.88725	-71.672328	15.5		Not Observed Not Observed	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	64	220	5.0	98	

			BOREHOI	LE DATA					T .			THERMAL	RESISTIVITY DATA	<u> </u>				
									GeoTherm			Sample		Lab De	termined	Moisture		
Alignment	Geotech	Borehole ID	Date Drilled	Borehole C	Coordinates	Borehole	1 ^	Depth to	Report	Sample	Sample	Depth	Material		Resistivity	Content	Dry Density	Notes
Name	Company	2010101012	2 400 212404	T		Depth (ft)	Rock (ft)	Groudwater (ft)	Date	ID	Туре	(ft)	Type		em/W)	(%)	(pcf)	
WBR3	Ouanta Subsurface	BH-220	5/26/2016	Latitude 43.884959	Longitude -71.671032	15.5	15.5	Not Observed	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	Wet 74	Dry 268	16.0	85	
WBR3	Quanta Subsurface	BH-221	5/26/2016	43.882332	-71.669309	15.5	13.3	Not Observed	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (ML)	74	327	32.0	78	
WBR3	Quanta Subsurface	BH-223	5/27/2016	43.878023	-71.665063	15.5		Not Observed	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	64	198	3.0	103	
WBR3	Quanta Subsurface	BH-224	5/26/2016	43.875793	-71.662815	15.5		Not Observed	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	68	212	4.0	102	
WBR3	Quanta Subsurface	BH-225	5/26/2016	43.873466	-71.663005	15.5		8.5	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (SM)	94	367	12.0	79	
WBR3	Quanta Subsurface	BH-226	5/26/2016	43.871339	-71.665427	15.5		8.5	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	84	281	9.0	95	
WBR3	Quanta Subsurface	BH-227	5/26/2016	43.869198	-71.667818	15.5		13.5	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	88	302	11.0	89	
WBR3	Quanta Subsurface	BH-228	6/23/2016	43.865996	-71.668644	15.5		Not Observed	8/25/2016	<u>S1</u>	Sleeve	4' - 5.5'	SOIL (SM)	70	216	5	108	
WBR3	Quanta Subsurface	BH-229	5/25/2016	43.863783	-71.668051	15.5		Not Observed	6/30/2016	<u>S1</u>	Sleeve	4'-5.5'	SOIL (SP)	94	180	4.0	99	
WBR3 WBR3	Quanta Subsurface Ouanta Subsurface	BH-230 BH-231	5/25/2016 5/25/2016	43.861061 43.857131	-71.667452 -71.667562	15.5 15.5		12	8/25/2016 7/14/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-5.5'	SOIL (SP) SOIL (SM)	64 62	199 154	10	92	
WBR3	Quanta Subsurface Ouanta Subsurface	BH-231	5/25/2016	43.855762	-71.667276	15.5		13	6/30/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	98	194	4.0	95	
WBR3	Ouanta Subsurface	BH-233	5/25/2016	43.853181	-71.666321	15.5		9	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	68	175	9.0	99	
WBR3	Quanta Subsurface	BH-234	5/27/2016	43.848627	-71.665449	15.5		10	9/30/2016	S1	Sleeve	9'-10.5'	SOIL (ML)	55	228	29	91	
WBR3	Quanta Subsurface	BH-235	5/25/2016	43.844242	-71.664397	15.5		13.5	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (SP/SM)	65	198	11.0	97	
WBR3	Quanta Subsurface	BH-236	6/23/2016	43.841753	-71.662771	15.2		Not Observed	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (GM)	57	183	14	106	
WBR3	Quanta Subsurface	BH-237	6/21/2016	43.840406	-71.660006	15	6	Not Observed	8/25/2016	S1	Sleeve	4' - 5.5'	SOIL (GM)	80	207	5	96	
WBR3	Quanta Subsurface	BH-238	5/24/2016	43.838013	-71.657981	15	7	9	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (SM)	57	219	10.0	106	
WBR3	Quanta Subsurface	BH-239	5/24/2016	43.83552	-71.658971	15		Not Observed	7/14/2016	S1	Sleeve	5'-6.5'	SOIL (SP)	62	188	5.0	104	
WBR3	Quanta Subsurface	BH-240	5/24/2016	43.832832	-71.660094	16.5		Not Observed	6/30/2016	<u>S1</u>	Sleeve	4'-5.5'	SOIL (ML)	71	294	14.0	88	
WBR3	Quanta Subsurface	BH-241	5/24/2016	43.830317	-71.661102	15		Not Observed	7/14/2016	<u>S1</u>	Sleeve	4'-5.5'	SOIL (SP/SM)	59	227	7.0	98	
WBR3 WBR3	Quanta Subsurface Ouanta Subsurface	BH-243 BH-244	6/21/2016 6/21/2016	43.82517 43.822518	-71.66282 -71.663547	15.5 15.5		Not Observed 14	7/14/2016 7/14/2016	S1 S1	Sleeve Sleeve	4'-5.5' 4'-5.5'	SOIL ((SP/SM) SOIL (GM)	67	254 197	5.0	88	
WBR3	Ouanta Subsurface	BH-245	6/21/2016	43.822318	-71.663455	15.5		Not Observed	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (GW)	55 56	162	7.0	109	
WBR3	Ouanta Subsurface	BH-246	8/31/2016	43.817495	-71.662726	16.5		Not Observed	10/7/2016	S1	Sleeve	6'-7.5'	SOIL (GW)	112	263	2.0	113	
WBR3	Ouanta Subsurface	BH-247	6/21/2016	43.814372	-71.663772	15.5		Not Observed	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (SM)	52	86	3.0	122	
WBR3	Quanta Subsurface	BH-249	5/24/2016	43.810603	-71.668392	15.5		11.5	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (SP)	60	231	4.0	98	
WBR3	Quanta Subsurface	BH-250	5/23/2016	43.808335	-71.670156	15.2		Not Observed	9/16/2016	S1	Bulk	0'-4'	SOIL (SP)	43	146	6	118	
WBR3	Quanta Subsurface	BH-251	5/23/2016	43.806027	-71.67195	15		3	9/16/2016	S1	Bulk	0'-4'	SOIL (SP)	45	143	8	118	
WBR3	Quanta Subsurface	BH-252	5/23/2016	43.803951	-71.673353	15.5		10	9/16/2016	S1	Bulk	0'-4'	SOIL (SP)	44	138	9	118	
WBR3	Quanta Subsurface	BH-254	6/21/2016	43.796286	-71.673308	15.5		4.5	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (GP)	41	98	11.0	114	
WBR3	Quanta Subsurface	BH-255	6/20/2016	43.794794	-71.671809	15		Not Observed	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (GM)	58	244	13.0	90	
WBR3 WBR3	Quanta Subsurface	BH-256	6/20/2016	43.792982	-71.669789	15.5		9 Not Observed	7/14/2016	S1	Sleeve	4'-5.5'	SOIL (SP/SM)	82 42	360	15.0	90	
WBR3	Quanta Subsurface Quanta Subsurface	BH-257 BH-259	5/21/2016 6/20/2016	43.790564 43.78450368	-71.669202 -71.66879346	15.5 15.5		Not Observed 13.5	9/16/2016	S1	Bulk	0'-4'	SOIL (SP)	42	158	19	118	INSUFFICIENT MATERIAL FOR TESTING
WBR3	Quanta Subsurface	BH-260	5/21/2016	43.783437	-71.670993	15.5	14.8	8.5	9/16/2016	S1	Bulk	0'-4'	SOIL (SP)	45	138	13	114	INSUFFICIENT MATERIAL FOR TESTING
WBR3	Quanta Subsurface	BH-261	5/21/2016	43.781941	-71.674072	15.5	17.0	8	9/16/2016	S1	Bulk	0'-4'	SOIL (SM)	55	165	10	116	
WBR3	Quanta Subsurface	BH-262	5/21/2016	43.780394	-71.676954	15.5		9	9/16/2016	S1	Bulk	0'-4'	SOIL (SP)	57	165	10	116	
WBR3	Quanta Subsurface	BH-264	5/20/2016	43.77653	-71.681884	15.5		Not Observed	9/16/2016	S1	Bulk	0'-4'	SOIL (SP)	45	144	8	121	
WBR3	Quanta Subsurface	BH-265	5/20/2016	43.774316	-71.683764	15.5		Not Observed	9/16/2016	S1	Bulk	0'-4'	SOIL (SM)	47	166	11	116	
WBR3	Quanta Subsurface	BH-267	9/21/2016	43.76251	-71.68719	16.5	11.3	Not Observed	10/20/2016	S1	Sleeve	5'-6.5'	SOIL (SP)	73	262	14	83	
WBR3	Quanta Subsurface	BH-268	9/14/2016	43.75948	-71.68751	16.5		Not Observed	10/7/2016	S 1	Sleeve	5'-6.5'	SOIL (GP)	85	291	4	111	
WBR3	Quanta Subsurface	BH-269	9/14/2016	43.7567	-71.68781	16.5		Not Observed	10/7/2016	<u>S1</u>	Sleeve	5'-6.5'	SOIL (ML)	56	365	23	90	
WBR3	Quanta Subsurface	BH-270	9/1/2016	43.754132	-71.687767	15.5		Not Observed	9/30/2016	<u>S1</u>	Sleeve	4'-5.5'	SOIL (SM/GM)	79	208	5	96	
WBR3 WBR3	Quanta Subsurface	BH-271	5/20/2016	43.751546	-71.687288	15.5	7.5	Not Observed	9/16/2016	S1	Bulk	0'-4'	SOIL (GP)	46	129 74	9	122	
WBR3	Quanta Subsurface Quanta Subsurface	BH-272 BH-273	5/20/2016 5/19/2016	43.74935 43.747356	-71.68499 -71.683346	16 15.5	7.5	Not Observed 10.5	10/20/2016 9/16/2016	RC1 S1	Core Bulk	4.65'-5.75' 0'-4'	ROCK SOIL (SM)	<u>36</u> 50	155	<1 10	178 121	
WBR3	Quanta Subsurface Quanta Subsurface	BH-274	5/18/2016	43.745659	-71.683346	15.5	13.5	5.5	9/16/2016	S1	Bulk	0'-4'	SOIL (SM)	49	140	7	121	
WBR3	Quanta Subsurface Quanta Subsurface	BH-275	5/18/2016	43.743554	-71.679598	15.4	13.3	Not Observed	9/16/2016	S1	Bulk	0'-4'	SOIL (SM)	55	138	5	123	
WBR3	Quanta Subsurface	BH-276	5/18/2016	43.740794	-71.678323	15.5		14.3	10/26/2016	RC1	Core	13.6'-14.3'	ROCK	31	75	<1	174	
WBR3	Quanta Subsurface	BH-276	5/18/2016	43.740794	-71.678323	15.5		14.3	9/16/2016	S1	Bulk	0'-4'	SOIL (SM)	46	135	11	126	
WBR3	Quanta Subsurface	BH-278	5/18/2016	43.733344	-71.675309	15.5		Not Observed	9/16/2016	S 1	Bulk	0'-4'	SOIL (GP)	44	98	6	137	
WBR3	Quanta Subsurface	BH-279	5/16/2016	43.731144	-71.675103	15.5		Not Observed	9/16/2016	S1	Bulk	3'-5.5'	SOIL (SM)	51	158	11	121	
WBR3	Quanta Subsurface	BH-281	5/18/2016	43.72375	-71.676302	15.5		Not Observed	9/16/2016	S1	Bulk	0'-4'	SOIL (SM)	48	149	9	121	
WBR3	Quanta Subsurface	BH-283	5/17/2016	43.721601	-71.670009	15.5		Not Observed	9/16/2016	<u>S1</u>	Bulk	0'-4'	SOIL (SM)	56	160	19	121	
WBR3	Quanta Subsurface	BH-284	5/17/2016	43.720253	-71.666812	15.5		Not Observed	9/16/2016	<u>S1</u>	Bulk	0'-4'	SOIL (SM)	52	154	12	121	
WBR3 WBR3	Quanta Subsurface	BH-285	5/17/2016	43.718766	-71.663795	15.5		Not Observed	9/16/2016	S1	Bulk	0'-4'	SOIL (SM)	47 48	140	12	124	
WBR3	Quanta Subsurface Quanta Subsurface	BH-287 BH-288	5/16/2016 5/16/2016	43.714565 43.712138	-71.659359 -71.65781	15.5 15.5		Not Observed Not Observed	9/16/2016 9/16/2016	S1 S1	Bulk Bulk	0'-4' 1'-4'	SOIL (SP/SM) SOIL (SP/SM)	50	148 165	13	121 116	
CAGW	Quanta Subsurface	рп-∠≬≬	J/10/2010	45./12138	-/1.03/81	13.3		not Observed	9/10/2010	21	Dulk	1 -4	SOIL (ST/SMI)	30	103	J	110	

ATTACHMENT A

Exploratory Test Boring Logs

		SUE	JAN BSURI	FACE Spo	kane	arker f Valley e: 509	, WA	99027 -9409	BOF	RING NUMBER BH-53 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Bethlehem, N	Н
- 1				31/16 CTOR <u>Geo</u>				FED <u>8/31/16</u>		
M.GF				Solid Ster					DRILLING EQUIPMENT CME 55	
뾟				non			CKEL	DBY S. Kearney		
ЖТН	NOTE	_	1. VCI	11011		OHE		O. Reamey	GROOMS WATER LEVEL.	
M.	11012		1				1			
LOGS/BETHLEHEM, NH	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
ERN PASS TRENCH COMPLETED I	_	om GB 1			SM			FILL: SILTY SAND ocoarse grained grave	WITH GRAVEL (SM), moderate brown, el, subangular	moist, loose, fine to medium grained,
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIBETHLEHEM, NHINP BETHLEHEM.GPJ	5	SPT 1	100	16-66- 50/1"	SM		4.0		SAND WITH GRAVEL (SM), yellowish g ned gravel, subangular	ray, dry, very dense, fine to medium
SERS/LGSCHWIND/DESKTOP/F	10	SPT 2	94	8-15-23 (38)	SM		12.0	-becomes moderate	gray, with fine gravel, moist, dense	
LAB.GPJ - 10/3/16 11:24 - C:\U	15	SPT 3	67	7-26-37 (63)	GM		16	TILL: SILTY GRAVE coarse grained grav	EL WITH SAND (GM), moderate brown bel, fine to medium grained sand	o grayish black, moist, very dense,
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C:\USERS\LGSCHWIND\DESKTO							15.5		Bottom of borehole at 15 Backfilled with auger cutt	
GENER,										

	$\overline{}$	JAN BSUR	Spc	kane	arker F Valley, e: 509	WA	99027 9409	BOF	RING NUMBER BH-54 PAGE 1 OF 1
CLII	ENT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass	
PRO	DJECT NUI	MBER	16004					PROJECT LOCATION Bethlehem, N	Н
DAT	E STARTE	D 8/3	31/16		СОМ	PLET	ED 8/31/16	GROUND ELEVATION NA	HOLE SIZE 4.25 in
1			CTOR Geo					LATITUDE 44.283071	
ଞ୍ DRI			Solid Ster					DRILLING EQUIPMENT CME 55	
≣ ∟ос	GED BY	T. Vei	non					GROUND WATER LEVEL:	
EON	TES							-	
LOGS/BETHLEHEM, NH/N DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
OMPLETED T	-			SM		1.5	FILL: SILTY SAND gravel, rounded	(SM), trace gravel, light olive brown, fine	to medium grained, fine grained
ERN PASS TRENCH CO	GB 1			SM		1.5	ALLUVIUM: SILTY medium grained, fir	SAND (SM), trace gravel, light olive brow ne grained gravel, subrounded	n, moist, medium dense, fine to
ERN PASS NH/NORTH	SPT 1	78	2-10-15 (25)	-					
ND/DESKTOP/PROJECTS/NORTH	SPT 2	100	9-24-27 (51)	SC		7.3	TILL: SANDY CLAY medium grained, fir	WITH GRAVEL (SC), light olive gray, n le grained gravel, subrounded	noist, hard, low plasticity, fine to
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C:\USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NHNORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM, NHNP BETHLEHEM.GFJ 20 20 20 20 20 20 20 20 20 20 20 20 20	- SPT		9-37-53	sc					
15 15	SPT 3	100	(90)			15.5			
WELL - GINT STD US		ı	1	ı	(<i>1.4.)</i>	10.5		Bottom of borehole at 15. Backfilled with auger cutt	
GENERAL BH / TP /									

	C	Englise	JAN BSURI	Tele	8 N Backane 'ephone	arker R Valley, e: 509-	WA 9 -892-	9409		RING NUMBER BH-55 PAGE 1 OF 1
- 1					ctors					
	PROJI	ECT NUN	MBER	16004					PROJECT LOCATION Bethlehem,	NH
	DATE	STARTE	D _8/3	31/16		COM	PLET	ED 8/31/16	GROUND ELEVATION NA	HOLE SIZE 4.25 in
GE.	DRILL	ING CON	ITRAC	CTOR Geo	searc	:h			LATITUDE 44.283952	LONGITUDE 71.733923
EM EM	DRILL	ING MET	HOD	Solid Ster	n Aug	er			DRILLING EQUIPMENT CME 55	SPT HAMMER 140 lb Auto
	LOGG	ED BY	T. Ver	non		CHEC	CKED	S. Kearney	GROUND WATER LEVEL:	
BE_	NOTE	s							-	
COMPLETED LOGS/BETHLEHEM, NH/N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPT	
ICH COMPLETED		m GB			SM		2.0	gravel, subrounded	WITH GRAVEL (SM), dusky brown, fin	
THERN PASS TREN	-	1			SM			TILL: SILTY SAND y grained, coarse grai	WITH GRAVEL (SM), dusky brown, moined gravel, subrounded	oist, medium dense, fine to medium
SS NH\NORTH	5	SPT 1	50	3-8-15 (23)						
P\PROJECTS\NORTHERN PASS	· –									
ND\DESKTC	10	SPT 2	67	5-13-11 (24)	SM			-without gravel		
C:\USERS\LGSCHWIND\DESKTOR	- -				ļ 		<u>12.0</u>			
- 10/3/16 11:24 - C:\L	-				sc			TILL: CLAYEY SAN grained	D (SC), moderate brown, moist, very s	titt, medium plasticity, fine to medium
S LAB.GPJ -	15	SPT 3	56	6-10-12 (22)			15.5			
STD U.									Bottom of borehole at 1 Backfilled with auger cu	5.5 ft. ttings
ENERAL BH / TP / WELL - GINT STD									Saskined With dayor ou	3-

		JAN BSUR	Opc	kane	arker F Valley, e: 509	WA	99027 9409		BORI	NG NUMB	ER BH-56 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME North	nern Pass		
PRO	JECT NUI	/IBER	16004					PROJECT LOCATION _	Bethlehem, NH		
DATE	STARTE	D 8/3	30/16		СОМ	PLET	FED _8/30/16	GROUND ELEVATION	NA	HOLE SIZE 4.2	5 in
의 집 DRIL			Solid Ster								
티 LOG								GROUND WATER LEVE			
NOTE	ES										
LOGS/BETHLEHEM, NH/NF O DEPTH (ff)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRI			REMARKS
OMPLE1EU	GB 1			ОН		1.5	ORGANIC DEPOSI moist, fine to coarse	FS: SANDY ORGANICS (i grained	OH), with roots,	light olive brown,	
RENCH O	_			SP		1.5	ALLUVIUM: POORL medium dense, fine	Y GRADED SAND (SP), to coarse grained sand	race silt, light ol	ive brown, moist,	
INC. TO THE PROPERTY OF THE PROBLEM PASS TRENCH COMPLETED LOGS/BETHLEHEM, NHN/P BETHLEHEM GRUDON COMPLETED LOGS/BETHLEHEM, NHN/P BETHLEHEM, NHN/P BETHLEHEM, NHN/P BETHLEHEM, GRUDON COMPLETED LOGS/BETHLEHEM, NHN/P BETHLEHEM,	SPT 1	71	1-4-14 (18) 37-50/1"	SM		6.5	TILL: SILTY SAND Vidense, fine to coarse	WITH GRAVEL (SM), light e grained, fine grained gra	brownish gray, vel, subangular	moist, very	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C. USERS/LGSCHWIND/DESKTO	-					16.0	BEDROCK: GNEISS				switched to mud rotary, roller bit 11 to 16 ft
TS FZ								Bottom of borehole a Backfilled with auger			
GENERAL BH / TP / WELL - GI.								Dadilliod Will dage	- January - Janu		

		JAN BSUR	Spc	kane	arker F Valley, e: 509	WA	99027 -9409	BOR	ING NUMBER BH-57 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass	
PRO	JECT NUM	/IBER	16004					PROJECT LOCATION Bethlehem, NH	I
1			30/16				FED <u>8/30/16</u>		
אַן אַסן פֿו			CTOR Geo						
			Solid Ster				NPV C Koornov		SPI HAWIMER 140 ID AUTO
H NOT	_	ı. vei	non		CHE	CNEL	JBY 5. Kearney	GROUND WATER LEVEL:	
		%						•	
LOGS/BETHLEHEM, DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY 9	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	N
CH COMPLETED	-M GB			SM		2.0	FILL: SILTY SAND ((SM), light gray, fine to medium grained	
HERN PASS TRENC				SM		2.0	TILL: SILTY SAND V	WITH GRAVEL (SM), moderate brown to ned, subangular, weathered gravel	medium light gray, dry, very dense,
PUPROJECT SNORTHERN PASS TRENCH COMPLETED LOGS/BETHLEHEM, NHNP BETHLEHEM GRAD OF THE TOTAL OF TH	SPT 1	100	24-31-62 (93)	_					
OP(PROJECTS(NORT)	_						-boulders present		
SERS/LGSCHWIND/DESKT	SPT 2	28	5-2-9 (11)	SM			-becomes moderate	brown, medium dense, with trace, subar	ngular, fine grained, gravel
10/3/16 11:24 - C:\U				SC		12.5		D (SC), trace gravel, brownish black, moi e grained gravel, rounded	st, hard, low plasticity, fine to
[AB:GP] - 15	SPT 3	67	14-21-24 (45)			15.5			
GINT STD US		•						Bottom of borehole at 15.5 Backfilled with auger cuttir	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C: USERS/LGSCHWIND\DESKTO									

	€		JAN BSUR	Spc Spc	kane	arker F Valley, e: 509	, WA	. 99027 -9409	BOF	RING NUMBER BH-58 PAGE 1 OF 1
CL	IEN	T PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	
PR	OJE	CT NU	/IBER	16004					PROJECT LOCATION Bethlehem, N	Н
				30/16 CTOR _Geo				TED <u>8/30/16</u>		
שם ואַ מו				Solid Ster						
								D. D.V. S. Koornov	GROUND WATER LEVEL:	
		_	i. vei	11011		CHE	CKEL	J BT _S. Realliey	GROUND WATER LEVEL.	
	TES	•		1						
LOGS/BETHLEHEM, NH		SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
CH COMPLETED	_5	GB 1			SM		2.0	FILL: SILTY SAND \ coarse grained grave	WITH GRAVEL (SM), light gray to mode el	rate brown, fine to medium grained,
DRIHERN PASS IRENC	-				SM		2.0	TILL: SILTY SAND \ grained, angular	WITH GRAVEL (SM), with cobbles, light	gray, dry, dense, fine to medium
PAPROJECTS/NORTHERN PASS NANNORTHERN PASS TRENCH COMPLETED LOGS/BBT HLEHEM, NHNIN BETHLEHEM, GPD CA CA CA CA CA CA CA CA CA C	-	SPT 1	56	13-21-18 (39)						
GENERAL BH 1P WELL - GIN S D OS CAS, GP O TO/3 D T.24 - C: USERS/LGGCHWIND/DESK O TO TO TO TO TO TO TO	0 -	SPT 2	0	50/3"	SM			-with granitic cobble	s and boulders	
S LAB.GPJ - 10/3	5_	SPT 3	56	9-17-13 (30)	SM		15.5	-with trace gravel, gr	ayish black, moist, fine grained gravel, v	
RAL BH / TP / WELL - GINT STD U.									Bottom of borehole at 15. Backfilled with auger cutt	

	€	SUE	JAN BSURI	FACE Spo	08 N B okane	arker F Valley, e: 509	, WA	99027 9409	BOR	RING NUMBER BH-59 PAGE 1 OF 1
- -	CLIEN	IT PAR	Electr	ical Contra		· · · · · · · · · · · · · · · · · · ·	7 002	<u> </u>	PROJECT NAME Northern Pass	
ŀ	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Bethlehem, NI	1
	DATE	STARTE	D 8/	30/16		СОМ	IPLET	ED _8/30/16	GROUND ELEVATION NA	HOLE SIZE _4.25 in
E I	DRILL	ING CON	ITRAC	CTOR Geo	osearc	h		·		
I EM.C	DRILL	ING MET	HOD	Solid Ster	n Aug	er			DRILLING EQUIPMENT CME 55	SPT HAMMER 140 lb Auto
튑I	LOGG	ED BY _	T. Ver	non		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:	
	NOTE	s				,				
LOGS/BETHLEHEM, NH/	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	
SS TRENCH COMPLETED I	_	GB 1			SM		3.0	FILL: SILTY SAND grained gravel, angu	WITH GRAVEL (SM), moderate brown, f ılar	ine to medium grained, coarse
ERN PA					SW-				ED SAND WITH SILT AND GRAVEL (SV to coarse grained, fine grained gravel, a	
RTHE THE	-	V			JOIVI					
Ĭ N H	5	SPT 1	100	8-10-11 (21)						
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C:\USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM, NH\NP BETHLEHEM. OF LOGS\BETHLEHEM, NH\NP BETHLEHEM. OF LOGS\BETHLEHEM. OF LOGS\BETHLEHEM, NH\NP BETHLEHEM. OF LOGS\BETHLEHEM. OF LOGS\	10	SPT 2	56	3-10-14 (24)	SW-SM			-becomes moderate	e brown to dusky purple	
-AB.GPJ	15	SPT 3	67	8-15-14 (29)	SW- SM					
STD US I			<u> </u>	l		<u> ` </u>	15.5		Bottom of borehole at 15. Backfilled with auger cutti	
GENERAL BH / TP / WELL - GINT S										

		UAN BSUR	Spc Spc	kane	arker F Valley, e: 509	WA			BORI	NG NUMBER BH-60 PAGE 1 OF 1
CLIE	NT PAR	Electi	rical Contra	ctors				PROJECT NAME Norther	rn Pass	
PRO	JECT NU	MBER	16004					PROJECT LOCATION BE	ethlehem, NH	
DAT	E STARTI	E D 8/	30/16		СОМ	PLET	ED _8/30/16	GROUND ELEVATION	NA	HOLE SIZE 4.25 in
			CTOR Geo							
଼ା ≣ DRII			Solid Ster							SPT HAMMER 140 lb Auto
티 LOG						CKED	BY S. Kearney	GROUND WATER LEVEL:		
Б иот	ES deep	fill ma	apped nearb	ру						
LOGS/BETHLEHEM, NH/NF DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL D		
ETED				SM			FILL: SILTY SAND ((SM), medium brown to light	gray, fine to n	nedium grained
JAMP	GB 1					1.				
Ö H D -		_		SP-		1.5	FILL: POORLY GRA	ADED SAND WITH SILT (SF Im grained, highly weathered	P-SM), mediur	n gray to grayish red, dry, very
ASS TRE				SM						
TERN P/										
TRON T	SPT		13-19-31							
Σ ω	- I I	94	(50)							
N PAS										
TOP/PROJECTS/NORTHER	_					9.0				
10 10	SPT 2	67	6-8-10 (18)	SM			TILL: SILTY SAND (grained, fine grained		orown, moist,	medium dense, fine to medium
E CHAIL			, ,	1						
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM, NH\NP BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM, NH\NP BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM, NH\NP BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM, NH\NP BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\BETHLEHEM.GPJ DOI OF 11:24 - C:USERS\LGSCHWINDDESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\RGAN PASS TRENCH LOGS\RGAN PASS TRENCH PASS TREN	-									
-rage_15_	SPT 3	83	5-6-7 (13)	SM						
						15.5		Bottom of bor	ehole at 15.5	ft.
TST								Backfilled with		
ND -										
WELL										
TP /										
ERAL										
NEN CEN										

		JAN BSUR	Spc Spc	kane	arker F Valley, e: 509	WA	99027 9409	ВО	RING NUMBER BH-61 PAGE 1 OF 1		
CLIE	NT PAR	Electi	rical Contra	•				PROJECT NAME Northern Pass			
PRO.	JECT NUI	MBER	16004					PROJECT LOCATION Bethlehem, I	NH		
DATE	E STARTE	D 8/	30/16		СОМ	PLET	ED _8/30/16	GROUND ELEVATIONNA	HOLE SIZE 4.25 in		
			CTOR Geo								
인 B DRIL			Solid Ster								
LOG	GED BY	T. Ve	rnon		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:			
HON H	ES							-			
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION O (SM), trace gravel, light gray, fine grained, coarse grained gravel, rounded			
	GB 1			SM		2.0	FILL: SILTY SAND	(SM), trace gravel, light gray, fine grain	ed, coarse grained gravel, rounded		
HEKN PASS I KEN				SP- SM			ALLUVIUM: POORL moist, dense, fine to	LY GRADED SAND WITH SILT (SP-SN o medium grained, coarse grained grave	f), trace gravel, light brownish gray, el, rounded		
HEKN PASS NHINOK	SPT 1	94	13-15-19 (34)	_							
				SW- SM		<u>7.0</u> .	ALLUVIUM: WELL (dense, fine to mediu		moderate brown, moist to wet, medium		
10 10 10 10 10 10 10 10 10 10 10 10 10 1	SPT 2	94	4-5-7 (12)	-							
11:24 - C:\USEKS\\	_			SC		12.5	TILL: CLAYEY SAN grained	ID (SC), grayish brown, moist, very den	se, low plasticity, fine to medium		
10/3/16 10/3/16 15/16 15/16 15/16 16	SPT 3	94	6-27-43 (70)	_		15.5					
GENERAL BH 7 IP / WELL - GINT STD US LAB GPJ - 10/3/16 11:24 - C:USERS)LGSCHWINDLESKTOP/PROJECT ISNORTHERN PASS NANCH COMPLETED LOGS/BBE THEHEM, NANN P BEI THEHEM, GPJ TIND TO THE TO T		•		•	× · · · · · · · · · · · · · · · · · · ·	.5.0		Bottom of borehole at 19 Backfilled with auger cut			
GENERAL B											

	C	$\overline{}$	JAN SSUR	Spc Spc	kane	arker F Valley, e: 509	WA		ВО	RING NUMBER BH-62 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	rical Contra	•				PROJECT NAME Northern Pass	
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Bethlehem,	NH
	DATE	STARTE	D 8/	29/16		СОМ	PLET	FED _8/29/16	GROUND ELEVATION NA	HOLE SIZE 4.25 in
- 1				CTOR Geo				<u></u>		
EM.G				Solid Ster						
넴	LOGG	ED BY _	T. Ve	rnon		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:	
IP BEI	NOTE	s							-	
LOGS/BETHLEHEM, NH/N	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPT	
CH COMPLETED		GB 1			SM		2.0	FILL: SILTY SAND subrounded	WITH GRAVEL (SM), moderate brown	, fine grained, coarse grained gravel,
THERN PASS TREN					SP- SM			TILL: POORLY GRA brown, moist, dense	ADED SAND WITH GRAVEL AND SILe, fine grained, coarse grained gravel, s	Γ (SP-SM), very light gray to moderate ubrounded, iron oxide staining
DRTHERN PASS NH/NOR	5 _	SPT 1	44	9-16-20 (36)			7.0			
ESKTOP/PROJECTS/N		SPT		6-11-12	SC			TILL: CLAYEY SAN	ID (SC), moderate brown, moist, mediu	m dense, low plasticity, fine grained
4S/LGSCHWIND/D	10	2	78	(23)			<u>11.5</u>			
3PJ - 10/3/16 11:24 - C:\USEF	 	SPT	89	21-26-36	SW- SC			TILL: WELL GRADI plasticity, fine graine	ED SAND WITH CLAY (SW-SC), mode	rate brown, moist, very dense, low
Ĭ.	15	3	09	(62)			15.5			
STD US				1	-	10 0 10/0/	10.0		Bottom of borehole at 1 Backfilled with auger cu	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C:UJSERS/LGSCHWIND/DESKTOP/PRO_ECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/BETHLEHEM, NH/NP BETHLEHEM.GFJ									man dager ou	

		JAN BSUR	Spc Spc	08 N B okane	arker f Valley e: 509	, WA	99027 -9409	BOF	RING NUMBER BH-63 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	
PRO.	JECT NUM	/IBER	16004					PROJECT LOCATION Bethlehem, N	IH
DATE	STARTE	D _8/	29/16		CON	IPLE1	TED 8/29/16	GROUND ELEVATION NA	HOLE SIZE 4.25 in
g DRILI	LING CON	NTRAC	CTOR Geo	osearc	:h			LATITUDE <u>44.269031</u>	LONGITUDE71.742912
DRIL	LING MET	HOD	Solid Ster	n Aug	er			DRILLING EQUIPMENT CME 55	SPT HAMMER 140 lb Auto
LOG	GED BY _	T. Vei	rnon		CHE	CKE	D BY S. Kearney	GROUND WATER LEVEL:	
NOTE	ES							-	
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
	one GP			SM			FILL: SILTY SAND	WITH GRAVEL (SM), fine grained, coar	se grained gravel, subrounded
<u>-</u> -	GB 1			SP-		2.0	TILL: POORLY GRA	ADED SAND WITH GRAVEL AND SILT	(SP-SM), moderate brown, moist,
- 2 2 				SM			medium dense, fine	grained, coarse grained gravel, rounded	
-				1					
5	SPT 1	22	10-13-15 (28)						
r con			(20)						
DRILL OF TABLE OF TAB	SPT 2	100	5-8-8 (16)	SW- SM		9.0	TILL: WELL GRADE dense, fine grained,	ED SAND WITH SILT (SW-SM), trace g coarse grained gravel	ravel, moderate brown, moist, medium
15 - 1700 10 10 10 10 10 10 10 10 10 10 10 10 1	SPT 3	100	25-26-38 (64)	SW- SM		15.5	-becomes very dens	se Bottom of borehole at 15	5.5 ft.
								Backfilled with auger cut	

	⊘	SÚE	JAN BSUR	FACE Spc	kane	arker l Valley	, WA	. 99027 -9409	BOR	RING NUMBER BH-64 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contra	•			. 0 100	PROJECT NAME Northern Pass	
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Bethlehem, NI	-
رد				29/16 CTOR <u>Geo</u>				TED <u>8/29/16</u>	· · · · · · · · · · · · · · · · · · ·	
M.G				Solid Ster						
빏									GROUND WATER LEVEL:	
E	NOTE									
PIPROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/BETHLEHEM, NH/NP BETHLEHEM.GPJ	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC			MATERIAL DESCRIPTIO	
ICH COMPLETED		ลกุ GB			GM		2.0		EL (GM), coarse grained gravel, subround	
THERN PASS TREN		1			GP- GM			TILL: POORLY GRA grained, coarse grai	ADED GRAVEL WITH SILT AND SAND ned gravel, subrounded	(GP-GM), dry, medium dense, fine
HERN PASS NH\NOR	5	SPT 1	67	23-11-8 (19)						
					SM		7.0	TILL: SILTY SAND	(SM), medium gray, moist, medium dens	e, fine grained
ERS/LGSCHWIND/DES	10	SPT 2	78	10-10-13 (23)	_					
I - 10/3/16 11:24 - C:\US		X SPT	40	50/5"	SM		14.5	-boulders and cobbl	es present se, with trace, rounded, coarse grained, ç	gravel
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C:\USERS\LGSCHWIND\DESKTO		3	-3	33.3	1	powie.	14.5		Bottom of borehole at 14. Backfilled with auger cutti	5 ft.

	$\overline{}$		Spo	08 N B okane	arker F Valley, e: 509	, WA	99027 9409	BOI	RING NUMBER BH-65 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	
PRO.	JECT NUN	/IBER	16004					PROJECT LOCATION Bethlehem, N	IH
DATE	STARTE	D 8/2	29/16		СОМ	PLE1	TED 8/29/16	GROUND ELEVATIONNA	HOLE SIZE 4.25 in
g DRIL	LING CON	ITRAC	TOR Geo	oseard	:h			LATITUDE 44.26399	LONGITUDE71.746373
DRIL	LING MET	HOD	Solid Ster	m Aug	er			DRILLING EQUIPMENT CME 55	SPT HAMMER 140 lb Auto
LOG	GED BY _	T. Ver	non		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:	
NOTE	ES							-	
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTI	
<u>ה</u>				SM			FILL: SILTY SAND grained gravel, roun	WITH GRAVEL (SM), moderate brown to	o dark gray, fine grained, coarse
	GB 1								
5	SPT 1	39	6-3-5 (8)	SM			-becomes moderate	e brown, moist, loose	
	-			SM		6.0	TILL: SILTY SAND dense, fine grained,	WITH GRAVEL (SM), moderate brown coarse grained gravel, subrounded	to light olive gray, moist to wet, medium
10 10 10 10 10 10 10 10 10 10 10 10 10 1	SPT 2	50	3-9-11 (20)	SM		12.0			
0.0.5				SW- SM		12 <u>.0</u>	TILL: WELL GRADE medium dense, fine	ED SAND WITH SILT (SW-SM), trace g grained, coarse grained gravel	ravel, moderate brown, moist,
15	SPT 3	56	6-8-11 (19)			15.5			
								Bottom of borehole at 15 Backfilled with auger cut	
DRILL ON THE PROPERTY OF THE P									

	3	$\overline{}$	JAN BSUR	Spc	kane	arker F Valley, e: 509	, WA	99027 -9409	BORING NUMBER BH-66 PAGE 1 OF 1				
CL	IEN	T PAR	Electr	rical Contra	•				PROJECT NAME Northern Pass				
PR	OJI	ECT NUN	/IBER	16004					PROJECT LOCATION Bethlehem, NH	1			
- 1				26/16				TED <u>8/26/16</u>	·				
집 DR				CTOR Geo									
A DR				Solid Ster						_ SPT HAMMER _140 lb Auto			
)GG)TE:	_	T. Ve	rnon		CHE	CKEL	OBY S. Kearney	GROUND WATER LEVEL:				
	<i>)</i> E					1			-				
LOGS/BETHLEHEM, NH DEPTH		SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
KENCH COMPLEI EU	_	m GB 1			SM		2.5	subrounded	(SM), trace gravel, moderate brown, fine				
ASS	_				SP-				ADED SAND WITH SILT (SP-SM), trace coarse grained gravel, rounded	gravel, dusky brown, moist, medium			
RN P					SM			gramou,	g.a.rea g.a.rea				
ᇎ	1												
	5	SPT 1	44	28-14-11 (25)									
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:24 - C:USERS)LGSCHWINDEGSTOP/PROJECTS/NORTHERN PASS NHNORTHERN PASS NENCH COMPLETED LOGS/BETHLEHEM.GPJ N		SPT 2	89	14-19-22 (41)	SP- SM			-becomes moist to v	-becomes moist to wet, decrease in gravel content				
JSERS/LGSC	-						12.0						
10/3/16 11:24 - C:\	-				SW- SM			TILL: WELL GRADE coarse grained	ED SAND WITH SILT (SW-SM), moderat	e brown, moist, very dense, fine to			
- GBG	_ [SPT	100	26-42-56									
1 AB.G	5	3	100	(98)			15.5						
STD US			<u> </u>	1	1	<u> </u>	110.0	<u> </u>	Bottom of borehole at 15.8 Backfilled with auger cuttil				
LNIO										-			
) 													
, WE													
# 													
ZAL B													

- 1		T PAR		Tele	kane ephon	arker R Valley, e: 509	WA : -892-	99027 9409		ern Pass	ING NUMBER BH-67 PAGE 1 OF 1
	PROJI	ECT NUN	/IBER	16004					PROJECT LOCATION _F	ranconia, NH	
[DATE	STARTE	D _8/2	26/16		COM	PLET	ED 8/26/16	GROUND ELEVATION _	NA	HOLE SIZE 4.25 in
0	ORILL	NG CON	ITRAC	CTOR Geo	searc	h			LATITUDE 44.260336		LONGITUDE71.751245
_ c	ORILL	ING MET	HOD	Solid Ster	n Aug	er			DRILLING EQUIPMENT	CME 55	SPT HAMMER 140 lb Auto
g L	.ogg	ED BY _	T. Ver	non		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL	.:	
N RAN	OTE	S									
COMPLETED LOGS/FRANCONIA, NH/N	о <u>ОЕР</u> ІН (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTIO	
	_	GB 1			SM		2.0	FILL: SILTY SAND ((SM), trace gravel, moderat	e brown, fine (grained, fine grained gravel, rounded
NH\NORTHERN PASS TRENCH	_	▼ SPT	50	50/4"	SM		0	TILL: SILTY SAND N grained gravel, roun	WITH GRAVEL (SM), mode ded	erate brown, m	oist, very dense, fine grained, coarse
PASS	5 -	\ 1_						-boulder from 6 to 8	ft		
SKTOP\PROJECTS\NORTHERN	-				SM			-becomes moderate	brown to light olive brown,	medium dens	e
- C:\USERS\LGSCHWIN	<u>10</u> - -	SPT 2	67	6-10-16 (26)	- Own						
S LAB.GPJ - 10/3/16 11:36	- - 15	SPT 3	67	5-26-37 (63)	SM		15.5	-becomes very dens			
GENERAL BH / TP / WELL - GINT STD U										orehole at 15.5 th auger cuttir	

	SUE Engine	JAN BSUR	FACE Spo	kane ephon	arker F Valley, e: 509	, WA	99027 -9409	BORING NUMBER BH-68 PAGE 1 OF 1				
			ical Contra	ctors				PROJECT NAME Northern Pass				
PRO.	JECT NUM	/IBER	16004					PROJECT LOCATION Franconia, NH				
DATE	STARTE	D _8/2	29/16		СОМ	PLET	FED <u>8/29/16</u>	GROUND ELEVATIONNA	HOLE SIZE 4 in ID/8 in OD			
DRIL	LING CON	NTRAC	CTOR SW	Cole				LATITUDE 44.259353	LONGITUDE 71.754216			
	LING MET	HOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto			
LOGG	GED BY _	J. Mel	ton		CHE	CKED	S. Kearney	-				
NOTE	ES							\subseteq AT TIME OF DRILLING 11.0ft				
HLdad O	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION : SILTY SAND WITH GRAVEL (SM), trace organics, moderate yellowish brown, damp, very				
				SM		3.0		WITH GRAVEL (SM), trace organics, mod medium to coarse grained gravel, subangu				
5				SM		0.0	ALLUVIUM: SILTY moist, medium dens	SAND WITH GRAVEL (SM), moderate yo se, medium grained gravel	ellowish brown to yellowish gray,			
 	SPT 78 5-7-14 (21)											
	SPT 2	100	11-13-21 (34)	SM		11.0	∇					
			(34)	sc			TILL: CLAYEY SAN	ID WITH GRAVEL (SC), light olive gray, waarined gravel, subangular	et, dense, low plasticity, very fine to			
	-					45.0	inte granted, inte gra	amed graver, Subangular				
15	SPT 3	100	13-15-35 (50)	CL		15.0 16.5	TILL: GRAVELLY C grained gravel, angu					
								Bottom of borehole at 16.5 Backfilled with auger cutting				
10 10 12 12 12 12 12 12 12 12 12 12 12 12 12												

	SUE	JAN BSUR	FACE Spc	kane	arker F Valley, e: 509	, WA	99027 9409	BOF	RING NUMBER BH-69 PAGE 1 OF 1				
CLII	ENT PAR	Electi	rical Contra					PROJECT NAME Northern Pass					
PRO	DJECT NUM	/IBER	16004					PROJECT LOCATION Franconia, N	1				
- 1			24/16 CTOR <u>Geo</u>				ED <u>8/24/16</u>	·					
DRI	LLING MET	THOD	Hollow St	em Au	iger			DRILLING EQUIPMENT CME 75	SPT HAMMER _ 140 lb Auto				
e roc	GGED BY _	S. Lai	ing		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:					
ĕ NO 1	TES												
DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION GRADED SAND WITH GRAVEL AND SILT (SP-SM), dark olive gray (5Y 3/2),					
SS TRENCH COMPLETED	_			SP- SM		3.0		ADED SAND WITH GRAVEL AND SILT and gravel, fine to medium grained sand,					
NORTHERN PA	SPT	44	14-14-17	SM			TILL: SILTY SAND \ medium grained sar	WITH GRAVEL (SM), yellowish brown (ld, subangular	10YR 5/4), moist, dense, fine to				
TOPUPROJECTS/NORTHERN PASS THENCH COMPLETED LOGS/FRANCONIA, NHMFRANC.GEV.			(31)										
GENERAL BH / IP / WELL - GINI SID US LAB.GPU - 10/3/16 11/36 - C: USERS/LGSCHWIND/DESK TO 10/3/16 - USERS/LGSCHWIND/DESK TO 10/3/16 - USERS/LGSCHWIND/DESK	SPT 2	61	8-8-13 (21)	SM			-becomes medium o	ierise					
P-1	1						-boulder from 14 to	15 ft					
[편] 전 15	T QDT	_		-			-hecomes dark valla	wish hrown very dense					
	SPT 3	25	50-50/2"	SM		15.7	-becomes dark yello	wish brown, very dense					
.AL BH / TP / WELL - GINT STD	Bottom of borehole at 15.7 ft. Backfilled with auger cuttings												
GENEF													

	G ≥	SÜE	JAN BSUR	FACE Spo	kane	arker F Valley, e: 509	, WA	99027 -9409	BORING NUMBER BH-70 PAGE 1 OF 1
С	LIEN	T PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass
P	ROJI	ECT NUM	/IBER	16004					PROJECT LOCATION Franconia, NH
- 1		STARTE		24/16 CTOR <u>Geo</u>	 osearc			FED <u>8/24/16</u>	
	RILL	ING MET	THOD	Hollow St	em Aı				DRILLING EQUIPMENT CME 75 SPT HAMMER 140 lb Auto
Fig.	OGG	ED BY _	S. Lai	ng		CHE	CKE	BY S. Kearney	GROUND WATER LEVEL:
N K	OTE	s							
LOGS\FRANCONIA, NH\N	0 (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
ASS TRENCH COMPLETED	-				CL		3.0		TS: LEAN CLAY WITH SAND AND GRAVEL (CL), trace organics, dark olive , soft, high plasticity, fine to medium grained sand, subangular
RN PA					SP-				Y GRADED SAND WITH GRAVEL AND SILT (SP-SM), reddish brown (5YR dense, fine grained gravel, fine to medium grained sand, subangular to
튊	-				SM			subrounded	
NH NH	5	SPT	72	7-10-15 (25)					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\FRANCONIA, NH\NFRANC.GPJ DEPTH		SPT 2	83	10-14-18 (32)	SP- SM			-becomes dense, wi	th fine grained sand, fine to coarse grained gravel
S LAB.GPJ - 10/3/16	- 15 _	SPT 3	83	16-23-32 (55)	SP- SM		15.5	-becomes very dens	
STD U									Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GENERAL BH / TP / WELL - GINT									

	$\overline{}$			8 N B	arker F Valley, e: 509	, WA 9	99027 9409	BOR	ING NUMBER BH-71 PAGE 1 OF 1
CLII								PROJECT NAME Northern Pass	
PRO	DJECT NUN	IBER	16004					PROJECT LOCATION Franconia, NH	
1								GROUND ELEVATION NA	
1								DRILLING EQUIPMENT CME 75	
? l								GROUND WATER LEVEL:	SPI HAWWER 140 ID AULU
⊋Ι	res	O. Lan	ng .		OHL	OILLD	<u> C. Reamey</u>	CROOKS WATER LEVEL.	
<u> </u>	Щ.	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	N
	NAN N	REC	υZ	_	Ō				
O OMPLETED LOC	-			ML				WITH GRAVEL (ML), and clay, dark gray ne grained sand, subangular to subround	
<u> </u>						2.5	TILL: POORLY GRA	DED SAND WITH SILT AND GRAVEL (SP-SM) dark gravish brown
Z –	-			SP-			(10YR 4/2), moist, ve	ery dense, fine to medium grained sand,	subrounded
# 									
<u> </u>	SPT	100	40-50/4"						
5	_ 1								
KOJEC I SINOKI HEKN PASS	_						-cobbles from 7 to 9	ft	
10	SPT 2	39	8-17-39 (56)	SP- SM			-becomes dark yello	wish orange, fine grained sand, fine to co	parse grained, subangular gravel
GENERAL BH 7 IP 7 WELL - GINT STD US LAB GEPT - 10/3/16 11:36 - C:USERS/LGSCHWINDLESK LOP/PROJECT IS/NOKTHERN PASS INFINCH COMPLETED LOGS/FRANCONA, NHMP				SP- SM			-becomes yellowish	brown (10YR 5/4), subangular to subrou	nded gravel
15 15	SPT 3		25-50-50 (100)						
SI SI			(/			15.5		Bottom of borehole at 15.5	5 ft
SID								Bottom of borenole at 15.5 Backfilled with auger cutting	
×									
Ė									
SAL B.									
GENE 									

		JAN BSUR	Spo	okane	arker F Valley, e: 509	WA	99027 9409	BORI	NG NUMBER BH-72 PAGE 1 OF 1
CLI	ENT PAR	Electi		•				PROJECT NAME Northern Pass	
PRO	OJECT NUM	/IBER	16004					PROJECT LOCATION Franconia, NH	
- 1	TE STARTE						FED 8/26/16		
- 1	ILLING CON							LATITUDE 44.248483	
	ILLING MET						NDV 0 1/2	DRILLING EQUIPMENT CME 55	SPT HAMMER 140 lb Auto
		ı. ve	mon		CHE	SKEL	S. Kearney	GROUND WATER LEVEL:	
	TES							-	
LOGS/FRANCONIA, NH/ DEPTH	SAI	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	ı
KENCH COMPLEIED	GB 1			SM		2.5	FILL: SILTY SAND subangular	WITH GRAVEL (SM), moderate brown, fin	e grained, coarse grained gravel,
IOKI HEKN PASS II	V SDT		24 22 25	SM		1.0	TILL: SILTY SAND grained gravel, suba	WITH GRAVEL (SM), light brownish gray, angular	dry, very dense, fine grained, coarse
ZI HEKN PASS NHW	SPT 1	94	24-33-35 (68)	_		7.0			
KI OP/PROJECT S/NO				SW- SM	P. 64 6 7 .	7.0	TILL: WELL GRADI grained, fine to coar	ED SAND WITH SILT AND GRAVEL (SW- rse grained gravel	SM), light brown, moist, dense, fine
10 10	SPT 2	67	8-12-20 (32)		*				
)/3/16 11:36 - C:\USERS\Le									
AB.GPJ - 10	SPT 3	71	34-61- 52/2"	SW- SM		15.2	-becomes very dens	se, with coarse grained gravel	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\FRANCONIA, NH\NFRANC.GPJ O O O O O O O O O O O O O O O O O O O								Bottom of borehole at 15.2 Backfilled with auger cutting	
GENEF									

		JAN BSUR	Spc Spc	8 N B kane	arker R Valley, e: 509-	WA:	99027 9409	BOI	RING NUMBER BH-73 PAGE 1 OF 1		
CLIEN	NT PAR	Electr	rical Contra	ctors				PROJECT NAME Northern Pass			
PROJ	IECT NUN	/IBER	16004					PROJECT LOCATION Franconia, NH			
1			24/16				ED 8/24/16				
DRILLING CONTRACTOR Geosearch DRILLING METHOD Hollow Stem Auger CHECKER BY C. Keensey								· · · · · · · · · · · · · · · · · · ·			
								DRILLING EQUIPMENT _CME 75 SPT HAMMER _140 lb Auto GROUND WATER LEVEL:			
NOTE	NOTES						3. Realliey	GROUND WATER LEVEL.			
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTI	ON		
				SP			FILL: POORLY GRA to medium grained s	ADED SAND (SP), trace gravel, dark re sand, subangular	ddish brown (5YR 3/4), moist, fine		
5	SPT 1	83	8-23-25 (48)	SP		6.0	-becomes moderate brown to dusky red, dense, with subrounded gravel				
				SP- SM		0.0	STREAM TERRACI dark grayish brown sand, subangular to	E DEPOSITS: POORLY GRADED SAN (10YR 4/2), moist, medium dense, fine subrounded	D WITH GRAVEL AND SILT (SP-SM), to coarse grained gravel, fine grained		
10	SPT 2	61	8-11-15 (26)								
				GP		<u>12.0</u>	(5Y 6/4) to pale ye	E DEPOSITS: POORLY GRADED GR ellow (5Y 8/4), very dense, fine to coa unded to subangular			
15	SPT 3	50	35-35-50 (85)			_					
15.5								Bottom of borehole at 15 Backfilled with auger cut			
LOGO NOTE (#) 0 DEPTH (#) 10 (#) 15 (

QUANT SUBSURFAL Fragment - Construction PAR Electric PROJECT NUMBER 2	Telephone: 509-892-9409	PROJECT NAME Northern Pass				
DRILLING CONTRACTO	16 COMPLETED 8/24/16 DR Geosearch Ollow Stem Auger CHECKED BY Z. Wright	NORTHING DRILLING EQUIPMENT _CME 75	EASTING			
SAMPLE TYPE NUMBER U.S.C.S.	POO	MATERIAL DESCRIPTION				
SP		n, moist, poorly graded, hydrocarbon odor				
1 100	○○ 【2.0 】	Bottom of Borehole at 2.0 feet				

QUANTA SUBSURFACE Spokane Valley, WA 99027 Telephone: 509-892-9409									BORING NUMBER BH-75 PAGE 1 OF 1			
				ical Contra	ctors				PROJECT NAME Northern Pass			
	PROJI	ECT NUN	MBER	16004					PROJECT LOCATION Franconia, NH			
	DATE	STARTE	D _8/2	26/16		COMF	PLET	ED 8/26/16	GROUND ELEVATION NA	HOLE SIZE _4.25 in ID/8 in OD		
	DRILL	ING CON	ITRAC	TOR Geo	searc	h			LATITUDE 44.238341	LONGITUDE71.758831		
_	DRILL	ING MET	HOD	Solid Ster	n Aug	er			DRILLING EQUIPMENT CME 55	SPT HAMMER 140 lb Auto		
C.GP.	LOGG	ED BY _	T. Ver	non		CHEC	KED	BY S. Kearney	_			
FRAN	NOTES								$\sqrt{2}$ at time of drilling $\sqrt{14.0 ext{ft}}$			
LETED LOGS/FRANCONIA, NH/N	O DEPTH (ff)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIC			
RENCH COMPLETED		m GB 1			GM		2.5	STREAM TERRACE grained gravel, fine	E DEPOSITS: SILTY GRAVEL WITH SA to medium grained sand, subrounded	ND (GM), light gray, moist, coarse		
RTHERN PASS T					GM		STREAM TERRACE DEPOSITS: SILTY GRAVEL WITH SAND (GM), pale blue to light gray, dry, dense, coarse grained gravel, subrounded					
ASS NH/NORTH	5	SPT 1	67	12-26-24 (50)	-	0000						
JECTS/NORTHERN F	 						8.0_	L				
SKTOP\PRC					SM				E DEPOSITS: SILTY SAND WITH GRAN n dense, coarse grained gravel, subround			
/IND/DE	10	SPT 2	39	3-9-11 (20)								
C:\USERS\LGSCHWIND\DESKTOR							12.0	L				
- 10/3/16 11:36 - C:\U					SP- SM			STREAM TERRACE moderate brown, we subrounded	E DEPOSITS: POORLY GRADED SAND et, medium dense, coarse grained gravel,	WITH SILT AND GRAVEL (SP-SM), fine to coarse grained sand,		
S LAB.GPJ - `	15	SPT 3	56	4-5-11 (16)			15.5					
- GINT STD US									Bottom of borehole at 15. Backfilled with auger cutti			
ENERAL BH / TP / WELL - GII												

		T PAR		Tele	kane ephon	arker F Valley, e: 509	WA -892-	99027 9409				
	PROJ	ECT NUN	IBER	16004					PROJECT LOCATION Franconia, NH			
								ED <u>8/26/16</u>				
2	DRILLING METHOD Solid Stem Auger LOGGED BY T. Vernon CHECKED BY S. Kearney								DRILLING EQUIPMENT CME 55 SPT HAMMER 140 lb Auto			
NC.			ı. ver	non		CHE	CKEL	S. Kearney	GROUND WATER LEVEL:			
FRA	NOTE	S		1	T	T						
LETED LOGS/FRANCONIA, NHIN	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DES			
ICH COMPLETED	_	My GB 1			SM		2.0	ORGANIC DEPOSITS: SILTY SAND (SM), trace gravel, trace organics, moderate brown, moist, fine grained, fine grained gravel, subrounded				
THERN PASS TREN					SM			STREAM TERRACE DEPOSITS: SILTY SAND (SM), trace gravel, moderate brown, moist, medium dense, fine grained, fine grained gravel, subrounded				
S NH\NORT	5	SPT 1	44	2-2-4 (6)								
S/NORTHERN PAS							7.0					
P/PROJECT					SP- SM			STREAM TERRACE DEPOSITS: POORLY GRADED SAND WITH GRAVEL AND SILT (SP-SM), moderate brown, moist, very dense, fine to medium grained, fine to coarse grained gravel, subrounded, trace manganese oxide staining				
VIND\DESK	10	SPT 2	67	5-22-36 (58)								
LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTC	 											
LAB.GPJ-	15	SPT 3	67	50-41-32 (73)	SP- SM		15.5					
ELL - GINT STD US	Bottom of borehole at 15.5 ft. Backfilled with auger cuttings											
ENERAL BH / TP / WELL												

	(Q L SUE	JAN BSUR	FACE Spo	kane	arker F Valley, e: 509	, WA	99027	BORI	NG NUMBER BH-77 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contra	•	e. 309	-092-	-9409	PROJECT NAME Northern Pass	
		ECT NUM							PROJECT LOCATION Franconia, NH	
	DATE	STARTE	D 8/4	4/16		СОМ	PLET	ΓΕD <u>8/4/16</u>	GROUND ELEVATION NA	
	DRILL	ING CON	ITRAC	CTOR SW	Cole				LATITUDE 44.233334	
اۃ				Hollow Ste					DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto
S.G	LOGG	ED BY	J. Mel	ton		CHE	CKED	S. Kearney		
FRA	NOTE	S <u>drilled</u>	5 ins	ide digsafe	box				$\sqrt{2}$ at time of drilling <u>8.2ft</u>	
LOGS/FRANCONIA, NH/N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
RENCH COMPLETED					GM		2.5		H SILT AND SAND (GM), trace organics, one of the delth of the grained material subangular, very fine to fine grained materials.	
NH\NORTHERN PASS TI	 5	SPT 1	83	8-18-26 (44)	GM			STREAM TERRACE dry, dense, medium oxidation	E DEPOSITS: GRAVEL WITH SILT AND S to coarse grained gravel, fine grained san	SAND (GM), dark yellowish orange, d, angular to subangular, extensive
SKTOPIPROJECTS/NORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGS/FRANCONIA, NHINFRANC.GPJ	 				GM			abla -becomes wet, medi	um dense	
SERS/LGSCHWIND/DE	10	SPT 2	17	8-6-16 (22)	GIVI		12.0			
.GPJ - 10/3/16 11:36 - C:\L	 	SPT 3	100	9-10-50/0"	SW- SM		15.0	STREAM TERRACE dark yellowish orang oxidation throughout	E DEPOSITS: WELL GRADED SAND WIT e, wet, very dense, fine to medium grained	H SILT (SW-SM), pale brown and d sand, trace fines, zones of
FB	10		l	<u>l</u>	I	1 + 4 1 + 4	15.0		Bottom of borehole at 15.0	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C.\USERS\LGSCHWIND\DESKTO									Backfilled with auger cutting	gs

(Engine	ering + Cor	Sponstruction Tele	8 N Bakane 'ephone	e: 509	WA -892-				NG NUMBER BH-78 PAGE 1 OF 1
				<u>ctors</u>						
PROJ	ECT NUM	IBER	16004					PROJECT LOCATION _F	Franconia, NH	
DATE	STARTE	D _8/2	25/16		СОМ	PLET	TED <u>8/25/16</u>	GROUND ELEVATION _	NA	HOLE SIZE 4 in
DRILL	ING CON	ITRAC	TOR SW	Cole				LATITUDE 44.231328		LONGITUDE71.755665
DRILL	ING MET	HOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER 140 lb Auto
LOGG	ED BY	J. Mel	ton		CHE	CKEC	S. Kearney	GROUND WATER LEVE	L:	
NOTE	:s							$ar{igspace}$ at time of drill	ING <u>9.0ft</u>	
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
	SPT 1	67	6-13-24 (37)	SM			fine grained, mediur	WITH GRAVEL (SM), tracent to coarse grained gravel, gray, dense, without organ	subangular	yellowish brown, damp, very fine to
NDULESK LOPV-KOJEC I SNOK I HERN PASS						7.0	STREAM TERRACI grained gravel, suba	E DEPOSITS: COBBLES, angular to rounded, angular	and gravel, very cobble fragme	dense, medium to very coarse
103/10/22:00 - C:00/25/20/10/2	SPT 2	0	50/1"	<u>.</u>			-becomes wet, with			
		100	50/1"	<u></u>		14.6	-with subangular gra			
5 9	3		,	•					orehole at 14.6 ith auger cutting	
ENEKAL BH / IP / WELL - GINI SID US LAB.GFD									G = 3,	

	G	SÙI	JAN BSUR	FACE Spo	kane	arker F Valley, e: 509	RD WA 99027 1-892-9409		F	BORIN	G NUMBER BH-81 PAGE 1 OF 1
C	LIEN	T PAR	Electr	ical Contra	•				PROJECT NAME Northern Pas	ss	
PI	ROJ	ECT NUI	MBER	16004					PROJECT LOCATION Francor	nia, NH	
- 1				31/16 C TOR Geo			PLETED 8/31/16		GROUND ELEVATION No.		ONGITUDE71.749053
				Solid Ster					DRILLING EQUIPMENT CME		
							CKED BY S. Kearne				
N SNC	OTE	_						•			
DEPTH	(ff)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG) 	MATERIAL DESC		
PUPROJECTS/NORTHERN PASS NHWORTHERN PASS TRENCH COMPLETED LOGS/FRANCONIA, NHWFRANC.GFJ	-	GB 1	22	5-4-4	OL		ORGANIC E roots and wo	ood pres	sent	(OL), gray	ish black, fine to medium grained,
ORTHERN PASS NH	5	1	22	(8)	SM		6.3 STREAM TE orange, mois	ERRACE	E DEPOSITS: SILTY SAND (SM), dense, fine to medium grained, fin	trace grave	el, moderate brown to grayish gravel, subangular
DESKTOP\PROJECTS\NO	-	SPT		21-33-20	SM						
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTO	10 - -	2	67	(53)							
S LAB.GPJ - 10	15	SPT 3	44	1-1-1 (2)	SM		-becomes m	oderate	brown to dusky yellow, moist to v		ose
WELL - GINT STD US									Bottom of borehole Backfilled with aug		
GENERAL BH / TP /											

	S	SUE	JAN SUR	FACE Spo	8 N B	Valley	, WA	. 99027 -9409	ВО	RING NUMBER BH-82 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	
	PROJI	ECT NUM	IBER	16004					PROJECT LOCATION Franconia, N	NH
	DATE	STARTE	D 8/2	23/16		CON	IPLE	TED _8/23/16	GROUND ELEVATION NA	HOLE SIZE 4 in
									· · · · · · · · · · · · · · · · · · ·	
	DRILL	ING MET	HOD	Solid Ster	n Aug	er				
GP.	LOGG	ED BY	T. Ver	rnon		CHE	CKE	D BY S. Kearney	GROUND WATER LEVEL:	
RAN	NOTE	s							$\sqrt{2}$ at time of drilling $\sqrt{14.0}$	t
D LOGS/FRANCONIA, NH/NF	O DEPTH (ft)	- SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC		L ODCANIC DEPOSI	MATERIAL DESCRIPT	
HERN PASS TRENCH COMPLETED	 	GB 1			SM		4.0	Medium grained gra		noderate brown, fine to medium grained,
S NH\NORTH	5	SPT 1	56	3-3-4 (7)	SW- SM		1.0	ALLUVIUM: WELL of reddish brown, mois	GRADED SAND WITH SILT (SW-SM), st, loose, fine grained, rounded, iron oxi	trace gravel, moderate gray with dark de staining
ROJECTS/NORTHERN PAS	 				SP- SM		7.0	ALLUVIUM: POORI pale reddish brown, minor oxidation	LY GRADED SAND WITH GRAVEL AN medium dense, fine to medium graine	ND SILT (SP-SM), moderate brown to d, coarse grained gravel, rounded,
ESKTOP/F		SPT		9-7-7						
	10	2	44	(14)						
1:36 - C:\USERS\LGSCHWIND\DESKTOF	 				_		13.0			
3/16 1					SM				SAND (SM), moderate brown, wet, very	y loose, tine grained
J - 10/3/16		V			1			$ar{\Delta}$		
IS LAB.GPJ	15	SPT 3	22	1-1-3 (4)			15.5			
STDL									Bottom of borehole at 1 Backfilled with auger cu	5.5 ft. ttings
ENERAL BH / TP / WELL - GINT S										

	G ≥		JAN BSUR	FACE Spo	kane	arker F Valley e: 509	, WA	99027 9409	В	ORING NUMBER BH-83 PAGE 1 OF 1
- 1				ical Contra	ctors				PROJECT NAME Northern Pass	
P	ROJI	ECT NUI	MBER	16004					PROJECT LOCATION Franconia	<u>, NH</u>
D	ATE	STARTE	D _8/	23/16		COM	PLET	FED <u>8/23/16</u>	GROUND ELEVATIONNA	HOLE SIZE 4 in ID/8 in OD
D	RILL	ING COI	NTRAC	CTOR Geo	searc	:h			LATITUDE 44.218713	LONGITUDE 71.750149
				Hollow St					DRILLING EQUIPMENT CME 75	SPT HAMMER 140 lb Auto
P. P.			S. Lai	ng		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:	
A PR	OTE	S								
GS/F	O (ff)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRII	
SS TRENCH COMPLETED	-				SP		3.0		ADED SAND WITH GRAVEL (SP), or avel, fine to medium grained sand, s	ark grayish brown (10YR 4/2), moist, fine subangular to subrounded
PASS NHINORTHERN PAS	5	SPT 1	83	6-4-6 (10)	SP- SM		3.0	ALLUVIUM: POORL to dusky yellow, moi	Y GRADED SAND WITH SILT (SP- ist, loose, fine to coarse grained grav	SM), trace gravel, dark yellowish orange vel, fine grained sand
ND\DESKTOP\PROJECTS\NORTHERN	10	SPT 2	72	6-7-30 (37)	SP		8.0	ALLUVIUM: POORL fine to medium grain	Y GRADED SAND (SP), trace silt, r ned sand	noderate yellowish brown, wet, dense,
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTO	-	SPT		15-15-12	SP			-becomes medium o	dense, with trace fine grained gravel	
LAB.G	15	3	72	(27)			45 -			
INT STD US I					<u> </u>	<u> [ryrd]</u>	15.5		Bottom of borehole a Backfilled with auger	
GENERAL BH / TP / WELL - (

	Q Q Q U	JAN BSUR	Opo	kane '	arker F Valley, e: 509	, WA		BOF	RING NUMBER BH-84 PAGE 1 OF 1
CLIE	NT PAR	Electr		•				PROJECT NAME Northern Pass	
PRC	JECT NUM	MBER	16004					PROJECT LOCATION Franconia, N	1
1								GROUND ELEVATION NA	
?									SPT HAMMER _140 lb Auto
≩I	· <u>-</u>				CHE	CKED	S. Kearney		
NOI	ES		ı					$\sqrt{2}$ AT TIME OF DRILLING <u>8.5ft</u>	
DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
1				SP				ADED SAND WITH GRAVEL (SP), yello to medium grained sand, angular to sub	
	SPT 1	100	1-1-1 (2)	SP		7.5	asphalt	yellowish brown to orange, fine grained	
				SP			dense, fine to mediu		nowii (1011X 4/2), wet, medium
10	SPT 2	39	8-8-6 (14)			10.3			
CIODEROILGOOT	-			ML		12.5	plasticity, fine graine		, , ,
				SP- SM			ALLUVIUM: POORL very dense, medium	Y GRADED SAND WITH SILT (SP-SM grained sand), yellowish brown (10YR 5/4), wet,
15	SPT 3	22	30-34-34 (68)			15.5			
חוס ואוני								Bottom of borehole at 15 Backfilled with auger cutt	
ENERAL BH / IP / WELL - C									

	Q Q I SUI	JAN BSUR	FACE Spo	kane	arker f Valley e: 509	, WA	A 99027 2-9409	BOI	RING NUMBER BH-85 PAGE 1 OF 1
CLIE	ENT PAR	Electr	rical Contrac	ctors				PROJECT NAME Northern Pass	
PRO	JECT NUI	IBER	16004					PROJECT LOCATION Franconia, N	1
			23/16				TED 8/23/16		
			CTOR Geo						
			Hollow Ste					DRILLING EQUIPMENT CME 75	SPT HAMMER 140 lb Auto
	_	S. Lai	ng		CHE	CKE	D BY S. Kearney	='	
NOT	ES							$\sqrt{2}$ AT TIME OF DRILLING 7.5 ft	
LOGS/FRANCONIA, NH/I DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTI	
PUPROJECT SNORTHERN PASS NAMOR HERN PASS TRENCH COMPLETED LOGSSI-RANCONIA, NAMOR PANC, GRUDONIA, GRU	-			SP		4.1		ADED SAND WITH GRAVEL (SP), dark 13/4), moist, fine to coarse grained grav nunded	
IORI HERN PASS NHWORIF	SPT 1	78	5-5-6 (11)	CL		7.0		CLAY (CL), yellowish brown (10YR 5/4),	
SKIOP/PROJECTS/N				SP- SM			✓ ALLUVIUM: POORI ✓ (10YR 5/4) to dark of sand	LY GRADED SAND WITH SILT (SP-SM grayish brown (10YR 4/2), wet, medium), trace gravel, yellowish brown dense, fine to medium grained
10	SPT 2	39	8-8-20 (28)			:			
GENERAL BH / IP / WELL - GINI SID US LAB.GFU - 10/3/16 11:36 - C: USERS/LGSCHWIND/DESK TO			25.40.40	SP-				se, light olive gray, with medium to coars	se grained sand, subangular to
15 15	SPT 3	50	35-48-48 (96)	SM		15.0	TILL DOODLY OD	ADED CAND MITH ODAY EL (OD)	grov (EV E/O) maint variations of
ns l				SP		15.5	to coarse grained gr	ADED SAND WITH GRAVEL (SP), oliveravel, fine to coarse grained sand, angu	gray (5Y 5/2), moist, very dense, fine ar to subangular /
3H / TP / WELL - GINT SID U							Car coance gramme gr	Bottom of borehole at 15 Backfilled with auger cut	.5 ft.
GENERAL									

	SU	JAN BSUR	FACE Spo	kane	arker F Valley e: 509	, WA	99027 -9409	BOR	RING NUMBER BH-86 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	
PRC	JECT NUI	MBER	16004					PROJECT LOCATION Franconia, NE	<u> </u>
			23/16 CTOR <u>Geo</u>				TED <u>8/23/16</u>	·	
1			Solid Ster						
							DBY S. Kearney	· · · · · · · · · · · · · · · · · · ·	
NOT	_								
PUPROJECT SNORTHERN PASS NAMOR HERN PASS TRENCH COMPLETED LOGSSI-RANCONIA, NAMOR PANC, GRUDONIA, GRUDONIA, GRUDONIA, GRUDONIA, GRUDO	Щ.	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	DN
OMPLEIEDI	-			SM		1.5	ORGANIC DEPOSI brown, moist, loose,	TS: SILTY SAND (SM), trace gravel, trace fine grained, subrounded	e roots, grayish black to moderate
HEKN PASS I KENCH C	GB 1			SM			ALLUVIUM: SILTY S	SAND (SM), dusky brown, moist, loose, f	ine grained, micaceous
ZI HEKN PASS NHWOK I	SPT 1	67	5-6-7 (13)			7.0			
SKIOPIPROJECTSINO				SP- SM		7.0_	ALLUVIUM: POORL grayish green, moist	Y GRADED SAND WITH GRAVEL AND t, loose, fine to medium grained, medium	O SILT (SP-SM), moderate brown to to coarse grained sand, subrounded
10 10	SPT 2	67	4-3-3 (6)						
11:36 - C:\USERS\L	_				<i>V///</i>	13.0	ALLUVIUM: CLAYE	Y SAND (SC), moderate brown, moist, lo	pose, low plasticity, fine grained.
0/3/16				SC			weakly bedded	_ (-,,,,,,,,	,
15 15 15 15 15 15 15 15 15 15 15 15 15 1	SPT 3	78	2-4-3 (7)			15.5			
SINI SID OS		1	1	<u> </u>	<i>S. J. F. J.</i>	1 10.0	1	Bottom of borehole at 15. Backfilled with auger cutti	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C: USERS/LGSCHWIND\DESKTO									

- 1		T PAR		3p0	kane 'ephone	arker R Valley, e: 509	WA 9 -892-9		PROJECT NAME Norther	rn Pass	ING NUMBER BH-87 PAGE 1 OF 1
	PROJE	ECT NUN	IBEK	16004					PROJECT LOCATION F	anconia, NH	
	DATE	STARTE	D <u>8/</u> 2	23/16		COM	PLET	ED 8/23/16	GROUND ELEVATION	NA	HOLE SIZE 4 in ID/8 in OD
	DRILL	ING CON	ITRAC	CTOR Geo	searc	:h			LATITUDE 44.207983		LONGITUDE <u>-71.751475</u>
	DRILL	ING MET	HOD	Hollow Ste	em Au	ıger			DRILLING EQUIPMENT _	CME 75	SPT HAMMER 140 lb Auto
. G.	LOGG	ED BY _	S. Lai	ng		CHEC	CKED	BY S. Kearney	GROUND WATER LEVEL:		
Y A A	NOTES	s									
LETED LOGS/FRANCONIA, NH/NF	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL C		
ICH COMPLEIEU					SP		2.0				rish brown (10YR 5/4) to dark el, fine grained sand, subrounded
HERN PASS I KEN	-				SP		0	STREAM TERRACE yellowish brown, mo	E DEPOSITS: POORLY GRA pist, very dense, fine to coars	ADED SAND se grained gra	WITH GRAVEL (SP), trace cobbles, avel, fine grained sand, subrounded
AN PASS NAMOCK	5	SPT 1	56	28-49-50 (99)	-						
A I OP PROJECT SNOKTHEKN	-	▼ SPT	. 0	50/3"	SP			-gneissic boulder fro	om 8.5 to 12 ft		
SEKS/LGSCHWIND/DESKI	10	2		, 30/3	, 5P						
.GPJ - 10/3/16 11:36 - C:\L	-	SPT	50	14-40-	SP			STREAM TERRACE (10YR 5/4), moist to	E DEPOSITS: POORLY GR/ wet, very dense, fine to coa	ADED SAND irse grained s	WITH GRAVEL, yellowish brown and, angular to subrounded
<u> </u>	15	3	59	50/5"		Trans 1 1 1 1	15.0	TILL: POORLY GRA	ADED SAND WITH GRAVE	AND SILT (SP-SM), pale olive (5Y 6/4), moist to
					SP- SM		15.5				grained sand, angular to subangular
GINISID					COIVI	1			Bottom of bor Backfilled with		
ENERAL BH / TP / WELL -											

	NT PAR		Tele	08 N Ba okane ' ephone	arker F Valley, e: 509	, WA 9 0-892-	99027 9409		ern Pass	ING NUMBER BH-88 PAGE 1 OF 1
PRO	JECT NUN	/IBER	16004					PROJECT LOCATION _F	ranconia, NH	
DAT	E STARTE	D 8/2	23/16		СОМ	PLET	ED 8/23/16	GROUND ELEVATION _	NA	HOLE SIZE 4 in ID/8 in OD
DRIL	LING CON	ITRAC	TOR Geo	osearc	:h			LATITUDE 44.20621		LONGITUDE71.75265
_ DRIL	LING MET	HOD	Solid Ster	n Aug	er			DRILLING EQUIPMENT	CME 55	SPT HAMMER 140 lb Auto
E LOG	GED BY _	T. Ver	non		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL	<u>.:</u>	
NOT	ES									
COMPLETED LOGSSI-RANCONIA, NHWE	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTIO	
HERN PASS TRENCH	- GB 1			GM			to coarse grained, fi	ne to coarse grained gravel	, subrounded	ND (GM), moderate brown, moist, fine
SNOKI HEKN PASS NHINOKI	SPT 1	56	8-12-17 (29)	GM		7.0		edium dense, minor oxidatio		
	_			SW- SM	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		TILL: WELL GRADE	ED SAND WITH SILT (SW-	SM), moderate	e gray, moist, loose, fine grained
10	SPT 2	44	3-5-3 (8)							
136 - C:USERSILGSCHWINDLDESK I						<u>13.0</u>				
/16 11				SC			TILL: CLAYEY SAN	D (SC), moderate gray with	grayish brown	n, moist, very loose, fine grained
10/3/16 10/3/16	SPT 3	67	1-1-1 (2)			15.5				
					1 6.1	,]			orehole at 15.5 th auger cuttir	
ENEKAL BH / TP / WELL - GINT SI								backilled wi	ar auger culli	ng v

	G ≥		JAN BSUR	FACE Spo	kane	arker f Valley e: 509	, WA	. 99027 2-9409	ВС	PAGE 1 OF 1
CI	LIEN	T PAR	Electr	rical Contra	•				PROJECT NAME Northern Pass	
PF	ROJI	ECT NUI	MBER	16004					PROJECT LOCATION Franconia,	NH
				23/16 CTOR _Geo				TED <u>8/23/16</u>	GROUND ELEVATION NA LATITUDE 44.203278	
- 1				Solid Ster					DRILLING EQUIPMENT CME 55	
							CKEI	D BY S. Kearney		
S NO	OTE	s								
LOGS/FRANCONIA, NH/NF/	(£)	- SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIP	
ACH COMPLETEL	_	m, GB			OL		2.0	grained gravel, suba	ingular, roots present	(OL), dark brown, fine grained, coarse
THERN PASS TREN	-	1			SP- SM				Y GRADED SAND WITH GRAVEL A grained, coarse grained gravel, suba	ND SILT (SP-SM), light brown to grayish ngular, minor oxidation
PUPROJECTS/NORTHERN PASS NHWORTHERN PASS TRENCH COMPLETED LOGS/FRANCONIA, NHWFRANC.GE, DEPTH M M M M M M M M M M M M M	5 -	SPT 1	56	11-15-15 (30)	-					
DESKTOP/PROJEC	-	SPT	67	2-3-4	SM		8.0	ALLUVIUM: SILTY S grained, fine grained	SAND (SM), trace gravel, moderate gravel, subrounded, micaceous	ray to moderate brown, moist, loose, fine
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C: USERS/LGSCHWIND/DESKTO	10 _ _ _	2	67	(7)	-					
S LAB.GPJ - 10/3/	- 15_	SPT 3	67	1-1-1 (2)	SM		15.5		gray, wet, very loose, fine grained, m	
TP / WELL - GINT STD US									Bottom of borehole at Backfilled with auger c	
GENERAL BH										

CLIEN	SUE	SSUR ering + Co		08 N Backane okane ephon	e: 509-8	VA 99027	PROJECT NAME Northe		RING NUMBER BH-90 PAGE 1 OF 1
	ECT NUM			01010			PROJECT LOCATION _F		
					20110	LETER 0/00/40			
			23/16 CTOR <u>Geo</u>			LETED <u>8/23/16</u>			HOLE SIZE 4.25 in ID/8 in OD LONGITUDE -71.754343
			Hollow St						SPT HAMMER _140 lb Auto
						KED BY S. Kearney			_ OF I HAMIMEN _ 140 ID Adio
NOTE	_								
o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL	DESCRIPTIO	DN
				SP		FILL: POORLY GRA medium grained san		L (SP), reddis	sh brown (5YR 4/4), moist, fine to
5 _	SPT 1		6-8-10 (18)	SP- SP- SM	4	ALLUVIUM: POORL			, brownish yellow (10YR 6/6) to lium grained sand
10	SPT 2	0	2-6-9 (15)	SP- SM		-becomes moderate	yellowish brown		
15	SPT 3	39	1-1-2	SP- SM		-becomes light olive	gray, wet, very loose, with		
								rehole at 15.5 th auger cutti	

	Englis	sering + Ca	Spo Tel)8 N B okane ephon	arker Rl Valley, \ e: 509-	WA		BORING NUMBER BH-91 PAGE 1 OF 1		
1			rical Contra	ctors				PROJECT NAME Northern Pass		
PRO	JECT NUI	MBER	16004					PROJECT LOCATION Franconia, NH		
DATE	E STARTE	D _8/	17/16		COMP	PLET	ED 8/17/16	GROUND ELEVATION NA	HOLE SIZE 4 in ID/8 in OD	
DRIL	LING CO	NTRAC	CTOR Geo	oseard	:h			LATITUDE 44.198192	LONGITUDE71.753585	
	LING ME	THOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT CME 75	SPT HAMMER 140 lb Auto	
LOG	GED BY _	S. Lai	ing		CHEC	KED	S. Kearney			
NOTE	ES							$\sqrt{2}$ at time of drilling $9.0 \mathrm{ft}$		
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIC	N	
	_			SM		2.5	medium grained sai	•		
	_			SP			ALLUVIUM: POORI (10YR 5/8), moist, r subangular to subro	LY GRADED SAND (SP), trace gravel, ol medium dense, fine to coarse grained gra ounded	ive (5Y 5/6) to yellowish brown vel, fine to medium grained sand,	
5	SPT 1	78	7-11-11 (22)	_						
TO DEPTHY 17 / WELL - GINT SID OS LABSON OF THE CONTROLL OF TH	5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							e gray, very loose, moist to wet, with fine o	grained sand, trace silt	
	SPT	72	3-4-3	SP			-becomes dark yelld	owish orange, moist, loose		
15	3	12	(7)		1	15.5				
י פואי		•	•	•	1 '			Bottom of borehole at 15. Backfilled with auger cutti		
GENERAL BH / 1P / WELL										

	G ≥	SUE	JAN BSURI	FACE Spo	kane	arker R Valley, e: 509	RD WA 99027 -892-9409	BORING NUMBER BH-92 PAGE 1 OF 1					
c	LIEN	T PAR	Electr	ical Contra	ctors			PROJECT NAME Northern Pass					
P	ROJI	ECT NUM	/IBER	16004				PROJECT LOCATION Franconia, NH					
				17/16 CTOR <u>Geo</u>			PLETED <u>8/17/16</u>						
- 1				Hollow St				DRILLING EQUIPMENT CME 75 SPT HAMMER 140 lb Auto					
							CKED BY S. Kearney						
N S	OTE	_	0	9									
Z								<u> </u>					
LOGS/FRANCONIA, NH	O (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION					
STHERN PASS IRENCH COMPLETED	-				SP		FILL: POORLY (medium dense,	GRADED SAND WITH GRAVEL (SP), dark grayish brown (10YR 4/2), moist, fine to medium grained sand, subrounded					
DP/PROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/FRANCONIA, NH/NFRANC.GE/	5	SPT 1	83	9-11-16 (27)	SP		ALLUVIUM: PO	ORLY GRADED SAND (SP), trace silt, brownish yellow (10YR 6/6), moist, fine to medium grained sand, poorly to well graded, minor amounts of coarse					
:30 - C:\USERS\LGSCHWIND\DESK	10	SPT 2	100	6-8-10 (18)	SP								
S LAB.GPJ - 10/3/1617	- 15	SPT 3	100	10-8-12 (20)	SP		-becomes dark y	rellowish orange to moderate yellowish brown					
<u> </u>								Bottom of borehole at 15.5 ft.					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTO		Backfilled with auger cuttings											

		Q Q L SUE	JAN BSUR	FACE Spo	8 N B kane	arker F Valley,	RD WA 9902 -892-9409	7	BORI	NG NUMBER BH-94 PAGE 1 OF 1
	CLIEN	NT PAR	Electr	ical Contra	•	e. 309	-092-9409		PROJECT NAME Northern Pass	
		ECT NUN							PROJECT LOCATION Franconia, NH	
J.	DRILL		ITRAC	4/16 CTOR SW Hollow St				8/4/16	LATITUDE 44.190538	·
IC.GF	LOGG	SED BY _	J. Mel	ton		CHE	CKED BY	S. Kearney	GROUND WATER LEVEL:	
FRAN	NOTE	S drilled	d 20 in	ches inside	digsa	afe box			-	
LOGS/FRANCONIA, NH\N	o DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
:н сомРСЕТЕD					OL		fin		ORGANIC SOIL WITH SAND (OL), dark bro ed gravel, angular, organics present	own, moist, very fine to fine grained,
THERN PASS TRENC					SW- SM		AL m	LUVIUM: WELL oist, dense, fine to	GRADED SAND WITH GRAVEL AND SIL occarse grained gravel, subangular, trace for the state of the s	Γ (SW-SM), brown to pale brown, fines, zones of oxidation throughout
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIFRANCONIA, NHINFRANC.GPJ	5	SPT 1	100	11-19-19 (38)						
- C:\USERS\LGSCHWIND\DESKTOP\PRC	10	SPT 2	100	16-20-25 (45)	SW- SM					
JS LAB.GPJ - 10/3/16 11:36		SPT 3	100	10-21-25 (46)	SW- SM		-b 15.5	ecomes pale brov		α.
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTO									Bottom of borehole at 15.5 Backfilled with auger cutting	

	SÚE	JAN BSUR	FACE Spc	kane	arker RD Valley, W e: 509-8	VA 99027	BOR	ING NUMBER BH-95 PAGE 1 OF 1			
CLIE	NT PAR	Electr	ical Contra				PROJECT NAME Northern Pass				
PRO.	JECT NUM	/IBER	16004				PROJECT LOCATION Franconia, NH				
1			17/16			LETED <u>8/17/16</u>	·				
			CTOR Geo				DRILLING EQUIPMENT CME 75				
			ng			KED BY S. Kearney		OF FIRMINER 140 ID Auto			
S NOTI	_		V								
PUPROJECTS/NORTHERN PASS TRENCH COMPLETED LOGS/FRANCONIA, NHINFRANC.GED O DEPTH (ft) LOO O DEPTH O DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTIO	N			
IRENCH COMPLEIEU L	-			SM	2.	grained sand, subro					
HERN PASS	-			SP- SM		ALLUVIUM: POORL dense, fine to mediu	_Y GRADED SAND WITH SILT (SP-SM), ım grained sand	yellowish brown (10YR 5/4), moist,			
PASS NH/NORI	SPT 1	94	15-17-19 (36)								
TOP/PROJECTS/NORTHERN	_										
MIND/DESK	SPT 2	72	4-5-6 (11)	SP- SM							
3/16 11:36 - C:\USERS\LGSCF	_										
2 LAB.GPJ - 10/	SPT 3	39	20-20-20 (40)	SP- SM	15		subrounded gravel, minor amounts of coa	arse grained sand			
NT STD U							Bottom of borehole at 15.5 Backfilled with auger cuttir				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C: USERS/LGSCHWINID/DESKTO											

	C	SÚE	JAN BSUR	FACE Spo	kane	arker F Valley, e: 509	RD , WA 99027 9-892-9409	BOR	ING NUMBER BH-96 PAGE 1 OF 1				
	CLIEN	IT PAR	Electr	ical Contra	•			PROJECT NAME Northern Pass					
F	PROJ	ECT NUM	/IBER	16004				PROJECT LOCATION Franconia, NH					
- 1				17/16 CTOR <u>Geo</u>			IPLETED <u>8/17/16</u>						
	RILL	ING MET	HOD	Hollow St	em Au	iger		DRILLING EQUIPMENT CME 75	SPT HAMMER 140 lb Auto				
P.O. P	.OGG	ED BY _	S. Lai	ng		CHE	CKED BY S. Kearney	_ GROUND WATER LEVEL:					
F RAN	OTE	s						_					
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIFRANCONIA, NHINFRANC.GPU	о UEP I H	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTIO	N				
CH COMPLETED					SM		FILL: SILTY SAND grained gravel, sub) WITH GRAVEL (SM), grayish brown, moi pangular	st, fine to medium grained, fine				
HERN PASS TREN	-				SP- SM		ALLUVIUM: POOF	RLY GRADED SAND WITH SILT (SP-SM very dense, fine grained gravel, fine to me), trace gravel, yellowish brown dium grained sand, subrounded				
ERN PASS NH\NOR1	5	SPT 1	78	9-19-33 (52)									
KTOP\PROJECTS\NORTHE	-				-								
WIND\DES	10	SPT 2	0	15-16-23 (39)	SP- SM								
16 11:36 - C:\USERS\LGSCH	-						-becomes dark yell micaceous	lowish orange, with fine to medium grained	d sand, dense, trace coarse sand,				
S LAB.GPJ - 10/3/	15	SPT 3	100	6-8-10 (18)	SP- SM		-becomes medium	dense, fine grained					
U OT								Bottom of borehole at 15.5 Backfilled with auger cuttir					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:USERS\LGSCHWIND\DESKTO		Backilled with augel cuttings											

	C		JAN BSURI	3p0	kane	arker F Valley e: 509	, WA	99027 -9409	BORI	NG NUMBER BH-98 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contra	•	0. 000	, 002	0.100	PROJECT NAME Northern Pass	
	PROJ	ECT NUN	IBER	16004					PROJECT LOCATION Franconia, NH	
- 1				4/16				FED <u>8/4/16</u>		
- 1				CTOR SW						
				Hollow Ste				DBY S. Kearney		SPI HAMIMER 140 ID AUTO
NC.O		<u> </u>		iches from (CKEL	3. Keamey	∇ AT TIME OF DRILLING 13.5ft	
NFR/	NOTE	3 united	1 13 111	Ches hom o	uiysai	e box			Z AT TIME OF DRILLING 15.51t	
LOGS/FRANCONIA, NH	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
P\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\FRANCONIA, NH\NFRANC.GP.	5	SPT 1	100	16-15-12 (27)	GM			FILL: GRAVEL WIT dry, loose, fine to co	H SILT AND SAND (GM), trace organics, parse grained gravel, angular, fine grained gravel angular, fine grained	dark brown to dark yellowish brown, matrix
TOP\PROJECTS\NORTHERN PA					GM		6.0	ALLUVIUM: GRAVE gravel, angular to su	EL WITH SILT AND SAND (GM), brown, m lbangular, weak cementation, fine grained	oist, very dense, coarse grained matrix
S\LGSCHWIND\DESKT	10	SPT 2	100	16-40-25 (65)	-		11.5			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTO		SPT 3	100	8-10-7 (17)	SP- SM			ALLUVIUM: POORL grained sand	Y GRADED SAND WITH SILT (SP-SM), ¡	pale brown, wet, medium dense, fine
마						1:41	15.5		Bottom of borehole at 15.5	ft.
STD									Backfilled with auger cutting	
GINT										
/ WE										
T TP										
HH										
NER/										
핑										

			JAN BSURI	Эрс	kane	arker F Valley, e: 509	, WA	99027 9409	BORI	NG NUMBER BH-99 PAGE 1 OF 1			
	CLIEN	T PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass				
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Franconia, NH				
				4/16	Colo			FED <u>8/4/16</u>	·				
				CTOR SW									
낊				Hollow St			OVER	NDV C Kaaman	DRILLING EQUIPMENT _Diedrich D50	SPI HAMIWER 140 ID AUTO			
NC.O		_					CKEL	S. Kearney					
FRA	NOIE	S arilled	19 in	ches from	digsat	e box			$\sqrt{2}$ at time of drilling <u>8.5ft</u>				
LOGS/FRANCONIA, NHV	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIFRANCONIA, NHINFRANC.GPJ	 				SM		4.5	FILL: SILTY SAND N	WITH GRAVEL (SM), trace organics, dark sand	brown, moist, fine to coarse grained			
SI N	5	SPT 1	83	2-2-3 (5)	SP-		4.5	ALLUVIUM: POORL	Y GRADED SAND WITH SILT (SP-SM),	brown to light brown, moist to wet,			
ESKTOP\PROJECTS\NORTHERN PASS					SM			Ψ	m grained sand, oxidation throughout				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:36 - C:\USERS\LGSCHWIND\DESKTO	10	SPT 2	72	4-7-8 (15)	SM								
S LAB.GPJ - 10	15	SPT 3	100	7-5-5 (10)	SP- SM		15.5	-becomes brown to	dark yellowish orange, trace fines, extensi				
JI U									Bottom of borehole at 15.5 Backfilled with auger cutting				
ENERAL BH / TP / WELL - GINT S	Баскішей with auger cuttings												

		JAN BSUR	Spo	kane	arker R Valley,	D WA 99027 -892-9409		BORII	NG NUMBER BH-100 PAGE 1 OF 1
CLIEN	NT PAR	Electr	ical Contrac	•			PROJECT NAME Northe	ern Pass	
PROJ	ECT NUM	IBER	16004				PROJECT LOCATION_	Easton, NH	
DATE	STARTE	D 8/	17/16		СОМ	PLETED _8/17/16	GROUND ELEVATION	NA	HOLE SIZE _4 in ID/8 in OD
1			CTOR Geo			<u> </u>			LONGITUDE71.766066
			Hollow Ste						SPT HAMMER 140 lb Auto
1						CKED BY S. Kearney			
NOTE	s						-		
O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			DESCRIPTIO	
				SM		grained gravel, angu	ılar		st, fine to medium grained, fine
				SW- SM		ALLUVIUM: WELL moderate yellowish subrounded	GRADED SAND WITH SILT brown (10YR 5/4), moist, de	FAND GRAVE ense, fine to c	EL (SW-SM), yellowish brown / parse grained sand, angular to
5 -	SPT 1	83	6-14-30 (44)	_		6.5			
OP\SW-GW.GPJ	_			SP- SM		TILL: POORLY GRA	ADED SAND WITH SILT AN low (10YR 6/6), moist, very trace amounts of coarse gr	dense, fine to	SP-SM), very pale brown (10YR medium grained sand, subangular
10 10	SPT 2	89	38-27-43 (70)	SP- SM					
US LAB.GFJ - 10/4/16 12:05 -	SPT 3	50	6-19-30 (49)	SP- SM		-becomes dense, m	oderate yellowish brown, tra Bottom of bo	ace subrounde	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C: USERSILGSCHWINIDIDESKTOPISW-GW.GPJ 10/4/16 12:05 - C: USERSILGSCHWINIDIDES								th auger cuttir	

		JAN BSUR	3pc	kane	arker F Valley e: 509	, WA	99027 -9409	BORIN	IG NUMBER BH-101 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra					PROJECT NAME Northern Pass	
PRC	JECT NUM	/IBER	16004					PROJECT LOCATION Easton, NH	
			31/16				FED 8/31/16	·	
1			CTOR SW						
1			Hollow St						SPT HAMMER _140 lb Auto
	_	J. Mel	ton		CHE	CKEL	S. Kearney	•	
O NOT	ES							$\sqrt{2}$ AT TIME OF DRILLING 11.0ft	
LOGS/EASTON, NH/NPE DEPTH (#)	OMPH FILL: GRAVEL							MATERIAL DESCRIPTION	
PUPROJECT SNOKT HERN PASS THENCH COMPLETED LOGSSEASTON, NAMPEAST GED O DEPTH (#)	-			GM		3.5), with sand, with silt, trace organics, grayinine to fine grained, medium to coarse grain	
OKIHEN -				SM			TILL: SILTY SAND ((SM), yellowish gray, moist, medium dense	e, fine grained
5									
ASS S	SPT	100	9-11-11						
SPT 100 9-11-11 (22)									
10									
JOSEKS/LGSCHWIN	SPT 2	89	9-10-7 (17)	SM			-becomes wet, with	trace clay	
GENERAL BH / IP / WELL - GINI 3 ID US LAB.GPU - 10/3/10 11:31 - C: USERS/LGSCHWIND/DESK ID	_			SP- SM		14.0	TILL: POORLY GRA	ADED SAND WITH SILT (SP-SM), pale ye	llowish brown, wet, dense, fine to
O US LAB	SPT	83	12-20-13						
	3		(33)	L		16.5			
/ TP / WELL - GIN				•				Bottom of borehole at 16.5 Backfilled with auger cutting	
GENERAL BH									

	$\overline{}$	JAN BSUR	Орс	kane	arker F Valley e: 509	, WA	99027		BORIN	G NUMBER BH-102 PAGE 1 OF 1
CLI	ENT PAR		101	•	e. 508)-09Z	-9409	PROJECT NAME North	ern Pass	
	DJECT NUI							PROJECT LOCATION		
	TE STARTE				COM	IPLE ⁻	TED 8/4/16	-		HOLE SIZE 5.5 in
	LLING CO							_		LONGITUDE71.783513
DRI	LLING MET	ГНОД	Hollow St	em Au	ıger					SPT HAMMER _140 lb Auto
LO	GGED BY	J. Mel	ton		CHE	CKE	D BY S. Kearney	GROUND WATER LEVE	L:	
NO.	TES drille	d 29 in	ches from	digsaf	e arrov	v tip		$oxed{oxed}$ at time of drill	LING 4.0ft	
LOGS/EASTON, NH/NPEAS DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	l
ICH COMPLEI ED				SM		2.0	FILL: SILTY SAND V		e organics, dark	brown, moist, fine to medium
PUPROJECT SNOOK HEKN PASS NAMED HEKN PASS TRENCH COMPLETED LOGS/EASTON, NAMED BS. 1.6FD O DEPTH ON (#1)	SPT 1	100	7-8-8 (16)	ML		2.0	ALLUVIUM: SANDY ∑	′ SILT (ML), pale brown, w	et, stiff, fine grai	ned, minor zones of oxidation
SK I OPYTKOJEC I SKNOK I HEKN	1 100 (16) - CL ALLUVIUM: SAN of oxidation							CLAY (CL), pale brown, n	noist, stiff, low p	lasticity, fine grained, minor zones
GENERAL BH / IP / WELL - GIN I SI D US LAB GPU - 10/3/10 11:31 - C: USERS/LGS/CHWIND/DESK TO 10/3/10 11:31 - C: USERS/CHWIND/DESK TO 10/3/10 - U	SPT 2	100	4-6-7 (13)	SP- SM		9.5 13 <u>.0</u>	ALLUVIUM: POORL minor zones of oxida		SILT (SP-SM), į	oale brown, moist, medium dense,
/3/16 11:				SM		10.0	ALLUVIUM: SILTY S micaceous	SAND (SM), pale brown to	brown, wet, me	dium dense, fine grained,
LAB.GPJ - 10	SPT 3	89	4-6-6 (12)	-		15.5				
LL - GINT STD US		-	1		ne le Te e	, 10.0	'		orehole at 15.5 vith auger cutting	
GENERAL BH / TP / WE										

	Q Q I SUI	JAN BSUR	FACE Spc	kane	arker RD Valley, W e: 509-89	'A 99027 92-9409	BORII	NG NUMBER BH-103 PAGE 1 OF 1
CLII	ENT PAR	Electr	ical Contra	•			PROJECT NAME Northern Pass	
PRO	DJECT NUI	/IBER	16004				PROJECT LOCATION Easton, NH	
			16/16 CTOR <u>Geo</u>			ETED <u>8/16/16</u>		HOLE SIZE 4 in ID/8 in OD LONGITUDE -71.785341
			Hollow St				DRILLING EQUIPMENT CME 75	
Loc			ng			ED BY S. Kearney		
ੂੰ NO1	TES							
LOGS/EASTON, NH/NPEAS O (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTIO	
CH COMPLETED	-			SM	2.0	coarse grained grav	WITH GRAVEL (SM), olive brown, moist, el, subangular	fine to medium grained, fine to
KIHEKN PASS IKEN				SP- SM		ALLUVIUM: POORL	Y GRADED SAND WITH SILT (SP-SM), fine grained, subrounded	trace gravel, reddish yellow to olive
PVPROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/EASTON, NH/NPEAST GPJ O DEPTH (#)	SPT 1	83	4-4-4 (8)					
11 - C:USERS/LGSCHWIND/DESKTO	SPT 2	100	6-11-21 (32)	SP- SM	13.	-becomes dense, oli	ive, without gravel	
6 11:3				SM	11113.	TILL: SILTY SAND	WITH GRAVEL (SM), olive gray (5Y 5/2),	moist, medium dense, fine to
3.GPJ - 10/3/1	SPT 3	89	10-14-16 (30)		15.	medium grained sar	iu	
S P		<u> </u>	ļ .		<u> </u>		Bottom of borehole at 15.0	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:31 - C:\USERS\LGSCHWIND\DESKTO							Backfilled with auger cuttii	iys

	6	Q Q Q SUE	JAN BSUR	FACE Spo	kane	arker F Valley e: 509	, WA	99027 -9409	BORI	NG NUMBER BH-104 PAGE 1 OF 1			
	CLIEN	T PAR	Electr	ical Contra	•	C. 000	, 002	. 0400	PROJECT NAME Northern Pass				
	PROJ	ECT NUN	ИBER	16004					PROJECT LOCATION _Easton, NH				
	DATE	STARTE	D 8/4	4/16				TED <u>8/4/16</u>	GROUND ELEVATION NA				
- 1				CTOR SW									
- 1				Hollow St					DRILLING EQUIPMENT _Diedrich D50	SPT HAMMER 140 lb Auto			
GE		<u> </u>						D BY S. Kearney					
AST.	NOTE	S <u>drilled</u>	d 29 in	ches from	digsaf	e arrov	٧		$\sqrt{2}$ AT TIME OF DRILLING 14.0ft				
LOGS/EASTON, NH/NPE	o DEPTH (ft)	O SA							MATERIAL DESCRIPTIO				
					SM			FILL: GRAVEL (SM)), with sand, with silt, trace organics, dark	brown, moist			
MPL P	_												
HERN PASS TRENCH CC	_				SW- SM		1.8		GRADED SAND WITH SILT (SW-SM), tra o coarse grained gravel, fine to coarse gra				
S NH\NORT	5 SPT 100 17-22-27 (49)												
UJSERSILOSCHWINDDESKTOPPROJECTISMORTHERN PASS NHNORTHERN PASS TRENCH COMPLETED LOGSIEASTON, NHNPEAST.GPJ	10	SPT 2	100	15-23-50 (73)	SW- SM		12.0		se, minor zones of oxidation	vet very dense fine to coarse			
3PJ - 10/3/16 11:31 - C:	_	SPT	100	16-26-36	GM			grained gravel, fine grained matrix	grained sand, angular to subangular, wea	k cementation, very fine to fine			
<u>~</u>	15_	3	100	(62)			1						
GINT STD US L						17/2	15.5		Bottom of borehole at 15.5 Backfilled with auger cuttin				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:31 - C:\USERS\LGSCHWIND\DESKTO													

		JAN BSURI	Spu	kane) VA 99027 392-9409	BORIN	G NUMBER BH-105 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	ctors			PROJECT NAME Northern Pass	
PRO.	JECT NUM	IBER	16004				PROJECT LOCATION Easton, NH	
1						LETED <u>8/31/16</u>	·	HOLE SIZE 6 in
1			TOR SW				LATITUDE 44.144151	
			Hollow Ste				DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto
ا LOG		J. Mel	ton		CHEC	KED BY S. Kearney		
NOTE	ES						$\sqrt{2}$ AT TIME OF DRILLING 3.5ft	
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	
GENERAL BH / IP / WELL - GINT SID US LAB. GFU - UUST B TI SI - C. USSERSI COSCHWINDLESS I DE COSCHSUS I ON NHIMPERS I CAS. 1 O DEPTH 10 10 10 10 10 10 10 1				GM		brown, moist, very fi), with sand, with silt, with organics, grayish ne to fine grained, fine to coarse grained g	
A 200	SPT		13-17-20	SP		ALLUVIUM: POORL	Y GRADED SAND WITH GRAVEL (SP), t ned gravel, fine grained sand, subangular,	
	1	100	(37)	ML	8.	.0ALLUVIUM: SILT (N minor oxidation	IL), trace sand, and clay, light olive gray, w	
- 10/3/16 11.31 - C./USEKS/LGSCHWIN	SPT 2	100	5-6-7 (13)	SM		ALLUVIUM: SILTY Sigrained, iron oxide s	SAND (SM), moderate yellowish brown, we taining	t, medium dense, very fine to fine
[편] 15								
	SPT 3	100	7-7-7 (14)	SM		-with trace clay		
			I		<u>10.10.10.11.1</u> 10	6.5	Bottom of borehole at 16.5 t	
JENERAL BH / TP / WELL -							Backfilled with auger cutting	IS

		Q Q U SUE	JAN BSURF	300	kane '	arker F Valley, e: 509	WA	99027 9409	В	ORING NUMBER BH-106 PAGE 1 OF 1
	CLIEN	NT PAR	Electri	cal Contra	•	. 000	002	0400	PROJECT NAME Northern Pa	ass
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Eastor	, NH
	DATE	STARTE	:D 8/	17/16		COM	PI FT	ED _8/17/16	GROUND ELEVATION N	A HOLE SIZE 4 in ID/8 in OD
- 1				TOR Geo	searc			<u> </u>	LATITUDE 44.141967	LONGITUDE71.788444
- 1				Hollow Ste					DRILLING EQUIPMENT CME	
- 1				ng			CKED	BY S. Kearney	GROUND WATER LEVEL:	
- 1	NOTE	· <u>-</u>		•					_	
	o DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESC	
					SM		2.5	coarse grained gra	vel, subangular	moist, fine to medium grained, fine to
-		SPT	72	4-12-8	SW- SM				GRADED SAND WITH SILT AND medium dense, fine to coarse grain	GRAVEL (SW-SM), very pale brown ned sand, subrounded
GPJ	<u> </u>	1	12	(20)	SP- SM		<u>5.0</u>	ALLUVIUM: POOR dense, fine grained	LY GRADED SAND WITH SILT (S sand	P-SM), olive gray (5Y 5/2), moist, medium
SKTOP\SW-GW.					CL		<u>8.0</u>	ALLUVIUM: LEAN medium plasticity, f	CLAY WITH SAND (CL), yellowish ine grained sand	brown (10YR 5/4), moist to wet, soft,
\USERS\LGSCHWIND\DE	10	SPT 2	61	3-3-6 (9)						
1/16 12:05 - C					SM		<u>12.5</u>	ALLUVIUM: SILTY sand	SAND (SM), brownish yellow (10Y	R 6/6), moist, very loose, fine grained
AB.GPJ - 10/4	15	SPT 3	100	WOH			15.0			145.0 %
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:\USERS\LGSCHWIND\DESKTOP\SW-GW.GP.									Bottom of borehole Backfilled with aug	

	SÚE	ALC: U	FACE Spo	kane	arker F Valley, e: 509	WA	99027 -9409	BORII	NG NUMBER BH-107 PAGE 1 OF 1
CLIE	NT PAR	Elect	rical Contra	ctors				PROJECT NAME Northern Pass	
PRO	JECT NUM	IBER	16004					PROJECT LOCATION Easton, NH	
	E STARTE		16/16 CTOR <u>Geo</u>	searc			FED <u>8/16/16</u>		
			Hollow Ste					DRILLING EQUIPMENT CME 75	
LOG			ing			CKED	D BY S. Kearney		
의 의 NOT	_	0	9				- <u> </u>		
EAST	T								
LOGS/EASTON, NH/NF DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	N
CH COMPLETED	_			SM		2.0	FILL: SILTY SAND \ coarse grained grave	WITH GRAVEL (SM), olive brown, moist, el, subrounded	fine to medium grained, fine to
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:32 - C: USERS/LGSCHWINDDESKTOP/PROJECT/SNORTHERN PASS TRENCH COMPLETED LOGS/EASTON, NH/NPEASTGPJ O DEPTH O DEPTH O (ft)	SPT 1	67	7-35-50/2" 6-4-6 (10)	GM SP- SM	00000000000000000000000000000000000000	9.5	moist, very dense, fi subrounded	NE: SILTY GRAVEL WITH SAND (GM), ne to coarse grained gravel, fine to coars	T (SP-SM), pale olive (5Y 6/4),
0/3/16 11:32 - C				CL		12.5	GLACIOLACUSTRII medium stiff, low pla	NE: LEAN CLAY (CL), with silt, brownish sticity	yellow (10YR 6/6), moist,
	SPT 3	67	3-4-10 (14)						
변 <u></u> 15						15.0		B #	2.4
JS L/								Bottom of borehole at 15.0 Backfilled with auger cutting	
101								Saskinga With dager outlin	· ʊ -
Ĕ									
اـٰ ا									
WELI									
실									
ձ									
E NE									
<u>ـــــا</u> ن									

	C		JAN	FACE Spo	kane	arker F Valley,	, WA	99027		BORI	NG NUMBER BH-108 PAGE 1 OF 1
	CLIEN	IT PAR	Electr		•	e: 509		9409	PROJECT NAME North	nern Pass	
- 1		ECT NUN							PROJECT LOCATION		
	DATE	STARTE	D _8/	16/16				ED 8/16/16			HOLE SIZE 4 in ID/8 in OD
- 1				TOR Geo					•		
- 1								ARV C Kaaman			SPT HAMMER 140 lb Auto
- 1		יבט פז _ S		ng		CHE	CKEL	S. Kearney	GROUND WATER LEVE	Li	
-	NOTE	<u> </u>		<u> </u>							
ļ	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTIO	
-					SM		3.0	FILL: SILTY SAND of grained gravel, suba		erate brown, m	oist, fine to medium grained, fine
ŀ						7 (3.0	ALLUVIUM: gneissi	c boulder from 3 to 7 ft		
						 					
		SPT 1	20	50/5"							
	5 _										
						/ -	<u>7.0</u>				
SKTOP\SW-GW.GPJ					GW- GM			Coarse grained grav	GRADED GRAVEL WITH Sel, fine to medium grained	sand, angular t	LT (GW-GM), moist, dense, fine to to subangular
ODES	10	SPT 2	67	12-16-21	L		9.8_		V CDADED CAND WITH	CIL T (CD CM)	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.		2		(37)	SP- SM			olive gray (5Y 5/2), I	Y GRADED SAND WITH a moist, dense, fine to mediu	m grained san	brownish yellow (10YR 6/6) to
2:05 - C:\											
4/16 1											
3PJ - 10/		SPT 3	78	14-14-18 (32)	SP- SM		4.5.0	-with silt and clay, d	ark yellowish orange, fine g	grained sand, r	nicaceous
LAB.(15				SIVI	<u>[.:.]</u>].	15.0			orehole at 15.0	
SD Q										ith auger cuttin	
NT ST											
L-GII											
WELI											
/ TP /											
L BH,											
VERA											
핑											

	C	Q Q U	JAN BSURI	FACE Spc	8 N B	Valle		99027		BORI	NG NUMBER BH-109 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contra	•	e. 50	9-092-	-9409	PROJECT NAME North	nern Pass	
		ECT NU							PROJECT LOCATION_	Easton, NH	
		STARTE					MPLET	FED <u>8/16/16</u>	GROUND ELEVATION _	NA	HOLE SIZE 4 in ID/8 in OD
				CTOR Geo					LATITUDE 44.12858		LONGITUDE71.792834
				Hollow St					DRILLING EQUIPMENT		SPT HAMMER 140 lb Auto
		_	S. Lai	ng		CHE	CKED	S. Kearney	GROUND WATER LEVE	L:	
	NOTE	S		T					-		
	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC				DESCRIPTIO	
					SM		2.5	coarse grained grav	el, subangular		ist, fine to medium grained, fine to
					SW- SM			ALLUVIUM: WELL (10YR 5/4), moist, v subangular to subro	very dense, fine to coarse g	T AND GRAVI rained gravel,	EL (SW-SM), yellowish brown fine to coarse grained sand,
	5	SPT 1	72	6-20-39 (59)							
ſc							7.5				
TOP\SW-GW.G					SP- SM			ALLUVIUM: POOR fine grained sand	LY GRADED SAND WITH S	SILT (SP-SM)	, olive gray (5Y 5/2), moist, loose,
HWIND\DESK	10	SPT 2	83	3-3-7 (10)							
6 12:05 - C:\USERS\LGSC											
3.GPJ - 10/4/	 15	SPT 3	72	2-3-3 (6)	SP- SM		15.0	-becomes yellowish	orange, with silt and clay,	very loose	
SLAB				!		1 1 1 1	, ,			orehole at 15.0 h auger cutting	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.									Dackille Wil	n auger cullini	yo

	Englive	ering + Cor	Spc.	kane	arker R Valley, e: 509	RD WA 99 -892-94	9027 409			NG NUMBER BH-110 PAGE 1 OF 1
CLIEN	T PAR	Electr	ical Contra	ctors				PROJECT NAME Northern	Pass	
PROJ	ECT NUM	IBER	16004					PROJECT LOCATION East	ton, NH	
			16/16 C TOR Geo				D 8/16/16	·		
						CKED E	BY S. Kearnev			· · · · · · · · · · · · · · · · · · ·
о ОЕРТН (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DE	SCRIPTIO	N
				SM		2.5	gravel, subrounded	, ,		
				SP- SM			dense, fine grained	gravel, fine to medium grained	「(SP-SM), sand, subr	trace gravel, olive, moist, medium rounded, with 1/2 inch layers of fine
5	SPT 1	89	4-6-10 (16)	-		6.5				
 				CL		0.5	ALLUVIUM: LEAN (CLAY (CL), trace silt, olive, moi	st, very stif	f, low plasticity, laminated
10	SPT 2	67	4-6-10 (16)	_						
 				SP- SM		12.0	ALLUVIUM: POORI	Y GRADED SAND WITH SILT	(SP-SM),	olive, moist, loose, fine grained sand
15	SPT 3	94	2-3-3 (6)			15.0				
	DRILL DRILL LOGG NOTE (#) 5	DRILLING CONDRILLING MET LOGGED BY NOTES SPT 1	DRILLING CONTRACTOR CO	DRILLING CONTRACTOR Geo DRILLING METHOD Hollow Ste LOGGED BY S. Laing NOTES SPT 89 4-6-10 (16) SPT 3 94 2-3-3 (6)	DRILLING CONTRACTOR Geoseard DRILLING METHOD Hollow Stem ALL LOGGED BY S. Laing NOTES HAMBER AND STEEL STEE	DRILLING CONTRACTOR Geosearch DRILLING METHOD Hollow Stem Auger LOGGED BY S. Laing CHECK NOTES SPT 89 4-6-10 (16) SPT 89 4-6-10 (16) SPT 67 4-6-10 (16) SPT 3 94 2-3-3 (6)	DRILLING CONTRACTOR Geosearch DRILLING METHOD Hollow Stem Auger LOGGED BY S. Laing CHECKED B NOTES HEAD OF THE CHECKED B NOTES SPANNIN SPT 89 4-6-10 (16) SPT 89 4-6-10 (16) SPT 89 4-6-10 (16) SPT 89 4-6-10 (16) SPT 89 SPT SM SPT SM SPT SPT SM SPT SPT SM SPT SM SPT SPT SM SPT SM	DRILLING CONTRACTOR Geosearch DRILLING METHOD Hollow Stem Auger LOGGED BY S. Laing CHECKED BY S. Kearney NOTES HADD JET ST. S. Kearney S. Laing CHECKED BY S. Kearney NOTES S. Kearney ALLUVIUM: POORL dense, fine grained grained sand, silt, at	DRILLING CONTRACTOR Geosearch DRILLING METHOD Hollow Stem Auger DOGGED BY S. Laing CHECKED BY S. Keamey NOTES MATERIAL DE SM SP- SM SP- SM SP- SM SP- SM SP- SM SP- SM	DRILLING CONTRACTOR Geosearch DRILLING METHOD Hollow Stem Auger DRICKED BY S. Learney CHECKED BY S. Kearney MATERIAL DESCRIPTION MATERIAL DESCRIPTION SM ST 2.5 SP SM SM SP SM SM SP SM SM SP SM SM SP SM SM SP SM SP SM SP SM SP SM SP SM SM SP SM

	Q	Q U SUE	JAN BSURF	000	kane	arker F Valley e: 509	, WA 9	99027		BORII	NG NUMBER BH-112 PAGE 1 OF 1
С	LIENT	r Par	Electri	ical Contra	•	e. 508	-092-	9409	PROJECT NAME Nort	hern Pass	
		CT NUN							PROJECT LOCATION	Easton, NH	
	ATF S	STARTE	D 8/1	15/16		COM	PI FT	ED _8/15/16	GROUND ELEVATION	NA	HOLE SIZE _4.25 in
- 1				TOR Geo	searc			<u> </u>	LATITUDE 44.123109		LONGITUDE71.800882
- 1							NQ S	Size/Series 8	DRILLING EQUIPMENT	CME 75	
L	OGGE	ED BY _	S. Lair	ng		CHE	CKED	BY S. Kearney	_ GROUND WATER LEVE	L:	
N	OTES	.							_		
	O (#)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTIO	
-	5 -	SPT 1	100 (100)	9-27-40 (67)	SW-SM		8.0	moist, very dense,	fine to coarse grained grave	el, fine to coars	EL (SW-SM), olive to olive gray, e grained sand, angular to medium grained, medium strong
B.GPJ - 10/4/16 12:05 - C:\USE	- - - 15	RC 2	100 (100)				15.0				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.										orehole at 15.0	

	C		JAN BSURF	FACE Spo	kane	arker F Valley, e: 509	WA	. 99027 2-9409	BORING NUMBE	R BH-113 PAGE 1 OF 1
- -	CLIEN			ical Contra					PROJECT NAME Northern Pass	
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION _Easton, NH	
- 1				5/16 CTOR <u>SW</u>				TED <u>8/5/16</u>		
- 1								otary		
H								D BY S. Kearney		
T.GP	NOTE	S drilled	d 1 ft fr	om digsafe	e arrov	N			-	
OGS/EASTON, NH\NPEA	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	REMARKS
CH COMPLETED L	-				GM		2.0	FILL: GRAVEL WIT moist	H SILT AND SAND (GM), trace organics, moderate brown,	
P\PROJECTS\NORTHERN PASS INH\NORTHERN PASS TRENCH COMPLETED LOGS\EASTON, NH\NPEAST.GPJ	5	SPT 1	100	4-7-10 (17)	SM		2.0	ALLUVIUM: SILTY sine to fine grained,	SAND (SM), olive gray, moist to wet, medium dense, very stratified, with layers of grading and oxidation	
KTOP\PROJECTS\NORTHERN F		SPT	A O /	√ 50/1"			6.5	BEDROCK: Weathe	ered granitic rock	roller bit 7 to 15 ft
11:32 - C:\USERS\LGSCHWIND\DESH	10 -	2		3071						
AB.GPJ - 10/3/16	- 15	SPT 3		50/0"			15.0		Deltam of harshala at 45.0 ft	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:32 - C:\USERS\LGSCHWIND\DESKTO									Bottom of borehole at 15.0 ft. Backfilled with auger cuttings	

	(Q Q L SUE	JAN SURI	FACE Spo	kane	arker F Valley e: 509	, WA	99027 9409		BORIN	G NUMBER BH-114 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contrac					PROJECT NAME Nort	hern Pass	
	PROJI	ECT NUM	IBER	16004					PROJECT LOCATION_	Easton, NH	
		STARTE		5/16 CTOR <u>SW</u>	Colo	COM	IPLET	ED <u>8/5/16</u>	GROUND ELEVATION	NA	HOLE SIZE 5.5 in
				Hollow Ste		ıaer			LATITUDE 44.117818	Diedrich D50	SPT HAMMER _140 lb Auto
				ton			CKEL	BY S. Kearney	GROUND WATER LEVE		3FT HAWWER 140 ID AULU
				from digsa			OKLL	O. Reamey	_ GROUND WATER LEVE	L.	
	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	
	o DE	SAMPI	RECO	BI COI (N V	U.S	GR/ L					
	 				GM		2.5	FILL: GRAVEL WIT	TH SILT AND SAND (GM), t	trace organics, r	noderate brown, moist
					CM	PUL	2.5	ALLUVIUM: SILTY	SAND (SM), olive gray, mo	ist, loose, very f	ine to medium grained
		V			SM		4.5				
	5	SPT 1	56	3-3-3 (6)	OL		1	ALLUVIUM: SILT (0 very fine to fine grain		s, reddish brown	, moist, medium stiff, low plasticity,
								very fine to fine gran	neu		
.GPJ					L		7.5		V CDADED SAND WITH	CUT (CD CM) +	race fines, olive gray, moist, very
W-GW					SP- SM		:	dense, fine grained	sand, cobble present in sai	mple	race inles, onve gray, moist, very
OP\S											
DESKT		SPT		15-27-26			:				
VIND\[10	2	61	(53)							
SCHV											
SYLG											
:\USE							12 <u>.3</u>				
)5 - C:					GP	000		ALLUVIUM: POOR	Y GRADED GRAVEL WIT rel, fine grained sand, suba	H SAND (GP),	trace fines, olive gray, moist, dense,
16 12:0								oodroe granica grav	er, inte grantea saria, sasa	riguiai	
10/4/						1000					
GPJ-	15	SPT	89	16-19-20]				
S LAB.	15	3	00	(39)		000	15.5				
TD US									Bottom of b	orehole at 15.5	ft.
INT S									Dackiiiied W	an auger cutting	,
Tr - G											
, / WE											
H / TP											
3AL B											
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:\USERS\LGSCHWIND\DESKTOP\SW-GW.GP.											

		PAR	ering + Co Electr	Spo Tele ical Contrac	kane ephon	e: 509	, WA)-892	99027 -9409		ern Pass	IG NUMBER BH-115 PAGE 1 OF 1
PR	ROJE	CT NUN	/IBER	16004					PROJECT LOCATION _	aston, NH	
								FED <u>8/5/16</u>	_		HOLE SIZE 4.5 in
- 1				CTOR SW							
				Solid Ster				NDV C Kaamay			SPT HAMMER 140 lb Auto
© NC				t from digsa				S. Kearney	GROUND WATER LEVEL $\overline{igspace}$ AT TIME OF DRILL		
EAST				l l l l l l l l l l l l l l l l l l l	C G G G					0.010	
ENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:32 - C;USERS/LGSCHWIND/DESKTOP/PROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/EASTON, NH/NPEAST.GPJ	(#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	I
PLETED					SM			FILL: GRAVEL (SM), with sand, with silt, trace	organics, mode	erate brown, moist
T COM							1.5	ALLUVILIM: SILTV	SAND (SM), dark brown oli	ve grav mojet	medium dense, very fine to fine
ZENC L	-				SM			grained, with lenses	of clay, oxidation zones	ve gray, moist,	mediam dense, very line to line
ASS TE											
RN PA											
뷡											
ON E	5	SPT	100	8-9-19 (28)							
N SS/		'		(20)							
RN-	4										
RTHE						Ø 2/X	6.5	TILL: CLAYEY GRA	AVEL (GC), trace sand, med	dium brown, we	t, fine to coarse grained gravel, fine
ON/S	1				GC			grained sand, angu	lar to subangular, iron oxide	staining, weak	cementation
JECT	_							∑			
P\PR											
SKTO		SPT	50	50							
1	0	2_									
NIWI.											
LGSC	4										
SERS											
S)											
1:32	4						13.0	DEDDOCK Himble	to accomplately was the const	-h:-t!	
3/16 1								BEDROCK, Highliy	to completely weathered, so	chistose fock	
10,-10		SPT	100	50/2"		<i>Garan</i>	14.2		Bottom of bo	orehole at 14.2	ft
AB.GF		3	1							ith auger cutting	
USL											
TST											
- GIN											
WELL											
/ TP /											
H BH											
ENER/											

	C	SÜE	JAN BSUR	FACE Spo	kane '	arker F Valley, e: 509	WA	99027 9409	BORIN	G NUMBER BH-117 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass	
	PROJ	ECT NUM	IBER	16004					PROJECT LOCATION _Easton, NH	
- 1				5/16 CTOR SW				ED <u>8/5/16</u>		·
- 1										
-									GROUND WATER LEVEL:	
T.GP	NOTE	S drilled	1 2.9 ft	from digsa	ife arro	ow				
PAPROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/EASTON, NH/NPEAST.GPJ	о DEРТН (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
CH COMPLETED					GM		2.0	FILL: GRAVEL WITI	H SILT AND SAND (GM), trace organics, n	noderate brown, moist
THERN PASS TREN	 	0.07			GM	19 D I	2.0	ALLUVIUM: SILTY (medium to coarse gi	GRAVEL WITH SAND (GM), light brown, di ained gravel, angular to subangular, zones	ry to moist, fine to coarse grained, s of oxidation throughout
N PASS NH/NOR	5	SPT 1	64	20-50/5"			6.0_			
PROJECTS/NORTHER					CL		8.5	ALLUVIUM: LEAN C sand	ELAY (CL), trace sand, light brown, moist, v	very stiff, low plasticity, fine grained
	-	ODT			GM	000		ALLUVIUM: GRAVE	L WITH SILT AND SAND (GM), medium bened gravel, subangular, iron oxide staining,	prown to olive gray, moist, fine
3 11:32 - C:\USERS\LGSCHWIND\DESK	10	SPT 2	100	50				gramed, coarse gram	ied graver, subangular, iron oxide staining,	, with lenses of clay
10/3/1		0.07								
		SPT 3	100	50	GM	6P[C	14.5	-becomes weakly ce	mented Bottom of borehole at 14.5 f	1
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:32 - C:\USERS\LGSCHWIND\DESKTO									Bottom of borenoie at 14.5 t Backfilled with auger cutting	

		JAN BSURF	Spc	8 N B		, WA	x 99027 2-9409	BORING NUMBER BH-118 PAGE 1 OF 1
CLIE	NT PAR	Electri	ical Contra	•				PROJECT NAME Northern Pass
PRO.	IECT NUM	/IBER	16004					PROJECT LOCATION Easton, NH
					СОМ	PLE	TED <u>8/5/16</u>	· · · · · · · · · · · · · · · · · · ·
1			TOR SW					LATITUDE 44.112152 LONGITUDE71.818869
1			Hollow St			01/5	D. D.V. O. 14	DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _140 lb Auto
LOGG	_					CKE	D BY S. Kearney	·
≧ NOTE	S drilled	d 4 ft fr	om digsafe	e arrov	V			¥ AT TIME OF DRILLING 3.0ft
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
GENCH COMPLETED L	-			GM		2.5		H SILT AND SAND (GM), trace organics, moderate brown, moist, fine to el, fine grained sand, subrounded
				GC		2.5	☐ TILL: CLAYEY GRA ☐ medium grained gra	VEL WITH SAND (GC), dark brown, wet, very dense, very fine to fine grained, vel, subangular, iron oxide staining
<u> </u>	SPT 1	100	50/4"	1				
5	-					8.0_	TILL CRAVEL WIT	H SILT AND SAND (GM), moderate brown, wet, very dense, very fine to fine
7 7				GM				rese grained gravel, subangular, iron oxide staining
10	SPT 2	100	12-14- 50/3"					
- 10,00,00	SPT	100	50/3"	GM		14.3	cementation	nish gray, with lenses of clay, coarse grained angular gravel, moderate
7.5. T. J.	3	ı						Bottom of borehole at 14.3 ft. Backfilled with auger cuttings
GENERAL BH 7 IP 7 WELL - GINI SID US LAB.GP - 10/3/10 11/32 - C. USERS/LGSCHWIND/USES/ OP/PROJECT SINOR HERN PASS TRENCH COMPLETED LOGS/PASTON, NAMPEASTGFD O DEPTH (#) O (#)								

		Q Q Q SUE	JAN BSURI	FACE Spo	kane	arker F Valley, e: 509	, WA	99027 9409		BORIN	IG NUMBER BH-119 PAGE 1 OF 1
	CLIEN	NT PAR	Electr	ical Contrac					PROJECT NAME Nort	hern Pass	
	PROJ	IECT NUN	IBER	16004					PROJECT LOCATION_	Easton, NH	
	DATE	STARTE	D 8/9	5/16		СОМ	PLET	FED _8/5/16	GROUND ELEVATION	NA	HOLE SIZE 5.5 in
				CTOR SW	Cole			<u> </u>	LATITUDE 44.109253		LONGITUDE71.819989
				Hollow Ste		iger				Diedrich D50	SPT HAMMER 140 lb Auto
				ton			CKED	BY S. Kearney			
	NOTE	S drilled	l 2 ft fr	rom digsafe	arrov	v			$oxedsymbol{oxed}$ at time of drili	LING 3.0ft	
	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
					GM PT		2.5	ORGANIC DEPOS	TH SILT AND SAND (GM), 1		n, wet, medium stiff, very fine to fine
PJ	5	SPT 1	100	1-6-2 (8)			7.3	¥ grained, strong od			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:\USERS\LGSCHWIND\DESKTOP\SW-GW.GP.	10	SPT 2	100	13-17-15 (32)	GP- GC		12.5	brown, wet, dense clay	, very fine to fine grained, fin	AVEL (GP-GC), e to coarse gra	trace organics, moderate grayish ned gravel, angular, with lenses of
JS LAB.GPJ - 10/4/16 12:05	15	SPT 3	0	25-50/0"			15.5	BEDROCK: Highly	weathered, granitic rock		
ENERAL BH / TP / WELL - GINT STD U										orehole at 15.5	

	C	Engine	JAN BSURI	Tele	kane ephon	arker F Valley e: 509	, WA	99027 9409		G NUMBER BH-120 PAGE 1 OF 1			
- 1				ical Contra	ctors				PROJECT NAME Northern Pass				
	PROJE	ECT NUM	IBER	16004					PROJECT LOCATION Easton, NH				
	DATE	STARTE	D _8/3	3/16		COM	PLET	FED <u>8/4/16</u>	GROUND ELEVATION NA I	HOLE SIZE 4.5 in			
- 1				TOR SW									
_ I									DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto			
								S. Kearney	GROUND WATER LEVEL:				
	NOTES	S <u>drilled</u>	d 2 ft fr	om digsafe	arrov	v point							
LOGS/PLYMOUTH, NH/N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
ETED					GM			FILL: SILTY GRAVE	EL WITH SAND (GM)				
JMP[200	4.5						
OH O					SM		1.5	STREAM TERRACE	CE DEPOSITS: SILTY SAND (SM), olive gray to olive brown, moist, loose, fine				
TREN	_				Oivi			grained sand, zones	of oxidation throughout				
ASS													
ERN													
퐒		SPT	100	50/3"				-cobbles present					
Ž Į	5_	\ <u> </u>											
PI/PROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/PLYMOUTH, NH/NPPLYM	. <u>-</u>						8.5						
ğ								BEDROCK: Fresh (I weakly foliated), grayish blue green (5BG 5/2), very fine to	fine grained, strong (R4), SCHIST,			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 22:16 - C:USERS\LGSCHWIND\DESKTO	10	RC 1	100 (77)					,					
B.GPJ - 10/3/16 22:16 - C:	. –	RC 2	100 (63)				15.0	-zone of extensive p	yrite mineralization between 13.6 and 14.2 fl				
JS LA									Bottom of borehole at 15.0 ft. Backfilled with auger cuttings				
STD									_addition that dagor outlings				
GINT													
_/ WE													
Ë.													
ZAL B													
GENE													

		$\overline{}$	JAN BSUR	Spc	kane	arker F Valley, e: 509	WA	99027		BORIN	IG NUMBER BH-121 PAGE 1 OF 1			
	CLIEN			ical Contra	•			9409	PROJECT NAME North	ern Pass				
	PROJ	ECT NUI	MBER	16004					PROJECT LOCATION _E	Easton, NH				
	DATE	STARTE	ED 8/	3/16		COM	DI FT	FD 8/3/16	GROUND ELEVATION _	NΑ	HOLE SIZE 4 in			
- 1				CTOR SW				<u> </u>						
- 1				Solid Ster							SPT HAMMER 140 lb Auto			
٦	LOGG	ED BY	S. Lai	ng		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL	L:				
ST.GP	NOTE	S drille	d 3.5 fl	t from digsa	afe arr	ow poi	nt							
LOGS/EASTON, NH/NPEA	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				MATERIAL DESCRIPTION				
SS TRENCH COMPLETED					SM		3.0	FILL: SILTY SAND gravel, subangular	WITH GRAVEL (SM), olive	brown, moist, f	ine to medium grained, fine grained			
RN PA					SW-						, trace silt, light brown to olive e to coarse grained sand, angular to			
쀪	-				SM			rounded	,	,	, ,			
ON/H	5	SPT 1	72	25-8-7 (15)										
ASS N				(10)										
GENERAL BH / TP / WELL - GINT STD US LAB. GPJ - 10/3/16 11:32 - C: UJSERS/LGSCHWINDDESKTOP/PROJECTS/NORTHERN PASS INNORTHERN PASS TRENCH COMPLETED LOGS/EASTON, NHINPEAS/TGPJ	10	SPT 6-9-23 SWbecomes dense												
S)	. –						12.5							
11:32	-				sc			TILL: CLAYEY SAN	D (SC), olive gray, moist, v	ery dense, low	plasticity, fine grained			
/3/16														
1-19	-	SPT 3	100	36-50/1"	1		14.6							
AB.GF						<u> 11.7.7.7.</u>]			orehole at 14.6				
USL									Backtilled Wi	ith auger cutting	<i>3</i> 5			
STD														
- GIN														
WELL.														
TP /														
L BH /														
VERAI														
Ġ.														

	S	UAI	Spo	8 N B kane	Barker R	WA	99027		BORIN	G NUMBER BH-122 PAGE 1 OF 1
CLI			rical Contra	•	ie: 509	-892-	9409	PROJECT NAME Northern	n Pass	
PRO	OJECT N	JMBER	16004					PROJECT LOCATION East	ston, NH	
DA	TE STAR	ΓΕD _8	/3/16		СОМ	PLET	ED _8/3/16	GROUND ELEVATION	NA	HOLE SIZE 4 in
DRI	ILLING C	ONTRA	CTOR SW	Cole				LATITUDE 44.10232		LONGITUDE71.82255
- 1			Solid Ster						edrich D50	SPT HAMMER 140 lb Auto
- 1							S. Kearney	GROUND WATER LEVEL:		
NO			nches from	uigsai	e arrow	/ poir	ıt			
O DEPTH	(π) SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DE	SCRIPTION	
				SM			FILL: SILTY SAND	WITH GRAVEL (SM)		
-	-									
						<u>1.8</u>	STREAM TERRACI	DEPOSITS: WELL GRADED	SAND WIT	H GRAVEL WITH SILT (SW-SM),
-				SW- SM			olive to olive brown, subrounded	moist, medium dense, fine gra	ained gravel,	fine to coarse grained sand,
5	SP	т 44	6-8-10 (18)							
-	-					0.5				
OP\SW-GW.GPJ	_			SP		<u>6.5</u> .		DEPOSITS: POORLY GRAD grained sand, subrounded, hy		VITH GRAVEL (SP), black, moist, dor, hydrocarbon staining
MIND/DESK1)SP_2		3-4-30 (34)			10.5				
-SYLGSCH/					[20,200.0]	10.0		Bottom of borel Backfilled with b		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:\USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ										
GENERAL BH / TP / WE										

	S	$\overline{}$	JAN SSUR	Spo	kane	arker l Valley e: 509	RD , WA 9	99027 9409		BORIN	G NUMBE	R BH-123 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contrac	•				PROJECT NAME Nort	hern Pass		
	PROJ	ECT NUM	IBER	16004					PROJECT LOCATION_	Easton, NH		
	DATE	STARTE	D 8/:	3/16		COM	IPI FT	ED _8/3/16	GROUND ELEVATION	NA	HOLE SIZE 4 in	
									LATITUDE 44.100259			
									DRILLING EQUIPMENT			
								BY S. Kearney			O	110 10 7 1010
				rom digsafe					_			
	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRI	PTION		REMARKS
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ	5 10	SPT 1	72	11-11-13 (24)	SP-SM		2.0 5.3 8.0	(SP-SM), dark brow medium dense, fine STREAM TERRAC GRAVEL (SW-SM) coarse grained san	E DEPOSITS: POORLY Gray (7.5YR 3/2) to dark gray grained sand E DEPOSITS: WELL GRAI, olive brown to dark brown, d, angular to subrounded, v	DED SAND WIT, fine grained graveathered schist	H SILT AND avel, fine to fragments	roller bit from 8 to 15 ft, fresh rock at 13 ft
GENERAL BH / TP / WELL - GINT STD US LAB	15					<u> </u>	<u> 115.0 </u>		Bottom of borehole a Backfilled with auger			

			JAN BSURI		8 N B kane	arker F Valley	WA	99027		BORIN	G NUMBE	R BH-124 PAGE 1 OF 1
	CLIEN			Tele	•	e: 509		-9409	PROJECT NAME North	ern Pass		
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION_	Easton, NH		
	DATE	STARTE	D 8/3	3/16		COM	PLET	TED 8/3/16	GROUND ELEVATION _	NA	HOLE SIZE 4 in	
				TOR SW					_			_
	DRILL	LING MET	THOD	SSA/Wire	line C	oring /	NQ S	Size/Series 8	DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER _1	140 lb Auto
		_						S. Kearney	GROUND WATER LEVEL	.:		
ļ	NOTE	S <u>drilled</u>	d 1 ft fr	om digsafe	arrov	v point			-			
	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIF	PTION		REMARKS
								FILL				
ł							1.5					
					SW- SM		1.0	GRAVEL (SW-SM),	E DEPOSITS: WELL GRAE trace organics, grayish bro gravel, fine to coarse graine	wn and dark bro	own, moist,	
	5	SPT 1	50	3-5-3 (8)								
				(0)	-							
ŀ												
W.GPJ							7.5					
SW-G		-										roller bit from 8.5
SKTOP								BEDROCK: Highly v grained, SCHIST	weathered (IV), foliated blue	eish, dark blueis	sh gray fine	to 11 ft
DIDES	10	SPT 2		50/0"								
CHWIN												
S/LGS(
USER												
.: 59 - C:		RC	93									
16 12:6		1	(75)									
- 10/4/		11										
3.GPJ	15						15.0					
US LA									Bottom of borehole at Backfilled with auger of	15.0 ft. cuttings		
TSTD												
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:59 - C.USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ												
/ WELI												
H/TP												
RAL B												
GENE												

	ENT PAR		Te	08 N Ba okane V lephone	rker RD /alley, WA 99027 : 509-892-9409		PROJECT NAME Northern Pass PROJECT LOCATION Easton, NH					
DAT DRII DRII	LLING CON	ED 8/3 NTRAC THOD S. Laii	3/16 FTOR SV Hollow S	V Cole	CHECKED BY S. Kearner	GROUND ELEVATIONNA LATITUDE 44.096395	LONGITUDE71.830381					
D LOGS/EASTON, NH/NPEA DEPTH (#)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC X LOG	Leu	L. CILTY CAND WITH ODA	A) /[=]	MATERIAL DESCRIPTION					
ERN PASS TRENCH COMPLETEI	-	SM	4.0	FIL	L: SILIY SAND WITH GRA	AVEL ((SM), dark brown, hydrocarbon odor noted					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:32 - C:USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\GRAFTON, NH\NPEAST.GPJ OF THE COMPLETED LOGS\GRAFTON, NH\NPEAST.GPJ OF THE COMPLETED LOGS\GRAFTON OF THE COMPLETED LOGS\GrafT							Bottom of borehole at 4.0 ft. Backfilled with bentonite and drill cu	uttings				

	SUE	JAN BSURI	FACE Spo	kane ephon	arker F Valley, e: 509	, WA	99027 -9409	BORING NUMBER BH-126 PAGE 1 OF 1
1			ical Contra	ctors				PROJECT NAME Northern Pass
PRO	JECT NUM	/IBER	16004					PROJECT LOCATION _Easton, NH
DAT	E STARTE	D 8/	1/16		СОМ	PLET	TED 8/1/16	GROUND ELEVATION NA HOLE SIZE 4 in
DRIL	LING CON	NTRAC	TOR SW	Cole				LATITUDE 44.09507 LONGITUDE71.830301
DRIL	LING MET	THOD	Solid Ster	n Aug	er/Holl	ow S	tem Auger	DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto
LOG	GED BY	S. Lai	ng		CHE	CKE	D BY S. Kearney	GROUND WATER LEVEL:
D NOT	ES 1.5 ft	from o	digsafe arro	w				$\overline{igspace}$ at time of drilling $\underline{ ext{5.5ft}}$
LOGS/EASTON, NH/NPEAS O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
ICH COMPLEIEU	_			SM		2.0	FILL: SILTY SAND	WITH GRAVEL (SM)
PUPROJECT SNORTHERN PASS NAMOR HERN PASS TRENCH COMPLETED LOGSSEASTON, NAMPEAST GRU O DEPTH (ft)	SPT 1	67	5-7-4 (11)	SP- SM				E DEPOSITS: POORLY GRADED SAND WITH SILT (SP-SM), light brown to m dense, fine grained sand
- C.IOSEROLLOSCHWINDIDESKI OFF-KOJEC ISNO	SPT 2	100	50/5"	- SP- SM			-becomes olive to ol increases	live brown, wet, very dense, fine to medium grained sand, gravel content
JS LAB.GPJ - 10/3/16 11:3	SPT 3	100	36-46- 50/5"	SP- SM		15.4	-becomes yellowish from granitic source	brown, moist, fine grained sand, with weak cementation, possible derived Bottom of borehole at 15.4 ft.
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:32 - C.USERS/LGSCHWIND/DESKTO								Backfilled with auger cuttings

SU	JAN BSURF	Spo Tele	kane \ephone	arker RD Valley, W <i>P</i> e: 509-892	\ 99027 2-9409		NG NUMBER BH-128 PAGE 1 OF 1
PROJECT NUI	MBER .	16004				PROJECT LOCATION Woodstock, Ni	1
DATE STARTE					TED <u>8/1/16</u>	GROUND ELEVATION NA LATITUDE 44.090733	HOLE SIZE _4 in ID/8 in OD LONGITUDE71.824626
DRILLING ME							SPT HAMMER 140 lb Auto
LOGGED BY					D BY S. Kearney	GROUND WATER LEVEL:	
NOTES 1.5 ft	Irom a	igsale arro	w poir	it at edge	or road		
O DEPTH (ft) (ft) SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTIO	N
5 SPT 1	50	2-0-0 (0)	GM	© 000000000000000000000000000000000000	FILL: SILTY GRA' gravel, fine to coa	VEL (GM), trace sand, dark brown, moist, vrse grained sand, subrounded, hydrocarbor	n odor noted
DRILLING ME' LOGGED BY NOTES 1.5 ft (#) O SAMPLE TYPE SPT SPT The state of th						Backfilled with bentonite a	

	SUE		FACE Spo Tele- ical Contract	kane ephon	arker F Valley, e: 509	RD WA 99027 1-892-9409	PROJECT NAME Northern Pass PROJECT LOCATION Woodstock, NH
DATE	STARTE LING CON LING MET	D <u>8/</u> ITRAC	1/16 CTOR SW Hollow Ste	Cole em Au	iger		GROUND ELEVATION NA HOLE SIZE 4 in ID/8 in OD LATITUDE 44.088722 LONGITUDE -71.822073 DRILLING EQUIPMENT _ Diedrich D50 SPT HAMMER _ 140 lb Auto
LOGO NOTE			ng arrow on roa		CHE	CKED BY S. Kearney	GROUND WATER LEVEL:
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION
NORTHERN PASS TRENCH COMPLEIED I	SPT		2-1-11	SW- SM		FILL: WELL GR grained sand	ADED SAND (SW-SM), dark brown, moist, medium dense, fine to medium
VORTHERN PASS NHW	1	61	(12)	SM		STREAM TERR	ACE DEPOSITS: SILTY SAND (SM), olive brown, wet, medium dense, fine //drocarbon odor at 7.2 ft
GENERAL BH / IP / WELL - GINT SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJEC SIND KINCK I HEKN PASS I RENCH COMPLETED E GESWOODS I OCK. WINNING SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SIND RASS I RENCH COMPLETED E GESWOODS I OCK. WINNING SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK I OFFROJE SID US LAB. GFJ - 10/3/16 11:32 - C:USBERS/LGSCHWIND/DESK							Bottom of borehole at 7.2 ft. Backfilled with bentonite and drill cuttings

	C		JAN SSUR	Spo	kane	arker F Valley, e: 509	WA 9			BORIN	IG NUMBER BH-130 PAGE 1 OF 1		
	CLIEN			ical Contra	•			9409	PROJECT NAME North	ern Pass			
- 1		ECT NUM							PROJECT LOCATION _\				
- 1											HOLE SIZE 4 in ID/8 in OD		
GPJ				CTOR SW							LONGITUDE71.819203		
0CK											SPT HAMMER 140 lb Auto		
PWDST				ng road from a			CKED	BY S. Kearney	GROUND WATER LEVE	L :			
LOGS/WOODSTOCK, NH/N	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
GENERAL BH / TP / WELL - GINT STD US LAB GPJ - 10/3/16 11:52 - C: USERS/LGSCHWIND/DESYTOP/PROJECTS/NORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGS/WOODSTOCK. GPJ 10/3/16 11:52 - C: USERS/LGSCHWIND/DESYTOP/PROJECTS/NORTHERN PASS TRENCH COMPLETED LOGS/WOODSTOCK. GPJ 10/3/16 11:52 - C: USERS/LGSCHWIND/DESYTOP/PROJECTS/NORTHERN PASS TRENCH COMPLETED LOGS/WOODSTOCK.		SPT 1	67	7-5-2 (7) 28-31-48 (79)	SP SM	6 VIC	10.5	STREAM TERRACE	E DEPOSITS: SILTY GRAVed gravel, fine grained sand	/EL WITH SAN l, subangular to	VITH SILT (SP-SM), olive gray,		
GENEF													

	⊘	SUE	JAN SUR	FACE Spo	kane	arker F Valley, e: 509	WA 9	9027 409		BORIN	G NUMBER BH-131 PAGE 1 OF 1		
	CLIEN	T PAR	Electr	ical Contrac	•				PROJECT NAME Nort	hern Pass			
	PROJE	ECT NUM	IBER	16004					PROJECT LOCATION_	Woodstock, NF	1		
				1/16		СОМ	PLETE	ED <u>8/1/16</u>	GROUND ELEVATION	NA	HOLE SIZE 4 in ID/8 in OD		
				CTOR SW					-		LONGITUDE71.816415		
				Hollow Ste							SPT HAMMER 140 lb Auto		
				ng			CKED	BY S. Kearney					
	NOTE	S 1 ft of	f road	from arrow	point				o AT TIME OF DRILI	LING <u>6.5ft</u>			
	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
					SM		3.0	grained sand, subar	ngular		ine grained gravel, fine to medium		
	5	SPT 1	50	6-10-50/2"	SW- SM			STREAM TERRACI	E DEPOSITS: WELL GRAI se, fine to coarse grained g	DED SAND WIT gravel, fine to coa	H SILT AND GRAVEL (SW-SM), arse grained sand, subangular		
5					SP		<u>6.5 </u> <u>7</u>	STREAM TERRACI brown, moist, very c	E DEPOSITS: POORLY Gi lense, fine to coarse graine	RADED SAND Ved gravel, fine gr	VITH GRAVEL (SP), olive to olive ained sand, angular to subangular		
SKTOP\SW-GW.GF													
- C:\USERS\LGSCHWIND\DES	10	SPT 2		32-22-30 (52)	SP								
B.GPJ - 10/4/16 12:05	 15	SPT		25/0"			15.0	-boulders from 13 to	15 ft				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERSILGSCHWIND\DESKTOP\SW-GW.GP.		3		<u>, 2010</u>	SP					orehole at 15.0 vith auger cutting			
GENERAL E													

	SUI	JAN BSUR	FACE Spo	08 N B okane	arker F Valley, e: 509	, WA		BORING NUMBER BH-133 PAGE 1 OF 1			
CLII	ENT PAR	Electr	rical Contra	•				PROJECT NAME Northern Pass			
PRO	OJECT NUI	/IBER	16004					PROJECT LOCATION Woodstock, NH			
			1/16 CTOR <u>SW</u>				ED <u>8/1/16</u>				
S DRI	LLING MET	THOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _140 lb Auto			
LOC NOT	_	S. Lai	ing		CHE	CKED	S. Kearney	GROUND WATER LEVEL:			
LOGS/WOODSTOCK, NH DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION			
PUPROJECT SINORTHERN PASS TRENCH COMPLETED LOGSWOODS TOCK, NHNNPWDS TOCK, NHNPWDS TOCK, NHN	_					2.8	FILL				
HERN PASS	-			SW- SM				E DEPOSITS: WELL GRADED SAND WITH GRAVEL AND SILT (SW-SM), ive brown, moist, medium dense, fine to coarse grained gravel, fine to coarse junded			
PASS NH/NORTH	SPT 1	56	10-8-4 (12)								
MWND/DESK OP/PROJECTS/NORTHERN	SPT 2	67	3-9-17 (26)	SW- SM			-becomes olive to ol	live brown, silty content decreases			
10/3/16 11:52 - C:\USERS\LGSCF				CL		13.0		RRACE DEPOSITS: SANDY CLAY WITH GRAVEL (CL), olive gray, moist to wet, icity, fine grained gravel, fine grained sand			
-Fd9.g 15	SPT 3	67	4-5-6 (11)			15 <u>.0</u>					
				ML	للللز	15.5	STREAM TERRACE	E DEPOSITS: SANDY SILT (ML), trace clay, stiff, fine grained sand Bottom of borehole at 15.5 ft.			
GENERAL BH / TP / WELL - GINT STD US LAB. GPJ - 10/3/16 11:52 - C:\USERS\LGSCHWIND\DESKTO 10/3/16 11:52 - C:\USERS\LGSCHWIND\USERS\LGSCHWIND\USERS\LGSCHWIND\USERS\LGSCHWIND\USER\LGSCHWIND\USERS\LG								Backfilled with auger cuttings			
GENE 											

	C	Q L SUE	JAN SURI	FACE Spo	kane	arker F Valley, e: 509	, WA	99027 9409		BORIN	IG NUMBER BH-134 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contrac					PROJECT NAME Nort	hern Pass	
	PROJE	ECT NUM	IBER	16004					PROJECT LOCATION_	Woodstock, NF	1
	DATE	STARTE	D _8/	1/16		СОМ	PLET	FED <u>8/1/16</u>	GROUND ELEVATION	NA	HOLE SIZE 4 in ID/8 in OD
	DRILL	ING CON	ITRAC	TOR SW	Cole				LATITUDE 44.081529		LONGITUDE 71.806507
	DRILL	ING MET	HOD	Hollow Ste	em Au	iger			DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER 140 lb Auto
	LOGG	ED BY	S. Lai	ng		CHE	CKED	S. Kearney	GROUND WATER LEVE	L:	
	NOTE	S 2.3 ft	off roa	ad from arro	ow poi	nt			o At time of dril	LING <u>7.0ft</u>	
	O DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	
							2.5	FILL			
					SP						WITH GRAVEL (SP), reddish gray, I, subangular to subrounded
	5	SPT 1	11	12-18-22 (40)			7.0	abla			
SKTOP\SW-GW.GPJ		V			SW- SM			STREAM TERRAC olive, wet, dense, fi	E DEPOSITS: WELL GRAIne grained gravel, fine to co	DED SAND WIT parse grained sa	H SILT AND GRAVEL (SW-SM), and, subangular to subrounded
- C:\USERS\LGSCHWIND\DE	10	SPT 2	78	11-14-19 (33)	SP- SM		111.5	STREAM TERRAC medium dense, fine	E DEPOSITS: POORLY G grained sand	RADED SAND V	WITH SILT (SP-SM), olive, wet,
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.	15	SPT 3		5-7-9 (16)	SP		15.0 15.5	STREAM TERRAC medium to coarse o	rained sand Bottom of b	RADED SAND (orehole at 15.5 vith auger cutting	
GENERAL BH / TP / WELL - GIN											

	(Q Q U	JAN BSURI	FACE Spo	kane	arker F Valley, ie: 509	WA	99027		BORIN	IG NUMBER BH-135 PAGE 1 OF 1
ľ	CLIEN	IT PAR	Electr	ical Contra	•				PROJECT NAME Nort	hern Pass	
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION	Woodstock, NF	1
- 1								ED _8/1/16	_		HOLE SIZE 4 in ID/8 in OD
- 1				TOR SW							
- 1				Hollow Ste							SPT HAMMER 140 lb Auto
- 1						CHE	CKED	S. Kearney	GROUND WATER LEVE	L:	
Ļ	NOIE	S 4 ft fr	om an	ow tip	I				-		
	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	I
-	-						2.5	FILL			
	_				SP	××××	2.0	ALLUVIUM: POOR	Y GRADED SAND WITH	GRAVEL (SP),	light brown to olive brown, moist,
					0.			very dense, fine to o cobbles present	coarse grained gravel, fine	to medium grair	ned sand, subangular to subrounded,
╁	-	▼ SPT	00	50							
	5	1	83	50							
-	<u> </u>						7.0				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:\USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ	-				SW- SM			ALLUVIUM: WELL brown, moist, very o	GRADED SAND WITH SIL dense, fine to coarse graine	T AND GRAVE ed gravel, fine to	L (SW-SM), light brown to grayish coarse grained sand, subrounded
ND\DESK	10	SPT 2	78	24-32-35 (67)							
CHW											
C:\USERS\LGS	-										
2:05 -	_										
116 1					L		<u>13.5</u>		V GRADED SAND WITH	SII T (SP.SM) I	ight brown to gray, moist, loose, fine
B.GPJ - 10/2	15	SPT 3	100	3-4-5 (9)	SP- SM			grained sand	TI GIVADED GAND WITH	OILT (OI -OW), I	ight brown to gray, moist, 100se, line
JS LA				(-,			15.5		Dottom of h	orobolo at 15 5	4
STD (orehole at 15.5 vith auger cutting	
GINT											
M/W											
BH/T											
RAL											
GENE											

		SÚE	JAN SSURI	FACE Spo	kane	arker F Valley e: 509	, WA	99027	BORIN	G NUMBER BH-136 PAGE 1 OF 1
	CLIEN				•			-9409	PROJECT NAME Northern Pass	
	PROJ	ECT NUM	IBER	16004					PROJECT LOCATION Woodstock, NH	1
	DATE	STARTE	D _7/2	29/16		COM	PLET	TED _7/29/16	GROUND ELEVATION NA	HOLE SIZE _5.5 in
									DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto
		SEDBY_				CHE	CKEL	JBY S. Kearney	GROUND WATER LEVEL:	
									-	
	о DEPTH О (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
							2.0	FILL: COBBLES, ar	nd sand	
					SP- SM		2.0	FILL: POORLY GR, moist, very loose, fi	ADED SAND WITH SILT (SP-SM), trace cl ne grained sand	ay, trace organics, olive brown,
PJ	5 	SPT 1	72	3-2-2 (4)			7.5			
SKTOP\SW-GW.G					SP			STREAM TERRAC olive brown, moist, to subrounded	E DEPOSITS: POORLY GRADED SAND we medium dense, fine grained gravel, fine to	VITH GRAVEL (SP), light brown to medium grained sand, subangular
SERS/LGSCHWIND/DE	_ 10	SPT 2	50	11-7-9 (16)			12.0			
10/4/16 12:05 - C:\US					SW- SM		12.0	STREAM TERRAC olive brown, wet, me subrounded to roun	E DEPOSITS: WELL GRADED SAND WIT edium dense, fine to coarse grained gravel, ded	H SILT AND GRAVEL (SW-SM), fine to coarse grained sand,
LAB.GPJ -	15	SPT 3	72	17-12-11 (23)			15.5			
GINT STD US					•				Bottom of borehole at 15.5 Backfilled with auger cutting	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.										

	Q		JAN BSURI	300	kane	arker F Valley, e: 509	WA	99027 -9409		BORIN	IG NUMBER BH-137 PAGE 1 OF 1			
CL	LIENT	PAR	Electr	ical Contra	•				PROJECT NAME Norther	n Pass				
PF	ROJEC	CT NUN	IBER	16004					PROJECT LOCATION Wo	odstock, NH				
- 1				29/16				TED _7/29/16						
ੁਰੂ DF									LATITUDE 44.065407					
										Diedrich D50	SPT HAMMER 140 lb Auto			
MOST NO	OGGEI OTES		S. Laiı	ng		CHE	CKED	S. Kearney	GROUND WATER LEVEL:					
LOGS/WOODSTOCK, NH/N DEPTH	(#) 0	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL D	ESCRIPTION				
CH COMPLETED	-						1.9	FILL						
RTHERN PASS TRENC	-	7			sc		1.0	brown, moist, very k	ANIC DEPOSITS: CLAYEY SAND (SC), with roots, and organics, dark brown to grayish n, moist, very loose, fine grained sand, organic smell omes olive gray to olive, with silt, moist to wet, medium dense, trace organics					
PIPROJECTS/NORTHERN PASS TRENCH COMPLETED LOGS/WOODSTOCK, NH/NPWDSTOCK GPJ	5 -	SPT 1	39	2-2-2 (4)			8.0			7.67.20				
KTOP/PRC					SP- SM			dense, fine grained		LT (SP-SM), a	and clay, olive brown, wet, medium			
ERS\LGSCHWIND\DES	-	SPT 2	83	2-4-18 (22)										
LAB.GPJ - 10/3/16 11:53 - C:US	15	SPT 3	100	50/2"	SP- SM		15.5	-becomes dense						
STD US			ı	1		1- 2474-	13.3		Bottom of bore Backfilled with					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C:\USERS\LGSCHWIND\DESKTO														

	C	Q Q Q SUE	JAN BSUR	FACE Spo	kane	arker F Valley e: 509	, WA	99027 -9409		BORIN	G NUMBER BH-138 PAGE 1 OF 1		
	CLIEN	IT PAR	Electr	ical Contra	•				PROJECT NAME Northe	ern Pass			
	PROJ	ECT NUM	IBER	16004					PROJECT LOCATION W	Voodstock, NH			
	DATE	STARTE	D 7/2	29/16		СОМ	PLET	Γ ED _7/29/16	GROUND ELEVATION _	NA	HOLE SIZE 5.5 in		
-				CTOR SW					LATITUDE 44.05838				
녱				Hollow St							SPT HAMMER 140 lb Auto		
STOC	LOGG	ED BY	S. Lai	ng		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL	<i>:</i>			
PWD	NOTE	s											
LOGS/WOODSTOCK, NH/	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION			
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK.		SPT		6-4-2	SP-SM						VITH GRAVEL AND SILT (SP-SM), sand, angular to subangular		
KTOP\PROJECTS\NORTHERN PASS NH\		1	33	(6)	SM		8.0	STREAM TERRACE DEPOSITS: CLAYEY SAND WITH GRAVEL (SC), olive gray, moist, medium dense, low plasticity, fine grained gravel, fine grained sand, subrounded to rounded					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C:\USERS\LGSCHWIND\DESKTO													
116 11					CL				E DEPOSITS: LEAN CLAY (rained gravel, subrounded	(CL), trace grav	vel, light brownish gray to olive gray,		
- 10/3					1				-				
-AB.GPJ	15	SPT 3	56	7-7-9 (16)			15 -						
1 SN C						<u> </u>	15.5			rehole at 15.5			
IT STL									Backfilled with	th auger cutting	gs		
NED-													
WELL													
TP /													
BH.													
ERAL													
GEN													

		JAN BSUR	Spc	kane	arker I Valley e: 509	, WA	99027 -9409		BORIN	IG NUMBER BH-139 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME North	ern Pass	
PRO.	JECT NUM	/IBER	16004					PROJECT LOCATION _\	Woodstock, NH	
DATE	E STARTE	D 7/2	29/16		CON	IPLE1	TED _7/29/16	GROUND ELEVATION _	NA	HOLE SIZE 5.5 in
DRIL	LING CON	NTRAC	CTOR SW	Cole						
DRIL	LING MET	HOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER 140 lb Auto
LOG	GED BY _	S. Lai	ng		CHE	CKE	S. Kearney	GROUND WATER LEVE	L:	
NOTE	ES							-		
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	ı
	-			SM				ADED SAND WITH GRAVE to medium grained sand, s		lt, light brown to brown, moist,
Projection on the National Manager	SPT 1	67	12-12-11 (23)	SM		4.5				EL (SM), brown to olive brown, moist, bunded, black patches of organic
DRILLING METHOD Hollow Stem Auger LOGGED BY S. Laing CHECKED BY S. Kearney NOTES HE (#) SPT 67 12-12-11 SM STREAM TER medium dense SPT 0 50/2" SPT 13.5 STREAM TER to reddish gray weathered scr								13.5 ft		
15	SPT 3	73	26-50/5"	SP- SM		15.0		st, medium dense to very obottom of sample		WITH SILT (SP-SM), brownish gray edium grained sand, subrounded,
IENERAL BITTET WELL-GINI STD OO									ith auger cutting	

DATE DRILL DRILL LOGG	SUE FORMAL STARTE LING CONLING MET GED BY	IBER D 7/2 ITRAC 'HOD S. Lai	FACE Sport Telesical Contract 16004 29/16 CTOR SW Solid Ster	ctors Cole n Aug	COMPI	VA 99027 892-9409 LETED 7/29/16 KED BY S. Kearney	PROJECT NAME Northern Pass PROJECT LOCATION Easton, NH GROUND ELEVATION NA LATITUDE 44.04252 DRILLING EQUIPMENT Diedrich De	LONGITUDE7	PAGE 1 OF 1
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION		REMARKS
	SPT	88	11-50/2"	SW- SM			ED SAND WITH GRAVEL (SW-SM), wined gravel, fine to coarse grained sand		
	1			1	<u> • • • • • • • • • • • </u>	7	Bottom of borehole at 4.7 ft. Backfilled with bentonite and drill	cuttings	refusal at 4.7 ft,

GENERAL BH / TP / WELL - GINT STD US LAB. GPJ - 10/3/16 22:20 - C.USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGS\PLYMOUTH, NHINPPLYM.GPJ

	Q		JAN SSURI	Spo	kane	arker F Valley, e: 509	RD WA 99 -892-94	9027 409		BORIN	IG NUMBER BH-142 PAGE 1 OF 1
CL	IENT	PAR	Electr	ical Contra	•				PROJECT NAME North	ern Pass	
PR	OJEC	T NUM	IBER	16004					PROJECT LOCATION _	Woodstock, NH	
DA	TE ST	TARTE	D 7/2	29/16		СОМ	PLETE	:D _7/29/16	GROUND ELEVATION _	NA	HOLE SIZE 4 in
				TOR SW							
주 [[]				Solid Ster							SPT HAMMER _140 lb Auto
ပ္ကို Lo				ng				BY S. Kearney			
à NC	TES										
LOGSWOODSTOCK, NHM DEPTH	(ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
GENERAL BH / IP / WELL - GINT SID US LAB.GPJ - 10/3/16 11:53 - C:USERSILGSCHWINDDESK TOPICKONORI HERN PASS TRENCH COMPLETED LOGSWOODSTOCK, NANAPWDSTOCK GPJ	_	SPT 1	56	5-5-6 (11)	SM			FILL: SILTY SAND \ fine grained gravel, f	VITH GRAVEL (SM), brow ine to coarse grained sand	nish gray to red, subangular to	ldish gray, moist, medium dense, subrounded
GSCHWINDIDESKIOPIPROJECISINOKITERNI	SW-SM SW-ST 47 8-23-50/5"								ED SAND WITH GRAVEL (egrained sand, angular to	(SW-SM), with s subangular	silt, light brown to brown, moist, very
IRS/IL(11.8				
/3/16 11:53 - C:\USE											SP-SM), grayish brown, moist, very and, subangular, broken up cobble
AB.GPJ - 10	5	SPT 3	50	21-50							
						E HE	15.5			orehole at 15.5	
WELL - GINT ST									Backfilled w	ith auger cutting	gs
GENERAL BH / TP /											

		JAN BSUR	Spc	kane	arker F Valley, e: 509	RD WA 990 1-892-940	027 09		BORIN	IG NUMBE	R BH-143 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME North	ern Pass		
PRO	JECT NUI	MBER	16004					PROJECT LOCATION _\	Noodstock, NH		
DAT	F STARTE	D 7/	29/16		COM	PI FTFD	7/29/16	GROUND ELEVATION _	NA	HOLE SIZE 4 in	ı
l DBII			CTOR SW					LATITUDE 44.036727			
DRIL								DRILLING EQUIPMENT			
E LOG								GROUND WATER LEVE		_	
NOT	ES										
LOGS(WOODSTOCK, NH)N O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIF			REMARKS
JECTSNORTHERN PASS NAMORTHERN PASS TRENCH COMPLETED	SPT 1	78	9-6-6 (12)	SP			FILL: POORLY GR/ brown, moist, mediu subrounded	ADED SAND WITH GRAVE	EL (SP), light brel, fine to medi	own to reddish um grained sand,	
GENERAL BH 7 IP / WELL - GINT SID US LAB.GPJ - 10/3/16 11:53 - C: USERS/LGSCHWINDNDESK TOP/PROJECT SINOKTHERN PASS TRENCH COMPLETED LOGS/WOODSTOCK, NHMPWDS1 OCK, GPJ OCK GPJ	SPT 2	0	50/1"	7			BEDROCK: Highly v	Bottom of borehole at Backfilled with auger	: 15.0 ft.		roller bit from 8.6 to 15 ft
GENERAL BH / TP / WELL - GINT STD											

	<u>C</u>	Q L SUE	JAN SSURI	FACE Spo	kane	arker F Valley, e: 509	, WA	99027 9409		BORIN	IG NUMBE	R BH-144 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contra	•				PROJECT NAME Nort	hern Pass		
	PROJ	ECT NUM	IBER	16004					PROJECT LOCATION_	Woodstock, NF	1	
	DATE	STADTE	D 7/	27/16		COM	IDI ET	ED 7/27/16	GROUND ELEVATION	NA	HOLE SIZE 4 in	
				TOR SW				<u> </u>	_ LATITUDE 44.035967		LONGITUDE7	
							NO S	Size/Series 8	DRILLING EQUIPMENT			
				arney				BY S. Kearney	_		O	1101071010
	NOTE	· -							_			
	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRI	PTION		REMARKS
3W.GPJ	5	SPT 1	83	10-9-9 (18)	SM SP		3.5	coarse grained graves	WITH GRAVEL (SM), trace vel, fine to medium grained E DEPOSITS: POORLY Gin, moist, medium dense, fingrained sand, subrounded	ed WITH GRAVEL		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C.\USERS\LGSCHWIND\DESKTOP\SW-GW.GP.	10 15 ;	RC 1		50/0"	GP		11.5	 STREAM TERRAC	E DEPOSITS: BOULDERS E DEPOSITS: POORLY GI, coarse grained, subrounde	- — — — — — RADED GRAVE	 L (GP), white	cored through boulder from 10 to 11.5 ft
GENERAL BH / TP / WELL - GINT STD US LA		2			(GP				Bottom of borehole a Backfilled with auger			

	()		JAN BSURI	FACE Spc	kane	arker f Valley	, WA	99027		BORIN	G NUMBE	R BH-145 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contra	•	e: 509		-9409	PROJECT NAME Nort	hern Pass		
		ECT NUM							PROJECT LOCATION_	Woodstock, NF	ł	
	DATE	STADTE	:D 7/	27/16		COM	IDI ET	FED 7/27/16	GROUND ELEVATION	NA	HOLE SIZE 4.51	n
				TOR SW			IFLEI	<u> </u>	LATITUDE 44.033706		LONGITUDE7	_
							NQ S	Size/Series 8				
				arney				DBY S. Kearney				. 10 10 7 1010
	NOTE	_										
	O DEPTH	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRI			REMARKS
					SM		3.0		WITH GRAVEL (SM), brow to medium grained sand, a		fine to coarse	
					SW- SM			GRAVEL (SW-SM),	E DEPOSITS: WELL GRAI brown (7.5YR 5/3), moist, to coarse grained sand, su	medium dense		
	5	SPT 1	78	6-9-6 (15)								
TOP\SW-GW.GPJ							8.0	BEDROCK: Fresh (I very strong (R5), GF of epidote), whiteish green and black ANITE, granular, slightly r	κ, coarse graine netamorphosed	d, strong (R4) to , minor amounts	auger refusal at 8 ft
VIND\DESK	_ 10											
SCHV					L=:		10.8	Core loss from 10.8	to 11 ft			
3.GPJ - 10/4/16 12:05 - C:\USERS\L	 15	RC 1	97 (60)				15.0		eathered, medium strong to	o strong	/	
JS LAE									Bottom of borehole at Backfilled with auger			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.										-		

		JAN BSUR	Орс	kane	arker l Valley e: 509	, WA	99027 -9409		BORIN	IG NUMBER BH-146 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME North	ern Pass	
PRO.	JECT NUI	MBER	16004					PROJECT LOCATION _\	Noodstock, NH	
DATE	E STARTE	D 7/2	27/16		CON	1PLE	TED _7/27/16	GROUND ELEVATION	NA	HOLE SIZE 5.5 in
וופח			TOR SW					LATITUDE <u>44.02919</u>		
DRIL	LING ME	ГНОД	HSA/Wire	line C	oring /	/ NQ S	Size/Series 8	DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER 140 lb Auto
LOG	GED BY	S. Ke	arney		CHE	CKE	D BY S. Kearney	GROUND WATER LEVE	L:	
NOTE	ES							-		
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
DEPTH (#) 0 DEPTH (#) 10 DEPTH	-			SM		3.0	to medium grained s	sand, angular		fine to coarse grained gravel, fine
				SM				WITH GRAVEL (SM), olive ned sand, angular, iron oxic		dense, coarse grained gravel,
5	SPT 1	67	6-15-24 (39)							
	-					9.0				
10	SPT 2	67	50/3"	ML				WITH GRAVEL (ML), grayi ım grained sand, angular	sh brown, mois	t, hard, fine to coarse grained
(SK1)										
از			-			12.2			to coarse grain	ed, strong (R4) to very strong (R5),
<u> </u>	41					4	GRANITE, biotite ric		-	,
01/0	RC 1	71 (71)				1				
<u>-</u>	11	,				1				
15						15.0		D. "		4
									orehole at 15.0 ith auger cutting	
all o									- `	
5										
<u>7</u>										
H H										
FKA F										
<u>[</u>										

	Q		JAN SSUR	FACE Spc	kane	arker F Valley, e: 509	WA	99027	BORING NUMBER BH-147 PAGE 1 OF 1
CL	JENT	PAR	Electr	ical Contra	•	e. 508	-092-	-9409	PROJECT NAME Northern Pass
	_			16004					PROJECT LOCATION Woodstock, NH
				27/16		СОМ	PLET	ED <u>7/27/16</u>	
ੁ ਨੂ				CTOR SW					LATITUDE 44.027531 LONGITUDE71.760163
								tem Auger	
		BY _	S. Ke	arney		CHE	CKED	S. Kearney	GROUND WATER LEVEL:
NC NC	OTES _			I					
LOGS/WOODSTOCK, NI DEPTH		NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
TRENCH COMPLETED I	-				SM		2.8	FILL: SILTY SAND to medium grained s	WITH GRAVEL (SM), grayish brown, moist, fine to coarse grained gravel, fine sand, angular
THERN PASS					SM			TILL: SILTY SAND (trace coarse sand, r	(SM), trace gravel, gray, moist, very dense, fine grained, fine grained gravel, micaceous
H/NOR	. 🛚	SPT	89	12-19-27					
PIPROJECTS/NORTHERN PASS THENCH COMPLETED LOGS/WOODS/TOCK, NHINPWDS/TOCK GPJ	_	1							
					SP			grained gravel, fine	ADED SAND WITH GRAVEL (SP), gray, moist, very dense, fine to coarse to medium grained sand, subrounded
	0	SPT 2	100	16-32-34 (66)	-				
C:\USERS\L(-							-boulder from 11.6 to	o 12.8 ft
/3/16 15:59 -	_				SM		12.8	TILL: SILTY SAND gravel, fine to coars	WITH GRAVEL (SM), dark gray, moist, very dense, fine to coarse grained e grained sand, angular
-12		SPT	100	50			14.5		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 15:59 - C. USERS/LGSCHWIND/DESKTO		_3_/							Bottom of borehole at 14.5 ft. Backfilled with auger cuttings
GENERAL BI									

	SUE		FACE Spc	kane	Valley,	WA 9	99027 9409	BORING NUMBER BH-148 PAGE 1 OF 1
CLIEN	T PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass
PROJ	ECT NUN	/IBER	16004					PROJECT LOCATION Woodstock, NH
DATE	STARTE	D 7/2	27/16		COM	PLET	ED <u>7/27/16</u>	GROUND ELEVATION NA HOLE SIZE 4 in
DRILL	ING CON	ITRAC	TOR SW	Cole				LATITUDE 44.027081 LONGITUDE71.756551
DRILL	ING MET	HOD	Solid Ster	n Aug	er/Hollo	ow St	em Auger	DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _140 lb Auto
LOGG	ED BY _	S. Kea	arney		CHEC	CKED	BY S. Kearney	GROUND WATER LEVEL:
NOTE	s							
о DEРТН (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
_				sc		15	ORGANIC DEPOSI grained sand	TS: CLAYEY SAND (SC), trace organics, dark brown, moist, fine to medium
 				SM		1.5		E DEPOSITS: SILTY SAND WITH GRAVEL (SM), dark brown, moist, medium e grained gravel, fine to medium grained sand, angular
5	SPT 1	61	23-9-18 (27)			5.8		
				GP			TILL: POORLY GRA grained gravel, med	ADED GRAVEL WITH SAND (GP), brown, moist, very dense, fine to coarse ium to coarse grained sand, subangular, iron oxide staining
10								ers from 10 to 12.5 ft
15	SPT 3	100	43-43-44 (87)	SP- SM	00		TILL: POORLY GRA	ADED SAND WITH SILT (SP-SM), gray, moist, very dense, medium to coarse
					<u>,</u>	15.5 [Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
	DATE DRILL LOGG NOTE:	CLIENT PAR PROJECT NUM DATE STARTE DRILLING CON DRILLING MET LOGGED BY NOTES SPT 10 SPT 11	CLIENT PAR Electric PROJECT NUMBER DATE STARTED 7/3 DRILLING CONTRACT DRILLING METHOD LOGGED BY S. Keinnotes Started S	SUBSURFACE Total Control Sport Tele CLIENT PAR Electrical Contrar PROJECT NUMBER 16004 DATE STARTED 7/27/16 DRILLING CONTRACTOR SW DRILLING METHOD Solid Ster LOGGED BY S. Kearney NOTES SPT 100 50 SPT 100 50	SUBSURFACE PROJECT PAR Electrical Contractors PROJECT NUMBER 16004 DATE STARTED 7/27/16 DRILLING CONTRACTOR SW Cole DRILLING METHOD Solid Stem Aug LOGGED BY S. Kearney NOTES HLET AND SOLID	SUBSURFACE Spokane Valley, Telephone: 509 CLIENT PAR Electrical Contractors PROJECT NUMBER 16004 DATE STARTED 7/27/16 COMID DRILLING CONTRACTOR SW Cole DRILLING METHOD Solid Stem Auger/Holk LOGGED BY S. Kearney NOTES SPT 61 23-9-18 (27) SPT 100 50 GP SPT 100 50 GP SPT 100 50 GP SPT 100 50 GP SPS SPS SM SPS SPS SM	SUBSURFACE Spokane Valley, WA Telephone: 509-892- CLIENT PAR Electrical Contractors PROJECT NUMBER 16004 DATE STARTED 7/27/16 COMPLET DRILLING CONTRACTOR SW Cole DRILLING METHOD Solid Stem Auger/Hollow St LOGGED BY S. Kearney CHECKED NOTES HL (#) SPT 100 50 GP SPT 100 50 GP SP- SM SPT 100 50 GP SP- SM SP- SM SPT 100 43-43-44	SUBSURFACE Special Spe

		SÙE	JAN BSUR	FACE Spo	kane	arker I Valley e: 509	, WA	. 99027 2-9409	BORI	NG NUMBER BH-149 PAGE 1 OF 1
				ical Contrac	ctors				PROJECT NAME Northern Pass	
	PROJ	ECT NUM	MBER	16004					PROJECT LOCATION Woodstock, I	NH
								TED _7/27/16		
								D BY S. Kearney		SPI HAMMER 140 ID Auto
		:S				OHL	OIL	O. Reamey	∇ AT TIME OF DRILLING 6.2ft	
	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	
					SM		2.8	FILL: SILTY SAND \ grained sand, angula	NITH GRAVEL (SM), brown, fine to coal	se grained gravel, fine to medium
					SW-			STREAM TERRACE brown, moist, mediu	DEPOSITS: WELL GRADED SAND W m dense, fine grained gravel, fine to coa	ITH SILT AND GRAVEL (SW-SM), rse grained sand, subangular
					SM			, ,	, ,	, ,
	_	SPT	56	7-7-6						
	5	1	30	(13)			}			
							6.0	V =		1010
					SW- SM		}	TILL: WELL GRADE fine to coarse graine	D SAND WITH SILT AND GRAVEL (SV d gravel, fine to coarse grained sand, su	V-SM), gray, moist, medium dense, bangular
.PJ		-			Oivi		}			
-GW.G										
P\SW							}			
SKTO		V			SW-			-becomes wet, dens	e	
ND\DE	10	SPT 2	72	21-34-12 (46)	SM		1			
CHWII							1			
S/LGS							1			
JSER		_								
2 - C:\\							}			
3 12:06							}			
10/4/16							14.0			
3PJ-	4.5	SPT	89	5-6-6	CL			TILL: CLAY WITH G sand, angular	RAVEL (CL), dark gray, wet, stiff, fine g	rained gravel, fine to medium grained
LAB.	15	3	03	(12)			15.5			
STD US							,	•	Bottom of borehole at 15. Backfilled with auger cutti	5 ft. nas
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.										-
ŒLL										
TP / W										
- BH /										
VERAL										
ΘE										

	SUE	JAN BSUR	FACE Spo	kane	arker F Valley, e: 509	WA	99027 9409		BORIN	G NUMBE	R BH-150 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME North	ern Pass		
PRO	JECT NUM	/IBER	16004					PROJECT LOCATION _\	Noodstock, NH		
	E OT A DTE	D 7/	00/40		COM	DI ET	TD 7/00/40	COOLIND ELEVATION	NΙΔ	1101 E 017E 4 in	
1			26/16				ED 7/26/16	_			
尚								LATITUDE 44.02083			
			Solid Ster				ABV C Koornov			SPI HAWWER _	140 ID Auto
	_	5. KE	arriey		CHE	SKEL	S. Kearney	GROUND WATER LEVEL \overline{Y} AT TIME OF DRILL			
NOT		1						- AT TIME OF DRIEL	-ING <u>0.011</u>		
LOGS/WOODSTOCK, N DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIF			REMARKS
PPPROJECTSINORTHERN PASS TRENCH COMPLETED LOGSWOODSTOCK, NHNPWDSTOCK, OF DEPTH ON TOTAL OF DEPTH ON TO	-			SP . SM		3.5	to coarse grained grai	OORLY GRADED SAND (Savel, fine to coarse grained n, silt content increases SM), grayish brown, wet, n	I sand, subroun	ded	
NOR	SPT		7-9-8				coarse granted sand				
<u> 5</u> _ 5	_ 1 1	61	(17)	<u></u>		<u>5.0</u>		rs: gravelly organic	SOII WITH SA	ND (OL) black	
	_			OL			moist, very stiff, fine $ abla$	grained gravel, fine to med	oium grained sa	na	
VIND/DESKT				OL			-boulder from 9 to 10				
ERS/LGSCH/	SPT 2	50	1-2-50/4"				-trace gravel and cla	y, wet, soft			
15:59 - C:\US	-					40.5	-boulder from 12 to	13.5 ft			
/3/16						13.5	BEDROCK: Probabl	e bedrock			
1-1	1										auger refusal at
В. В. В. В.						14.9		Dottom of hamalant 1	140#		14.9 ft
JSLA								Bottom of borehole at Backfilled with auger			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 15:59 - C:USERS/LGSCHWIND\DESKTO											
B											

			JAN	FACE Spo	kane	arker F	RD , WA 99027 9-892-9409	BORING NUMBE	R BH-151 PAGE 1 OF 1
	CLIEN	IT PAR	Electr		•			PROJECT NAME Northern Pass	
	PROJ	ECT NUM	/IBER	16004				PROJECT LOCATION Woodstock, NH	
	DATE	STARTE	D 7/2	26/16		COM	IPLETED _7/26/16	GROUND ELEVATION NA HOLE SIZE 4 in	1
	DRILL	ING MET	HOD	Solid Ster	n Aug	er		DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _	140 lb Auto
	LOGG	ED BY _	S. Kea	arney		CHE	CKED BY S. Kearney	GROUND WATER LEVEL:	
	NOTE	s		T		T			
	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	REMARKS
	 	SPT 1	50	3-3-5 (8)	SP- SM		medium grained san		
				(6)	OL		ORGANIC DEPOSIT grained sand	TS: ORGANIC SOIL (OL), black, moist, fine to medium	
JP\SW-GW.GPJ					SW- SM		GRAVEL (SW-SM),	E DEPOSITS: WELL GRADED SAND WITH SILT AND orange and brown, wet, very dense, fine to coarse grained e grained sand, subrounded	
::\USERS\LGSCHWIND\DESKT	10	SPT 2	100	50/3"	SW- SM		-boulder from 9.5 to	12.5 ft	
0/4/16 12:05 - C							BEDROCK: Probable	e bedrock	
3PJ - 1									auger refusal at 15 ft
LAB.C	15					V / X \	15.0	Bottom of borehole at 15.0 ft.	1510
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTO								Backfilled with auger cuttings	

	CLIEN	SUE	JAN BSUR Fing = Co	FACE Spo	kane ephon	arker F Valley, e: 509	WA 9 -892-	99027 9409	PROJECT NAME North		IG NUMBER BH-152 PAGE 1 OF 1
- 1		ECT NUM							PROJECT LOCATION \		
JPJ	DATE DRILL	STARTE	D <u>7/:</u>	26/16 CTOR <u>SW</u>	Cole			ED _7/26/16	GROUND ELEVATION _ LATITUDE 44.01993	NA	HOLE SIZE _4 in LONGITUDE71.741195
\otimes I										Diedrich D50	SPT HAMMER 140 lb Auto
ĕ			S. Ke	arney		CHE	CKED	BY S. Kearney	GROUND WATER LEVE	L:	
	NOTE	S		T	1						
COMPLETED LOGS/WOODSTOCK, NE	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
-IED					SP			FILL: POORLY GRA	ADED SAND WITH GRAVE e grained gravel, fine to coa	EL (SP), trace o	rganics, grayish brown, moist, very
ERN PASS TRENCH	-						4.5	delise, fille to coalse	e gramed graver, inne to coa	aise giailleu sa	ia, subrounded
NH\NORTH	5	SPT 1	47	2-3-50/3"	SM		4.5			gray, moist, ve	ry dense, fine to coarse grained
PROJECTS/NORTHERN PASS N					OW			gravel, fine to coarse -boulder from 5.3 to	e grained sand, angular 8.6 ft		
SKTO P	-	V			SM						
ND/DE	10	SPT 2	28	4-11-19 (30)	Sivi						
15:59 - C:\USERS\LGSCHWIND\DESKTOR	· -					\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	13.0	BEDDOCK: Lliable.	weathered (IVI) organish v	white and brown	, medium to coarse grained,
- 10/3/16								medium strong (R3)	, GRANITE, moist	ville and brown	, mediam to coarse grained,
		SPT 3	100	50/4"		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	14.3		Bottom of bo	orehole at 14.3	ft.
BENERAL BH / TP / WELL - GINT STD US LAB.GP.									Backfilled w	ith auger cuttinç	gs

	⊘	SÙE	JAN SSURI	FACE Spo	kane	arker F Valley, e: 509	WA	99027 -9409		BORIN	IG NUMBER BH-153 PAGE 1 OF 1
	CLIEN	IT PAR	Electr		•				PROJECT NAME North	hern Pass	
	PROJ	ECT NUN	IBER	16004					PROJECT LOCATION_	Woodstock, NI	1
	DATE	STARTE	D _7/2	26/16		СОМ	PLET	TED _7/26/16	GROUND ELEVATION _		
- 1											LONGITUDE71.737593
- 1										Diedrich D50	SPT HAMMER 140 lb Auto
	LOGG	ED BY _	S. Kea	arney		CHE	CKED	S. Kearney			
L	NOTE	s							$\overline{igspace}$ at time of drill	_ ING _6.0ft	
	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
-					SW- SM		3.0	grained gravel, fine t	o coarse grained sand, sul	brounded	1), grayish brown, fine to coarse
					OL			ORGANIC DEPOSITE to medium grained s	S: ORGANIC SOIL WITH and, some cobbles	SAND (OL), da	ark brown, wet, medium dense, fine
		SPT		14-17-32							
-	5	1	72	(49)			5.0	STDEAM TEDDACE	DEPOSITS: COBBLES A	ND DOLLI DED	e
ND\DESKTOP\SW-GW.GPJ							10.2	⊻			
:05 - C:\USERS\LGSCHWII		SPT 2	50	35-35-30 (65)	SM- GM			TILL: SILTY SAND \ gravel, fine to coarse	VITH GRAVEL (SM-GM), e grained sand, angular	dark gray, mois	t, very dense, fine to coarse grained
16 12:	-							-gravel and cobbles	at 13 ft		
LAB.GPJ - 10/4/	15	SPT 3	56	5-20-31 (51)	SM- GM		15.5	-highly oxidized zone	}		
STD US			I	1	-	<u>a e 4e 4e e</u>	10.0			orehole at 15.5 ith auger cutting	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ											

		SÚE	JAN BSUR	FACE Spc	kane	arker F Valley, e: 509	, WA	99027 9409	E	BORIN	G NUMBER BH-154 PAGE 1 OF 1
	CLIEN	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern P	ass	
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Wood	stock, NH	
	DATE	STARTE	D 7/3	26/16		СОМ	PLET	TED _7/26/16	GROUND ELEVATION	NA	HOLE SIZE 4 in
1				CTOR SW	Cole						LONGITUDE71.733845
K.GP								tem Auger			
3100								BY S. Kearney			
PWD	NOTE	:S									
LOGS/WOODSTOCK, NH/N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESC	CRIPTION	
S.UJSERSILGSCHWIND\DESKTOPPROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\WOODSTOCK, NH\NPWDSTOCK GFJ	5 10	SPT 1	83	12-39- 50/4" 23-37-50 (87)	OL SM		4.8	medium grained sar	WITH GRAVEL (SM), gray, mois		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:\USERS\LGSCHWIND\DESKTO		SPT 3	100	50/5"	GP		14.0 14.5	TILL: Granitic cobbl	es Bottom of boreho Backfilled with au		
GENERAL BH / TP / WELL - G											

CL	LIENT	SUE	JAN BSUR Electr	FACE Spo	8 N B kane ephon	arker R Valley, e: 509	WA -892-	99027 9409	PROJECT NAME North		IG NUMBER BH-155 PAGE 1 OF 1
PF	ROJE	CT NUN	/IBER	16004					PROJECT LOCATION _V	Voodstock, NH	
- 1								TED <u>7/26/16</u>	GROUND ELEVATION _ LATITUDE 44.023933		HOLE SIZE _4 in
호 얼 DF	RILLII	NG MET	HOD	Solid Ster	n Aug	er/Holle	ow St	tem Auger	DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER 140 lb Auto
	OGGE	D BY _	S. Ke	arney		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL	_:	
₩ NC	OTES	·							$ar{oldsymbol{ol}oldsymbol{ol}oldsymbol{ol{ol}}}}}}}}}}}}}}}}}}}}}}}$.ING <u>8.5ft</u>	
@SW	£)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
CH COMPLEIEL	-				sc		2.0	gravel, fine to mediu	TS: SANDY CLAY (SC), Wi um grained sand, subrounde	tn gravei, trace ed	organics, black, coarse grained
지 지 지					GP	600	2.0		E DEPOSITS: POORLY GR	RADED GRAVE	EL (GP), brownish gray, moist, very
ASS	_					000		dense			
ERN EN								-boulders present			
타	>	SPT	50	50/2"							
z	5	1_/ SPT			1	600					
PASS		2	78	25-50/3"							
TS/NORTHERN F	-										
	-					000	0.5	-boulders present			
99/90					SM-		8.5	TILL: SILTY SAND	WITH GRAVEL (SM-ML), g	ray, moist, very	dense, fine to coarse grained
ESKT		CDT		24 44 54	ML			gravel, fine to coars	e grained sand, angular		
16:00 - C:\USERS\LGSCHWIND\DESKTOR	0_	SPT 3	89	31-41-54 (95)							
M CH CH	4				1						
- Igs	-										
SERS											
⊋[;;	Ī										
00:9	4										
- 10/3/16											
- - - - -		SPT 4	100	50	SM-		14.5	-gravel content incre	eases		
B.GPJ		4_		•	ML					orehole at 14.5 th auger cutting	
/ISI									Dackilled Wi	ar augor outility	9~
STD											
- GINT STD US LAB											
∑ 											
ENERAL BH / TP / WELL											
I.RAI											
Z U											

PR DA	LIENT PAI	IMBER	Telerical Contra	08 N B okane ephon- ctors	e: 509	, WA 9-892- I PLET	ED <u>7/25/16</u>	PROJECT LOCATION _V	ern Pass Voodstock, NH NA	HOLE SIZE _5.5 in
			CTOR SW Hollow St							SPT HAMMER 140 lb Auto
LC LC	GGED BY						BY S. Kearney			
NC	OTES				<u> </u>	1		_		
DEPTH	SAI	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	I
GENERAL BH / IP / WELL - GINT SID US LAB.GPJ - 10/3/16 16:00 - C::USE-RSILGSCHWINDDESK OPP/PROJECT SNORTHERN PASS TRENCH COMPLETED LOGS/WOODS/TOCK, GPJ N	SP 1	Г 56	7-8-14 (22)	SM		8.5		SAND (SM), brown, moist, I		fine to medium grained sand
10/3/16 16:00 - C:\USEKS\LGSCHWIND\DESKTO	-	100	15-50	- ML			fine to medium grai	ned sand, angular, iron oxid	e staining	
GENERAL BH / TP / WELL - GIN I SID US LAB.GP. J - 1	SP 3	0	50	ML		14.5			orehole at 14.5 th auger cutting	

		Q Q L SUE	JAN SSUR	FACE Spo	kane	arker F Valley, e: 509	WA	99027	BORING NUMBER BH-157 PAGE 1 OF 1
	CLIEN	NT PAR	Electr	ical Contra	•	e. 508	-092-	-9409	PROJECT NAME Northern Pass
		ECT NUN							PROJECT LOCATION Woodstock, NH
ſ	DATE	STARTE	D <u>7/</u>	25/16 CTOR <u>SW</u>				TED <u>7/25/16</u>	GROUND ELEVATION NA HOLE SIZE 5.5 in
Α. GP									
3700								BY S. Kearney	
PWD	NOTE	:s							
LOGS/WOODSTOCK, NH/N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK.GPJ					SM		4.0		WITH GRAVEL (SM), brown, fine to coarse grained gravel, fine to medium ngular, cobbles present
RTHERN PASS NH\NORTH	5 5 	SPT 1	17	5-4-4 (8)	ML			ORGANIC DEPOSI [*] grained sand	TS: SANDY SILT (ML), trace organics, dark brown, wet, firm, fine to medium
DESKTOP\PROJECTS\NOF		SPT 2	83	7-50	SP		7.0	STREAM TERRACE grained sand, light b	E DEPOSITS: POORLY GRADED SAND (SP), gray, wet, very dense, medium prown, silty sand at 10 ft
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:USERS\LGSCHWIND\DESKTO	10				ML		10.0	TILL: SANDY SILT V grained sand	WITH GRAVEL (ML), dark gray, moist, hard, fine grained gravel, fine to coarse
S LAB.GPJ - 10/3/	15	SPT 3	56	22-20-27 (47)	ML		15.5		
3H / TP / WELL - GINT STD US									Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GENERAL E									

	© ≥		JAN BSUR	FACE Spo	kane	arker F Valley, e: 509	WA 9	99027	BORING NUMBER BH-159 PAGE 1 OF 1
c	LIEN	T PAR	Electr	ical Contra		e. 509	-092-	9409	PROJECT NAME Northern Pass
- 1		ECT NUN							PROJECT LOCATION Woodstock, NH
٦٦	RILL	ING CON	ITRAC	25/16 CTOR <u>SW</u>	Cole			ED _7/25/16	
ğ D				Hollow Ste					DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto
DST L		<u> </u>	S. Kea	arney		CHE	CKED	S. Kearney	GROUND WATER LEVEL:
M N	OTE	S	1	1					-
LOGS/WOODSTOCK, NH	O (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
PIPROJECTS/NORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGS/WOODSTOCK, NHINIPWDSTOCK, GPJ	5	SPT 1	44	2-1-2 (3)	SP				ADED SAND (SP), trace gravel, trace asphalt, dark brown, moist to wet, very ed gravel, fine to medium grained sand, subrounded
ND/DESKTOP/PROJECTS/NORTHERN I	- - - 10	SPT 2	39	1-1-10 (11)	ML		10.0	plasticity, fine to me	TS: SANDY SILT (ML), trace organics, dark brown to black, wet, very soft, low edium grained sand, gravel present at 10 ft
.PJ - 10/3/16 16:00 - C:\USERS\LGSCHWIN	15	SPT 3	56	16-50/3"	SP- GP				E DEPOSITS: POORLY GRADED SAND WITH GRAVEL (SP-GP), light dense, fine to coarse grained gravel, medium to coarse grained sand, m 11.1 to 13.1 ft
- I'AB	10				-		15.5		
SD Q.				1	-	4. 25 (20)	10.0		Bottom of borehole at 15.5 ft.
SENERAL BH / TP / WELL - GINT ST									Backfilled with auger cuttings

CLIE	Engine	JAN BSUR	Tele	8 N B kane ephon	e: 509	, WA 9-892-	99027 9409	PROJECT NAME Nort		NG NUMBER BH-160 PAGE 1 OF 1
	JECT NUN			Clors				PROJECT LOCATION		NH
					COM	IPI F1	IFD 9/21/16	GROUND ELEVATION		
								_		LONGITUDE71.71149
										SPT HAMMER _140 lb Auto
- 1			er				BY S. Kearney			
	ES									
O DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTIO	DN
	-			SP		4.5	gravel, fine to mediu	m grained sand, subangul	ar to subround	
5				SW- SM			moderate yellowish	prown, moist, loose, fine gr	T AND GRAV rained gravel,	EL (SW-SM), trace organics, fine to coarse grained sand,
-	SPT 1	83	1-2-5 (7)	Sivi			subangular to subro			
IWIND/DESKTOP/SW-GW.GPJ	-			SW- SM		10.5	-boulders and cobble	es irom 6.5 to 10 it		
PJ - 10/4/16 12:05 - C:\USERS\LGSCH	SPT 2		16-10-7 (17)	ML			TILL: SILT WITH GF to subangular, trace		oist, very stiff,	fine to coarse grained gravel, angular
15 TB NS LAB. GF	SPT 3	_	22-32- 50/5"	ML		16.4	-becomes hard, with			
GENERAL BH / TP / WELL - GINT STD US LAB GPJ - 10/4/16 12:05 - C: USERS/LGSCHWIND/DESKTOP/SW-GW.GPJ T 10/4/16 12:05 - C: USERS/LGSCHWIND/DESKTOP/SW-GW.GPJ T 10/4/16 12:05 - C: USERS/LGSCHWIND/DESKTOP/SW-GW.GPJ									orehole at 16. ith auger cutti	

PROJI DATE DRILL	ECT NUN		ical Contra	•			9409			
DATE DRILL		IBER						PROJECT NAME Norther	n Pass	
DRILL	STARTE		16004					PROJECT LOCATION Ea	ston, NH	
DRILL	ING CON		27/16 CTOR SW		СОМ		ED <u>5/27/16</u>	GROUND ELEVATION LATITUDE 44.029281		·
	ING MET	HOD	Hollow St	em Au	iger			DRILLING EQUIPMENT _	Diedrich D50	SPT HAMMER 140 lb Auto
LOGG	ED BY	S. Kea	arney		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:		
NOTE	S drilled	d at sta	ake location	1						
O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				ESCRIPTION	
				OL		0.5		· '		
-				SP- GP			cobbles, and boulder	rs, grayish brown, moist, ver		
5	SPT 1	100	20-39-40 (79)	SP- GP						
-	X SPT 2	83	50	GP	hOC		TILL: POORLY GRA grained gravel, medi	DED GRAVEL WITH SAND um to coarse grained sand,	(GP), gray, m subrounded	noist, very dense, fine to coarse
<u>10</u>								Q		
15	SPT 3	78	39-50/3"	SM				ed sand, subrounded		
- ii CLC	0 (#) 0 10 10 10 10 10 10 10 10 10 10 10 10 1	SPT 1 SPT 2 SPT 3	SPT 100 SPT 78 SPT 78	SPT 78 39-50/3" SPT 78 39-50/3" SPT 78 39-50/3"	SPT 100 20-39-40 SP-GP SPT 2 83 50 GP	SPT 78 39-50/3" SM	SPT 100 20-39-40 SP-GP S	SPT 78 39-50/3" SM SECENCE BY S. Kearney CHECKED BY S. Kearney CHE	CHECKED BY S. Kearney GROUND WATER LEVEL: OTES drilled at stake location MATERIAL D MATERIAL D OL SPR GP SPR GP OL STREAM TERRACE DEPOSITS: (OL) STREAM TERRACE DEPOSITS: POORLY GRA cobbles, and boulders, grayish brown, moist, very coarse grained sand, subrounded SPR GP TILL: SILTY SAND WITH GRAVEL (SM), gray, in fine to medium grained sand, subrounded Bottom of bon Bottom of bon	CHECKED BY S. Kearney GROUND WATER LEVEL: OTES drilled at stake location MATERIAL DESCRIPTION MATERIAL DESCRIPTION MATERIAL DESCRIPTION SP. GP ORGANIC DEPOSITS: (OL) SP. GP SPT 100 20-39-40 GP SP GP TILL: SPT 2 SPT 2 SPT 2 SPT 2 SPT 2 SPT 2 SPT 3 39-50/3" SM SPT 3 39-50/3" SM TILL: SILTY SAND WITH GRAVEL (SM), gray, moist, very derine to medium grained sand, subrounded

			JAN BSUR	FACE Spc	kane	arker f Valley e: 509	, WA	99027	BORII	NG NUMBER BH-162 PAGE 1 OF 1
	CLIEN	IT PAR	Flectr	ical Contra	•	e: 508	9-892-	-9409	PROJECT NAME Northern Pass	
		ECT NUM			01010				PROJECT LOCATION Woodstock, N	
رد	DATE	STARTE	D _5/:	27/16 CTOR SW				FED <u>5/27/16</u>	GROUND ELEVATION NA	HOLE SIZE 6 in
Ϋ́.G	DRILL	ING MET	HOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto
STOC	LOGG	ED BY	S. Ke	arney		CHE	CKE	S. Kearney	GROUND WATER LEVEL:	
PWD	NOTE	S drilled	d at sta	ake location	1					
LOGS/WOODSTOCK, NH/	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC			MATERIAL DESCRIPTIO	N
ETED					SM		0.5	ORGANIC DEPOSI		Land Contact and a second
ICH COMPLI					SM		2.0	fine to medium grain	WITH GRAVEL (SM), and cobbles, browned sand	n, loose, fine to coarse grained gravel,
THERN PASS TREN					SP			STREAM TERRACI gray, moist, very de	E DEPOSITS: POORLY GRADED SAND nse, fine to coarse grained gravel, fine to	WITH GRAVEL (SP), and cobbles, medium grained sand, subrounded
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK.GPJ	5	SPT 1	72	22-41-50 (91)			7.5			
(TOP\PROJEC					SM				DEPOSITS: SILTY SAND WITH GRAVed gravel, fine to medium grained sand, s	
CHWIND\DESK	10	SPT 2	94	36-42-50 (92)	_					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:\USERS\LGSCHWIND\DESKTO		SPT	E0.	15-33-21	SM					
LAB.6	15	3	56	(54)			15.5			
TP / WELL - GINT STD US						[24]; 1] -1	10.5		Bottom of borehole at 15. Backfilled with auger cutti	
GENERAL BH /										

	6		JAN BSUR	Spo	kane	arker F Valley,	WA	99027		BORIN	G NUMBER BH-164 PAGE 1 OF 1
	CLIEN			ical Contrac	•	e: 509	-892-	.9409	_ PROJECT NAME Norther	n Pass	
		ECT NUM							PROJECT LOCATION W		
- 1				27/16		СОМ	PLET	ED <u>5/27/16</u>	GROUND ELEVATION	NA	HOLE SIZE 6 in LONGITUDE -71.69814
K.GPJ				CTOR SW Hollow Ste		ıger			DRILLING EQUIPMENT	Diedrich D50	
STOCK							CKED	BY S. Kearney	-		<u> </u>
IPWD9				ake location					_		
LOGS/WOODSTOCK, NHIN	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL D	ESCRIPTION	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\WOODSTOCK, NH\NPWDSTOCK. GPJ					SM		3.0		(SM), trace gravel, trace organical (SM), dark brown, moist, soft		noist, loose, fine to medium grained
DRTHERN F					ML			FILL SANDT SILT	(ML), dark brown, moist, sort	, ilile grailled, i	nyurocarbon odol
NHN	5	SPT 1	61	4-2-1 (3)							
PASS											
HERN											
NORT											
JECTS							7.7		Bottom of bo	rehole at 7.7 ft.	
PRO.										h bentonite an	
SKTOF											
ND/DE											
CHWIN											
S/LGS											
USER											
00 - C:\											
16 16:0											
- 10/3/											
3.GPJ											
US LAI											
TSTD											
NID -											
/ WELL											
H/TP.											
RAL BI											
GENE											

		JAN BSURI		kane '	arker RD Valley, W	A 99027		BORIN	G NUMBER BH-165 PAGE 1 OF 1
CLIEN			cal Contrac	•	e: 509-89	92-9409	PROJECT NAME Northern	Pass	
PROJ	ECT NUM	IBER	16004				PROJECT LOCATION Wo	odstock, NH	
DATE	STARTE	D _7/2	22/16		COMPL	ETED <u>7/22/16</u>	GROUND ELEVATION NA HOLE SIZE 4.5 in		
			TOR SW						
							DRILLING EQUIPMENT Di GROUND WATER LEVEL:	edrich D50	SPT HAMMER 140 lb Auto
			d water line			O. Reamey	- OROGNO WATER LEVEL.		
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DE	SCRIPTION	
<u> </u>				SP		FILL: POORLY GR medium grained, fir	ADED SAND WITH GRAVEL (ne grained gravel	(SP), brown,	moist, medium dense, fine to
 _ 5 	SPT 1	28	8-10-9 (19)	SP					
					6.4	. [Bottom of bore Backfilled with		

	() 	Ş			FACE 430 Spo	8 N B kane	ubsur arker Valley e: 509	RD [,] WA	. 99027 -9409	BORIN	IG NUMBER BH-166 PAGE 1 OF 1
										PROJECT NAME Northern Pass PROJECT LOCATION Plymouth, NH	
	DATE DRIL DRIL	E STA	ARTE CON MET	D <u>9/</u> ITRAC	1/16 CTOR SW Hollow Ste	Cole em Au	CON uger	MPLE:	TED <u>9/1/16</u>	GROUND ELEVATION LATITUDE 44.0288150310516 DRILLING EQUIPMENT Diedrich D50	HOLE SIZE _4 in LONGITUDE71.6854870039969
					ton to 7 ft befor			CKE	D ВҮ	GROUND WATER LEVEL:	
	o DEPTH	SAMDI E TYDE	NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	l
ı									Asphalt		
			GB			SM		1.0	FILL: Silty SAND (SI	M), with cobbles, rounded	
OJECTS/16004/16004 NORTHERN PASS.GPJ	5	-	1			GM			ALLUVIUM		
SE/GINT\PROJECTS\16004	10								-boulders up to 1 ft i		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/21/16 11:20 - O:DESIGN DATABASE\GINT\PR			SPT 1	24	26-16- 50/5"				GRAVEL WITH SAN medium to very coal	ND AND SILT, pale yellowish brown, dry, lorse grained gravel, angular to subangular,	pose, very fine to fine grained, dry
S LAB.GF	15		057		40.40.0		90		-with oxidation zones	3	
r STD U			SPT 2	44	10-19-24 (43)			16.5			
L - GINT				ı	1	ı	<u>192 P</u>	110.0	1	Bottom of Borehole at 16.5 f	eet
GENERAL BH / TP / WEL											

			JAN SURI	FACE Spo	kane	arker F Valley, e: 509	WAS		BORING NUMBER BH-167 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contrac	ctors				PROJECT NAME Northern Pass
	PROJ	ECT NUM	IBER	16004					PROJECT LOCATION Woodstock, NH
	DATE	STARTE	D 9/2	27/16		СОМ	PLET	ED 9/28/16	GROUND ELEVATION NA HOLE SIZE 6 in
E.	DRILL	ING CON	ITRAC	TOR SW	Cole				LATITUDE 44.023246 LONGITUDE 71.684354
CK.G							NQ S	Size/Series 8	DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto
DSTC	LOGG	ED BY _	J. Mel	ton		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:
NNN\	NOTE	S <u>drilled</u>	at sta	ake location	<u> </u>	1			-
LOGS/WOODSTOCK, NH	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK.GPJ	 				OL		4.3	FILL: ORGANIC SIL	T (OL), with organics, dusky brown, dry, very loose, very fine grained
RN PASS NH\NOR	5 _	SPT 1	50	15-12-11 (23)			6.0	coarse grained, extr	
IS/NORTHE							7.5	brown (5YR 5/6), me oxidation	weathered (IV) to completely weathered (V), light brown, yellowish red / light edium to coarse grained, extremely weak (R0), GRANITE, with extensive
		RC 1	78 (56)					BEDROCK: Fresh (I medium to coarse g mineralization	I), light gray to medium dark gray, light gray (N7) to medium dark gray (N4), rained, strong (R4), GNEISS, weakly foliated, with extensive pyrite
3.GPJ - 10/3/16 16:00 - C:\USERS\LGS	 	RC 2	100 (100)				15.0	-becomes foliated	
JS LA									Bottom of borehole at 15.0 ft. Backfilled with auger cuttings
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:\USERS\LGSCHWIND\DESKTO									Education and adder outlings

			UAN JBSUR	Opc	kane	arker Valley e: 509	, WA	99027		BORIN	IG NUMBER BH-168 PAGE 1 OF 1
	CLIEN			rical Contra	•			-9409	PROJECT NAME North	ern Pass	
- 1				16004					PROJECT LOCATION \		
	DATE	STAR	TED _5/	27/16		CON	IPLE	TED <u>5/27/16</u>	GROUND ELEVATION _	NA	HOLE SIZE 6 in
<u>2</u>	DRILL	ING C	ONTRA	CTOR SW	Cole				LATITUDE 44.020323		LONGITUDE71.683247
Š	DRILL	ING M	ETHOD	HSA/Wire	line C	coring	/ NQ	Size/Series 8	DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER 140 lb Auto
NPWDSTC	LOGG NOTE		S. Ke	arney		CHE	CKEI	S. Kearney	GROUND WATER LEVE	L:	
LOGS/WOODSTOCK, NH	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
ASS TRENCH COMPLETED	· -				SM		3.0	to medium grained s	sand, subrounded		fine to coarse grained gravel, fine
RN P		▼ SP	T 67	50	SM			boulders from 3 to 4	ark gray and black, wet, me ft	edium to coarse	e grained, highly weathered, foliated,
뷝	-			30			4.0	BEDROCK: Slightly	weathered (II), white and b	lack, strong (R	4), SCHIST, schistose foliated,
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C: USERSILGSCHWINDIDESKTOPIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINDIWDSTOCK.GPJ	5 -	R0 1	93 (77)					biotite rich, moderat			
3/16 16:00 - C:\USERS\LGSCHWIND\DES	10	R(2	C 98 (98)								
10/	-	R	2 100	-							
B.GP.	15	3	(100)				15.0				
IS LA										orehole at 15.0 ith auger cutting	
RAL BH / TP / WELL - GINT STD U									Backilleu w	iiii augei cuttini	go.
GENE											

	C	Q Q U	JAN	300	kane	arker F Valley e: 509	, WA 9	99027		BORIN	IG NUMBER BH-169 PAGE 1 OF 1
c	LIEN	I T PAR	Electr	ical Contra	•			9409	PROJECT NAME North	ern Pass	
- 1		ECT NU							PROJECT LOCATION V		
D	ATE	STARTE	D 5/2	27/16		СОМ	PLET	ED _5/27/16			
٦٦				TOR SW					_		
ਨੂੰ D											SPT HAMMER 140 lb Auto
	OGG	ED BY	S. Kea	arney		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL	<u>.:</u>	
N B	OTE	S drilled	d at sta	ake location	1				$\overline{igspace}$ at time of drill	.ING <u>7.5ft</u>	
GSN	O Cer III	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
ASS TRENCH COMPLETED	-	♥ GB			SM		3.0	to medium grained s	sand, subrounded		fine to coarse grained gravel, fine
RN PA					GP	600			E DEPOSITS: POORLY GF it, very dense, coarse grain		EL (GP), with boulders, and cobbles, bunded
뷝	-	V				000					
NH	5	SPT 2		14-38-34 (72)		600					
N SS N				(12)		000					
% N −	_					600					
빔						000					
NOR-	_					600	_	_			
ECTS					 SP-	00	7.5			RADED SAND	WITH SILT (SP-SM), brown, wet,
280 -					SM			medium dense, med	dium to coarse grained		
0 1 1	_										
SESK.		SPT		4-2-14							
	10_	3	100	(16)							
SCH											
SERS/LGS	_										
00 - C:\U											
16 16:0	Ī										
10/3/	_	CDT		E0/4"				handelen - 1 111	an frame 44 to 45 %		
PJ-	,	SPT 4	_ 0	50/1"	SP- SM			-boulders and cobbl	es (1011) 14 to 15 ft		
- IAB.	15				SIVI		15.0		Bottom of bo	orehole at 15.0	ft.
D US										th auger cutting	
T ST											
L- GI											
WELL											
/TP/											
L BH											
NERA											
₩ <u></u>											

SUE	Specific Spe	08 N Bai okane V lephone:	rker RD alley, WA 9 509-892-9		PROJECT NAME Northe	ern Pass	PAGE 1 OF 1
DRILLING MET	TRACTOR SV THOD Hollow S J. Melton	V Cole tem Aug	er	BY S. Kearney		Diedrich D50	HOLE SIZE 6 in LONGITUDE -71.685317 SPT HAMMER 140 lb Auto
O (ft) SAMPLE TYPE NUMBER	RECOVERY % BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL D	ESCRIPTION	
SPT 1	72 12-15-16 (31)	GM GM	7. V.	brown, moist, medi	um dense, very fine to fine gr	ained, coarse	D (GM), pale vellowish brown.
SPT 2	83 24-13-6 (19)	GM P		☑ -becomes wet, med	lium dense		
10/4/16 12:06 SPT 3	50 1-2-3 (5)		13.0	STREAM TERRAC brown, wet, loose	E DEPOSITS: POORLY GRA	ADED GRAVE	L (GP), trace fines, pale yellowish
GENERAL BH / TP / WELL - GINT STD US LAB GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP		<u>I b</u>	<u>() († 15.5 </u>			rehole at 15.5 f n auger cutting	

SUBS	Spo Tele ectrical Contract	kane \ ephone	arker RD Valley, WA : 509-892	N 99027 2-9409		NG NUMBER BH-172 PAGE 1 OF 1
DOLL INC CONT	RACTOR SW OD Hollow Ste	Cole em Au	ger	TED 5/27/16 D BY S. Kearney	LATITUDE 44.00986 DRILLING EQUIPMENT _ Diedrich D50	LONGITUDE71.686064
O DEPTH (ft) SAMPLE TYPE NUMBER	RECOVERY % BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTIO	
	5-3-2 (5)	SM	3.0	to coarse grained sa	WITH GRAVEL (SM), brown, moist, loose and, subrounded ADED SAND (SP), with asphalt, black, mo	
DRILLING METHOLOGGED BY S. NOTES WOTES SAMPLE TYPE A STATE OF THE S			(1.64) [1.5.5]		Bottom of borehole at 5.5 Backfilled with bentonite a	

	⊘		JAN BSURI	FACE Spc	kane	arker R Valley, e: 509	WAS	99027 9409	BORING NUMBER BH-173 PAGE 1 OF 1				
	CLIEN	T PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass				
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Woodstock, NH				
ſ		STARTE		26/16 CTOR SW	Cole			ED <u>5/26/16</u>	GROUND ELEVATION NA HOLE SIZE _6 in LATITUDE 44.007653 LONGITUDE71.68551				
Ä.	DRILL	ING MET	THOD	Hollow St	em Au	iger			DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto				
STOC	LOGG	ED BY _	S. Kea	arney		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:				
PWD	NOTE	S drilled	d at sta	ake location	1				-				
LOGS/WOODSTOCK, NH/I	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
N PASS TRENCH COMPLETED	 				SM		3.5	FILL: SILTY SAND to medium grained	WITH GRAVEL (SM), brown, moist, loose, fine to coarse grained gravel, fine sand				
HE		0.00			SP			STREAM TERRACI	E DEPOSITS: POORLY GRADED SAND WITH GRAVEL (SP), grayish brown, se, fine to coarse grained gravel, medium to coarse grained sand, subrounded				
MORT		SPT 1	0	50	-			moist, medium dens	se, line to coarse grained graver, medium to coarse grained sand, subrounded				
DPIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK.GPJ	5												
ESKT		SDT		0 14 15	SP								
SCHWIND\D	10	SPT 2	44	8-14-15 (29)	_								
0/3/16 16:00 - C:\USERS\LG													
S LAB.GPJ - 1	15	SPT 3	78	9-6-6 (12)	SP		15.5	-becomes light brov	vn, poorly graded, medium grained, without gravel				
TD US									Bottom of borehole at 15.5 ft. Backfilled with auger cuttings				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:\USERS\LGSCHWIND\DESKTO									Dackined with auger cultings				
GENE													

		JAN BSUR	Spc Spc	kane	arker F Valley, e: 509	, WA 9	99027 9409		BORIN	IG NUMBER BH-174 PAGE 1 OF 1			
CLIE	NT PAR	Electr	rical Contra	•				PROJECT NAME North	ern Pass				
PRO.	JECT NUM	/IBER	16004					PROJECT LOCATION _\	Noodstock, NH				
DATE	E STARTE	D 5/	26/16		СОМ	IPLETI	ED _5/26/16	GROUND ELEVATION _	NA	HOLE SIZE 6 in			
DBII			CTOR SW										
얼 DRIL			Solid Ster		er					SPT HAMMER 140 lb Auto			
E LOG	GED BY _	S. Ke	arney		CHE	CKED	BY S. Kearney	GROUND WATER LEVE	L:				
NOTI	ES drilled	d at st	ake location	1									
Logs/Woodstock, NH/ O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION E DEPOSITS: POORLY GRADED SAND (SP), trace gravel, brown, moist,					
SS TRENCH COMPLETED I	_			SP		3.0	STREAM TERRACE loose, fine grained g	E DEPOSITS: POORLY GF gravel, fine to medium grain	RADED SAND (ed sand	SP), trace gravel, brown, moist,			
HEKN PA				GP		\vdash		TREAM TERRACE DEPOSITS: POORLY GRADED GRAVEL WITH SAND (GP), grayish brown, oist, very dense, fine to coarse grained gravel, medium to coarse grained sand, boulders and obbles present					
PRO T	SPT		24-33-32		60C		cobbies present						
5	1	50	(65)										
GENERAL BH 7 IP / WELL - GINT STD US LAB.GPU - 10/3/16 16:00 - C: USERS/LGSCHWIND/DESK TOP/PROJECT SNOOK HERN PASS TRENCH COMPLETED LOGS/WOODS TOCK, NAMPWDS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK, NAMPWDS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK, NAMPWDS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK, NAMPWDS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK, NAMPWDS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK, NAMPWDS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK, NAMPWDS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOODS TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOOD TOCK GPU BILL OF THE WASS TRENCH COMPLETED LOGS/WOOD TO THE WASS TRENCH COMPLETED	SPT 2	44	16-14-12 (26)	GP			-becomes dense						
- 00:9	_			L	000	13.0				WITH SILT (SP-SM), grayish brown,			
LAB.GPJ - 10/3/16 1	SPT 3	78	4-4-7 (11)	SP- SM		15.5	moist, medium dens		MULU ƏANU I	with siet (sp-sim), grayish diown,			
sn a		<u> </u>	I		1 1-1-1-1-	15.5			orehole at 15.5				
SENERAL BH / TP / WELL - GINT ST								васктиеd w	ith auger cutting	js			

		JAN BSUR	Spc	kane '	arker F Valley, e: 509	, WA			BORIN	IG NUMBER BH-175 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME North	ern Pass	
PRO	JECT NUM	/IBER	16004					PROJECT LOCATION _\	Woodstock, NH	
DAT	F STARTE	:D 5/	26/16		COM	DI FT	ED 5/26/16	GROUND ELEVATION	NA	HOLE SIZE 6 in
Pell			CTOR SW				<u> </u>			
			Hollow St							SPT HAMMER 140 lb Auto
LOG			arney			CKED	BY S. Kearney	•		<u> </u>
S NOT	_							abla at time of drill		
Ž	1							•		
LOGS/WOODSTOCK, I DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
JERN PASS IRENCH COMPLEIEU	_			SM		4.0	FILL: SILTY SAND to medium grained s	WITH GRAVEL (SM), brow	n, moist, loose	fine to coarse grained gravel, fine
GENERAL BH / IP / WELL - GINT SID US LAB.GPJ - 10/3/16 16:00 - C::USE-RS/LGS/CHWIND/DESK OP/PROJECT SINORTHERN PASS TRENCH COMPLETED LOGS/WOODS/TOCK, NAMPWDS/TOCK/GPJ DEPTH DN OP DEPTH DN OP DEPTH DN OP DIED THE NAME DN OP DN OP	SPT 1	78	5-6-10 (16)	SP				E DEPOSITS: POORLY GF grained gravel, fine to med		SP), trace gravel, brown, moist, nd, subrounded
MIND/DESKIO	SPT 2	56	3-2-3 (5)	ML					SAND (ML), tra	ce organics, black, wet, firm, fine to
/3/16 16:00 - C:USERS/LGSCH	_			SP- SM		11.0		E DEPOSITS: POORLY GF medium dense, coarse gra		WITH SILT (SP-SM), trace gravel, dium grained sand
S LAB.GPJ - 10	SPT 3	61	2-7-14 (21)	SP- SM		15.5				
/ WELL - GINT STD U									orehole at 15.5 ith auger cutting	
GENERAL BH / TP.										

	Engine	JAN BSUR	Tele	08 N Backane ephon	arker F Valley, e: 509	RD WA 9902 -892-9409	?7)	BORING NUMBER BH-177 PAGE 1 OF 1
			ical Contra	ctors				PROJECT NAME Northern Pass
PROJ	JECT NUN	IBER	16004					PROJECT LOCATION Woodstock, NH
DATE	STARTE	D _5/2	26/16		COM	PLETED .	5/26/16	GROUND ELEVATION NA HOLE SIZE 6 in
DRILI	LING CON	ITRAC	TOR SW	Cole				LATITUDE 43.997116 LONGITUDE 71.683149
S DRIL	LING MET	HOD	Hollow St	em Au	iger			DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto
C LOG	GED BY _	S. Ke	arney		CHE	CKED BY	S. Kearney	GROUND WATER LEVEL:
NOTE	S drilled	d at sta	ake location	<u>1</u>				
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
DEPTH ODGE ON THE CONTROL OF THE CON	SPT 1	39	2-2-1 (3)	SM		to	medium grained s	WITH GRAVEL (SM), brown, moist, loose, fine to coarse grained gravel, fine sand e, medium to coarse grained sand
MPROJECTSNOKTHEKN PA				SP- SM		6.0 S m	TREAM TERRACI	E DEPOSITS: POORLY GRADED SAND WITH SILT (SP-SM), brown, wet, to medium grained
10 10 10 10 10 10 10 10 10 10 10 10 10 1	SPT 2	61	6-7-8 (15)	SP- SM				
GENERAL BH / IP / WELL - GINT SID US LAB.GPU - 10/3/16 16:00 - C: USERS/LGSCHWIND/DESK TO	SPT 3	67	4-4-8 (12)	SP- SM		15.5		Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GENERAL BH / 1P / WELL - GIN								

	C		JAN BSURI	Spc	8 N B kane	arker F Valley, e: 509	RD , WA 99027 9-892-9409	BORING NUMBER BH-178 PAGE 1 OF 1				
	CLIEN	IT PAR	Electr	ical Contra	•			PROJECT NAME Northern Pass				
	PROJ	ECT NUM	IBER	16004				PROJECT LOCATION Woodstock, NH				
				26/16			IPLETED _5/26/16					
GPJ				TOR SW								
S K				Hollow St			OKED DV . O. K					
MDST	NOTE		5. Kea	arney		CHE	CKED BY S. Kearney	GROUND WATER LEVEL:				
Į.	NOIL	<u> </u>										
LOGS/WOODSTOCK, N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION				
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK. GPJ		GB 1			SM			FILL: SILTY SAND (SM), trace gravel, trace organics, brown, moist, loose, fine to coarse grained gravel, fine to medium grained sand				
N PASS NH\NORTH	5	SPT 1	50	1-1-1 (2)	SM		6.0	PACE DEPOSITS: POORLY GRADED SAND WITH SILT (SP.SM), light brown				
DP\PROJECTS\NORTHER					SP- SM		STREAM TERRACE moist, medium dens	E DEPOSITS: POORLY GRADED SAND WITH SILT (SP-SM), light brown, e, medium grained				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:USERS\LGSCHWIND\DESKTO	10	SPT 2	94	4-5-5 (10)	SP- SM							
S LAB.GPJ - 10/3/1	15	SPT 3	100	3-3-5 (8)	SP- SM		-becomes loose, mo	sisture content increases				
TD U.								Bottom of borehole at 15.5 ft. Backfilled with auger cuttings				
GENERAL BH / TP / WELL - GINT S								Sasamod mar dagor oddingo				

	SUE		FACE Spo Struction Tele ical Contrac	kane ephon ctors	e: 509-	WA 99027 892-9409	PROJECT NAME Northern Pass PROJECT LOCATION Woodstock, NH GROUND ELEVATION NA HOLE SIZE 6 in LATITUDE 43.992866 LONGITUDE -71.6858 DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto GROUND WATER LEVEL:		
וופח	LING CON LING MET GED BY _	ITRAC HOD S. Kea	CTOR SW Hollow Ste	Cole em Au	ıger				
LOGSWOODSTOCK, NH ODEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTIOI		
TSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED	SPT 1	44	8-6-8 (14)	SM		FILL: SILTY SAND grained gravel, me	Bottom of borehole at 7.1	r noted	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C: USERS/LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS TRENCH COMPLETED LOGS\NOODSTOCK, GPJ 10/3/16 16:00 - C: USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS TRENCH COMPLETED LOGS\NOODSTOCK, GPJ 10/3/16 16:00 - C: USERS\LGSCHWIND\DESKTOP\PROJECTS\NOOPSTOCK, GPJ 10/3/16 16:00 - C: USERS\LGSCH\WIND\DESKTOP\PROJECTS\NOOPSTOCK, GPJ 10/3/16 16:00 - C: USERS\LGSCH\WIND\DESKTOP\P							Backfilled with bentonite a	nd dilli cutungs	

	G ≥	Q Q U SUE	JAN SSUR	FACE Spo	kane	arker F Valley, e: 509	, WA	99027	BORING NUMBER BH-180 PAGE 1 OF 1
	LIEN	IT PAR	Electi	rical Contra	•	e. 509)-09Z-	-9409	PROJECT NAME Northern Pass
		ECT NUN							PROJECT LOCATION Woodstock, NH
	ATE	STARTE	D _5/	26/16	Cala			FED 5/26/16	GROUND ELEVATION NA HOLE SIZE 6 in
GB.				CTOR SW				tem Auger	
				arney				BY S. Kearney	
MDS	OTE	_	0.110	unicy		OI IL		O. Realiney	OROGIN WATER ELVEL.
OGS/WOODSTOCK, NH/NF		SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
RENCH COMPLETED LO					SM		2.5	FILL: SILTY SAND to medium grained s	WITH GRAVEL (SM), brown, moist, loose, fine to coarse grained gravel, fine sand
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK.GPJ	- 5	SPT 1	78	24-33-45 (78)	SM		2.5		E DEPOSITS: SILTY SAND WITH GRAVEL (SM), tan, moist, very dense, fine avel, fine grained sand, subangular
JSERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN F	1 /8 (78) 								eases, cobbles and boulders present
US LAB.GPJ - 10/3/16 16:00 - C:)	- 15	SPT 3	67	38-50	SM		15.5	-with fine to medium	grained sand, silt content increases Bottom of borehole at 15.5 ft.
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:\USERS\LGSCHWIND\DESKTO									Backfilled with auger cuttings

		JAN BSURI	Spo	kane) NA 99027 892-9409	BORING NUMBER BH-181 PAGE 1 OF 1				
1	NT PAR	Electr	ical Contra	•			PROJECT NAME Northern Pass				
PROJ	IECT NUN	IBER	16004				PROJECT LOCATION Woodstock, NH				
וומח			26/16 CTOR <u>SW</u>			LETED 5/26/16					
			Hollow Ste				DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto				
LOGO	<u> </u>				CHECK	KED BY S. Kearney	_ GROUND WATER LEVEL:				
NOTE	S conta	minate	ed soil				<u>-</u>				
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION				
GENERAL BRY 1 PY WELL - GINT STD US LAB. 67-7 - 10/3/10 10.00 - C. USERS/LGS/CHWIND/USES/C	SPT 1	56	9-9-9 (18)	SM	8.		WITH GRAVEL (SM), trace asphalt, brown, moist, loose, fine to coarse to medium grained sand, chemical odor noted Bottom of borehole at 8.0 ft. Backfilled with bentonite and drill cuttings				
GENERAL BIT IIT WELL - GIN I STD US LAB.GFU - T											

		Q Q L SUE	JAN BSUR	Spc	8 N B kane		RD WA 99027 -892-9409		BORIN	G NUMBER BH-182 PAGE 1 OF 1			
	CLIEN	NT PAR	Electr	ical Contra	•			PROJECT NAME Northern	Pass				
	PROJ	ECT NUM	/IBER	16004				PROJECT LOCATION Woo	odstock, NH				
	DATE	STARTE	D 5/2	26/16		СОМ	PLETED _5/26/16	GROUND ELEVATION	NA	HOLE SIZE 6 in			
				CTOR SW			<u> </u>			LONGITUDE71.682756			
K.GP				Hollow St									
STOC	LOGG	SED BY _	S. Ke	arney		CHE	CKED BY S. Kearney	GROUND WATER LEVEL:					
JPWD	NOTE	S											
LOGS/WOODSTOCK, NH/I	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:USERSILGSCHWIND\DESKTOP\PRQJECTS\NORTHERN PASS NHNORTHERN PASS TRENCH COMPLETED LOGS\NOODSTOCK, NH\NPWDSTOCK GPJ	5	SPT 1	83 78	3-3-2 (5) 3-4-5 (9)	SP- SM		ALLUVIUM: POORL loose, fine grained g	Y GRADED SAND WITH SILT ravel, medium grained sand	Γ (SP-SM), tı	race gravel, grayish brown, moist,			
RAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:\USERS\LGSC		SPT 3	78	6-6-8 (14)	SP- SM		-gravelly zone encounts -becomes medium of 15.5	lense, fine to medium grained s Bottom of boreh Backfilled with a	nole at 15.5 f				
GENE													

	€	Q Q U SUE	JAN BSUR	Spc	8 N B kane	arker F Valley e: 509	, WA	99027 -9409	ВС	DRIN	G NUMBER BH-183 PAGE 1 OF 1
-	CLIEN	IT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	s	
	PROJ	ECT NUN	/IBER	16004					PROJECT LOCATION Woodsto	ock, NH	
	DATE	STARTE	D _5/2	26/16		COM	PLE	TED <u>5/26/16</u>	GROUND ELEVATION NA		HOLE SIZE 6 in
2	DRILL	ING CON	ITRAC	CTOR SW	Cole				LATITUDE 43.983027		LONGITUDE 71.682339
CK.G	DRILL	ING MET	HOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT _Diedric	h D50	SPT HAMMER _140 lb Auto
STO	LOGG	ED BY _	S. Ke	arney		CHE	CKE	S. Kearney	GROUND WATER LEVEL:		
NPW	NOTE	S drilled	d at sta	ake location	1				-		
LOGS/WOODSTOCK, NH	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCR		
CH COMPLETED	_				SM		2.0	FILL: SILTY SAND medium grained sar	(SM), trace gravel, brown, moist, lond	ose, find	e to coarse grained gravel, fine to
TREN	_				SP-		2.0	ALLUVIUM: POORI	Y GRADED SAND WITH SILT (SF	P-SM), g	grayish brown, moist, loose, fine
ASS	-				SM			grained graver, med	num grameu sanu		
ERNE											
RTH	-										
NH.	5	SPT 1	89	5-4-5 (9)							
ASS I				(-)							
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:\USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\NOODSTOCK, NH\NPWDSTOCK.GPJ	- - 10	SPT 2	78	4-5-6 (11)	SP- SM			-becomes medium o	dense, silt content increases		
STD US LAB.GPJ - 10/3/16 16:00 - C:\U	- 15	SPT 3	78	4-5-5 (10)	SP- SM		15.5		Bottom of borehole Backfilled with auge		
GENERAL BH / TP / WELL - GINT (

	Q Q L SUE	JAN BSURI	Opt	kane	Valley	, WA		BORING NUMBER BH-184 PAGE 1 OF 1				
CLIEN	NT PAR	Electr		•				PROJECT NAME Northe	ern Pass			
PROJ	ECT NUM	IBER	16004					PROJECT LOCATION _V	Voodstock, NH			
DRILL	ING CON	ITRAC	CTOR SW	Cole				LATITUDE 43.981139		LONGITUDE71.683484		
LOGG	SED BY _	S. Kea	arney		CHE	CKE	S. Kearney	GROUND WATER LEVEL	. :			
NOTE	:s							-				
o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC			MATERIAL DESCRIPTION LL: SILTY SAND WITH GRAVEL (SM), brown, moist, loose, fine to coarse grained gravel, fine				
				SM		3.0	FILL: SILTY SAND to medium grained s	o medium grained sand, subrounded				
				SP- SM					SILT (SP-SM), I	ight brown, moist, loose, fine		
SPT 56 4-4-3 (7)												
<u>10</u>	SPT 2	89	3-3-4	SP- SM			-becomes grayish b	rown, without gravel				
 15	SPT 3	83	4-5-6 (11)	SP- SM		15.5						
Bottom of borehole at 15.5 ft. Backfilled with auger cuttings												
	DATE DRILL LOGG NOTE	CLIENT PAR PROJECT NUM DATE STARTE DRILLING COM DRILLING MET LOGGED BY NOTES WASHING NOTES SPT 10 SPT 2	CLIENT PAR Electric PROJECT NUMBER DATE STARTED 5/2 DRILLING CONTRACT DRILLING METHOD LOGGED BY S. Kern NOTES HLUB AND	SUBSURFACE Sport of Total Sport Tele CLIENT PAR Electrical Contra PROJECT NUMBER 16004 DATE STARTED 5/25/16 DRILLING CONTRACTOR SW DRILLING METHOD Hollow St. LOGGED BY S. Kearney NOTES SPT 56 4-4-3 (7) SPT 89 3-3-4 (7) SPT 82 4-5-6	CLIENT PAR Electrical Contractors PROJECT NUMBER 16004 DATE STARTED 5/25/16 DRILLING CONTRACTOR SW Cole DRILLING METHOD Hollow Stem AL LOGGED BY S. Kearney NOTES H (#) O SPT 89 3-3-4 SPT 89 3-3-6 SP-SM	Telephone: 50% CLIENT PAR Electrical Contractors PROJECT NUMBER 16004 DATE STARTED 5/25/16 CONDRILLING CONTRACTOR SW Cole DRILLING METHOD Hollow Stem Auger LOGGED BY S. Kearney CHE NOTES H (#) SPT 56 4-4-3 Telephone: 50% Telephone: 5	Telephone: 509-892 CLIENT PAR Electrical Contractors PROJECT NUMBER 16004 DATE STARTED 5/25/16 COMPLETORILLING CONTRACTOR SW Cole DRILLING METHOD Hollow Stem Auger LOGGED BY S. Kearney CHECKEI NOTES HL(#) SPT 56 4-4-3 (7) SPT 89 3-3-4 (7) SPT 3 83 4-5-6 (11) SPT 3 83 4-5-6 (11) SPT 3 83 4-5-6 (11)	Telephone: 509-892-9409 CLIENT PAR Electrical Contractors PROJECT NUMBER 16004 DATE STARTED 5/25/16 COMPLETED 5/25/16 DRILLING CONTRACTOR SW Cole DRILLING METHOD Hollow Stem Auger LOGGED BY S. Kearney NOTES HE STARTED 5/25/16 COMPLETED 5/25/16 DRILLING METHOD Hollow Stem Auger LOGGED BY S. Kearney NOTES HE STARTED 5/25/16 COMPLETED 5/25/16 DRILLING METHOD Hollow Stem Auger LOGGED BY S. Kearney NOTES SM FILL: SILTY SAND to medium grained s SP SM SM SP SM SM SP SM SM SM SP SM SM SM SM SM SP SM SM SM SP SM	Telephone: 509-892-9409 CLIENT PAR Electrical Contractors PROJECT NUMBER 16004 DATE STARTED 5/25/16 COMPLETED 5/25/16 GROUND ELEVATION VERY AUGE DRILLING CONTRACTOR SW Cole DRILLING METHOD Hollow Stem Auger LOGGED BY S. Keamey NOTES CHECKED BY S. Keamey NOTES MATERIAL SM NOTES SM FILL: SILTY SAND WITH GRAVEL (SM), brown to medium grained sand, subrounded SP SM SPT 56 4-4-3 (7) SPT 89 3-3-4	SUBSURFACE TO SENDING AT THE PROSPECT TO SENDING A SEND		

	C	Q Q U SUE	JAN BSURI	FACE Spc	kane	arker F Valley, e: 509	WA	99027 9409	BORIN	G NUMBER BH-185 PAGE 1 OF 1			
				ical Contra	ctors				PROJECT NAME Northern Pass				
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Woodstock, NH				
	DATE	STARTE	D _5/2	25/16		СОМ	PLET	ED 5/25/16	GROUND ELEVATION NA	HOLE SIZE 6 in			
GPJ	DRILL	ING CON	NTRAC	TOR SW	Cole				LATITUDE 43.978168	LONGITUDE 71.685195			
OK.G								Size/Series 8		SPT HAMMER 140 lb Auto			
DSTC	LOGG	ED BY _	S. Kea	arney		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:				
/NPW	NOTE	S <u>drilled</u>	d at sta	ake location	1								
LOGS/WOODSTOCK, NH	O DEPTH	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION D (SM), trace gravel, brown, moist, loose, fine to medium grained				
SS TRENCH COMPLETED					SM		3.0	FILL: SILTY SAND ((SM), trace gravel, brown, moist, loose, fin	e to medium grained			
IORTHERN PA		▼ SPT	20	50/5"					E DEPOSITS: brown, medium to coarse gr s with schist zones boulder	ained, highly weathered, massive,			
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK.	5							-boulders and cobble	es present				
LGSCHWIND\DESKTOP\PR	10	SPT 2	20	50/5"	-		11.3						
3.GPJ - 10/3/16 16:38 - C:\USERS\	 15	RC 1	100 (100)				15.0	BEDROCK: Fresh (I), dark gray, strong (R4), SCHIST, slightly	fractured, foliated			
IS LAE			•		•				Bottom of borehole at 15.0 Backfilled with auger cutting				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:38 - C.USERS\LGSCHWIND\DESKTO									backilled with auger cutting	J o			

	C		JAN BSURI	Spc.	kane	arker F Valley e: 509	, WA 9	99027		BORIN	IG NUMBER BH-186 PAGE 1 OF 1		
	CLIEN			ical Contra	•			9409	PROJECT NAME North	ern Pass			
	PROJI	ECT NUN	/IBER	16004					PROJECT LOCATION Woodstock, NH				
١,	DATE	STARTE	D 5/2	25/16		СОМ	PLET	ED <u>5/25/16</u>	GROUND ELEVATION _	NA	HOLE SIZE 6 in		
Ι.				CTOR SW									
주 유				Solid Ster					•		SPT HAMMER 140 lb Auto		
) I	LOGG	ED BY _	S. Kea	arney		CHE	CKED	BY S. Kearney	GROUND WATER LEVE	L:			
M M	NOTE	S <u>drilled</u>	d at sta	ake location	1								
LOGS/WOODSTOCK, NH/	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION			
SS TRENCH COMPLETED	-				SM		3.0	FILL: SILTY SAND to medium grained s		own, moist, loos	e, fine to coarse grained gravel, fine		
N PA					SP-		0.0		DEPOSITS: POORLY GRee, medium to coarse grain		WITH SILT (SP-SM), dark brown,		
뷝	-				SM				es, mediam to occioo gram	-			
N I	5	SPT 1	100	5-8-12 (20)									
ROJECTS/NORTHERN PASS N	- -			(23)									
KTOP/PI	-							-becomes brown to	orange poorly graded fine	to coarse grain	ned gravel, iron oxide staining,		
HWIND\DES	10	SPT 2	72	12-18-26 (44)	SP- SM			fragments of highly	weathered granitic rock	, to course grain	iou grator, non oxido ciuming,		
3PJ - 10/3/16 16:00 - C:\USERS\LGSC\	-	SPT 3	0	18-50/4"	SP-		14.8						
LAB.C					SM	/	,]			orehole at 14.8			
GENERAL BH / TP / WELL - GINT STD US LAB GPJ - 10/3/16 16:00 - C:USERSILGSCHWINDIDESKTOPIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIWOODSTOCK, NHINPWDSTOCK, GPJ									васктие м	ith auger cutting	go.		

	C	Q L SUE	JAN BSURI	FACE Spc	kane	arker F Valley,	RD , WA 9: 9-892-9	9027 409	BORING NUMBER BH-188 PAGE 1 OF 1
- [CLIEN	T PAR	Electr	ical Contra		e. 503	-032-3		PROJECT NAME Northern Pass
	PROJI	ECT NUN	/IBER	16004					PROJECT LOCATION Woodstock, NH
				24/16				ED <u>6/24/16</u>	· · · · · · · · · · · · · · · · · · ·
GPJ				CTOR SW					LATITUDE 43.97037 LONGITUDE71.685067
OC.									DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _140 lb Auto GROUND WATER LEVEL:
WDS				from digsa			CKEDI	5. Realliey	GROUND WATER LEVEL.
						-			
LOGS/WOODSTOCK, I	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
P\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\WOODSTOCK, NH\NPWDSTOCK.GPJ	-				GM		3.0), with sand, with silt, trace organics, dusky yellowish brown, dry to damp, ne grained, medium to coarse grained gravel, subangular
N PAS	_						5.0	STREAM TERRACE	DEPOSITS: BOULDERS, and cobbles, granitic
밝	-	SPT	۸ 0	50/1"					
NON!	5	1		30/1		Q			
Ż -									
NN NP	_								
則									
SINOF	=				SM		7.0		(SM), moderate yellowish brown, moist, dense, very fine to fine grained, iron
LECT					SIVI			oxide staining	
PRO									
핡	7								
SDES	10	SPT 2	72	17-27-38 (65)					
Ī Ā				(03)					
- GSC	_								
ERS/L									
C:\US	=								
00.5									
3/16 1(
- 10/5	-							-becomes pale yello	wish brown, with lenses of light olive gray clay
B.GPJ	15	SPT 3	72	14-25-28 (53)	SM				
JS LA				(00)			15.5		Dellaw of hambala at 45.5 ft
STD									Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GINT									
VELL -									
TP / V									
BH/									
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:USERS\LGSCHWIND\DESKTO									
EL E									

		SÚE	JAN SSURF	ACE Spo	kane	arker Rl Valley,	WA 99027	BOR	ING NUMBER BH-189 PAGE 1 OF 1			
	CLIEN	1		cal Contrac		e: 509-	892-9409	PROJECT NAME Northern Pass				
	PROJ	ECT NUM	IBER .	16004				PROJECT LOCATION Woodstock	NH			
	DATE	STARTE	D <u>6/2</u>	4/16		COMF	PLETED 6/24/16	GROUND ELEVATIONNA	HOLE SIZE 6 in			
				TOR SW				•				
							NQ Size/Series 8 KED BY S. Kearney		50 SPT HAMMER 140 lb Auto			
	NOTE		J. IVICIL	OII		CITEO	O. Reamey	OROGNO WATER LEVEL.				
•	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPT	ON			
	0	SAMP	RECC (F	S C B) Si	GR						
SW-GW.GPJ	5	SPT 1	50	6-3-3 (6)	GM		brown, dry, loose, vo subangular), with sand, with silt, trace organics, diery fine to fine grained, medium to coar grained to coarse grained, fine to coarse grained gravel,	se grained gravel, angular to			
:05 - C:\USERS\LGSCHWIND\DESKTOP\SW-G		SPT 2	72	5-9-9 (18)			13.0					
4/16 12		DC.	0.5				BEDROCK: Fresh (gray (5GY 6/1), me), medium light gray and greenish gray dium to coarse grained, strong (R4), G	, medium light gray (N6) and greenish RANITE			
PJ - 10/		RC 1	85 (85)				-composition becom	es intermediate				
LAB.G	15						15.0	Bottom of borehole at 1				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:\USERS\LGSCHWIND\DESKTOP\								Backfilled with auger cu	rtings			

		Q Q U SUE	JAN BSUR	Spo	kane	arker F Valley e: 509	, WA	99027		BORIN	G NUMBER BH-190 PAGE 1 OF 1	
	CLIEN	IT PAR	Electr	ical Contra	•	e. 508	-09Z·	-9409	PROJECT NAME Northe	rn Pass		
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Woodstock, NH			
				25/16 CTOR <u>SW</u>		COM		TED <u>5/25/16</u>		NA	HOLE SIZE _6 in LONGITUDE71.686172	
SK.G	DRILL	ING MET	HOD	Hollow Ste	em Au	ıger			DRILLING EQUIPMENT _	Diedrich D50	SPT HAMMER _140 lb Auto	
STO	LOGG	ED BY _	S. Ke	arney		CHE	CKE	S. Kearney	GROUND WATER LEVEL:	•		
NPW	NOTE	S drilled	d at sta	ake location	1							
LOGS/WOODSTOCK, NH	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION		
SS TRENCH COMPLETED					SM		3.0	FILL: SILTY SAND \ to medium grained s		ı, moist, loose,	fine to coarse grained gravel, fine	
RN PA					SP						VITH GRAVEL (SP), light brown, o coarse grained sand, subrounded	
뷝									o, mio to occioo gramos gra		gramou dama, dadroumada	
NON!	5	SPT	50	7-9-9								
SS ≥				(18)								
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 16:00 - C:USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGS\WOODSTOCK, NHINPWDSTOCK.GPJ	 	SPT		6-10-10	SP							
N N	10	2	56	(20)								
/3/16 16:00 - C:\USERS\LGSCHW	 											
10 رح		ent.		12 16 22	SP			-gravel content incre	eases			
AB.GI	15	SPT 3	72	13-16-23 (39)								
T SN C					<u> </u>	<u> 1995 (4)</u>	15.5	l		rehole at 15.5		
TST										h auger cutting		
NID -												
WELL												
TP //												
- BH/												
JERAL												
GEN												

	C	SUE	JAN BSURI	FACE Spo	08 N B okane	arker F Valley, e: 509	RD , WA 99027 9-892-9409	BORIN	G NUMBER BH-191 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contra				PROJECT NAME Northern Pass	
	PROJ	ECT NUN	/IBER	16004				PROJECT LOCATION _Thornton, NH	
	DATE	STARTE	D 5/2	25/16		COM	PLETED _5/25/16	GROUND ELEVATIONNA	HOLE SIZE 6 in
- 1				CTOR SW	Cole		0/20/10	LATITUDE 43.963016	
- 1				Hollow St				DRILLING EQUIPMENT Diedrich D50	
							CKED BY S. Kearney		
HGR				ake location					
OGS/THORNTON, NH/NP	O DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	
P\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\THORNTON, NH\NPTHOR.GPJ	5	SPT 1	83	5-5-7 (12)	SP- SM			E DEPOSITS: POORLY GRADED SAND Ve, medium to coarse grained	VITH SILT (SP-SM), light brown,
- C:\USERS\LGSCHWIND\DESKTOP\PROJECTS\NOR	10	SPT 2	89	8-9-9 (18)	SP- SM		-becomes grayish br	own, fine to medium grained sand	
US LAB.GPJ - 10/3/16 11:53	15	SPT 3	83	8-10-12 (22)	SP- SM		-with medium to coal	rse grained sand Bottom of borehole at 15.5	ft
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C:USERS\LGSCHWIND\DESKTO								Backfilled with auger cutting	

		€ sùi	UAN BSUR	FACE Spo	kane	arker f Valley e: 509	, WA	99027 9409	BORI	NG NUMBER BH-193 PAGE 1 OF 1			
					ctors				PROJECT NAME Northern Pass				
	PROJ	IECT NUI	MBER	16004					PROJECT LOCATION Thornton, NE	<u> </u>			
								FED 6/24/16					
				CTOR SW									
				_Hollow Ste				DBY S. Kearney	DRILLING EQUIPMENT Diedrich D50 GROUND WATER LEVEL:	D SPI HAMIMER 140 ID AUTO			
	NOTE	_	0. 1110			01.12	0.112	<u> </u>					
,	o DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	DN			
					GM	070		FILL: GRAVEL (GM), with sand, with silt, trace organics, pal-	e brown, dry, loose			
		-				Par							
							2.0						
		1			SP-			ALLUVIUM: POORL	Y GRADED SAND WITH SILT (SP-SM) , fine grained, silt lenses	, grayish orange and pale yellowish			
		-			SM			2.0, aap, aoo	, mie gramea, entremee				
		SPT		15-21-27									
	5	1	94	(48)									
		1											
_		1											
W.GP													
SW-G		1											
KTOP								-hecomes moderate	yellowish brown, loose				
ONDES	10	SPT 2	83	4-5-4	SP- SM			becomes moderate	yellowish brown, loose				
1WIN				(9)									
GSC		-											
SERS													
C:\US		1											
12:05 -		-			L		13.0		Y GRADED GRAVEL (GP-GM), light bro	own dry loose medium to yory			
/4/16					GP- GM	6		coarse grained grav	el, angular to subangular, fine grained m	atrix			
J - 10		CDT		7.0.5			-						
AB.GF	15	SPT 3	28	7-6-5 (11)			<u> </u>						
D US I						h III	15.5		Bottom of borehole at 15.	5 ft.			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.									Backfilled with auger cutti	ngs			
LL - GI													
, WE													
H/TF													
RALB													
GENE													

	N O	Q Q Q SUE	JAN BSUR	FACE Spc	kane	arker F Valley e: 509	, WA	99027	В	BORIN	G NUMBER BH-194 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	rical Contra	•	e. 50s	-092	-9409	PROJECT NAME Northern Pa	ass	
		ECT NUM							PROJECT LOCATION _Thornt		
	DATE	STARTE	D _5/:	25/16				TED _5/25/16	GROUND ELEVATION	NA	
				CTOR SW							LONGITUDE71.680359
Ы				Hollow St					DRILLING EQUIPMENT Diedr	rich D50	SPT HAMMER 140 lb Auto
OR.G						CHE	CKEL	D BY S. Kearney		10.05	
IPTH	NOTE	S arilled	at sta	ake location	1				$oxed{oxed}$ at time of drilling $oxed{oxed}$	13.0ft	
LOGS\THORNTON, NH\	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESC		
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSITHORNTON, NHINPTHOR.GPJ					SM		2.5	grained gravel			gray, moist, loose, fine to medium
PASS NH\NORTHERN PA	5	SPT 1	67	6-11-11 (22)	-						
IOP\PROJECTS\NORTHERN					SP		8.0		E DEPOSITS: POORLY GRADEI to coarse grained gravel, mediur		
ERS\LGSCHWIND\DESK7	10	SPT 2	72	6-11-14 (25)							
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C:\USERS\LGSCHWIND\DESKTO		SPT 3	44	11-13-21	SP			☑ -gravel content incre	eases		
LAB	15	3		(34)			15.5				
- GINT STD US.			I	<u> </u>	1	1. 1501.43	10.5	I	Bottom of borehol Backfilled with auç		
ERAL BH / TP / WELL											
GEN.											

	Q Q SU	JAN BSUR	FACE Spo	kane	arker F Valley, e: 509	, WA	. 99027 -9409	BORING NUMBER BH-195 PAGE 1 OF 1
CLI	ENT PAR	Electi	rical Contra	•	c. 000	002	. 0400	PROJECT NAME Northern Pass
	DJECT NUI							PROJECT LOCATION Thornton, NH
			25/16				TED <u>5/25/16</u>	· · · · · · · · · · · · · · · · · · ·
			CTOR SW					
			Hollow Ste					DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto
ည် LO (·-				CHE	CKEL	D BY S. Kearney	
F NO	TES <u>drille</u>	d at st	ake location	1				\overline{Y} AT TIME OF DRILLING 7.0ft
LOGS(THORNTON, NH)N DEPTH (4)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
SS TRENCH COMPLETED	_			SM		3.0		WITH GRAVEL (SM), trace organics, dark brown, moist, loose, fine to coarse to medium grained sand, subangular
HERN PA				SP				E DEPOSITS: POORLY GRADED SAND WITH GRAVEL (SP), trace cobbles, t, very dense, fine to coarse grained gravel, fine to coarse grained sand,
HINORH 5	SPT 1	67	27-33-41 (74)					
(TOPIPROJECTS)NORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGS/THORNTON, NHINDTHOR, GR. CAP.			(**)	_		9.0	<u>∑</u>	E DEPOSITS: SILTY SAND WITH GRAVEL (SM), brown, wet, dense, fine to
GENERAL BH / IP / WELL - GINI SID US LAB.GPU - 10/3/16 11:53 - C: USERS/LGSCHWIND/DESK TO 10/3/16 11:53 - C: US	SPT 2	72	14-14-18 (32)	SM				el, fine to medium grained sand, subangular
15 15 15	SPT 3	89	2-2-3 (5)	SM		15.5	-becomes loose, gra	ay, fine grained, without gravel, micaceous, wet
WELL - GINT STD U								Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GENERAL BH / TP /								

	C	SÚE	JAN BSURI	FACE Spc	kane	arker F Valley e: 509	WA	99027 -9409	BO	RING NUMBER BH-196 PAGE 1 OF 1
	CLIEN			ical Contra	•	c. 500	-002	-0400	PROJECT NAME Northern Pass	
- 1		ECT NUN							PROJECT LOCATION Thornton, I	NH
- 1				24/16				TED <u>5/24/16</u>	GROUND ELEVATIONNA	HOLE SIZE 6 in
- 1				STOR SW						
				Hollow Sto			CKEL	DBY S. Kearney	DRILLING EQUIPMENT Diedrich GROUND WATER LEVEL:	3FT HAWWER 140 ID Auto
Ъ С				ake location		OHL		O. Reamey	∇ AT TIME OF DRILLING 8.01	it
NPT.		<u> </u>							_ /// ///// Of DidLefito	
LOGS/THORNTON, NH	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIP	
SS TRENCH COMPLETED					SM		3.0		WITH GRAVEL (SM), trace cobbles, to medium grained sand, rounded	brown, moist, loose, fine to coarse
N PA					ML			ORGANIC DEPOSI grained sand	TS: SANDY SILT (ML), trace organic	s, dark brown, moist, soft, fine to medium
뷝								grained sand		
SS NH\NOR	5_	SPT 1	78	2-1-3 (4)			5.5			
OPIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSITHORNTON, NHINPTHOR.GPJ		1 (4)							SAND (SM), trace organics, dark brov	wn and gray, wet, very loose, fine grained
- C:\USERS\LGSCHWIND\DESKT	10	SPT 2	100	0-0-1 (1)	SM					
S LAB.GPJ - 10/3/16 11:53	15	SPT 3	94	4-10-13 (23)	SM		15.5	-becomes tan, silt co	ontent decreases, micaceous	
J. OT.									Bottom of borehole at Backfilled with auger of	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C:\USERS\LGSCHWIND\DESKTO									Dasimod Will dager (ge

1	SU Engin		FACE Sponting Televiceal Contra	08 N B okane ephon	e: 509	RD WA 99027 -892-9409	PROJECT NAME North	ern Pass	IG NUMBER BH-197 PAGE 1 OF 1
DATE DRILL DRILL LOGG	STARTI LING CO LING ME GED BY	ED <u>5/:</u> NTRAC THOD S. Ke	24/16 CTOR <u>SW</u> HSA/Wire	Cole eline C	oring /	PLETED 5/24/16 NQ Size/Series 8 CKED BY S. Kearney	GROUND ELEVATION _ LATITUDE 43.94846 DRILLING EQUIPMENT	NA Diedrich D50	
COMPLETED LOGS/THORNTON, NHM DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			DESCRIPTION	
PASS TRENCH	-			SM		FILL: SILTY SAND to medium grained		n, moist, loose,	fine to coarse grained gravel, fine
PIPROJECTSINORTHERN PASS NHINORTHERN	SPT 1	100	50/5"	-		SAPROLITE: decor			
- GINT STD US LAB.GPJ - 10/3/16 14:52 - C:USERSILGSCHWINDDESKTOPVPROJECTS	RC 1	100 (100)				BEDROCK: Fresh ((I), dark gray and white, stro	ng (R4), GNEIS	SS, biotite rich, with schistose zone
B.GPJ - 10/3/16 14:52 -	RC 2	100 (100)				15.0			
ENERAL BH / TP / WELL - GINT STD US LA								orehole at 15.0 ith auger cutting	

		JAN BSUR	Орс	kane	arker F Valley, e: 509	WA 9	99027 9409	BORING NUMBER BH-199 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass
PRO	JECT NUM	/IBER	16004					PROJECT LOCATION Thornton, NH
			24/16 CTOR SW				ED <u>5/24/16</u>	GROUND ELEVATION NA HOLE SIZE 6 in LATITUDE 43.943589 LONGITUDE -71.678624
			Hollow St					DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto
						CKED	BY S. Kearney	
NOT			ake location					
IN HIND IN HIN		%			⊇			
DEPTH O (ff)	SAMPLE TYPE NUMBER	RECOVERY	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
ODE THE CONTRIBUTION OF TH	- GB 1			SM		3.5	fine to coarse graine	
				SP			ALLUVIUM: POORL coarse grained grave	Y GRADED SAND WITH GRAVEL (SP), brown, moist, medium dense, fine to el, fine to medium grained sand, subrounded
PASS NH/NOR	SPT 2	6	6-5-10 (15)				seemen grunnen grun	,, g g g g g g g g g g g g g.
IOP/PROJECTS/NORTHER						9.0		
MINDESK MINDESK 10	SPT 3	83	6-7-7 (14)	SM			ALLUVIUM: SILTY S	SAND (SM), tan, moist, medium dense, fine grained
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C: USERS/LGSCHWIND\DESKTO				SM				
S LAB.GP.	SPT 4	94	5-6-7 (13)	Sivi		15.5		
ELL - GINT STD U								Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GENERAL BH / TP / W								

	Q Q Q SUE	JAN BSUR	Spc.	kane	arker F Valley, e: 509	WA		BORING NUMBER BH-200 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass
PRO.	JECT NUN	/IBER	16004					PROJECT LOCATION Thornton, NH
DATI	E STARTE	D _5/:	24/16		СОМ	PLET	FED 5/24/16	GROUND ELEVATION NA HOLE SIZE 6 in
DRIL	LING CON	ITRAC	CTOR SW	Cole				LATITUDE 43.940497 LONGITUDE -71.678593
_	LING MET	HOD	Solid Ster	n Aug	er/Holl	ow St	tem Auger	DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto
ဗ္ဗါ LOG	GED BY _	S. Ke	arney		CHE	CKED	S. Kearney	GROUND WATER LEVEL:
[일 иоті	ES drilled	d at sta	ake location	1				$\overline{igspace}$ AT TIME OF DRILLING <u>12.5ft</u>
LOGS/THORNTON, NH/NP DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
PUPROJECT SNOKTHEKN PASS TRENCH COMPLETED LOGSTHORMTON, NHMP HOR. GET OF THE COMPLETED LOGSTHORMTON, NHMP HOR GET OF THE COM	- GB			SC		3.5	grained sand, subro	
S NH/NORTHE	SPT 2	78	2-3-6 (9)	SM				E DEPOSITS: SILTY SAND (SM), light brown, wet, loose, fine to medium rse sand in bottom 2 inches
OP/PROJECTS/NOKTHEKN PAX	-					9.0	-granitic boulder fro	m 7.7 to 9 ft
OSERS/LGSCHWIND/DESKT	SPT 3	50	11-13-11 (24)	GP			coarse grained grav	E DEPOSITS: POORLY GRADED SANDY GRAVEL (GP), gray, fine to rel, fine to coarse grained sand, subangular
J - 10/3/16 11:53 - C				SM	C	12.5	∑ STREAM TERRACI	E DEPOSITS: SILTY SAND (SM), gray, wet, loose, fine grained
မ် ၂၁	SPT 4	44	4-3-3 (6)					
TD US LA			(0)			15.5		Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C.USERS/LGSCHWIND/DESKTO							Education and adjoint outlings	

	C	$\overline{}$	JAN BSUR	- Sp0	kane	arker f Valley e: 509	, WA	99027 9409	BORING NUMBER BH-201 PAGE 1 OF 1				
- (CLIEN	T PAR	Electr	ical Contra	•				PROJECT NAME Northern	Pass			
h	PROJ	ECT NUN	/IBER	16004					PROJECT LOCATION Thor	nton, NH			
				24/16				FED _5/24/16	·				
- 1				CTOR SW					•				
				Hollow Ste						edrich D50	SPT HAMMER 140 lb Auto		
R.G.						CHE	CKE	BY S. Kearney					
H H H	NOTE	S <u>drilled</u>	d at sta	ake location	1				abla at time of drilling	8.5ft			
LOGS/THORNTON, NH/N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC			MATERIAL DESCRIPTION D WITH GRAVEL (SM), brown, moist, loose, fine to coarse grained gravel, fine				
PI/PROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/THORNTON, NH/NPTHOR, GPJ	_	GB 1	39	2-3-1	SM			FILL: SILTY SAND to coarse grained sa		noist, loose,	fine to coarse grained gravel, fine		
SS NH	5	2	33	(4)	ML		5.0	ORGANIC DEPOSI	TS: SILT (ML), trace organics,	dark brown,	moist, firm		
N PAS	_				IVIL		6.0						
SKTOP\PROJECTS\NORTHER	_				SP			STREAM TERRACE wet, medium dense,	E DEPOSITS: POORLY GRAD coarse grained gravel, fine to	ED SAND (i	SP), trace gravel, grayish brown, ined sand, subrounded		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C:\USERS\LGSCHWIND\DESKTO	10	SPT 3	72	9-13-9 (22)	SP								
S LAB.GPJ - 10/3/16	15	SPT 4	78	13-13-11 (24)	SP		15.5	-gravel content decr					
/ TP / WELL - GINT STD U									Bottom of boreh Backfilled with a				
GENERAL BH /													

	Engin	eering + Ca	Sponstruction Tele	08 N B okane ephon	ie: 509	, WA 9-892	. 99027 ?-9409		NG NUMBER BH-202 PAGE 1 OF 1
			rical Contra	ctors					
PRO	JECT NUI	VIBER	16004					PROJECT LOCATION Thornton, NH	
DATE	E STARTE	ED _5/	24/16		CON	/IPLE	TED <u>5/24/16</u>	GROUND ELEVATIONNA	HOLE SIZE 6 in
DRIL	LING CO	NTRAC	CTOR SW	Cole					
			Hollow St						SPT HAMMER 140 lb Auto
ة LOGG					CHE	CKE	D BY S. Kearney		
NOTE	ES <u>drille</u>	d at st	ake locatior	1				$\sqrt{2}$ AT TIME OF DRILLING 12.3ft	
DEPTH O (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
				SM				WITH GRAVEL (SM), dark brown, loose d, subrounded, trace plastic	, medium grained gravel, fine to
TOTE IN SID OF THE SOLID SENSOR OF THE SOLID S	GB 1						gramos carro		
5	SPT 2	33	2-2-3 (5)	SM			-with trace organics	, moist	
ASS N			(5)	-					
Z Z L	+					6.5			
	_			SM			ALLUVIUM: SILTY micaceous	SAND (SM), grayish brown, wet, very loo	se, fine to medium grained,
	_								
740 740									
- X	OPT		0.00						
10	SPT 3	83	0-0-3 (3)						
				-			-gravel layer		
%	1					11 <u>.5</u>			
Σ Ε Σ				SP			ALLUVIUM: POORI	Y GRADED SAND WITH GRAVEL (SP gravel, medium to coarse grained sar), grayish brown, wet, medium dense,
ادً							The to coarse graine	sa graver, mediam to coarse gramea sar	a, subiodilaca
<u></u>	+								
0/3/16									
- - -	CDT		10 11 10	1					
15	SPT 4	78	10-11-10 (21)	SP		1			
S0 0					<u>140-85</u>	15.5	1	Bottom of borehole at 15	
20								Backfilled with auger cutt	ings
-									
WEL									
A L									
A H									
Ä X									

	SUE	ering + Co	FACE Spo	08 N B okane ephon	arker R Valley, e: 509	WA				G NUMBER BH-204 PAGE 1 OF 1		
			rical Contra	ctors				PROJECT LOCATION Thors				
DATE	LING CON	D <u>5/</u>	23/16 CTOR <u>SW</u>	Cole			TED 5/23/16	LATITUDE 43.930101	NA	LONGITUDE <u>-71.685076</u>		
			Hollow Sto arnev			CKED	BY S. Kearney	DRILLING EQUIPMENT Die GROUND WATER LEVEL:	earich D50	SPI HAMMER 140 ID AUTO		
NOTE			ake location				<u> </u>	∇ at time of drilling	6.5ft			
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION D WITH GRAVEL (SM), brown, moist, loose, coarse grained gravel, fine to				
	m GB			SM		3.0	medium grained sar	nd, subrounded	ED SAND \	VITH GRAVEL (SP), brown and		
5	SPT 2	56	15-10-6 (16)			6.0	Sublounded					
				SM			STREAM TERRACI	DEPOSITS: SILTY SAND (SM et, 1 inch coarse sand lens	M), grayish	brown, wet, medium dense, fine to		
10	SPT 3	78	3-5-7 (12)	ML		10.0	STREAM TERRACE stratified, iron oxide		L), olive bro	wn, wet, stiff, fine grained sand,		
				SM		<u>13.0</u> .		DEPOSITS: SILTY SAND (SNd and gravel in bottom 3 inches		own, wet, medium dense, fine		
15	SPT 4	72	4-9-20 (29)			15.5						
LOGO NOTE (#) 5 10 DEPTH 150 O								Bottom of boreho Backfilled with a				

		JAN BSURI	Эрс	kane	arker F Valley e: 509	, WA	99027 -9409	BORING NUMBER BH-205 PAGE 1 OF 1
CLIEN	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass
PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION _Thornton, NH
1						IPLE ¹	TED _8/31/16	· · · · · · · · · · · · · · · · · · ·
DRILL	ING CON	NTRAC	TOR SW	Cole				LATITUDE 43.92721 LONGITUDE71.685553
	ING MET	HOD	Hollow St	em Αι	iger			DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _140 lb Auto
LOGG	SED BY _	J. Mel	ton		CHE	CKE	D BY S. Kearney	
NOTE	:S							\overline{Y} AT TIME OF DRILLING 14.5ft
O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
	-			SM		2.0		WITH GRAVEL (SM), trace asphalt, trace organics, dusky brown, damp, very medium to very coarse grained gravel, angular to subangular
				SP			STREAM TERRACE orange, dry, mediun staining	E DEPOSITS: POORLY GRADED SAND WITH GRAVEL (SP), very pale n dense, fine to coarse grained gravel, angular to subangular, iron oxide
	SPT 72 10-12-9 SP							
	SPT 2	89	8-8-8 (16)	SP			-becomes moist	
 				ML		12.5	STREAM TERRACE plasticity, very fine o	E DEPOSITS: SANDY SILT (ML), light olive gray, wet, medium dense, low grained, minor zones of oxidation
	SPT 3	100	2-4-14 (18)	ML		16.5		
LOGG NOTE HLdd 0 10 10 15 15 15 15 15								Bottom of borehole at 16.5 ft. Backfilled with auger cuttings

		JAN BSURI	Opt	kane	arker F Valley e: 509	, WA	99027 -9409	BORING NUMBER BH-206 PAGE 1 OF 1				
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass				
PRO	JECT NUN	/IBER	16004					PROJECT LOCATION _Thornton, NH				
			23/16				FED <u>5/23/16</u>	GROUND ELEVATION NA	HOLE SIZE 6 in			
1			CTOR SW									
			Hollow St			01/55		DRILLING EQUIPMENT _Diedrich D5	5 SPI HAMMER 140 ID AUTO			
6 LOG					CHE	CKEL	S. Kearney					
E NOT	ES drilled	d at sta	ake location	1				$\sqrt{2}$ AT TIME OF DRILLING 12.0ft				
DEPTH O (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
PUPROJECTS/NORTHERN PASS TRENCH COMPLETED LOGS/THORNTON, NHMPPHOR, GRU O DEPTH (ft) (ft)	GB 1	56	1-1-1 (2)	SM				(SM), trace gravel, trace organics, brown	n, moist, fine to medium grained			
4WINDDESKTOPIPROJECTS	SPT 3	67	3-2-2 (4)	SM		8.5		OSITS: SILTY SAND (SM), trace gravel, trace organics, dark brown, wet, loose				
10/3/16 11:53 - C:\USERS\LGSC	-			SP- SM			ALLUVIUM: POORL medium grained	Y GRADED SAND WITH SILT (SP-SM), brown, wet, very loose, fine to			
15 15 15 15 15 15 15 15 15 15 15 15 15 1	SPT 4	89	1-1-2 (3)	SP- SM		15.5						
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C: USERS/LGSCHWIND/DESKTO						.		Bottom of borehole at 15 Backfilled with auger cutt				

	\mathbf{Q}_{s}	UAN UBSUR	- Sp	08 N B okane	arker F Valley e: 509	RD WA 99027 -892-9409		BOR	ING NUMBER BH-208 PAGE 1 OF 1		
CLI	ENT PA	R Electi	rical Contra					PROJECT NAME Northern Pass			
PRO	OJECT N	UMBER	16004					PROJECT LOCATION Thornton, Ni	1		
			23/16		COM	PLETED _5/23/	16	·			
DRI	LLING C	ONTRA	CTOR SW	Cole				LATITUDE 43.919277	LONGITUDE71.685079		
			Hollow St					DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto			
FOC	GGED BY	S. Ke	arney		CHE	CKED BY S. K	earney				
HO.	TES <u>dri</u>	led at st	ake locatio	n				$\sqrt{2}$ AT TIME OF DRILLING <u>13.0ft</u>			
DEPTH	SAMPLE TYPE	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION SAND (SM), trace organics, brown, moist, loose, fine to medium grained			
PURCUECT SMORTHERN PASS TRENCH COMPLETED LOGS/THORNTON, NHMPTHOR.GED. O DEPTH (4)	- G G			SM				SAND (SM), trace organics, brown, mo			
NORTHERN PASS NHINORTH	SF 2		6-7-7 (14)	SM		7.5					
ECT				SP-		ALLUV		Y GRADED SAND WITH SILT (SP-SN	1), light brown, moist, loose, medium to		
PRO L	7			SM		coarse	grained				
				-							
MINDO 10	SF 3	PT 78	4-5-2 (7)								
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C:\USERS\LGSCHWIND\DESKTO 1.53 - C:\USERS\LGSCHWIND\DESK	-			_		₽	es medium c	dense wet			
15 TS	SF 4		5-6-9 (15)	SP- SM		15.5	es mediam c	ielise, wei			
L - GINT STD US		•		•				Bottom of borehole at 19 Backfilled with auger cu			
GENERAL BH / TP / WEL											

	Q Q Q SUE	JAN BSUR	FACE Spc	kane	arker F Valley, e: 509	WA	99027 9409	BORING NUMBER BH-209 PAGE 1 OF 1			
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass			
PRO.	JECT NUM	/IBER	16004					PROJECT LOCATION Thornton, NH			
			24/16		СОМ	PLET	FED _6/24/16				
DRIL	LING CON	NTRAC	CTOR SW	Cole				LATITUDE 43.916247 LONGITUDE -71.685027			
DRIL	LING MET	THOD	Hollow St	em Au	iger			DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto			
E LOG	GED BY _	J. Mel	lton		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:			
∯ NOTI	ES							\overline{Y} at time of drilling 13.0ft			
LOGS/THORNTON, NH/NP O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION			
ODED (ft)	-			GM		4.0), with sand, with silt, trace organics, dusky yellowish brown, dry to damp, ne grained, medium to coarse grained gravel, subangular			
SNOKI HEKN PASS NHVIOKI H	SPT 1	72	2-1-1 (2)	SP		7.5	loose, fine grained	Y GRADED SAND (SP), dark yellowish brown and light brown, damp, very			
I OP PROJECT				GM	20000			GRAVEL WITH SAND (GM), moderate brown, wet, dense, very fine to fine coarse grained gravel, subangular			
10 01 00 00 00 00 00 00 00 00 00 00 00 0	SPT 2	67	14-20-15 (35)								
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:53 - C: USERS/LGSCHWIND/DESKTO	SPT 3	83	16-24-19 (43)	GM		15.5	∑ -becomes moderate	yellowish brown and light brown, angular to subangular gravel			
S O O			1		1	10.0		Bottom of borehole at 15.5 ft.			
TST								Backfilled with auger cuttings			
N D											
Ĭ											
⊭											
를 B											
A P											
<u>u</u>											

	NT PAR		Telescent Telescent Telescent Contra	08 N B okane ephon	arker F Valley, e: 509	WA	99027 -9409	BORING NUMBER BH-210 PAGE 1 OF 1 PROJECT NAME Northern Pass				
PROJ	IECT NUN	MBER	16004					PROJECT LOCATION Thornton, NH				
DATE	STARTE	D _5/2	23/16		СОМ	PLET	TED <u>5/23/16</u>	GROUND ELEVATIONNA HOLE SIZE _6 i	n			
DRILI	LING CON	ITRAC	TOR SW	Cole				LATITUDE 43.914006 LONGITUDE	71.685406			
_ I	LING MET	HOD	Hollow St	em Au	iger			DRILLING EQUIPMENT Diedrich D50 SPT HAMMER	140 lb Auto			
E LOGO	SED BY _	S. Kea	arney		CHE	CKE	S. Kearney	GROUND WATER LEVEL:				
NOTE	S drilled	d at sta	ake location	1				$\underline{\underline{\vee}}$ AT TIME OF DRILLING 8.5ft				
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	REMARKS			
AN PASS I REINCH COMPLETED	om GB			SM		3.5	grained	(SM), trace organics, brown, moist, loose, fine to medium TS: SANDY SILT (ML), trace organics, dark brown, fine				
튀 -				ML		4.5	grained	13. SANDT SILT (ML), trace organics, dark brown, line				
5 5	SPT 2	89	1-2-2 (4)	SM		4.5	ALLUVIUM: SILTY : grained	SAND (SM), brown and gray, moist, loose, fine to medium	_			
10	SPT 3	56	9-13-15 (28)	SP		8.0	ALLUVIUM: POORI Medium dense, fine	LY GRADED SAND (SP), trace gravel, gray and brown, wet, to coarse grained gravel, medium to coarse grained sand				
DEPTH (#) O DEPTH (#) O DEPTH (#) O DEPTH (#) O DEPTH (#)						15.0		Bottom of borehole at 15.0 ft. Backfilled with auger cuttings	could not obtain 14 inch sample due to running sands			
GENE GENE												

	Englis	sering + Co	Sponstruction Tele	okane ephon	e: 509	, WA 9-892		BORING NUMBER BH-211 PAGE 1 OF 1				
1			ical Contra	ctors								
PRO	JECT NUI	NIBER	16004					PROJECT LOCATION Thornton, NE	<u>. </u>			
DATI	E STARTE	D _6/2	24/16		CON	IPLE	TED 6/24/16	GROUND ELEVATION NA	HOLE SIZE 4 in			
DRIL	LING CO	NTRAC	CTOR SW	Cole				LATITUDE 43.909037	LONGITUDE71.684513			
			Hollow St					DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto				
LOG	_	J. Mel	lton		CHE	CKE	D BY S. Kearney					
NOT	ES		T					$\sqrt{2}$ AT TIME OF DRILLING 13.0ft				
LOGINOTI (#) 5 DEPATH 100 DEPATH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTI	ON			
				GM			FILL: GRAVEL (GM	l), with sand, with silt, dark yellowish bro	wn, dry, loose			
-	-				Park	1.0	ALLUVIUM: SII TY	SAND (SM), yellowish gray to pale yello	wish brown, damp to moist, very loose			
_	_			SM			fine grained	. (. ,,,,	, , , , , , , , , , , , ,			
55_	SPT 1	78	1-2-1 (3)	SM								
	-											
	_											
5_				CL		9.0		CLAY (CL), trace sand, pale yellowish b	rown, moist, very stiff, low plasticity,			
10	SPT 2	72	11-12-12 (24)	-			fine grained sand					
1												
							Σ					
2												
15	SPT 3	100	3-3-6 (9)	CL			-becomes stiff, wet,	with minor zones of oxidation				
					<u> </u>	15.5		Bottom of borehole at 15	.5 ft.			
								Backfilled with auger cut				
VELL												
프 -												
E E												
ERAL												
<u>[</u>												

	Q Q Q SUE	JAN BSUR	FACE Spc	kane	arker F Valley, e: 509	, WA 9	99027 9409	BORI	NG NUMBER BH-212 PAGE 1 OF 1				
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass					
PRO	JECT NUM	MBER	16004					PROJECT LOCATION Thornton, NH					
- 1	E STARTE			0-1-			ED 6/23/16						
1			CTOR SW				.						
							tary BY S. Kearney		SPI HAMIMER 140 ID AUTO				
EON EON	_	J. IVIE	itori		CHE	CKED	S. Realliey	GROUND WATER LEVEL. \overline{Y} AT TIME OF DRILLING 10.0ft					
						I		AT TIME OF DRILLING 10.011					
LOGS/THORNTON, NH/ DEPTH O (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO					
PUPROJECT SNOKTHERN PASS NATIVORTHERN PASS TRENCH COMPLETED LOGSNIHORNTON, NHMPP HOR, GED O DEPTH (#) O DEPTH (#)	-			GM		4.0	FILL: GRAVEL (GM	I), with sand, with silt, trace organics, dark	yellowish brown, dry, loose				
HINONIH 5	SPT	50	2-1-1 (2)	SP		5.0	fine grained	POORLY GRADED SAND (SP), moderate yellowish brown, moist, medium dense,					
JECTS/NORTHERN PASS N			(-)	OL		8.0	grained	NIC SILT (OL), with clay, with organics, gr					
OH-JPRO				CL			ALLUVIUM: SILTY plasticity, very fine of	CLAY (CL), trace organics, moderate yellograined	owish brown, damp, very stiff, low				
GENERAL BH / IP / WELL - GINT SID US LAB.GPU - 10/3/16 11:54 - C: USERS/LGSCHWIND/DESK TO	SPT 2	89	14-19-11 (30)				⊻						
1:54 - 0						13.0							
/3/16 1				GM				GRAVEL WITH SAND (GM), dusky yellov ine grained, medium to coarse grained gr					
-10 -10				1									
15 15	SPT 3	56	20-13-14 (27)		000	15.5							
STD US					1	1		Bottom of borehole at 15.5 Backfilled with auger cuttir					
LL - GINT													
3H / TP / WE													
GENERAL													

	CLIEN	Engline	JAN BSURI	Spc	8 N B kane ephon	arker F Valley, e: 509	WA	99027 -9409	BORING NUMBER BH-213 PAGE 1 OF 1 PROJECT NAME Northern Pass			
1	PROJ	ECT NUN	IBER	16004					PROJECT LOCATION Thornto	on, NH		
1	DATE	STARTE	D 5/2	23/16		СОМ	PLE ¹	TED _5/23/16	GROUND ELEVATION	NΑ	HOLE SIZE 6 in	
1									·		<u></u>	
1				Hollow St					DRILLING EQUIPMENT Diedr			
GP.	LOGG	ED BY _	S. Kea	arney		CHE	CKE	S. Kearney	GROUND WATER LEVEL:			
뷝	NOTE	s							$ abla$ at time of drilling $_$	13.5ft		
COMPLETED LOGS/THORNTON, NH/NF	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION (SM), brown, moist, loose, fine to medium grained			
PASS TRENCH		om GB 1			SM		3.5		(SM), brown, moist, loose, fine to			
NH/NORTHERN					SM			ALLOVION. SILTY	SAND (SW), gray, moist, loose, iii	ne graniec	i, tillilly bedded, micaceous	
	5	SPT 2	72	3-4-5 (9)								
P\PROJECTS\NORTHERN PASS	 			(-7	-		9.0	-becomes highly oxi	dized			
ESKT		SPT		5-7-7	ML			ALLUVIUM: SILT (M	IL), gray, moist, stiff, non plastic			
6 11:54 - C:\USERS\LGSCHWIND\DESKTO	10	3	78	(14)				abla				
- 10/3/16												
S LAB.GPJ - 1	15_	SPT 4		3-3-4 (7)	ML		15.5	-becomes medium s	stiff, wet, 1 inch lens of coarse sa	nd at botto	om	
SENERAL BH / TP / WELL - GINT STD US									Bottom of borehol Backfilled with aug			
SENERAL												

	Q	Q L SUB	JANTA SURFACE	Spc 3	8 N Bakane '	√alley	, WA 99027			BORIN	IG NUMBER BH-214 PAGE 1 OF 1
	CLIENT	PAR	Flectrical (•		9-892-9409		PROJECT NAME North	ern Pass	
			IBER _160		0.0.0				PROJECT LOCATION T		
						CON	IPLETED <u>5/23/16</u>	6			
	DRILLIN	NG CON	TRACTOR	s sw	Cole				LATITUDE 43.898609		LONGITUDE 71.681551
	DRILLIN	NG MET	HOD Holl	ow St	em Au	ger			DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER 140 lb Auto
	LOGGE	DBY _	S. Kearney	'		CHE	CKED BY S. Kea	arney	GROUND WATER LEVEL	.:	
	NOTES	drilled	at stake lo	ocation	1						
	O DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				MATERIAL DE	SCRIPTION	
				sc		0.5	ALLUVIUM: CL			2D 0M) h	
				SP-			ALLUVIUM: PC	ORLY GRA	ADED SAND WITH SILT (S	SP-SM), brown,	moist, loose, medium grained
		SPT 2	4-5-5 (10)	SP- SM			-becomes medi	ium dense,	medium to coarse grained		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 14:15 - C:\USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ	10	SPT 3	3-4-4 (8)	SP- SM			-becomes loose	e, with trace	e fine grained gravel, wet		
JS LAB.GPJ - 10/4/16 14:15 - C	15	SPT 4	5-5-5 (10)	SP- SM		15.5	-becomes medi	ium dense,	fine to medium grained sa		ontent increases
STD U									Bottom of borel Backfilled with a	nole at 15.5 ft. auger cuttings	
GENERAL BH / TP / WELL - GINT :										-	

	N O	SUE	JAN BSURI	FACE Spo	8 N Bakane ephon	arker R Valley, e: 509	WA 9 -892-9	9409	BORING NUMBER BH-215 PAGE 1 OF 1 PROJECT NAME Northern Pass		
				ical Contrac	ctors						
	DATE	STARTE	D _5/2					ED _5/27/16	_	NA	
PTHOR.GPJ		ED BY		Hollow Ste				BY S. Kearney		L:	SPT HAMMER 140 lb Auto
COMPLETED LOGS/THORNTON, NH/NF	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	ı
PASS TRENCH					SM			ALLUVIUM: SILTY S grained, micaceous		brown, moist, n	nedium dense, very fine to fine
P\PROJECTS\NORTHERN PASS NH\NORTHERN	_ 5	SPT 1	67	7-11-10 (21)	SM						
C:\USERS\LGSCHWIND\DESKTOF	10	SPT 2	0	50/2"	SM		11.0	with minor traces of	poorly graded sand, boulde	er from 9 to 11 t	ft
- 10/3/16 11:54 - C:\USERS\LGS					GM			ALLUVIUM: SILTY (to fine grained, coan	GRAVEL WITH SAND (GM se grained gravel, angular,), light brown to with gravelly sa	dusky brown, wet, dense, very fine and and silty sand
IS LAB.GPJ -	15	SPT 3	50	21-17-16 (33)			15.5				
ENERAL BH / TP / WELL - GINT STD U									Bottom of bo Backfilled wi	orehole at 15.5 ith auger cutting	ft. gs

	C	Q Q U SUE	JAN BSURI	FACE Spo	kane	arker F Valley, e: 509	, WA 9		BORING NUMBER BH-217 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contra					PROJECT NAME Northern Pass
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Thornton, NH
- 1		STARTE			Colo	СОМ	PLETI	ED <u>5/27/16</u>	
- 1				TOR SW		oring /	NO S	ize/Series 8	LATITUDE 43.892134 LONGITUDE -71.675054 DRILLING FOURMENT Diodrich DEO. SRT HAMMER, 140 lb Auto.
								BY S. Kearney	
HOR.(ake location		OHL		O. Realiey	OROGIN WALLELELL.
MPT.									
LOGS/THORNTON, NF	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSITHORNTON, NHINPTHOR.GPJ	SM STREAM TERRAC to fine grained, iron shows the strength of t								E DEPOSITS: SILTY SAND (SM), and boulders, brown, moist, dense, very fine oxide staining, granitic boulders se, cobbles influencing blow counts
KTOP/PRC	. –	SPT	100	50/1"			8.5	-felsic rock powder,	high percentage of mica
)\DES	10	2	100	JU/ I					
MIN.	-10							BEDROCK: Fresh (I) to slightly weathered, very light gray and gray, strong (R4), GNEISS, high
C:\USERS\LGSCH		RC 1	100 (46)					percentage of mica,	zone of coarse mica mineralization at 14.6 -15'
B.GPJ - 10/3/16 14:52 -	15	RC 2	100 (100)				15.0		
JS LA									Bottom of borehole at 15.0 ft. Backfilled with auger cuttings
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 14:52 - C:\USERS\LGSCHWIND\DESKTO									

SU		FACE Sponstruction Tel-	08 N Backane okane ephon	Valley e: 509	, WA 9-892-	99027 -9409	PROJECT NAME Northern Pass PROJECT LOCATION Thornton, NH			
				COM	IPLE1	TED <u>5/27/16</u>				
		TOR SW Hollow St		ıaer			DRILLING EQUIPMENT _Diedrich D50			
					CKE	D BY S. Kearney		<u></u>		
ES drille	d at sta	ake locatio	n							
SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION			
-			SM		2.0	gravel	SM), trace gravel, dark brown, moist, fine			
			SM			throughout sample	SAND (SM), brown, moist, very loose, fine	grained, highly oxidized zones		
SPT 1	100	1-1-2 (3)								
_			SP		8.0		Y GRADED SAND (SP), yellowish brown,	moist, loose, fine grained,		
SPT 2	89	4-4-4 (8)				micaceous				
_					13.0					
			sw			ALLUVIUM: WELL 0 moist, loose, fine to	GRADED SAND WITH GRAVEL (SW), pa coarse grained gravel, fine grained sand, s	le yellowish brown to light brown, subangular		
SPT 3	89	3-2-3 (5)			15.5					
								,		
	2 SPT	SPT 00	SPT 80 3-2-3	2 09 (8) SPT 80 3-2-3	SPT 89 4-4-4 (8) SPT 80 3-2-3	SPT 89 4-4-4 (8) SPT 89 4-4-4 (8) SW	SPT 89 4-4-4 (8) SW SPT 3 89 3-2-3 (5) SP micaceous Micaceous ALLUVIUM: WELL 0 moist, loose, fine to	SPT 89 4-4-4 (8) 13.0 SW ALLUVIUM: WELL GRADED SAND WITH GRAVEL (SW), pal moist, loose, fine to coarse grained gravel, fine grained sand, standard gravel, fine grained gravel, fine grained sand, standard gravel, fine grained gravel, fine g		

	NT PAR	JANTA BSURFACI ering - Construction Electrical (Tel	08 N Ba okane ' ephone	Valley e: 509	, WA 9902 9-892-9409	27 9				
PRO.	JECT NUN	IBER _160	004					PROJECT LOCATION Thornton, NH			
DATE	E STARTE	D _5/26/16	3		CON	IPLETED	5/26/16	GROUND ELEVATIONNA	HOLE SIZE 6 in		
		NTRACTOR									
		HOD Hol			aer			DRILLING EQUIPMENT Diedrich D50			
						CKED BY	S. Kearney				
E NOTI		d at stake le						-			
DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				MATERIAL DESCRIPTION			
NCH COMPLETED I	_		SM		2.0		SM), brown, moist,				
GENERAL BH / 1P / WELL - GINI SID US LAB. GFJ - US GFG -	SPT 1	3-3-4 (7)	SP- SM			ALLUV moist, k	IUM: POORLY GR	RADED SAND WITH SILT (SP-SM), pale y um grained	ellowish brown and light brown,		
10 10 10 10 10 10 10 10 10 10 10 10 10 1	SPT 2	3-5-6 (11)	SP- SM			-becom	es medium dense				
15	SPT 3	5-7-7 (14)	SP- SM		15.5			Bottom of borehole at 15.5 ft.			
GENERAL BH / TP / WELL - GINT S								Backfilled with auger cuttings			

	Q Q Q SUE	JANTA BSURFACE	_ Opt	08 N Ba okane \	/alley	RD 7, WA 99027 9-892-9409	BORIN	IG NUMBER BH-220 PAGE 1 OF 1
CLIE	NT PAR	Electrical C	Contra	ctors			PROJECT NAME Northern Pass	
PRO	JECT NUN	IBER 160	04				PROJECT LOCATION Thornton, NH	
		D <u>5/26/16</u>		' Cole	CON	IPLETED <u>5/26/16</u>		
		HOD Holl			ger		DRILLING EQUIPMENT Diedrich D50	
						CKED BY S. Kearney	GROUND WATER LEVEL:	
띩 мот	ES drilled	l at stake lo	ocatio	n				
DEPTH O (#)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC			MATERIAL DESCRIPTION	
ICH COMPLEIEL	_		SM		2.0	FILL: SILTY SAND (SM), I	brown, moist, loose, fine to medium graine	d
GENERAL BH 7 IP / WELL - GINT SID US LAB.GPU - 10/3/16 11:54 - C: USERS/LGSCHWIND/DESK TOP/PROJECT SINOR HERN PASS TRENCH COMPLETED LOGS/HORNTON, NHMP HOR.GPU DEPTH ON 10 DEP	SPT 2 SPT 2 SPT 3	8-7-8 (15) 5-5-6 (11)	SP		14.0	-becomes light brown and	OSITS: POORLY GRADED SAND WITH ained gravel, fine grained sand, subangulation pale brown, without gravel OSITS: WELL GRADED SAND WITH GREE grained, fine grained gravel, subrounded	
GENERAL BH / TP / WELL - GINT STD US	_			<u>~ • • • • • • • • • • • • • • • • • • •</u>			Bottom of borehole at 15.5 ft. Backfilled with auger cuttings	

		Q Q L SUE	JANTA BSURFACE	- Opc		Valley	RD y, WA 99027 9-892-9409	BORIN	G NUMBER BH-221 PAGE 1 OF 1
	CLIEN	IT PAR	Electrical C		•			PROJECT NAME Northern Pass	
	PROJ	ECT NUN	IBER 160	04				PROJECT LOCATION Thornton, NH	
			D <u>5/26/16</u>		Cole	CON	MPLETED <u>5/26/16</u>		
			HOD Holl			ıger		DRILLING EQUIPMENT Diedrich D50	
GPJ							ECKED BY S. Kearney	· · · · · · · · · · · · · · · · · · ·	<u> </u>
HOR.			d at stake lo						
ORNTON, NH\NPI	DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
SNTH		ΣŽ	möz	⊃	<u></u>				
COMPLETED LOG	0 -	, o		ML			ALLUVIUM: SANDY SILT staining	(ML), pale yellowish brown, moist, stiff, ver	ry fine to fine grained, iron oxide
DP/PROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/THORNTON, NH/NPTHOR.GPJ	5	SPT 1	5-7-6 (13)	ML .		90	-becomes very stiff		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:54 - C:\USERS\LGSCHWIND\DESKTO	10	SPT 2	20-42-13 (55)	SP- SM		9.0	STREAM TERRACE DEP moist, very dense, fine gra	OSITS: POORLY GRADED SAND WITH Stained, contact with schistose boulder/cobbli	SILT (SP-SM), yellowish orange, e in SPT sample
-AB.GPJ - 10/	15	SPT 3	8-11-13 (24)	SP- SM			-becomes medium dense		
T SN C				<u> </u>	<u> </u>	15.5	<u> </u>	Bottom of borehole at 15.5 ft.	
ERAL BH / TP / WELL - GINT STC								Backfilled with auger cuttings	
GEN									

	(SU	JAN BSURI	Spo Tele	kane ephon	arker R Valley, e: 509-	D WA 99027 892-9409	BORING NUMBER BH-223 PAGE 1 OF 1 PROJECT NAME Northern Pass			
- 1				ical Contra	ctors						
	PROJ	ECT NUI	MBER	16004				PROJECT LOCATION_	Thornton, NH		
	DATE	STARTE	D 5/2	27/16		COMF	PLETED 5/27/16	GROUND ELEVATION	NA	HOLE SIZE _6 in	
- 1				TOR SW	Cole			LATITUDE <u>43.878023</u>		LONGITUDE71.665063	
- 1				Hollow St		iger				SPT HAMMER 140 lb Auto	
- 1				ton			CKED BY S. Kearney	GROUND WATER LEVE			
	NOTE	S drille	d at sta	ake location	1		-	_			
	о ОЕРТН (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			DESCRIPTION		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ	5	SPT 2	78	4-5-5 (10) 4-6-7 (13)	SP SP SM		-becomes medium	coarse grained gravel, fine	e to coarse grain	WITH GRAVEL (SP), light brown, ed sand WITH SILT (SP-SM), pale yellowish	
STD US LA				. ,		医外排	15.5	Bottom of b Backfilled w	orehole at 15.5	ft. gs	
GENERAL BH / TP / WELL - GINT &									ς ,		

	<u></u>	Q Q Q SUE	JANTA BSURFACE	Spc Spc	kane \	arker RD Valley, WA 99027 e: 509-892-9409	BORING NUMBER BH-224 PAGE 1 OF PROJECT NAME Northern Pass				
	CLIEN	IT PAR	Electrical C		•		PROJECT NAME North	hern Pass			
	PROJ	ECT NUN	MBER 160	04			PROJECT LOCATION_	Thornton, NH			
	DATE	STARTE	D 5/26/16	6		COMPLETED 5/26/16	GROUND ELEVATION	NA	HOLE SIZE _6 in		
			ITRACTOR		Cole	<u> </u>	LATITUDE 43.875793		LONGITUDE71.662815		
			HOD Holl			iger			SPT HAMMER 140 lb Auto		
	LOGG	ED BY	J. Melton			CHECKED BY S. Kearney	GROUND WATER LEVE	L:			
	NOTE	S drilled	l at stake lo	ocation	1		_				
	o DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DE				
KTOP\SW-GW.GPJ	5	SPT 1	4-4-5 (9)	SP		grained gravel, fine grained	ALLUVIUM: POORLY GRADED SAND WITH GRAVEL (SP), dark yellowish orange, moist, loose, fine grained gravel, fine grained sand -becomes light brown to dark yellowish orange, medium dense, with subangular gravel				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ	10	2 SPT	6-6-7	SP		-cobbles within a poorly g 13.0 ALLUVIUM: SILTY SAND to fine grained, laminated	(SM), pale vellowish brown	n to yellowish gr	ay, moist, medium dense, very fine		
S LAB.	10	3	(13)			15.5					
TD US						· •	Bottom of bore Backfilled with				
GENERAL BH / TP / WELL - GINT S'							Backined Will	augo, outiligs			

	Q Q Q SUE	JANTA BSURFACE	_ Opc	8 N Ba kane \	√alley	RD /, WA 99027 9-892-9409	BORIN	G NUMBER BH-225 PAGE 1 OF 1
CLIE	NT PAR	Electrical (Contra	ctors			PROJECT NAME Northern Pass	
PRO.	JECT NUN	IBER _160	004				PROJECT LOCATION Thornton, NH	
1		D 5/26/16				MPLETED <u>5/26/16</u>		
		NTRACTOR						
		THOD Hol				ECKED BY S. Kearney	DRILLING EQUIPMENT Diedrich D50 GROUND WATER LEVEL:	SPI HAWIWER 140 ID AUTO
S NOTI	_	d at stake lo				O. Reamey	∇ AT TIME OF DRILLING 8.5ft	
T NOT	<u> </u>	l at stake k					= AT TIME OF BRIDEING GOOD	
PUPROJECTSINORTHERN PASS TRENCH COMPLETED LOGS/THORNTON, NHMPPTHOR, GBJ O DEPTH (ft) (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
SOMPLEIEU	_		SM			FILL: SILTY SAND (SM),	brown, moist, loose, fine to medium graine	d
					2.0			
IZE			SM			ALLUVIUM: SILTY SAND of silt throughout	(SM), light brown to dark yellowish orange	, moist, loose, fine grained, lenses
PASS	-					Ü		
ERN ERN								
타	V		1					
<u> 5</u>	SPT 1	2-2-3 (5)						
ASS I		, ,	_					
Z	_							
쀮								
NON!	-							
ECTS								
280 -	1					$ar{ar{ abla}}$		
								
X S	SPT	5-7-8	SM					
10	2	(15)			<u>10.0</u>	ALLUVIJIM: DOODLY CD	ADED SAND (SP), yellowish brown, wet, r	andium dones, fine grained
MHO HO			SP			ALLOVIOW. POORLY GR	ADED SAND (SF), yellowish brown, wet, i	nedium dense, ime gramed
- LGS	-							
SERS								
ĭ) Ö	1							
- 1:54								
/16 1.			L		13 <u>.5</u>			
10/3			sw			medium dense, medium to	ED SAND WITH GRAVEL (SW), light brown coarse grained gravel, fine grained sand,	יח נס טמרג yellowish orange, wet, subangular, granitic gravel
1E	SPT	5-7-20						
9. 15 15	3	(27)			15.5			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:54 - C. USERS/LGSCHWIND/DESKTO			ı	<u>*</u>	,		Bottom of borehole at 15.5 ft.	
NT S.							Backfilled with auger cuttings	
 - G								
WEL								
/TP/								
H								
ÆRA								

	© ≥		JANTA BSURFACE	Opt	08 N B okane	Valle	RD y, WA 99027 9-892-9409	BORIN	G NUMBER BH-226 PAGE 1 OF 1
	LIEN	T PAR	Electrical (•			PROJECT NAME Northern Pass	
F	ROJE	ECT NUN	IBER 160	04				PROJECT LOCATION Thornton, NH	
- 1			D 5/26/16				MPLETED <u>5/26/16</u>		
- 1			NTRACTOR						
			THOD Hol				TOKED DV O Karaman	DRILLING EQUIPMENT Diedrich D50	SPI HAMMER 140 Ib Auto
SI P						CHE	ECKED BY S. Kearney		
THE L	IOTE		d at stake lo	ocatio	n T			$\sqrt{2}$ at time of drilling <u>8.5ft</u>	
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSITHORNTON, NHINDTHOR.GPJ	O UEP III	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
OMPLETED	-			SM		1.5	FILL: SILTY SAND (SM), t	trace gravel, brown, moist, loose, fine to m	edium grained, fine grained gravel
ÖH CH				SP-		1.5	ALLUVIUM: POORLY GRA	ADED SAND WITH SILT (SP-SM), yellowi	sh brown to light brown, moist,
TREN TREN				SM			medium dense, fine graine	ed	
ASS -	_								
RN P									
뷝				1		:			
JON 1	5	SPT	5-5-7						
ᇶᆫ		1	(12)			:			
PA				1		:			
副	Ī					:			
Š T	_								
STSI									
SOLE	-								
P/PR							$ar{\Sigma}$		
왌		V		SP-		:	-becomes very loose, wet		
	10	SPT 2	0-0-0 (0)	SM		:			
N N			(0)						
esc -	_					:			
RS/L									
	-								
5. O						:			
6 11:6	-								
0/3/1						:			
PJ-1		SPT	7-12-14	SP-			-becomes medium dense,	with granitic gravels	
AB.G	15	3	(26)	SM					
		\			14 14 14	15.5		Bottom of borehole at 15.5 ft.	
TST								Backfilled with auger cuttings	
- GIN									
VELL									
7P /									
BH/									
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:54 - C::USERS\LGSCHWIND\DESKTO									
GENE									

		JANTA BSURFACE	- Opt)8 N Ba okane \	/alley	RD /, WA 99027 9-892-9409	PROJECT NAME Northern Pass		
CLIE	NT PAR	Electrical C	Contra	ctors			PROJECT NAME Northern Pass		
PRO	JECT NUM	MBER 160	04				PROJECT LOCATION Thornton, NH		
		D <u>5/26/16</u>				MPLETED <u>5/26/16</u>			
1		HOD Holl					DRILLING EQUIPMENT Diedrich D50		
						ECKED BY S. Kearney		OF I HAMIMEN 140 ID Auto	
NOTE		o. McRon			0112	O. Realitey	∇ AT TIME OF DRILLING 13.5ft		
La N									
LOGS/THORNTON, NH DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION		
	_		SM		2.0	FILL: SILTY SAND WITH	GRAVEL (SM)		
¥	-		SP		2.0	ALLUVIUM: POORLY GR	ADED SAND WITH GRAVEL (SP), yellow	sh brown to light brown, moist,	
O DEPTH O D	SPT 1	2-3-2 (5)				ioocc, iiio grainea gravei,	fine grained sand, angular		
GENERAL BH / IP / WELL - GINI SID US LAB.GPU - 10/3/10 11:34 - C. USERS/LGSCHWIND/DESK UPPPI	SPT 2	4-4-4 (8)	SP		13.0				
6 11:	1		SM		10.0	ALLUVIUM: SILTY SAND	(SM), brown, wet, very loose, fine grained,	iron oxide staining	
10/3/						-			
Yellow 15_	SPT 3	1-0-0 (0)			15.5				
SD Q		I	<u> </u>	<u>r. 1. 14</u>	15.5		Bottom of borehole at 15.5 ft.		
- GINT ST							Backfilled with auger cuttings		
NERAL BH / TP / WELL									
Z U U U U U									

		SÚE	JAN BSUR	FACE Spo	kane	arker f Valley e: 509	, WA	99027	BORING	G NUMBER BH-228 PAGE 1 OF 1
	CLIE	NT PAR	Electr		•				PROJECT NAME Northern Pass	
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Campton, NH	
	DATE	STARTE	D _6/2	23/16		CON	IPLET	Γ ED <u>6/23/16</u>	GROUND ELEVATIONNA	HOLE SIZE 6 in
	DRILI	LING CON	ITRAC	TOR SW	Cole				LATITUDE 43.865996	LONGITUDE71.668644
									DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto
		_				CHE	CKED	S. Kearney	GROUND WATER LEVEL:	
	NOTE	:S		I						
	о DEРТН (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
					GM		2.0	FILL: GRAVEL (GM to coarse grained gr), with sand, with silt, trace organics, dark yo avel, angular	ellowish brown, dry, loose, medium
W-GW.GPJ	5 	SPT 1	89	8-12-13 (25)	SM		2.0	ALLUVIUM: SILTY S medium dense, fine	SAND WITH GRAVEL (SM), pale yellowish grained, fine grained gravel, subangular	orange and light brown, dry,
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GPJ	<u>- 10</u>	SPT 2	83	4-4-5 (9)	SM		13.0	-becomes loose, mo		
3 LAB.GPJ - 10/4/16 12	15	SPT 3	100	6-8-11 (19)	SP- SM		15.5	ALLUVIUM: POORL yellowish brown, mo	Y GRADED SAND WITH SILT (SP-SM), m ist, medium dense, fine grained	oderate yellowish brown and pale
TD US							,		Bottom of borehole at 15.5 ft Backfilled with auger cuttings	
GENERAL BH / TP / WELL - GINT S'									Buokimed with dager editings	

	Q Q L SUE	JANTA BSURFACE	Spc Spc	08 N Backane	Valley	RD y, WA 99027 9-892-9409	BORIN	IG NUMBER BH-229 PAGE 1 OF 1			
1		Electrical (ctors			PROJECT NAME Northern Pass				
PRO	JECT NUN	/IBER _160	04				PROJECT LOCATION Campton, NH				
DAT	E STARTE	D 5/25/16	6		CO	MPLETED <u>5/25/16</u>	GROUND ELEVATION NA	HOLE SIZE 6 in			
DRIL	LING CON	NTRACTOR	s sw	Cole			LATITUDE 43.863783	LONGITUDE71.668051			
	LING MET	HOD Hol	low St	em Au	iger		DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto			
b LOG	GED BY _	J. Melton			CHE	ECKED BY S. Kearney	GROUND WATER LEVEL:				
NOT	ES										
LOGS/THORNTON, NH/N DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
SS TKENCH COMPLETED I	_		SP		3.0	FILL: POORLY GRADED dense, coarse grained gra	FILL: POORLY GRADED SAND WITH GRAVEL (SP), and silt, pale yellowish brown, moist, medium dense, coarse grained gravel, fine grained sand, subangular, silt lenses ALLUVIUM: POORLY GRADED SAND WITH SILT (SP-SM), pale yellowish brown, moist, medium				
ODED THE TOTAL OF	SPT 1	5-6-6 (12)	SP- SM			ALLUVIUM: POORLY GR, dense, fine grained sand	ADED SAND WITH SILT (SP-SM), pale y	ellowish brown, moist, medium			
	SPT 2	5-7-7 (14)	SP- SM								
5 LAB.GFJ - 10/3/19 11:34 - C/OSERSOLG	SPT 3	6-7-8 (15)	SP- SM		15.5						
GENERAL BH / IP / WELL - GINT SID US LAB.GPU - 10/3/16 11:54 - C: USERS/LGSCHWIND/DESK TO	-			r.:	10.0		Bottom of borehole at 15.5 ft. Backfilled with auger cuttings				

	S	Q Q U SUE	JANTA BSURFACE	Spc	08 N Ba okane '	Valle	RD y, WA 99027 9-892-9409	BORII	NG NUMBER BH-230 PAGE 1 OF 1					
	CLIEN	IT PAR	Electrical C					PROJECT NAME Northern Pass						
	PROJ	ECT NUN	IBER 160	04				PROJECT LOCATION Campton, NH						
			D 5/25/16			COI	MPLETED <u>5/25/16</u>	GROUND ELEVATION NA						
			ITRACTOR					LATITUDE 43.861061						
ᆡ			HOD Holl					DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto					
Ж. Б		_	J. Melton			CHE	ECKED BY S. Kearney	-						
H	NOTE	s						$\sqrt{2}$ AT TIME OF DRILLING 8.0ft						
ETED_LOGS\THORNTON, NH\N	o DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION						
NH\NORTHERN PASS TRENCH COMPLETED		SPT	9-8-6	SP				FILL: POORLY GRADED SAND WITH GRAVEL (SP), grayish red, wet, medium dense, coarse grained gravel, fine grained sand, subangular						
Ĭ	5	1	(14)			5.0	ALLUVIUM: POORLY GR	ADED SAND (SP), trace gravel, pale yell	owish brown moist medium dense					
P\PROJECTS\NORTHERN PASS	 			SP		8.8	fine grained gravel, fine gr	rained sand, subrounded						
3/16 11:54 - C:\USERS\LGSCHWIND\DESKTC	10	SPT 2	3-3-4 (7)	ML			ALLUVIUM: SANDY SILT	(ML), pale yellowish brown, wet, medium	stiff, very fine grained					
- 10/3/16				<u> </u>		14.0	ALLUVIUM: POORLY GR	ADED SAND WITH SILT (SP-SM), pale	prown wet loose fine grained					
S LAB.GPJ -	15	SPT 3	2-3-4 (7)	SP- SM		15.5	TELEVISINI I SONET ON							
il in								Bottom of borehole at 15.5 ft. Backfilled with auger cuttings						
ENERAL BH / TP / WELL - GINT STD								auger outlings						

		JANTA BSURFACE	Spc		Valley	RD , WA 99027 9-892-9409		BORIN	PAGE 1 OF 1
CLIE	NT PAR	Electrical C		•	J. 000	7 002 0 100	PROJECT NAME North	ern Pass	
		/IBER 160					PROJECT LOCATION (
		D 5/25/16			COM	IPLETED <u>5/25/16</u>	GROUND ELEVATION _	NA	
DRIL	LING CON	ITRACTOR	SW	Cole			LATITUDE 43.857131		LONGITUDE71.667562
_ I	LING MET	HOD Holl	ow St	em Au	ger		DRILLING EQUIPMENT _	Diedrich D50	SPT HAMMER 140 lb Auto
j Logo	GED BY _	J. Melton			CHE	CKED BY S. Kearney	GROUND WATER LEVEL	:	
NOTE	S drilled	d at stake lo	ocation	1			$oxedsymbol{oxed}$ at time of drill	ING 12.0ft	
DEPTH (#)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		FILL: CILTY CAMP WITH	MATERIAL DE		ium donog goorge grained gravel
	_		SM		2.0	fine grained sand, angular	, iron oxide staining		ium dense, coarse grained gravel,
TO THE TABLE OF TH	SPT 1	7-8-9 (17)	SM		9.0	dense, fine grained, fine g	rained gravel, subrounded), yellowish brown, moist, medium
103 10 1:34 - C:USERS\(\text{LOSC}\)	SPT 2	13-14-12 (26)	SP		14.0	brown, wet, medium density ∇	e, medium grained gravel, fi	ne grained sar	GRAVEL (SP), pale yellowish d, angular
1515	SPT 3	9-11-12 (23)	SM		15.5	grained	00110. 01211 0/ 1112 (OIII),	paic yellowion	brown, wet, mediam dense, inte
SID OIS			•				Bottom of boreh Backfilled with a		
ENERAL BH / TP / WELL - GIN									

	Engine	JANTA BSURFACE	Tel)8 N B okane ephon	Valley	RD /, WA 99027 9-892-9409		G NUMBER BH-232 PAGE 1 OF 1
1		Electrical C		ctors			PROJECT NAME Northern Pass	
PRO	JECT NUN	IBER _160	004				PROJECT LOCATION Campton, NH	
DATE	E STARTE	D _5/25/16	6		CO	MPLETED <u>5/25/16</u>	GROUND ELEVATION NA	HOLE SIZE 6 in
DRIL	LING CON	NTRACTOR	SW	Cole			LATITUDE 43.855762	LONGITUDE71.667276
ਰੂ DRIL	LING MET	THOD Hol	low St	em Au	iger		DRILLING EQUIPMENT _Diedrich D50	SPT HAMMER 140 lb Auto
DRIL LOGG NOTE	GED BY _	J. Melton			CHE	S. Kearney		
NOTE	ES <u>drilled</u>	d at stake lo	ocatio	n			$\sqrt{2}$ at time of drilling 13.0ft	
DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
HENERAL BH / IF / WELL - GIN 15 ID US LAB.GFJ - C.IUSERSI, LGS/PWIND/USER I OF/PROJECT SINDKI HERN PASS I RENCH COMPLEIED LOGS/CAMPTON, NATURAL OF THE COMPLEX OF THE COMPL	SPT 1	5-8-11 (19)	SP- SM		8.0	dense, fine grained	ADED SAND WITH SILT (SP-SM), light br	
M4/40			ML			grained, iron oxide stainin	(ML), pale yellowish brown to dark yellowis	orange, wet, still, very lille
X X	SPT	5-7-8						
11:27 - C: USERS/LESSCHWINDI	2	(15)				Ā		
0/3/16	L							
15 15 15 15 15 15 15 15 15 15 15 15 15 1	SPT 3	5-5-7 (12)	ML		15.5			
							Bottom of borehole at 15.5 ft. Backfilled with auger cuttings	
ENERAL BH / TP / WELL - GINT								

	Q Q Q SUE	JANTA BSURFACE	Spc Spc	08 N Ba okane '	Valle	RD y, WA 99027 19-892-9409	BORI	NG NUMBER BH-233 PAGE 1 OF 1
CLII	ENT PAR	Electrical (Contra	ctors			PROJECT NAME Northern Pass	
PRO	DJECT NUI	/IBER _160	04				PROJECT LOCATION Campton, NH	
	TE STARTE				CO	MPLETED <u>5/25/16</u>		·
_	LLING CON						-	
	LLING MET						DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto
	GGED BY _	J. Melton			CHI	ECKED BY S. Kearney		
NO1		T					$\sqrt{2}$ at time of drilling $9.0 \mathrm{ft}$	
LOGS/CAMPTON, NHIN DEPTH	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
GENERAL BH / IP / WELL - GINT SID US LAB.GPJ - 10/3/16 17:28 - C: USERS/LGSCHWINDNDESK TOP/PROJECT SINORTHERN PASS TRENCH COMPLETED LOGS/CAMPTON, NHMP CAMPTON, GPL O DEPTH O DEPTH	SPT	4-4-3 (7) 1-1-4 (5)	SP SP		13.5	grained sand, subangular ORGANIC DEPOSITS: G grained, high silt content ✓	RAVELLY ORGANIC SOIL (OL), grayish (ML), brown, wet, stiff, very fine grained, Bottom of borehole at 15.5 ft. Backfilled with auger cuttings	brown, wet, medium stiff, very fine
GENERAL E								

	Q Q Q I	JAN BSUR	FACE Spo	kane	arker F Valley, e: 509	, WA	99027 -9409	BORIN	NG NUMBER BH-234 PAGE 1 OF 1		
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass			
PRO	JECT NUM	/IBER	16004					PROJECT LOCATION Campton, NH			
			27/16				TED <u>5/27/16</u>				
_1			CTOR SW						•		
			Hollow St			01/55	N DV 0 16	DRILLING EQUIPMENT Diedrich D50	SPI HAMMER 140 ID Auto		
	_	J. IVIEI	ton		CHE	CKEL	S. Kearney	•			
NOT	ES							$\sqrt{2}$ AT TIME OF DRILLING 10.0ft			
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION			
PUPROJECTISMORTHERN PASS TRENCH COMPLETED LOGSICAMPTON, NHMP CAMPTON GRAD O DEPTH (ft) (ft)	SPT 1	28	4-37-50 (87)	SP		GLACIOFLUVIAL: POORLY GRADED SAND WITH GRAVEL (SP), with silt, light brown, moist, dense, coarse to very coarse grained gravel, fine grained sand, angula silt material					
ESKIOP/PROJECT	SDT		245	ML		8.0	GLACIOFLUVIAL: S grained, iron oxide s	SILT (ML), with clay, yellowish brown, wet, staining	stiff, medium plasticity, very fine		
10 NWH	SPT 2	100	2-4-5 (9)	1			፟፟፟፟፟፟				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C: USERS/LGSCHWIND/DESKTO	SPT 3	100	2-3-4 (7)	ML			-becomes medium s	stiff, pale yellowish brown			
						15.5		Pottom of harabala at 45 5	ft		
NI SID								Bottom of borehole at 15.5 Backfilled with auger cuttin			
5											
WELL											
<u> </u>											
HH/											
RA											
ENE CENE											

	NT PAR	JANTA BSURFACE Wing + Construction Electrical C	Tel)8 N B okane ephon	arker RD Valley, WA 99027 e: 509-892-9409	PROJECT NAME Northern Pass PROJECT LOCATION Campton, NH			
DRILI DRILI LOGO NOTE	LING CON LING MET GED BY	THOD Holing At Stake In	R SW	Cole em Au		LATITUDE 43.844242 DRILLING EQUIPMENT Diedrich D50			
DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION			
5	SPT 1	5-9-12 (21)	SP- SM		GLACIOFLUVIAL: POORI	LY GRADED SAND WITH SILT (SP-SM), (dark orange, moist, medium dense,		
10	SPT 2	8-8-9 (17)	SP- SM		-with fine to coarse angula	ar gravel			
DEPTH (#)	SPT 3	5-6-6 (12)	SP- SM		-becomes wet	Bottom of borehole at 15.5 ft. Backfilled with auger cuttings			

		Q Q L SUE	JAN BSURI	FACE Spc	kane	arker F Valley, e: 509	, WA	99027	BORIN	G NUMBE	R BH-236 PAGE 1 OF 1	
	CLIEN	NT PAR	Electr	ical Contra	•			-9409	PROJECT NAME Northern Pass			
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Campton, NH			
	DATE	STARTE	D 6/3	23/16		COM	PI FT	TED 6/23/16	GROUND ELEVATION NA	HOLF SIZE 4 in		
				CTOR SW								
ιξ									DRILLING EQUIPMENT Diedrich D50			
ON.G								BY S. Kearney		_		
AMP	NOTE	S										
OGS/CAMPTON, NH\NP	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION		REMARKS	
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSICAMPTON, NHINP CAMPTON GP.	 5	SPT 1	50	13-4-5 (9)	GM		5.5	brown, moist, loose, subangular	GM), with sand, with silt, trace organics, moderate yellowish loose, very fine to fine grained, fine to coarse grained gravel,			
USERS/LGSCHWIND/DESKTOP/PROJECTS/NORTHERN F		SPT 2	0	50/1"	gm			coarse grained grave cobbles	EL WITH SAND, olive gray, moist, very denel, fine grained sand, subangular, with boul		switched to mud rotary drilling	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C:\USERS\LGSCHWIND\DESKTO	15	SPT 3	64	33-36- 50/2"	GM		15.2	-becomes light olive	gray, dense, wet, angular gravel Bottom of borehole at 15.2 ft. Backfilled with auger cuttings			
GENERAL												

	G	$\overline{}$	JAN BSUR	Орс	kane	arker R Valley,	RD WA 99027 1-892-9409		BORIN	IG NUMBER BH-237 PAGE 1 OF 1			
	LIEN			ical Contra	•		-032-3403	PROJECT NAME Northe	ern Pass				
- 1		ECT NUI						PROJECT LOCATION _C					
	ATE	STARTE	D 6/2	21/16		СОМ	PLETED 6/22/16	GROUND ELEVATION _	NA	HOLE SIZE 6 in			
	RILL	ING COI	NTRAC	TOR SW	Cole			LATITUDE 43.840406		LONGITUDE 71.660006			
<u>G</u>	RILL	ING ME	THOD	HSA/Wire	eline C	oring /	NQ Size/Series 8	DRILLING EQUIPMENT _	Diedrich D50	SPT HAMMER _140 lb Auto			
CAMPTON	OGG OTE:	_	J. Mel	ton		CHEC	CKED BY S. Kearney	GROUND WATER LEVEL	i.				
LOGS/CAMPTON, NH/NP	O (#)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			DESCRIPTION				
GENERAL BH/TP/WELL - GINT STD US LAB.GPJ - 10/3/16 13:02 - C:USERS/LGSCHWIND/DESKTOP/PROJECTS/NORTHERN PASS NHWORTHERN PASS TRENCH COMPLETED LOGS/CAMPTON, NHWP CAMPTON, GPJ GENERAL BH/TP/WELL - GINT STD US LAB.GPJ - 10/3/16 13:02 - C:USERS/LGSCHWIND/DESKTOP/PROJECTS/NORTHERN PASS TRENCH COMPLETED LOGS/CAMPTON, NHWP CAMPTON, GPJ GENERAL BH/TP/TP/TP/TP/TP/TP/TP/TP/TP/TP/TP/TP/TP/	5	SPT 1	44	2-7-4	GM			FILL: GRAVEL (GM), with sand, with silt, trace asphalt, dark yellowish brown, damp, loose, very fine to fine grained, fine to coarse grained gravel, subangular					
ERN PASS NI				(11)			6.0 BEDROCK: Fresh (BEDROCK: Fresh (I) to slightly weathered (II), light gray (N7) to medium dark gray (N4), medium					
ND/DESKTOP/PROJECTS/NORTH	- - 10	RC 1	95 (94)				to coarse grained, s mineralization	to coarse grained, strong (R4), GRANITE, with minor zones of oxidation, moderate pyrite					
3.GPJ - 10/3/16 13:02 - C:\USERS\LGSCHWIN	15	RC 2	100 (99)				-without oxidation o	r mineralization					
SLAB		-		l .		<u> </u>	· · · · ·		rehole at 15.0				
SENERAL BH / TP / WELL - GINT STD U.								Backiilied wi	th auger cutting	js			

		Q Q Q SUE	JAN BSURI	Spo	kane	arker f Valley	, WA	99027		BORIN	G NUMBER BH-238 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contrac	•	e: 509		-9409	PROJECT NAME North	nern Pass	
				16004					PROJECT LOCATION_	Campton, NH	
	DATE	STARTE	D _5/2	24/16		CON	IPLE1	ΓΕD <u>5/24/16</u>	GROUND ELEVATION _	NA	HOLE SIZE 6 in
	DRILL	ING CON	NTRAC	TOR SW	Cole				LATITUDE 43.838013		LONGITUDE <u>-71.657981</u>
	DRILL	ING MET	HOD	HSA/Wire	line C	oring /	NQ S	Size/Series 8	DRILLING EQUIPMENT	Diedrich D50	SPT HAMMER 140 lb Auto
		_				CHE	CKE	S. Kearney			
	NOTES	S <u>drilled</u>	d at sta	ake location	1				ightarrow at time of drill	.ING <u>9.0ft</u>	
	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
					SM		3.0	FILL: SILTY SAND \ grained sand, angula	WITH GRAVEL (SM), brow ar	n, moist, loose,	fine grained gravel, fine to medium
ŀ					SM		3.0		WITH GRAVEL (SM), brow	n, moist, dense	, coarse grained gravel, fine grained
	_				JOIN			sand			
	ľ	SPT		13-19-22							
	5	1		(41)							
			1								
ł											
							7.0				
3PJ	_					\(\frac{1}{2}\)		BEDROCK: Comple	tely weathered (V), white (Nor zones of oxidation	N9) and white /	yellowish gray (5Y 8/1), very weak
-GW.								(KT), GRANTE, IIII	ioi zones oi oxidation		
NS\c							1				
χΤΟ								፟			
NDES	10	SPT 2	100	37-40- 50/4"							
WIN				30/4							
SSCH											
SYLG								BEDROCK: Fresh (I) to slightly weathered, yell strong (R3), hornblende gi	owish red (5YR	5/6) and very pale brown
USEF								mineralization below	11 ft	ranic with zone	3 of concentrated
:		l I									
13:47		RC 1	100 (71)					-elongated hornblen	de crystals from 13-14.8 ft		
/4/16			` ´				1	J	,		
J- 10											
NB.GF	15					<u> </u>	15.0		D. //		
US L/										orehole at 15.0 th auger cutting	
STD											
GINT											
M/											
Ĭ-											
3AL B											
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 13:47 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.											

	Q Q Q U	JANTA BSURFACE	Spo)8 N Ba okane '	Valley	RD 7, WA 99027 9-892-9409	BORIN	G NUMBER BH-239 PAGE 1 OF 1
CLIE	NT PAR	Electrical C	Contra	ctors			PROJECT NAME Northern Pass	
PRO	JECT NUN	IBER 160	04				PROJECT LOCATION Campton, NH	
		:D <u>5/24/16</u>			CON	IPLETED <u>5/24/16</u>		
_l					aor			
		THOD Holl				CKED BY S. Kearney		SPI HAWIMER 140 ID AUTO
					СПЕ	S. Reamey	GROUND WATER LEVEL:	
	LS drilled	d at stake lo	Jealioi	1				
LOGS/CAMPTON, NH/N DEPTH (ff)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
CH COMPLETED	-		SM		2.0	FILL: SILTY SAND (SM), 1	trace gravel, brown, moist, loose, fine grain	ned, fine grained gravel
Z Z L	1		SP		2.0	TILL: POORLY GRADED	SAND (SP), light brown, moist, medium de	ense, fine grained
RSILGSCHWINDIDESKTOPIPROJECTSINORTHERN PASS TRENCH COMPLETED LOGSICAMPTON, NHWIP CAMPTON.GR. O DEPTH O DEPTH	SPT 1	8-9-9 (18) 5-6-7 (13)	SP		8.0	TILL: SANDY SILT (ML), I	ight olive brown to dark yellow, moist, very	fine to fine grained
B.GPJ - 10/3/16 11:28 - C:\USE	- - - SPT - 3	50/0"	ML		15.0	-boulders and cobbles fror		
IS LA							Bottom of borehole at 15.0 ft. Backfilled with auger cuttings	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C:\USERS\LGSCHWIND\DESKTO							Dackillieu with augel cuttings	

		T PAR		Tele	8 N E kane ephor	Valle ne: 5	er RD ey, WA 99027 509-892-9409		n Pass	G NUMBER BH-240 PAGE 1 OF 1
	PROJI	ECT NUN	IBER <u>160</u>	104				PROJECT LOCATION Car	mpton, NH	
	DATE	STARTE	D 5/24/16	6		_ cc	OMPLETED <u>5/24/16</u>	GROUND ELEVATION	NA	HOLE SIZE 6 in
	DRILL	ING CON	ITRACTOR	SW	Cole	:		LATITUDE 43.832832		LONGITUDE <u>-71.660094</u>
5									iedrich D50	SPT HAMMER 140 lb Auto
			J. Melton			CH	HECKED BY S. Kearney	GROUND WATER LEVEL:		
Ž	NOTE	S		T		<u> </u>				
COMPLETED LOGS/CAMPTON, NHMP	O DEPTH (ff)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC)		MATERIAL DESC		
JENEROJECTONNORTHERN PAGO NAMORTHERN PAGO TRENCH COMPLETED	5 -	SPT 1	5-5-5 (10)	ML			GLACIOLACUSTRINE: SA grained, iron oxide staining		rown to dusky	yellow, moist, stiff, very fine to fine
- 10/3/10 11:28 - C:VOSERS/LGSCHWIND/DESKIOP/PROJE	10	SPT 2	2-1-1 (2)	ML			-becomes soft, laminated l	pedding		
	15					15.0	0			
I SID US LAB.GPJ		SPT 3	1-2-3 (5)	OL			GLACIOLACUSTRINE: Of stiff, very fine to fine grains	RGANIC SILT (OL), trace orga ed	anics, dusky	yellowish brown, moist, medium
- N				•			-	Bottom of borehol Backfilled with aug		
ENERAL BH / IP / WELL								Education with duty	go, odungo	

	(Q Q U SUE	JANTA BSURFACE	_ Opt	08 N Backane	Valley	RD /, WA 99027 9-892-9409	BORIN	G NUMBER BH-241 PAGE 1 OF 1			
(CLIEN	IT PAR	Electrical C	Contra	ctors			PROJECT NAME Northern Pass				
	PROJ	ECT NUM	IBER 160	04				PROJECT LOCATION Campton, NH				
ŀ	DATE	STARTE	D 5/24/16	6		CO	MPLETED <u>5/24/16</u>	GROUND ELEVATIONNA	HOLE SIZE 4 in			
1	DRILL	ING CON	NTRACTOR	SW	Cole			LATITUDE 43.830317	LONGITUDE 71.661102			
GP I	DRILL	ING MET	THOD Hol	low St	em Au	ger		DRILLING EQUIPMENT _Diedrich D50	SPT HAMMER _140 lb Auto			
	_OGG	ED BY _	J. Melton			CHE	ECKED BY S. Kearney	GROUND WATER LEVEL:				
SAMP I	NOTE	S <u>drilled</u>	d at stake lo	ocatio	n							
LOGS/CAMPTON, NH\NF	o DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION FILL: SILTY SAND WITH GRAVEL (SM), trace organics, dark brown, moist, very loose, coarse to very				
SS TRENCH COMPLETED	_			SM		3.0	FILL: SILTY SAND WITH coarse grained gravel, fine		, moist, very loose, coarse to very			
PIPROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/CAMPTON, NH/NP CAMPTON/GP,	5	SPT 1	4-4-5 (9)	SP- SM		3.0	ALLUVIUM: POORLY GRA	ADED SAND WITH SILT (SP-SM), light br	own, moist, medium dense, fine			
KS/LGSCHWIND/DESKTOP/PROJECTS/NO	10	SPT 2	5-6-6 (12)	SP- SM								
AB.GPJ - 10/3/16 11:28 - C:\USEF	15	SPT 3	50/0"	SP- SM		15.0	-schistose boulders and co					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C.\USERS\LGSCHWIND\DESKTO								Bottom of borehole at 15.0 ft. Backfilled with auger cuttings				

		Q Q U SUE	JAN BSUR	Spc.	kane	arker I Valley e: 509	, WA	99027 -9409	Е	BORIN	G NUMBER BH-243 PAGE 1 OF 1
	CLIEN	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pa	ass	
	PROJ	ECT NUN	/IBER	16004					PROJECT LOCATION Camp	oton, NH	
	DATE	STARTE	D 6/	21/16		CON	IPLE1	TED 6/21/16	GROUND ELEVATION	NA	HOLE SIZE 4 in
	DRILL	LING CON	ITRAC	CTOR SW	Cole				LATITUDE 43.82517		LONGITUDE71.66282
.GPJ				Hollow St						rich D50	SPT HAMMER 140 lb Auto
PTON						CHE	CKE	S. Kearney	GROUND WATER LEVEL:		
CAN	NOTE	S <u>drilled</u>	at sta	ake locatior	<u> </u>		1				
LOGS/CAMPTON, NH/N	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESC	CRIPTION	
PLETED					GM		1.0	FILL: GRAVELLY Sometime to fine grained	AND (GM), and silt, trace organion	cs, dark ye	llowish brown, dry, loose, very fine
COM					SP-			ALLUVIUM: POORL	Y GRADED SAND WITH SILT ((SP-SM), p	ale orange, dry, loose, fine grained
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C.USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\CAMPTON, NH\NP CAMPTON.GP.		SPT 1	100	3-4-4 (8) 3-5-5 (10)	SP-SM			-becomes moist			
JS LAB.GPJ - 10/3/	15	SPT 3	100	6-8-9 (17)	SP- SM		15.5	-becomes medium d	ense, silt content increases	l	4
STDL									Bottom of boreho Backfilled with au		
GENERAL BH / TP / WELL - GINT											

	Q SU	UAN BSUR	FACE Spo	08 N B okane	arker F Valley,	RD , WA 99027 9-892-9409	BORING NUMBER BH-244 PAGE 1 OF 1				
CL	IENT PAF	R Electi	rical Contra		c. 500	7-002-0400	PROJECT NAME Northern Pass				
	OJECT NU						PROJECT LOCATION Campton, NH				
	TE START				СОМ	IPLETED 6/21/16	GROUND ELEVATION NA HOLE SIZE 4 in				
DR	ILLING CO	NTRA	CTOR SW	Cole			LATITUDE 43.822518 LONGITUDE 71.663547				
ਜ਼ੂ DR	ILLING ME	THOD	Hollow St	em Au	iger		DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _140 lb Auto				
[LO	GGED BY	J. Me	lton		CHE	CKED BY S. Kearney					
NO S	TES drille	ed at st	ake location	<u>1</u>			$\underline{\qquad}$ AT TIME OF DRILLING <u>14.0ft</u>				
LOGS/CAMPTON, NH\NP DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION VEL WITH SILT (GM), trace asphalt, dark yellowish brown, moist, medium				
PIPROJECTSINORTHERN PASS TRENCH COMPLETED LOGSICAMPTON, NHINP CAMPTON, GR.	SP1	72	4-13-10 (23)	GM GM		-becomes light greenish gray, medium grained gravel, weakly cemented, without asphalt 7.0 STREAM TERRACE DEPOSITS: POORLY GRADED GRAVEL WITH SAND (GP), yellowish growist, medium dense, fine grained gravel, fine to medium grained sand, subrounded					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C./USERS\LGSCHWINDDESKTOP\PROJEC	SPT 2	89	8-10-9 (19)	_							
S LAB.GPJ - 10/3/10	SP1 3	100	7-14-17 (31)	GP		<u> </u>					
U OT?					_		Bottom of borehole at 15.5 ft. Backfilled with auger cuttings				
GENERAL BH / TP / WELL - GINT S											

			JAN BSURI	FACE Spo	kane	arker F Valley	, WA 9	99027		BORIN	IG NUMBER BH-245 PAGE 1 OF 1	
	CLIEN	IT PAR	Electr	ical Contra	•	e: 509	9-892-	9409	PROJECT NAME Nort	hern Pass		
		ECT NUM							PROJECT LOCATION			
		STARTE				СОМ	IPLET	ED <u>6/21/16</u>	GROUND ELEVATION	NA		
				TOR SW					LATITUDE 43.819742		LONGITUDE <u>-71.663455</u>	
				Hollow Ste							SPT HAMMER 140 lb Auto	
		_		ton		CHE	CKED	BY S. Kearney	GROUND WATER LEVE	L:		
	NOTE	S <u>drilled</u>	at sta	ake location	1							
	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION		
		SPT	72	10-8-7 (15)	SP		5.0	FILL: POORLY GRADED SAND WITH GRAVEL (SP), light brown, moist, medium dense, fine to coarse grained gravel, fine grained sand, subangular				
FOP\SW-GW.GPJ				(13)	SP		8.0	- ALLUVIUM: SANDY		1), dark yellowis	sh gray, moist, loose, fine grained h brown, moist, very loose, medium gular	
C:\USERS\LGSCHWIND\DESK1	_ 10 _	SPT 2	50	2-2-1 (3)			12.5					
3 LAB.GPJ - 10/4/16 12:05 -	 15	SPT 3	56	3-4-5 (9)	CL		15.5	ALLUVIUM: SILTY (CLAY (CL), light olive gray,	moist, stiff, ver	y fine grained, iron oxide staining	
SN Q.						<u> </u>	,]		Bottom of b	orehole at 15.5	ft.	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.									Backfilled w	rith auger cutting		

		JAN BSUR	FACE Spo	8 N B kane	arker R Valley, e: 509-	D WA 990 -892-940)27)9	BORING NUMBER BH-246 PAGE 1 OF 1			
CLII	ENT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass			
PRO	DJECT NUI	/IBER	16004					PROJECT LOCATION Campton, NH			
DAT	ΓE STARTE	D 8/	31/16		COME	PLETED	8/31/16	GROUND ELEVATION NA HOLE SIZE 6 in			
			CTOR SW				0,01,10	· · · · · · · · · · · · · · · · · · ·			
_1			Hollow St					DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _140 lb Auto			
S LOC						KED BY	S. Kearney				
NO1	TES										
DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION			
PAPAGOLECI SINOR HERN PASS INFINOR DESSI INFINOR DE LOGISICAMPTON, NHIND CAMPTON, GED IN ON THE CAMPTON, CAMPTON		18-26-45 (71)	GW				W), with sand, with silt, dark yellowish orange, dry, dense, fine grained, fine to vel, angular to subangular, iron oxide staining				
ID/DESKTOP/PROJECTS/	SM					7.5	ALLUVIUM: SILTY ifine grained, fine to	SAND WITH GRAVEL (SM), moderate yellowish brown, damp, medium dense, coarse grained gravel, subangular, iron oxide staining			
3/16 11:28 - C:\USERS\LGSCHWIN	10 SPT 100 9-8-7 (15) SM										
101 - 10% 10	15 SPT 3 83 4-10-9 (19) SM 16.5							with 0.25 inch layers of dark yellowish brown silty sand with trace clay Bottom of borehole at 16.5 ft.			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C:\USERS\LGSCHWIND\DESKTO								Backfilled with auger cuttings			

		Q Q L SUE	JAN SSUR	Spo	kane	arker F Valley, e: 509	, WA	99027 -9409	BORIN	IG NUMBER BH-247 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contra	•			-0400	PROJECT NAME Northern Pass	
	PROJ	ECT NUN	IBER	16004					PROJECT LOCATION Campton, NH	
	DATE	STARTE	D 6/3	21/16		СОМ	PLE	TED 6/21/16	GROUND ELEVATIONNA	HOLE SIZE 6 in
				CTOR SW						
GPJ	DRILL	ING MET	HOD	Hollow Ste	em Au	ıger			DRILLING EQUIPMENT Diedrich D50	
TON.	LOGG	ED BY _	J. Mel	ton		CHE	CKE	D BY S. Kearney	GROUND WATER LEVEL:	
CAMP	NOTE	S <u>drilled</u>	l at sta	ake location	1					
LOGS\CAMPTON, NH\NP	O DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
ETED					GM				/EL WITH SILT (GM), trace organics, loos	e, medium to coarse grained gravel,
OMPLI						Pa 7)	1.0_	very fine to fine grain -highly weathered grain	ranitic boulders/cobbles from 1 to 4.3 ft, ir	on oxide staining.
RTHERN PASS TRENCH CO					SM		4.3			
P\PROJECTS\NORTHERN PASS NH\NO	5	SPT 1	67	23-28-26 (54)	SM			STREAM TERRACE fine grained	E DEPOSITS: SILTY SAND (SM), yellowis	h brown, moist, dense, very fine to
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C:USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\CAMPTON, NH\NP CAMPTON.GR\		SPT 2	78	12-13-14 (27)	SM			-becomes medium o	dense, with medium grained, angular grave	el
S LAB.GPJ - 10/3	15	SPT 3	89	11-22-24 (46)	SM		15.5	-becomes dense, wi	ith medium to coarse grained, sub angular	
RAL BH / TP / WELL - GINT STD U.									Bottom of borehole at 15.5 Backfilled with auger cutting	
GENE										

	Q Q U SUE	JANTA BSURFACE	- Opc		/alley,	D WA 99027 892-9409	BOR	ING NUMBER BH-249 PAGE 1 OF 1
CLIE	NT PAR	Electrical C	Contra	ctors				
PRO.	JECT NUI	/IBER <u>160</u>	04				PROJECT LOCATION Campton, NI	1
DATE	E STARTE	D 5/24/16	6		COME	PLETED <u>5/24/16</u>	GROUND ELEVATION NA	HOLE SIZE 6 in
DRIL	LING CON	ITRACTOR	s sw	Cole			LATITUDE 43.810603	LONGITUDE71.668392
DRIL	LING MET	HOD Holl	ow St	em Au	ger		DRILLING EQUIPMENT Diedrich DS	SPT HAMMER 140 lb Auto
LOG	GED BY _	J. Melton			CHEC	S. Kearney		
NOTE	ES						\subseteq AT TIME OF DRILLING 11.5ft	
DEPTH (#)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
DRILL ON THE CANAL STATE OF THE	SPT 1	2-2-5 (7)	SP		6.0	grained	SAND (SP), yellowish brown to dark ye	
			SP- SM		9.0	moist, loose, fine grained	POSITS: POORLY GRADED SAND WITH	
100 100 1750 - 07	SPT 2	10-11-11 (22)			<u>∑</u>			wet medium dense fine grained
15 15 15	SPT 3	3-7-5 (12)	SM		15.5			
NEKAL BH / IP / WELL - GIN I SID L							Bottom of borehole at 15.5 Backfilled with auger cutting	

	(Q U SUE	JAN SSURI	FACE Spo	kane	arker F Valley, e: 509	, WA	99027 9409	BORI	NG NUMBER BH-250 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	
F	PROJ	ECT NUN	IBER	16004					PROJECT LOCATION Campton, NH	
	DATE	STARTE	D 5/2	23/16		СОМ	PLET	ED _5/23/16	GROUND ELEVATIONNA	HOLE SIZE 6 in
				TOR SW	Cole				LATITUDE 43.808335	
<u>e</u> [ORILL	ING MET	HOD	Hollow Ste	em Au	iger			DRILLING EQUIPMENT _ Diedrich D50	SPT HAMMER _140 lb Auto
<u>ا</u> اِق	.ogg	ED BY _	J. Mel	ton		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:	
CAMPTON	NOTE	S drilled	l at sta	ake location	1					
LOGS\CAMPTON, NH\NP	o UEPIH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	
P\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\CAMPTON, NH\NP	5	GB 1	100	2-1-3 (4)	SP		8.5		Y GRADED SAND WITH GRAVEL (SP d gravel, fine grained sand, subangular	, trace organics, brown, moist, very
O/DESKTOP\P	10				SM			TILL: SILTY SAND \ dense, coarse to ver	WITH GRAVEL (SM), yellowish brown to y coarse grained gravel, fine grained sa	dark yellowish brown, moist, medium nd
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 11:28 - C:USERS\LGSCHWIND\DESKTO	-	SPT 3	100	15-21-39 (60)				TILL: BOULDERS, ρ very weak, foliated	ale blue, iron oxide staining, highly to co	mpletely weathered, fine grained,
Ŋ.		SPT 4		50/3"		$\mathcal{N}_{\mathcal{N}}$	15.2	-boulders from 15 to	15.2 ft, with zones of oxidation and clay	/
GENERAL BH / TP / WELL - GINT STD US		. 4							Bottom of borehole at 15. Backfilled with auger cutti	

		SUE	JAN SURI	FACE Spo	kane ephon	arker R Valley, e: 509	WA	. 99027 -9409			IG NUMBER BH-251 PAGE 1 OF 1
				ical Contra	ctors				PROJECT NAME North		
	PROJI	ECT NUN	IBER	16004					PROJECT LOCATION _C	Campton, NH	
	DATE	STARTE	D _5/2	23/16		COM	PLE	TED <u>5/23/16</u>	GROUND ELEVATION _	NA	HOLE SIZE 6 in
				CTOR SW					LATITUDE 43.806027		
N.GPJ				Hollow St							SPT HAMMER 140 lb Auto
/PTO						CHE	CKE	D BY S. Kearney	<u> </u>		
P CAN	NOTE		at sta	ake location	1				\bigvee AT TIME OF DRILL	.ING <u>3.0π</u>	
LOGS/CAMPTON, NH/N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
4 COMPLETED					SP				ADED SAND WITH GRAVE se grained gravel, fine grain		rganics, dark brown, moist, loose, ar
ENCH		M GB					2.0	STREAM TERRACI	E DEPOSITS: POORLY GF	RADED SAND \	WITH GRAVEL (SP), light brown,
IERN PASS TF					SP			moist, medium dens $\underline{\nabla}$	se, fine to medium grained,	fine grained gra	avel, subrounded
NH\NORTH	5	SPT	50	1-3-22							
SS NF		2		(25)							
OJECTS\NORTHERN PA	 										
)P\PR							<u>8.5</u>	STREAM TERRACI	E DEPOSITS: SANDY SILT	(ML), yellowisl	n brown, wet, hard, very fine grained
SKTC	- 7	V			ML					· // /	
ND/DE	10	SPT 3	83	22-19-17 (36)							
 C:\USERS\LGSCHWIND\DESKTO 							<u>10.5</u>	STREAM TERRACE	E DEPOSITS: BOULDERS, weak granite with zones of	, grayish white a argillic alteratio	and light brown, highly weathered, n
J - 10/3/16 11:28		X SPT	100	50/4"				-becomes complete	ly to highly weathered		
B.GPJ	15	4					15.0				
ENERAL BH / TP / WELL - GINT STD US LA										orehole at 15.0 ith auger cutting	

	Q	sù	UAN BSUR	FACE 430 Spo	8 N B kane	ubsurf arker f Valley e: 509	RD , WA	. 99027 -9409	BORIN	IG NUMBER BH-252 PAGE 1 OF 1
CL	JENT	PAF	R Electi	rical Contra	ctors				PROJECT NAME Northern Pass	
PR	ROJE	CT NU	MBER	16004					PROJECT LOCATION Plymouth, NH	
DA	ATE S	TART	ED _5/	23/16		CON	IPLE	TED _5/23/16	GROUND ELEVATION	HOLE SIZE 4 in
DR	RILLII	NG CC	NTRA	CTOR SW	Cole				LATITUDE 43.80395122	LONGITUDE71.67335336
DR	RILLII	NG ME	THOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT _Diedrich D50	SPT HAMMER _140 lb Auto
LO	GGE	D BY	J. Me	lton		CHE	CKE	D BY	GROUND WATER LEVEL:	
NC	OTES								$\overline{2}$ at time of drilling <u>10.0ft</u>	
ОЕРТН	(#)	- SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		I FILL BOODLY CDA	MATERIAL DESCRIPTION	
	- -q1	g GB			SP				DED SAND WITH GRAVEL (SP), trace on e grained gravel, fine grained sand, angul	
ASS.GF		SPT	-	10-42-38	<u></u>		4.5	-loose, moist		
OJECTS/16004/16004 NORTHERN PASS.GPJ	5	2	100	(80)	-			grained, massive gra	ght brown, highly to moderately weathered anitic boulder	, very weak, medium to coarse
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/21/16 12:11 - 0:\DESIGN DATABASE\GINT\PROJECTS\1600416	0	SP7	100	12-20-22 (42)				-becomes extremely ∑	weak, completely to highly weathered gra	nite, argillic alteration
STD US LAB.GPJ - 10/21/16 12:11	5	SP1	100	13-27-42 (69)	SM		14.0	Silty SAND WITH GI gravel, fine grained s	RAVEL (SM), reddish brown, wet, very de sand, rounded, granitic gravels, wet Bottom of Borehole at 15.5 f	
GENERAL BH / TP / WELL - GINT										

	S	Q Q Q SUE	JAN BSURI	FACE Spo	kane	arker F Valley	, WA	. 99027 2-9409		BORIN	IG NUMBER BH-254 PAGE 1 OF 1
	CLIEN	IT PAR	Electr		•				PROJECT NAME North	ern Pass	
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION _F	Plymouth, NH	
	DATE	STARTE	D 6/2	21/16		COM	IPLE	TED _6/21/16	GROUND ELEVATION	NA	HOLE SIZE 4 in
				TOR SW					_		
											SPT HAMMER 140 lb Auto
	LOGG	ED BY	J. Mel	ton		CHE	CKEI	D BY S. Kearney	GROUND WATER LEVEL	L:	
	NOTE	S <u>drilled</u>	d at sta	ake location	1				$ar{egin{array}{c} ar{eta}}$ at time of drill	ING <u>4.5ft</u>	
	O DEPTH	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
					GM		1.5	FILL: SANDY GRA\ gravel	/EL WITH SILT (GM), trace	e organics, dry,	loose, medium to coarse grained
					GP			medium to coarse g	LY GRADED GRAVEL WIT rained gravel, fine grained s	H SAND (GP), sand, subangul	yellowish brown, wet, loose, ar
-GW.GPJ	5	SPT 1	44	6-6-6 (12)					NE. SILTV CLAV (CL.) light	t aliva grav voj	to modium atiff law placticity fine
IND\DESKTOP\SW		SPT 2	39	2-3-4 (7)	CL			grained sand	NE: SILTY CLAY (CL), light	t olive gray, we	t, medium stiff, low plasticity, fine
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/4/16 12:05 - C:USERS\LGSCHWIND\DESKTOP\SW-GW.GP.		SPT	67	3-3-3	CL			-zones of oxidation	throughout		
; LAB.	15	3	"	(6)			15.5				
' / WELL - GINT STD US						***************************************	<u>, 10.0</u>		Bottom of bo Backfilled wi	orehole at 15.5 ith auger cutting	ft. gs
GENERAL BH / TF											

	(SUE	JAN BSUR	FACE Spc	kane	arker F Valley e: 509	, WA	99027 9409	BORIN	IG NUMBER BH-255 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass	
	PROJ	ECT NUM	IBER	16004					PROJECT LOCATION Plymouth, NH	
				20/16 CTOR SW	Cole			ED 6/20/16	GROUND ELEVATION NA LATITUDE 43.794794	
				Hollow St					DRILLING EQUIPMENT Diedrich D50	
L							CKED	BY S. Kearney		OF I FIAMIMEN 140 ID AUG
YM.				ake location		0	J. (o. Realiney		
NPPL										
LOGS/PLYMOUTH, NH	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWIND\DESKTOP\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\PLYMOUTH, NH\NPPLYM.GP.	5 10 15	SPT 1	72	17-21-29 (50)	GM GM		7.0	STREAM TERRACE brown, moist, very d	EDEPOSITS: SILTY GRAVEL WITH SAN ense, fine to coarse grained gravel, fine to be seen to coarse grained gravel ar medium grained gravels Bottom of borehole at 15.0 Backfilled with auger cuttin	ID (GM), trace cobbles, yellowish medium grained sand, subrounded
GENE										

		UAN BSUR	- Spc	kane	arker F Valley, e: 509	, WA	99027 -9409	BORII	NG NUMBER BH-256 PAGE 1 OF 1
CLI	ENT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass	
PRO	DJECT NU	MBER	16004					PROJECT LOCATION Plymouth, NH	
DA	TE STARTI	ED _6/	20/16				FED 6/20/16	GROUND ELEVATION NA	· · · · · · · · · · · · · · · · · · ·
1			CTOR SW						
⊸I			Hollow St						SPT HAMMER 140 lb Auto
ნ LO (≊	-	J. Me	iton		CHE	CKEL	S. Kearney		
NO.	TES							$\sqrt{2}$ at time of drilling <u>9.0ft</u>	
DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	
PUROJECT SNOKTHEKN PASS THEN PASS TRENCH COMPLETED LOGS/PLYMOUTH, INHUMPPLYMIGH, O DEPTH C DEPTH	-					3.3	coarse grained grav	/EL WITH SILT, with silt, trace organics, gel, fine grained sand, angular	
포 로				SP-			ALLUVIUM: POORL moist, very loose, fir	.Y GRADED SAND WITH SILT (SP-SM), ne grained	trace organics, yellowish brown,
				SM			moist, very loose, in	ic grained	
5	SPT	89	1-2-3 (5)						
CLISINORI HERN PASS I	-								
ND/DESKTOP/PROJE	SPT 2	72	2-1-3 (4)	SP- SM			∑ -without organics, w	et	
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWIND\DESKTO 10/3/16 17:11 - C:\USERS\LGSCHWIND\USER\LGSCHWIND\DESKTO 10/3/16 17:11 - C:\USERS\LGSCHWIND\USER\LGSCHWIND\USer\LGSCHWIND\USER\LGSCHWIND\USer\USer\USer\USer\USer\USer\User\User\User\User\User\User\User\Us	-					13.5			
10/3/				GM				EL WITH SILT (GM), yellowish brown, w fine to fine grained sand, subangular	et, very dense, medium to coarse
- Fa	SPT		10-17-		197		g g, voly	2 granier dans, dabanganar	
^{တ္} 15	3	59	50/5"		S.N.				
L - GINT STD US L					<u>h M</u>	15.5	L	Bottom of borehole at 15.5 Backfilled with auger cuttir	
GENERAL BH / IP / WEL									

	Q Q Q I	JAN BSUR	Opt	8 N B okane	arker F Valley, e: 509	WA	99027 9409	BORING NUI	MBER BH-257 PAGE 1 OF 1				
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass					
PRO	JECT NUI	/IBER	16004					PROJECT LOCATION Plymouth, NH					
DAT	E STARTE	D 5/2	21/16		СОМ	PLET	ED _5/21/16	GROUND ELEVATION NA HOLE SIZ	E 6 in				
			TOR SW					·	DE 71.669202				
DRIL	LING MET	HOD	Hollow St	em Au	iger			DRILLING EQUIPMENT _Diedrich D50 SPT HAMI					
	GED BY	J. Mel	ton		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:					
NOT S	ES drilled	d at sta	ake location	1									
LOGS/PLYMOUTH, NH/NF O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION					
SS TRENCH COMPLETED	- My GB			SP		3.0		ADED SAND WITH GRAVEL (SP), trace organics, broned gravel, fine grained sand, subangular, lensed, silt l					
TEKN PA				SM			ALLUVIUM: SILTY S	SAND (SM), dark yellowish orange, moist, very loose,	fine grained				
SS NAVIOR SS	SPT 2	83	2-2-2 (4)										
MINIODESKI OPICIFKOJECI SNOKI HEKN PASS I HENCH COMPLETED LOGSSPLYMOUTH, INHINPPLYM O DEPTH (f)	SPT 3	83	2-1-3 (4)	SM		10.3							
GENERAL BH / IP / WELL - GINI SID US LAB.GPU - 10/3/10 17:11 - C:USERS/LGSCHWIND/DESK IO	- -		0.11.10	SP			ALLUVIUM: POORL	Y GRADED SAND (SP), grayish orange, moist, very	oose, fine grained				
15	SPT 4	89	9-11-10 (21)			15.3	-becomes loose						
				\SM	1.1	15.5	ALLUVIUM: SILTY S	SAND (SM), yellowish gray, moist, medium dense, fine	e grained				
SID					T			Bottom of borehole at 15.5 ft. Backfilled with auger cuttings					
GINT													
NERAL BH / TP / WELL -													
병 													

	SUE	JAN BSURI	FACE Spo	kane	arker R Valley, e: 509	WA 9		BORIN	IG NUMBER BH-259 PAGE 1 OF 1
1			ical Contra	ctors					
PRO	JECT NUN	/IBER	16004					PROJECT LOCATION Easton, NH	
DATE	STARTE	D 6/2	20/16		COM	PLET	FED 6/20/16	GROUND ELEVATION NA	HOLE SIZE 6 in
1			CTOR SW						
			Hollow Ste						SPT HAMMER 140 lb Auto
LOGO	_	J. Mel	ton		CHEC	CKED	S. Kearney	GROUND WATER LEVEL: \overline{Y} AT TIME OF DRILLING 13.5ft	
NOTE	=ວ ⊤							AT TIME OF DRILLING 13.5it	
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION	
NOTE (#) 0 DEPTH (#) 0 (#) 10	GB 1	83	2-3-4 (7)	SM		5.0		WITH GRAVEL (SM), trace organics, trace ned, coarse grained gravel, subangular	e roots, grayish brown, moist, loose,
COECTOWORTHENN FACOTA			(1)	ML	X Fores	8.0	micaceous	Y SILT (ML), dark yellowish orange, moist, SAND (SM), grayish brown, moist, dense,	
10	SPT 2	100	9-16-39 (55)	SM			ALLOVIOM: GILTT	o, the (only, grayion blown, molec, denice,	inte grained, war granido oobbies
10/3/ 10 23.01 - C. GOEROLLGGGTWII						10.5	5/6), medium to coa	o moderately weathered, very pale orange arse grained, medium weak, massive, gran	itic boulder
15	SPT 3	100	19-50-31 (81)			15.5	-becomes complete	ely to highly weathered, extremely to very w	
			_					Bottom of borehole at 15.5 Backfilled with auger cutting	
ENEKAL BH / IF / WELL - GIN									

		JAN BSUR	Opt	kane	arker I Valley e: 509	, WA	.99027 -9409	BORING NUMBER BH-260 PAGE 1 OF 1 PROJECT NAME Northern Pass				
CLIE	ENT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pa	ass			
PRC	DJECT NUM	IBER	16004					PROJECT LOCATION Plymo	uth, NH			
	E STARTE						TED <u>5/21/16</u>					
1	LLING CON							LATITUDE 43.783437				
_ I	LLING MET							DRILLING EQUIPMENT Died	rich D50	SPT HAMMER 140 lb Auto		
	GGED BY _	J. Mel	ton		CHE	CKE	D BY S. Kearney					
∑ NOT	res <u>drilled</u>	d at sta	ake location	<u>1</u>				$ abla$ at time of drilling $_{_{\parallel}}$	8.5ft			
LOGS/PLYMOUTH, NH/NF DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESC				
PUPROJECT SNOKTHEKN PASS NHNOKTHEKN PASS TRENCH COMPLETED LOGSSPLYMOUTH, NHNDPPLYM O DEPTH (#)	- MM GB			SP				DED SAND WITH GRAVEL (SF el, fine to medium grained sand,		ay, moist, very loose, medium to ar, lensed, silt lenses		
ģ ,	SPT	100	2-1-2			4.5	GLACIOLACUSTRI	NE: SANDY SILT (ML) light olive	e brown to	dark vellow wet soft very fine to		
<u>≨</u> 5	_ 2	100	(3)	ML				CIOLACUSTRINE: SANDY SILT (ML), light olive brown to dark yellow, wet, soft, very fine to rained, iron oxide staining				
LGSCHWIND)DESKTOPVPROJECTS/NORTHERN PA	SPT 3	100	3-4-6 (10)	ML			∑ -'becomes stiff, pale	yellowish brown to light greenisl	h brown, ir	ncrease in oxidation zones		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 103/16 17:11 - C: USERS/LGSCHWIND\DESKTO	SPT 4	100	50-50/1"	SM		13.8 14.8 15.0			le at 15.0 f			
GENERAL BI												

	G ≥	SUI	JAN BSURI	FACE Spo	08 N B okane	arker I Valley e: 509	, WA	√99027 2-9409	BORIN	IG NUMBER BH-261 PAGE 1 OF 1
c	LIEN	T PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass	
P	ROJ	ECT NUI	MBER	16004					PROJECT LOCATION Plymouth, NH	
D.	ATE	STARTE	D _5/2	21/16		COM	IPLE	TED _5/21/16	GROUND ELEVATIONNA	HOLE SIZE 6 in
D	RILL	ING CO	NTRAC	TOR SW	Cole				LATITUDE 43.781941	LONGITUDE71.674072
D	RILL	ING MET	THOD	Hollow St	em Au	ıger			DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto
뎱	OGG	ED BY	J. Mel	ton		CHE	CKE	D BY S. Kearney	GROUND WATER LEVEL:	
∑ N	OTE	s							$\overline{2}$ at time of drilling $8.0 \mathrm{ft}$	
DEPTH, NHMP	0 (#)	- SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC			MATERIAL DESCRIPTION	
ASS TRENCH COMPLETED	_	m GB 1			SM		3.0	fine to medium grair	(SM), and asphalt, trace organics, brown, in the sand, angular, trace organics	
INORTHERN PA	5	SPT 2	100	2-1-1 (2)	SP- SM			ALLUVIUM: POORL moist, very loose, fir	Y GRADED SAND WITH SILT (SP-SM), the to medium grained	race organics, yellowish brown,
SKLOPNPROJECTSNOKTHERN PASS NAMORTHERN PASS TRENCH COMPLETED LOGSPLYMOUTH, NAMPPLYM, GP.	-				SP-			∑ -becomes dark yello	wish brown, higher percentage of organic	s, wet
GENERAL BH / IP / WELL - GINI SI D US LAB.GFU - 10/3/10 17:11 - C.:USERS/LGSCHWIND/DESK IU	10 - -	SPT 3	100	1-1-1 (2)	SM				16mm 44 44 5 ft	
GPJ-	1 =	SPT	89	3-4-4	SP- SM		14.5	-lens of coarse sand	SAND (SM), gray to grayish brown, wet, lo	ose, fine grained
<u> </u>	15_	4		(8)	SM	1.1	15.5			· ·
/ WELL - GINT STD US					<u>SIVI</u>) '· 1 · 1.'	, 13.3		Bottom of borehole at 15.5 Backfilled with auger cutting	
GENERAL BH / TP										

		Q Q U SUE	JAN BSURI	FACE Spo	kane	arker F Valley e: 509	, WA	99027 -9409	BORIN	NG NUMBER BH-262 PAGE 1 OF 1				
	CLIEN	IT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass					
	PROJ	ECT NUN	/IBER	16004					PROJECT LOCATION Plymouth, NH					
				21/16				TED <u>5/21/16</u>	GROUND ELEVATION NA					
				TOR SW					LATITUDE 43.780394					
[ج				Hollow St				D DV 0 1/2	DRILLING EQUIPMENT Diedrich D50	SPI HAMMER 140 ID AUTO				
<u>≅</u>						CHE	CKE	D BY S. Kearney						
	NOTE	S <u>drilled</u>	at sta	ake location	1 -	1			$\sqrt{2}$ at time of drilling $9.0 \mathrm{ft}$					
LOGS/PLYMOUTH, NH/N	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION					
P\PROJECTS\NORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\PLYMOUTH, NH\NPPLYM.GP.		M GB			SP		3.5		ADED SAND WITH GRAVEL (SP), trace of grained gravel, medium grained sand, su					
H N					SM			ALLUVIUM: SILTY	SAND (SM), grayish brown, moist, loose,	fine grained, stratified				
N PASS NH\NORTH	5	SPT 2	100	4-4-5 (9)										
S/LGSCHWIND\DESKTOP\PROJECTS\NORTHERN	10	SPT 3	100	4-4-5 (9)	SM			☑ -increase in silt con	tent, wet					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWIND\DESKTO	15	SPT 4	100	3-4-6 (10)	SM		15.5	-becomes medium (f				
ENERAL BH / TP / WELL - GINT STD L		Bottom of borehole at 15.5 ft. Backfilled with auger cuttings												

		JAN BSUR	Opt	kane	arker F Valley, e: 509	, WA	99027 9409	BORING NUMBER BH-264 PAGE 1 OF 1					
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass					
PRO	JECT NUN	/IBER	16004					PROJECT LOCATION Plymouth, NH					
			20/16 CTOR SW				ED 5/20/16	GROUND ELEVATION NA HOLE SIZE 6 in LATITUDE 43.77653 LONGITUDE -71.681884					
1			Hollow St					DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto					
_1						CKED	BY S. Kearney						
ĕ NOT			ake location										
DEPTH (#)	9. J	%	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION					
LOGS/PLYM O DEF	SAMPL	RECOVERY	BL(COU (N VA	U.S.	GRA								
(HEKN PASS) IKENON COMPLETED	- GB			SP				NDED SAND WITH GRAVEL (SP), yellowish brown, wet, loose, medium ium to coarse grained sand, subangular					
PUPROJECT SNOKTHEKN PASS NAMOKTHEKN PASS TRENCH COMPLETED LOGSIPLYMOUTH, INHINPPLYMISE, O DEPTH (#)	SPT 2	83	1-2-5 (7)	SP		4.5	ALLUVIUM: SILTY S	SAND (SM), grayish brown, moist, loose, fine to medium grained					
10 1711 - C.(USEKS)LGSCHWIND/DESK1 OF	SPT 3	100	5-7-8 (15)	SM			-becomes medium o	ense, fine grained					
S LAB. GPJ - 10/3/	SPT 4	100	5-4-5 (9)	SM		15.5	-becomes loose, mid						
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWIND\DESKTO 10/3/16 17:11 - C:\	Bottom of borehole at 15.5 ft. Backfilled with auger cuttings												

		UAN BSUR	Opt	kane '	arker F Valley, e: 509	WA			BORIN	IG NUMBER BH-265 PAGE 1 OF 1
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME North	ern Pass	
PRO.	JECT NUI	MBER	16004					PROJECT LOCATION _	Plymouth, NH	
DATE	E STARTE	E D 5/2	20/16		СОМ	PLET	ED 5/20/16	GROUND ELEVATION _	NA	HOLE SIZE 6 in
			CTOR SW							
			Hollow St							SPT HAMMER 140 lb Auto
E LOG	GED BY	J. Mel	lton		CHE	CKED	BY S. Kearney			
NOTI	ES drille	d at sta	ake location	1						
DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTION	I
	SAM	REC	mos)	GF					
0	"	\vdash			(A) (A) (A) (A)		FILL OILTY CAND	(SM) trace gravel trace or	ganice brown	moist, loose, fine to medium
HEKN PASS TRICH COMPLETE	- GB 1			SM			grained, fine grained	d gravel	games, brown, i	moist, loose, line to medium
Z S	SPT		3-1-2	SM		4.5	ODCANIC DEDOCI	TELODOANIO SILT (OL)	dark brown ma	int and vary fine grained organia
<u>5</u> 5	2	83	(3)	OL	==		silt	TS: ORGANIC SILT (OL), (dark brown, mo	ist, soft, very fine grained, organic
GENERAL BH / IP / WELL - GIN I SID US LAB.GFU - 10/3/10 1/711 - C: USERS/LGS/CHWIND/DESK IOP/PROJECT SINOKI HERN PASS I RENCH COMPLETED LOGS/PLYMOUTH, NHWIPPLYMIGED O DEPTH (ft) O (ft)	-					9.0				
10	SPT	89	2-2-2	SM			coarse grained grav	el, fine to medium grained	sand, subangul	h orange, moist, loose, medium to ar
10.10 17.11 - C.USEKS/LGSCHWINE	3		(4)							
701 - 102 - 105 -	SPT 4	33	5-7-7 (14)	SM		15.5	-becomes medium o	dense, grayish brown, fine		
									orehole at 15.5 ith auger cutting	
GENERAL BH / TP / WEL										

	SU	JAN BSURI	FACE Spo	kane	arker l Valley e: 509	, WA	99027 9409		BORI	NG NUMBER BH-267 PAGE 1 OF 1				
CLIE	NT PAR	Electr	ical Contra	•				PROJECT NAME North	ern Pass					
PRO.	JECT NUI	MBER	16004					PROJECT LOCATION _F	Plymouth, NH	<u> </u>				
DATE	E STARTE	E D 9/2	21/16		COM	IPLE1	TED _9/21/16	GROUND ELEVATION	NA	HOLE SIZE 4 in				
			TOR SW				<u></u>			_				
1							ary							
_ I			er				BY S. Kearney							
NOTI	ES							-						
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL	DESCRIPTIO	DN				
i ED						0.3	FILL: ASPHALT	ADED CAND WITH ODAY						
IEKN PASS I KENCH COMPLE	-			SP		4.0	FILL: POORLY GRA	ADED SAND WITH GRAVE parse grained gravel, fine to	EL AND SILT coarse grain	(SP), moderate brown to light brown, led sand, subangular to subrounded				
Ž				SP			ALLUVIUM: POORL	Y GRADED SAND WITH S	SILT (SP), tra	nce gravel, moderate brown to e grained gravel, fine to coarse grained				
5				-			sand, subangular to		inic to coarse	s granica graver, fine to coarse granica				
PASS	SPT	89	4-5-6			sand, subangular to subrounded								
#Y-	1		(11)											
	SPT 2	67	17-24- 50/3"	SP			-becomes very dens	se, increase in silt and grave	el content					
KS/IC						11.3	BEDROCK: Fresh (I) to slightly weathered (II),	grayish black	(N2) and very light gray (N8), fine to				
GENERAL BH 7 IP 7 WELL - GIN I SID US LAB.GFG - COUSERS/LGS/CHWIND/DESK TOP/PROJECT SNOKTHERN PASS TRENCH COMPLETED LOGS/PLYMOUTH, INTURPRIVATED ON THE COMPLETED COMP	- - RC 1	90 (54)				16.5		ng (R4), GNEISS, foliated,	with zones of	f garnet, pyroxene mineralization, and				
									orehole at 16.					
GENERAL BH / TP / WELL	Backfilled with auger cuttings													

	Q Q L SUE	JAN BSUR	FACE Spo	kane ephon	arker F Valley, e: 509	WA: -892-	9409	BORING NUMBER BH-268 PAGE 1 OF 1					
1			ical Contra										
PRO	JECT NUN	IBER	16004					PROJECT LOCATION Plymouth, NH					
DATE	STARTE	D 9/	14/16		СОМ	PLET	ED 9/14/16	GROUND ELEVATION NA HOLE SIZE 4 in					
DRIL	LING CON	ITRAC	TOR SW	Cole				LATITUDE 43.75948 LONGITUDE71.68751					
DRIL	LING MET	HOD	Solid Ster	n Aug	er			DRILLING EQUIPMENT Acker SPT HAMMER 140 lb Auto					
LOG	GED BY _	S. Tig	er		CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:					
NOTE	ES							-					
DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION					
킈						0.3	FILL: ASPHALT	ADED CAND WITH CRAVEL (CD) raddish brown / madarata brown (EVD 4/4)					
PUPROJECT SMOKTHERN PASS NHWORTHERN PASS I RENCH COMPLETED LOGSSPLYMOUTH, NHW	-			SP		4.0	moist, loose, fine gra	ADED SAND WITH GRAVEL (SP), reddish brown / moderate brown (5YR 4/4), rained gravel, fine to medium grained sand, subangular to subrounded					
130N/HQ 130N/HQ 150N/H				SP			moist, medium dens	LY GRADED SAND WITH GRAVEL (SP), dark grayish brown (10YR 4/2), se, fine to coarse grained gravel, fine to medium grained sand, subangular to edded with medium to coarse grained sand					
I SINOKI HEKN PASS	SPT 1	58	8-14-13 (27)										
	SPT 2	54	10-9-7 (16)	SP									
48.GPJ - 10/3/16 17:11 - 0													
	SPT 3	50	11-37-37 (74)	SP		16.5	-becomes very dens	se, increase in silt content, with coarse, angular to subangular gravel					
								Bottom of borehole at 16.5 ft.					
GENERAL BH / IP / WELL - GINT SID US LAB.GPJ - 10/3/16 17:11 - C. USERSILGSCHWINDDESK TO	Backfilled with auger cuttings												

- 1		SUE		FACE Spo Spo Tele ical Contra	ephon	Valle	y, WA	. 99027 9409	PROJECT NAME Northern Pass PROJECT LOCATION Plymouth, NH				
	ΔTF	STARTE	ח :9/-	14/16		COI	MPI F	TED 9/14/16	GROUND ELEVATION NA	HOI F SIZE 4 in			
- 1				CTOR SW				<u>-6/11/10</u>					
- 1				Solid Ster									
G. L	.OGG	ED BY _	S. Tig	er		CHE	CKE	D BY S. Kearney	GROUND WATER LEVEL:				
N I	IOTE	s							-				
PIPROJECTSINORTHERN PASS TRENCH COMPLETED LOGSIPLYMOUTH, NHINPPLYM.GR.	O (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC I OG)		MATERIAL DESCRIPTION	N			
ETED							0.5	FILL: ASPHALT	RADED SILTY SAND WITH GRAVEL (SP), reddish brown (5YR 4/4), moist,				
SS TRENCH COMPL	-				SP		3.0		d gravel, fine to medium grained sand, subangular to subrounded				
MHINORTHERN PA	- 5				ML			GLACIOLACUSTRI	NE: SILT (ML), gray (5Y 6/1), moist, medi	um stiff, low plasticity			
TS/NORTHERN PASS I	_	SPT 1	54	3-4-4 (8)									
VIND\DESKTOP\PROJEC	10				-			-with fine grained sa	and, and trace, fine grained gravel, becom	es stiff			
16 17:11 - C:\USERS\LGSCHV	-	SPT 2	58	6-6-10 (16)	ML								
SINT STD US LAB.GPJ - 10/3/	- 15 -	SPT 3	63	3-6-5 (11)	ML		16.5		ed oxidation staining Bottom of borehole at 16.5	ft			
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:USERS/LGSCHWIND/DESKTO									Backfilled with auger cuttin				

	Englise	sering + Ca	Spo Instruction Tele	okane ephon	arker R Valley, e: 509	WA -892-	9409	PROJECT NAME Northern Pass			
			rical Contra	ctors							
PRO	JECT NUI	NBEK	16004					PROJECT LOCATION Plymouth, NH			
DATE	E STARTE	D _9/	1/16		COM	PLET	ED 9/1/16	GROUND ELEVATION NA	HOLE SIZE 2.25 in		
DRIL	LING CO	NTRAC	CTOR SW	Cole				LATITUDE 43.754132	LONGITUDE 71.687767		
	LING MET	THOD	Solid Ster	m Aug	er			DRILLING EQUIPMENT Acker	SPT HAMMER 140 lb Auto		
E LOG	GED BY _	T. Ve	rnon		CHEC	CKED	BY S. Kearney	GROUND WATER LEVEL:			
NOTI	ES							-			
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTIO	N		
					****	0.5	FILL: ASPHALT				
돌 - ·	-				$\times\!\!\times\!\!\times$	1.0	FILL: CONCRETE	ADED SAND WITH SILT (SM), and grave	d gravish rod moist dones fine to		
TAN	_			SM			medium grained, co	parse grained gravel, angular	i, grayish red, moist, dense, line to		
5	SPT 1	67	8-17-14 (31)	SM		6.0					
				sc		6.2		NE: CLAYEY SAND (SC), moderate olive	brown, moist, stiff, low plasticity, fine		
SK TOPYTKOJEC I SKNOK	-			-			grained				
10 10	SPT 2	61	4-6-8 (14)								
KS/LC											
18.10.5. T. 1.10.10.5.	-			CL		<u>12.0</u>	GLACIOLACUSTRI medium plasticity	NE: LEAN CLAY (CL), moderate olive bro	own, moist to wet, medium dense,		
01 - CAB: CAB: CAB: CAB: CAB: CAB: CAB: CAB:	SPT 3	67	3-6-8 (14)			15.5					
								Bottom of borehole at 15.5 Backfilled with auger cuttir			
GENERAL BH / TP / WELL - GINT STD US LAB.GFJ - 10/3/16 17:11 - C. USERS/LGSCHWINIDDESK TOP/PROJECT SINORTHERN PASS TRENCH COMPLETED LOGS/PLYMOUTH, INHMPPLYM.GFJ 10 O	_===										

	G ≥		JAN BSURI		kane	arker F Valley, e: 509	RD , WA 99027 9-892-9409	BORING NUMBER BH-271 PAGE 1 OF 1
C	LIEN	T PAR	Electr	ical Contra	ctors			PROJECT NAME Northern Pass
PI	ROJ	ECT NUN	/IBER	16004				PROJECT LOCATION Plymouth, NH
				20/16 CTOR SW			IPLETED <u>5/20/16</u>	
- 1								
⊸ Ι								GROUND WATER LEVEL:
Ž N	OTE	_						
LOGS/PLYMOUTH, NH/NPP	(#) O	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION
PLYROJECT SNOKTHEKN PASS NHNOKTHEKN PASS TRENCH COMPLETED LOGSSPLYMOUTH, NHNDPLYM GR.	1 1	GB 1			GP		moist, loose, fine	GRADED GRAVEL WITH SAND (GP), trace boulders, trace organics, brown, grained gravel, fine to medium grained sand, angular
HERN PASS NHMOKIH	5	SPT 2	33	4-16-5 (21)	GP		-becomes mediu	m dense
HWIND\DESK I OP\PROJECTS\NORTH	- - 10	SPT 3	100	28-18-14 (32)	ML		9.0 GLACIOLACUST	TRINE: SANDY SILT (ML), pale green and dark yellow, moist, dense, stratified, or noted, iron oxide staining
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C: USERS/LGSCHWIND\DESKTO	- - - 15	SPT 4	100	4-1-2 (3)	ML			drocarbon odor noted, 5 inch lens of dry sand, moist
						Ш	15.5	Bottom of borehole at 15.5 ft.
ENERAL BH / TP / WELL - GINT STD								Backfilled with auger cuttings

	C	SÚI	JAN BSURI	FACE	Spok	ane \	rker RD /alley, WA 99027 : 509-892-9409	BORING NUMBER BH-272 PAGE 1 OF 1				
	CLIEN	T PAR					:. 509-692-9409	PROJECT NAME Northern Pass				
- 1		ECT NUM						PROJECT LOCATION Plymouth, NH				
	DATE	STARTE	D _5/	19/16			COMPLETED <u>5/19/16</u>	GROUND ELEVATION NA HOLE SIZE 6 in				
- 1							oring/NV Ciza/Carica 9	LATITUDE 43.74935 LONGITUDE -71.68499				
_ I							oring/NX Size/Series 8					
₹ Ø.	NOTES	_	S. Nea	amey			CHECKED BY S. Kearney	GROUND WATER LEVEL:				
	NOTE			1				-				
LOGS/PLYMOUTH, NHV	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION				
CH COMPLETED I				SM		2.0	ALLUVIUM: SILTY SAND WITI to medium grained sand, subro	H GRAVEL (SM), light brown, moist, loose, fine to coarse grained gravel, fine bunded				
ASS TRENC						2.0	BEDROCK: Fresh (I), medium foliation, unfractured	dark gray (N4), fine to medium grained, very strong (R5), SCHIST, weak				
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIPLYMOUTH, NHINPPLYM.GP.	5 _	RC 1	94 (94)			7.5	-5 inch felsic dike	and dark greenish gray (5G 4/1), coarse grained, very strong (R5),				
LGSCHWIND\DESKTOP\PROJE	10_	RC 2	100 (100)			11 4	GRANITE, slightly fractured -silicified zone from 11 to 11.4					
3 21:31 - C:\USERS	· -					<u> </u>		dark gray (N4), fine to medium grained, very strong (R5), SCHIST, weak				
US LAB.GPJ - 10/3/16	15	RC 3	83 (83)			40.0						
마		· •		<u> </u>	<u> </u>	16.0		Bottom of borehole at 16.0 ft.				
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 21:31 - C:USERS\LGSCHWIND\DESKTO								Backfilled with auger cuttings				

		JAN BSUR	Opc	8 N B	Valley	y, WA	A 99027 2-9409	BORING NUMBER BH-273 PAGE 1 OF 1			
CLIE	NT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass			
PRO	JECT NUM	/IBER	16004					PROJECT LOCATION Plymouth, NH			
			19/16				TED <u>5/19/16</u>		HOLE SIZE 6 in		
1			TOR SW								
_I			Hollow St					DRILLING EQUIPMENT Diedrich D50	SPT HAMMER 140 lb Auto		
ੈ LOG	GED BY _	S. Ke	arney		CHE	ECKE	D BY S. Kearney				
∑ NOT	ES							$\sqrt{2}$ AT TIME OF DRILLING 10.5ft			
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC		_	MATERIAL DESCRIPTION			
JERN PASS IRENON COMPLETED	- GB			SM		4.0		WITH GRAVEL (SM), trace asphalt, brown to medium grained sand, subrounded	n, moist, loose, fine to coarse		
POPROJECT SNOKT HEKN PASS TRENCH COMPLETED LOGSIPLYMOUTH, INHINPPLYMIGE, O DEPTH (ft)	SPT 2	44	2-1-1 (2)	ML	F 1	1.0	GLACIOLACUSTRINE: SANDY SILT (ML), trace organics, brown, moist, very soft, fine grained sand				
COSERSILGSCHWINDLESK OF PROCE	SPT 3	89	4-6-7 (13)	ML			-becomes stiff, gray,	, stratified, wet, without organics			
25 LAB.GPJ - 10/3/16/17:17	SPT 4	89	5-15-16 (31)	SP		14.0 15.5	GLACIOLACUSTRII grained gravel, fine to	NE: POORLY GRADED SAND (SP), trace to medium grained sand, iron oxide stainir Bottom of borehole at 15.5	ng		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C: USERS/LGSCHWIND/DESKTO								Backfilled with auger cuttin			

		Q Q U SUE	JAN BSURF	FACE Spc	kane	arker F Valley e: 509	, WA 9	99027 9409		BORIN	IG NUMBER BH-274 PAGE 1 OF 1		
	CLIEN	IT PAR	Electri	ical Contra	•				PROJECT NAME North	ern Pass			
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION _	Plymouth, NH			
		STARTE						ED <u>5/18/16</u>	_				
				TOR SW					LATITUDE 43.745659				
٦											SPT HAMMER 140 lb Auto		
ĭ ⊡ ⊡							CKED	BY S. Kearney	GROUND WATER LEVE \overline{Y} AT TIME OF DRILL				
긻	NOIE	S _armed	пеа	st of paven	ient e	age			- AT TIME OF DRILL	JIC 5.5II			
LOGS/PLYMOUTH, NH/N	O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION			
THERN PASS TRENCH COMPLETED		GB 1			SM			grained, fine to coar	se grained gravel		wn, moist, loose, fine to medium		
KTOP/PROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/PLYMOUTH, NH/NPPLYM.GP.	5	SPT 2	78	6-10-11 (21)	SM		\ \frac{}{}	-becomes medium dense, fine grained, with trace gravel, iron oxide staining, wet					
/16 17:11 - C:\USERS\LGSCHWIND\DE	10	SPT 3	67	4-6-9 (15)	SM		13.5		rained sand, coarse grained angular gravel				
LAB.GPJ - 10/3	15	RC 1	100 (100)				15.4	BEDROCK: Fresh (I), white and black, very str	ong (R5), GRAN	NTE, quartz and biotite rich		
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWIND\DESKTO		-				₩ j^.	10.4			orehole at 15.4 ith auger cutting			

CLIE	Engline	ering + Cor	Spc	kane ephon	e: 509	, WA)-892	99027 -9409	PROJECT NAME Northe		IG NUMBER BH-275 PAGE 1 OF 1			
	JECT NUN			Clors				PROJECT LOCATION F					
DATE	STARTE	D <u>5/</u>	18/16 CTOR <u>SW</u>	Cole			TED <u>5/18/16</u>	GROUND ELEVATION _ LATITUDE 43.743554	NA	LONGITUDE71.679598			
			Hollow St				D DV C Kaarnay			SPT HAMMER 140 lb Auto			
NOTE			arriey ake locatior		CHE	CKEL	O BY S. Kearney	GROUND WATER LEVEL					
DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)		GRAPHIC LOG		THE SHETY CAND		DESCRIPTION				
NOTE (#) 0 DEPTH (#) 0 DEPTH (#) 10 DEPTH (#	GB 1			SM				(SM), and gravel, trace orga		oist, loose, fine to coarse grained			
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	SPT 2	89	2-1-1 (2)	SM			-becomes very loose, grayish brown to orange, mottled, fine grained, silty sand						
				SM		8.0	ALLUVIUM: SILTY SAND (SM), grayish brown to orange, wet, very loose, fine grained, stratified, iron oxide staining						
10 10	SPT 3	100	1-1-1 (2)										
- C.UOEROLL	-					-encountered cobbles at 12 ft							
701 - C45-g4-	SPT 4	89	6-7-7 (14)	SM		15.5	-becomes medium o	dense, with fine to coarse g	rained subangu	ılar gravel			
Ď į									orehole at 15.5 th auger cutting				
ENERAL BIT IP WELL - GINI									J .				

	⊘		JAN BSURI	Spc	kane	arker f Valley e: 509	, WA	99027 -9409		BORIN	G NUMBER BH-276 PAGE 1 OF 1
	CLIEN	IT PAR	Electr	ical Contra	•				PROJECT NAME Norther	rn Pass	
1	PROJ	ECT NUN	IBER	16004					PROJECT LOCATION PI	ymouth, NH	
	DATE	STARTE	D _5/	18/16				TED _5/18/16			
- 1				CTOR SW							
_ I				Hollow St							SPT HAMMER 140 lb Auto
	LOGG	ED BY _	S. Kea	arney		CHE	CKE	DBY S. Kearney			
딦	NOTE	S <u>drilled</u>	at sta	ake location	1				$ar{ar{ar{ar{ar{ar{ar{ar{ar{ar{$	NG <u>14.3ft</u>	
LOGS/PLYMOUTH, NH\NF	o DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG				DESCRIPTION	
P\PROJECTSINORTHERN PASS NH\NORTHERN PASS TRENCH COMPLETED LOGS\PLYMOUTH, NH\NPPLYM		GB 1			SM		4.5	FILL: SILTY SAND medium grained sar		rown, moist, lo	ose, fine grained gravel, fine to
ÖN	5	SPT	89	2-2-2	N 41		4.5	ORGANIC DEPOSI	TS: SANDY SILT (ML), and	sand, trace org	ganics, black, moist, soft, fine
황		2		(4)	ML			grained sand	, ,		
PAS							6.0				
ND\DESKTOP\PROJECTS\NORTHER		SPT 3	67	2-2-1 (3)	SM			ALLUVIUM: SILTY :	SAND (SM), brown, moist, ve	ery loose, fine	grained sand
SPT 67 2-2-1 SM SPT 3 67 2-2-1 SM										n oxide stainir	ng, silt content increases, wet
J. LAB	15	4		(2)			15.5				
TP / WELL - GINT STD US						1.4742	10.0			ehole at 15.5 n auger cutting	
GENERAL BH /											

		JAN BSUR	Spo	kane	arker F Valley, e: 509	RD , WA 9: 9-892-9	9027 409	BORING NUMBER BH-278 PAGE 1 OF 1						
1			rical Contra	ctors				PROJECT NAME Northern Pass						
PRO	JECT NUM	MBER	16004					PROJECT LOCATION Plymouth, NH						
DAT	E STARTE	D _5/	18/16		СОМ	IPLETE	ED _5/18/16	GROUND ELEVATION NA HOLE SIZE 6 in						
DRIL	LING CON	NTRAC	CTOR SW	Cole				LATITUDE <u>43.733344</u> LONGITUDE <u>-71.675309</u>						
DRIL	LING MET	THOD	Hollow St	em Au	iger			DRILLING EQUIPMENT _ Diedrich D50 _ SPT HAMMER _ 140 lb Auto						
	GED BY _	S. Ke	arney		CHE	CKED I	BY S. Kearney	GROUND WATER LEVEL:						
Š NOT	ES drilled	d 4' w∈	est of stake	locati	on									
PVPROJECT SNOKTHEKN PASS THENCH COMPLETED LOGSIPLYMOUTH, INHINPPLYM O DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION						
SS TRENCH COMPLETED	- GB			GP				Y GRADED GRAVEL WITH SAND (GP), brown, moist, loose, fine grained m grained sand, subrounded						
TEKN T T T				SM			ALLUVIUM: SILTY S grained sand	SAND (SM), trace organics, orangeish brown, moist, loose, fine to medium						
PASS NH/NORI	SPT 2	67	6-5-3 (8)											
	SPT 3	50	2-3-3 (6)	SM			-becomes loose, gravel content decreases, iron oxide staining							
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 20:28 - C. USERS/LGSCHWIND/DESKTO	SPT 4	78	2-1-3 (4)	SM		15.5	-organic content incr	reases, fine to coarse grained sand in spoon tip Bottom of borehole at 15.5 ft.						
GENERAL BH / IP / WELL - GIN I SIL	Backfilled with auger cuttings													

		JAN BSUR	Opc	kane	arker F Valley e: 509	, WA	99027 -9409	BORING NUMBER BH-279 PAGE 1 OF 1			
CLI	ENT PAR	Electr	rical Contra	ctors				PROJECT NAME Northern Pass			
PRO	OJECT NUM	/IBER	16004					PROJECT LOCATION Plymouth, NH			
	TE STARTE						TED _5/16/16	· · · · · · · · · · · · · · · · · · ·			
- 1	ILLING CON										
_1	ILLING MET						DRV S Koarnov	DRILLING EQUIPMENT _Diedrich D50 SPT HAMMER _140 lb Auto GROUND WATER LEVEL:			
≥ NO.	TES _drilled				CHE	CKEL	JBI _3. Realliey	GROUND WATER LEVEL.			
	TLO _drillet	1 61 50	T Stake								
LOGS/PLYMOUTH, NH/ DEPTH (#)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION			
ATHERN PASS TRENCH COMPLETED I	-m GB 1			SM			medium grained san	WITH GRAVEL (SM), dark brown, fine to coarse grained gravel, fine to ad, 4 inches of gravel base			
PUPROJECT SINORTHERN PASS TRENCH COMPLETED LOGSIPLYMOUTH, INHURPPLYM.GEV.	SPT 2	89	3-5-5 (10)	SM		8.5					
GENERAL BH 7 TP / WELL - GIN I STD US LAB GPU - 10/3/16 17:11 - C:USERS/LGSCHWIND/UESK TO	SPT 3	100	10-19-27 (46)	SM			gravel, fine grained s	(SM), trace gravel, light gray to orange, moist, very dense, fine grained sand, subrounded, iron oxide staining, thinly stratified			
S LAB.GPJ - 10/3/16	SPT 4	89	23-50-50 (100)	SM		15.5	-becomes dark gray	to brown, with gravel and cobbles			
WELL - GINT STD U								Bottom of borehole at 15.5 ft. Backfilled with auger cuttings			
GENERAL BH / TP / \											

	Ž	SUE	JAN BSURI	Spc Spc	8 N Babkane '	Valley	, WA	99027 9409	BORING NUMBER BH-281 PAGE 1 OF 1
CLI	ENT	PAR	Electr	ical Contra					PROJECT NAME Northern Pass
PR	OJEC.	T NUN	IBER	16004					PROJECT LOCATION Plymouth, NH
				18/16 TOR SW				ED <u>5/18/16</u>	
DR	ILLING	G MET	HOD	Hollow St	em Au	iger			
_ I							CKED	BY S. Kearney	
NO	TES _								
LOGS/PLYMOUTH, NH/NPP	(II)	SAMPLE I YPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPTION
PYPROJECT SINORTHERN PASS TRENCH COMPLETED LOGSIPLYMOUTH, INHINPPLYM.GED O DEPTH O O A.A.		GB 1			SM		3.0	grained gravel, fine f	WITH GRAVEL (SM), trace asphalt, brown, moist, loose, fine to coarse to medium grained sand, subrounded
RIHEKN T					SP- SM			fine grained sand	ADED SAND WITH SILT (SP-SM), orangeish brown, moist, medium dense,
ERN PASS NH/NO		SPT 2	78	3-5-10 (15)	_				
JECT S/NORTHE	_				ML		7.5	TILL: SANDY SILT (ML), trace cobbles, gray to orange, moist, very stiff, fine grained sand,
KTOP/PRO.								cobbles up to 2 inch	es
10 10		SPT 3	72	5-10-11 (21)					
C:\USERS\LGSC	_						12.5		
10/3/16 17:11 -					SM			TILL: SILTY SAND (SM), gray to orange, wet, medium dense, fine grained sand
15 15	5_X	SPT 4	78	8-8-9 (17)			15.5		
GINT STD U									Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWIND\DESKTO									

	G ≥	SUE	JAN BSUR	FACE Spo	kane	arker F Valley e: 509	, WA	99027 -9409	BOR	PAGE 1 OF 1		
c	LIEN	IT PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass			
P	ROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Plymouth, N	1		
	ATE	STARTE	D 5/	17/16		СОМ	IPLE1	FED _5/17/16	GROUND ELEVATIONNA	HOLE SIZE 6 in		
- 1				CTOR SW	Cole				·			
- 1				Hollow St					DRILLING EQUIPMENT _ Diedrich DS			
₽ L	OGG	ED BY	S. Ke	arney		CHE	CKE	BY S. Kearney	GROUND WATER LEVEL:			
ĕ N	OTE	S <u>drilled</u>	d at su	rvey stake								
OGS/PLYMOUTH, NH\NPF	O (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG			MATERIAL DESCRIPT	ON		
SS TRENCH COMPLETED L		GB 1			SM		3.0	FILL: SILTY SAND \ fine to medium grain		own, moist, loose, fine grained gravel,		
1/NORTHERN PAS	5	SPT 2	89	3-7-7 (14)	SM		3.0	GLACIOLACUSTRII grained gravel, mottl	NE: SILTY SAND (SM), grayish brown ed, thinly stratified	and orange, medium dense, fine		
OPIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIPLYMOUTH, NHINDPLYM.GR.				(**)								
WIND\DESK1	10	SPT 3	78	3-4-5 (9)	SM		10.5	-becomes loose, we	t, silt content increases			
10/3/16 17:11 - C:\USERS\LGSCH	-				ML			GLACIOLACUSTRII	NE: SANDY SILT (ML), grayish brown,	wet, stiff, fine grained sand		
S LAB.GPJ -	15	SPT 4	89	5-7-6 (13)	ML		15.5					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWIND\DESKTO									Bottom of borehole at 15 Backfilled with auger cut			

	Q	QU SUBS	SURF	ACE Spo	kane	arker R Valley, e: 509-	D WA 99027 892-9409	BORING NUMBER BH-284 PAGE 1 OF 1					
CL	IENT _	PAR E	lectri	cal Contra		. 000		PROJECT NAME Northern Pass					
PR	OJECT	NUM	BER .	16004				PROJECT LOCATION Plymouth, NH					
				7/16 TOR <u>SW</u>			PLETED <u>5/17/16</u>	GROUND ELEVATION NA HOLE SIZE 6 in LATITUDE 43.720253 LONGITUDE71.666812					
				Hollow Ste				DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto					
_1							CKED BY S. Kearney						
ĕ NC				ke location									
GS/PLYMOUTH, NH/NPF DEPTH	(ft) SAMPLE TYPE	NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION					
SS TRENCH COMPLETED LOG	-	GB 1			SM			NE: SILTY SAND WITH GRAVEL (SM), dark brown, moist, loose, fine to el, fine to medium grained sand, subangular					
PUPROJECTSMORTHERN PASS TRENCH COMPLETED LOGS/PLYMOUTH, NHWPPLYM.GR.	5	SPT 2	78	3-4-4 (8)	SM		-becomes light gray micaceous	to orange, thinly stratified, iron oxide staining,					
::USERSILGSCHWIND\DESKTOP\PROJECTS\NORTI	0	SPT 3	100	3-4-6 (10)	SM		-becomes medium d	ense, tan to orange, weak stratification, silt content decreases					
US LAB.GPJ - 10/3/16 17:11 - C:	5	SPT 4	100	6-7-6 (13)	SM		-becomes gray to ora	ange, stratified, silt content increases Bottom of borehole at 15.5 ft.					
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWINID\DESKTO 1	Bottom of borenote at 15.5 ft. Backfilled with auger cuttings												

	C	SUE	JAN BSURI	Spc Spc	kane	arker F Valley, e: 509	WA	99027 9409	BORING NUMBER BH-285 PAGE 1 OF 1
	CLIEN	T PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass
	PROJ	ECT NUM	/IBER	16004					PROJECT LOCATION Plymouth, NH
				17/16 TOR <u>SW</u>				ED 5/17/16	
				Hollow St					DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto
GPJ							CKED	BY S. Kearney	
ĽYM.	NOTE	S drilled	d at sta	ake location	1				_
LOGS/PLYMOUTH, NH\NPF	o DEPTH (ft)	SAN SAN O O O O O O O O O O O O O O O O O O O							MATERIAL DESCRIPTION
PIPROJECTSINORTHERN PASS NHINORTHERN PASS TRENCH COMPLETED LOGSIPLYMOUTH, NHINPPLYM.GPJ		GB 1			SM		4.0		WITH GRAVEL (SM), trace asphalt, dark brown, moist, loose, fine to coarse
IERN PASS NH\NORTH	5 _	SPT 2	78	1-1-1 (2)	ML		6.5		ITS: SILT WITH SAND (ML), trace organics, dark brown, moist, soft, fine to nd, grades to orange brown in spoon tip
(TOP\PROJECTS\NORTH	 				SM		0.0		SAND (SM), brown to light gray, moist, medium dense, fine grained sand, sand medium to coarse grained sand lens
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:USERS\LGSCHWIND\DESKTO	10	SPT 3	100	4-6-5 (11)					
S LAB.GPJ - 10/3/	15	SPT 4	100	4-3-5 (8)	SM		15.5	-becomes loose, ligi	ht brown, fine to medium grained
T) U									Bottom of borehole at 15.5 ft. Backfilled with auger cuttings
GENERAL BH / TP / WELL - GINT S									Backined with auger cuttings

		QUANTA SUBSURFACE 4708 N Barker RD Spokane Valley, WA 99027 Telephone: 509-892-9409					, WA	99027 9409	BORING NUMBER BH-28' PAGE 1 OF				
	CLIEN	IT PAR	Electr	ical Contra	•				PROJECT NAME Northern Pass				
	PROJ	PROJECT NUMBER 16004							PROJECT LOCATION Plymouth, NH				
	DATE	DATE STARTED 5/16/16 COMPLETED 5/16/16 DRILLING CONTRACTOR SW Cole				COM	IPLET	FED 5/16/16	GROUND ELEVATION NA HOLE SIZE 6 in				
- 1													
	DRILL	ING MET	HOD	Hollow St	em Au	iger							
	LOGGED BY S. Kearney CHECKED BY S. Kearney				CHE	CKED	BY S. Kearney	GROUND WATER LEVEL:					
PLYM	NOTE	S drilled	d at su	rvey stake									
LOGS/PLYMOUTH, NH/NP	SAMPLE TYPE NUMBER (ft) RECOVERY % COUNTS (N VALUE) U.S.C.S. GRAPHIC LOG				GRAPHIC LOG			MATERIAL DESCRIPTION					
PYPROJECTS/NORTHERN PASS NH/NORTHERN PASS TRENCH COMPLETED LOGS/PLYMOUTH, NH/NPPLYM	_	GB 1			SP- SM		4.5	loose, fine to mediur	GRADED SAND WITH SILT (SP-SM), trace gravel, trace organics, brown, moist, edium grained sand				
Ĭ	5	SPT 2	94	2-1-1 (2)	ML			GLACIOLACUSTRII	NE: SILT (ML), orangeish brown, moist, soft, mottled				
STS/NORTHERN PASS						स्वत्	7.5		NE: POORLY GRADED SAND WITH SILT (SP-SM), brown, moist, loose, fin				
					SP- SM			to medium grained s					
P/P													
SKT		ODT		405									
	10	SPT 3	72	4-3-5 (8)									
GENERAL BH / TP / WELL - GINT STD US LAB.GPJ - 10/3/16 17:11 - C:\USERS\LGSCHWIND\DESKTO													
16 17:													
10/3								h	denote the second secon				
SLAB.GPJ-	15	SPT 4	100	5-5-5 (10)	SP- SM		-becomes medium dense, grayish brown, medium to coarse grained sand lenses						
] آيا								Bottom of borehole at 15.5 ft. Backfilled with auger cuttings					
NTS									Buokimou with dugor outlings				
- G													
/WEI													
ᅦ													
님													
SENER													

	QUANTA SUBSURFACE Spokane Valley, WA 99027 Telephone: 509-892-9409 CLIENT PAR Electrical Contractors						, WA	99027 -9409	BORING NUMBER BH-288 PAGE 1 OF 1					
CL	LIEN	T PAR	Electr	ical Contra	ctors				PROJECT NAME Northern Pass					
PF	ROJE	CT NU	IBER	16004					PROJECT LOCATION Plymouth, NH					
DA	DATE STARTED 5/16/16 COMPLETED 5/16/16 DRILLING CONTRACTOR SW Cole					COM	IPLE1	TED <u>5/16/16</u>	GROUND ELEVATIONNA HOLE SIZE _4 in					
DF									LATITUDE 43.712138 LONGITUDE71.65781					
DF	DRILLING METHOD Hollow Stem Auger				iger			DRILLING EQUIPMENT Diedrich D50 SPT HAMMER 140 lb Auto						
즲 LC	OGGI	ED BY _	S. Ke	arney		CHE	CKE	S. Kearney	GROUND WATER LEVEL:					
NO NO	OTES	drilled	d at su	rvey stake										
GS/F	SAMPLE TYPE NUMBER RECOVERY % COUNTS (N VALUE) U.S.C.S. GRAPHIC LOG							MATERIAL DESCRIPTION						
					SM		0.5		TS: SILTY SAND (SM), trace organics, black NE: POORLY GRADED SAND WITH SILT (SP-SM), brown, loose, medium					
JAMPL	+				SP-				nes gray in spoon tip					
Ŏ IJ					SM									
		m GB												
ASS	4	1												
RN P														
	+				1									
	5	SPT 2	78	2-2-3 (5)										
N SS)		_		(3)										
SKTO -	-	SPT 3	28	4-5-6 (11)	SP- SM			-becomes medium	dense, medium to coarse grained gravel in spoon tip					
-becomes grayish brown SPT 4 67 5-6-8 SM 15.5					rown									
			•	•	•	1.1		•	Bottom of borehole at 15.5 ft. Backfilled with auger cuttings					
NTS									Dackinied with auger cultings					
-G														
/WE														
<u></u>														
A 타														
E.R.														
5 L														



BH-112: 9.6 ft – 14.6 ft BH-120: 9.7 ft – 15 ft BH-217: 10 ft – 15 ft BH-238: 11 ft – 15 ft



BH-145: 10 ft – 15 ft BH-146: 12.2 ft – 15 ft BH-197: 7.6 ft – 15 ft





BH-267: 11.5 ft – 16.5 ft BH-189: 13 ft – 15 ft BH-185: 11.3 ft – 15 ft BH-124: 11 ft – 15 ft BH-237: 6 ft – 15 ft BH-167: 5 ft – 15 ft



BH-168: 3.7 ft – 15 ft BH-272: 3 ft – 16 ft BH-274: 13.6 – 15.4 ft



ATTACHMENT B

Thermal Resistivity Test Results



4370 Contractors Common Livermore, CA 94551

Tel: 925-999-9232 Fax: 925-999-8837 info@geothermusa.com

June 30, 2016

Quanta Subsurface

4308 N. Barker Road Spokane Valley, WA 99027

Attn: Zach Wright

Re: Thermal Analysis of Native Soil Samples Northern Pass Trenchless Investigation - New Hampshire (Project No. 201-16-NH)

The following is the report of thermal dryout characterization tests conducted on thirty-three (33) undisturbed tube samples of native soil received at our laboratory.

<u>Thermal Resistivity Tests:</u> For thermal dryout characterization the tube samples were tested 'as-is'. A series of thermal resistivity measurements were made in stages with moisture content ranging from the 'as-received' to the totally dry condition. The tests were conducted in accordance with the IEEE standard 442. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 6.**

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density	
·	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)	
BH-168, S1 @ 4.0'-5.5'	Silty sand with gravel	78	315	33	77	
BH-169, S2 @ 4.0'-5.5'	Poorly graded gravel	141	167	1	116	
BH-174, S1 @ 4.0'-5.5'	Sandy gravel	60	103	1	121	
BH-175, S1 @ 4.0'-5.5'	Poorly graded sand	72	188	6	107	
BH-177, S1 @ 4.0'-5.5'	Silty sand with gravel	52	158	6	104	
BH-178, S1 @ 4.0'-5.5'	Silty sand	82	248	8	101	
BH-179, S1 @ 4.0'-5.5'	Silty sand with gravel	62	193	14	107	

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION



Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
·	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-180, S1 @ 4.0'-5.5'	Silty sand with gravel	68	279	6	93
BH-181, S1 @ 4.0'-5.5'	Silty sand with gravel	62	243	6	95
BH-182, S1 @ 4.0'-5.5'	Poorly graded sand	74	220	5	96
BH-183, S1 @ 4.0'-5.5'	Poorly graded sand	92	188	2	107
BH-184, S1 @ 4.0'-5.5'	Poorly graded sand	68	232	5	93
BH-186, S1 @ 4.0'-5.5'	Poorly graded sand	54	251	10	91
BH-190, S1 @ 4.0'-5.5'	Poorly graded sand with gravel	82	148	3	112
BH-191, S1 @ 4.0'-5.5'	Poorly graded sand	107	199	3	105
BH-194, S1 @ 4.0'-5.5'	Silty sand	82	268	11	100
BH-195, S1 @ 4.0'-5.5'	Poorly graded sand with gravel	64	178	15	101
BH-196, S1 @ 4.0'-5.5'	Sandy silt	87	327	41	74
BH-197, S1 @ 4.0'-5.5'	Silty sand with gravel	50	108	7	120
BH-215, S1 @ 4.0'-5.5'	Silty sand	78	259	6	102
BH-217, S1 @ 4.0'-5.5'	Silty sand	41	293	19	93
BH-218, S1 @ 4.0'-5.5'	Silty sand	88	379	16	79
BH-219, S1 @ 4.0'-5.5'	Poorly graded sand	64	220	5	98
BH-220, S1 @ 4.0'-5.5'	Poorly graded sand with gravel	74	268	16	85
BH-221, S1 @ 4.0'-5.5'	Sandy silt	74	327	32	78
BH-223, S1 @ 4.0'-5.5'	Poorly graded sand with gravel	64	198	3	103
BH-224, S1 @ 4.0'-5.5'	Poorly graded sand with gravel	68	212	4	102



Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-225, S1 @ 4.0'-5.5'	Silty sand	94	367	12	79
BH-226, S1 @ 4.0'-5.5'	Poorly graded sand	84	281	9	95
BH-227, S1 @ 4.0'-5.5'	Poorly graded sand with gravel	88	302	11	89
BH-229, S1 @ 4.0'-5.5'	Poorly graded sand with gravel	94	180	4	99
BH-232, S1 @ 4.0'-5.5'	Poorly graded sand	98	194	4	95
BH-240, S1 @ 4.0'-5.5'	Sandy silt	71	294	14	88

Comments:

The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

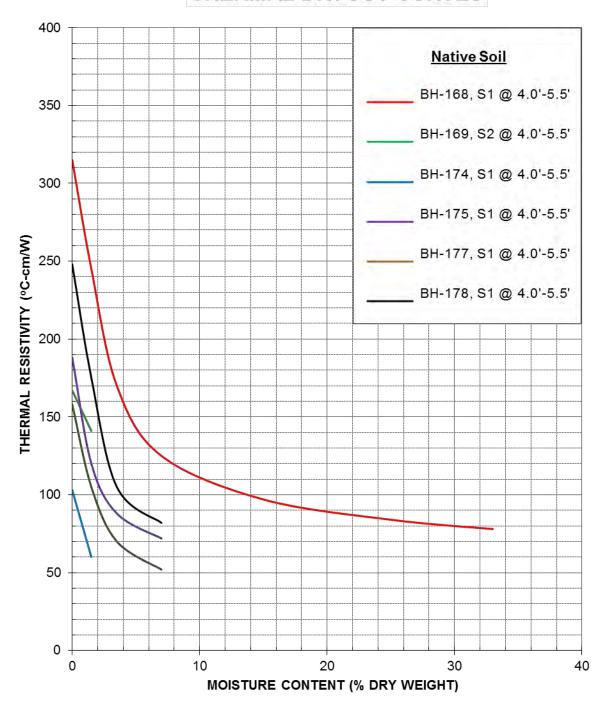
Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel

Please Note: All samples will be disposed of after 5 days from date of report.

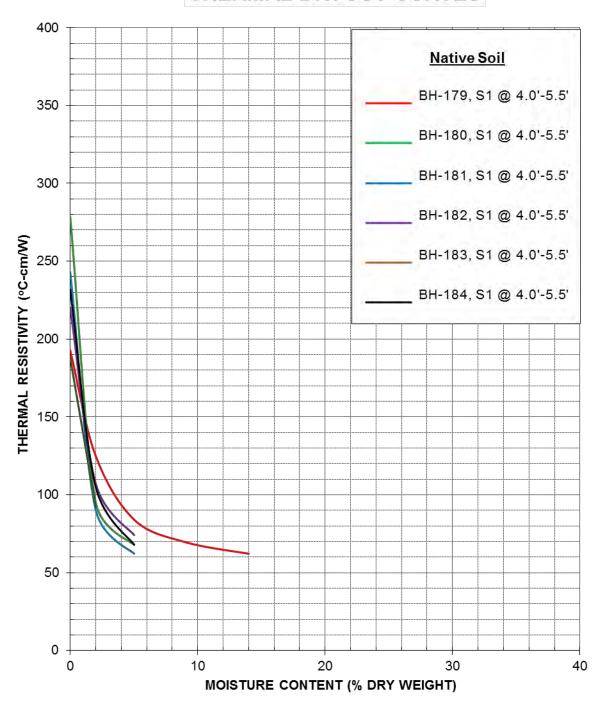




Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation

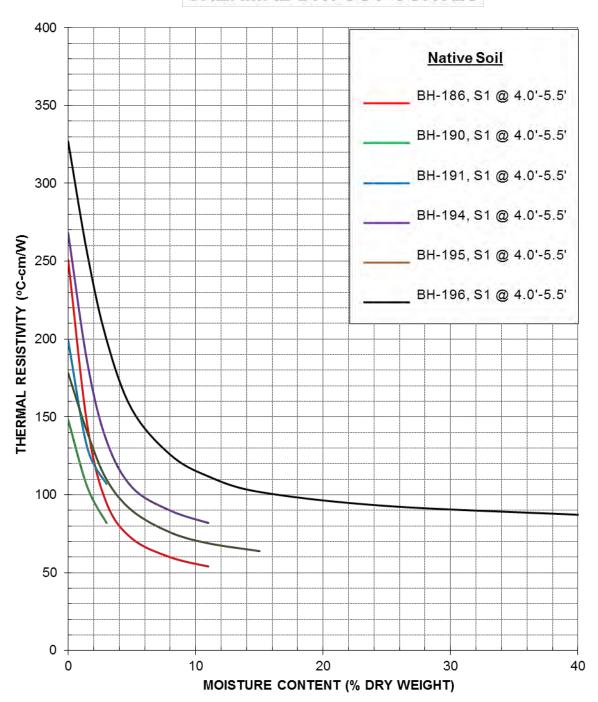
June 2016 Figure 1





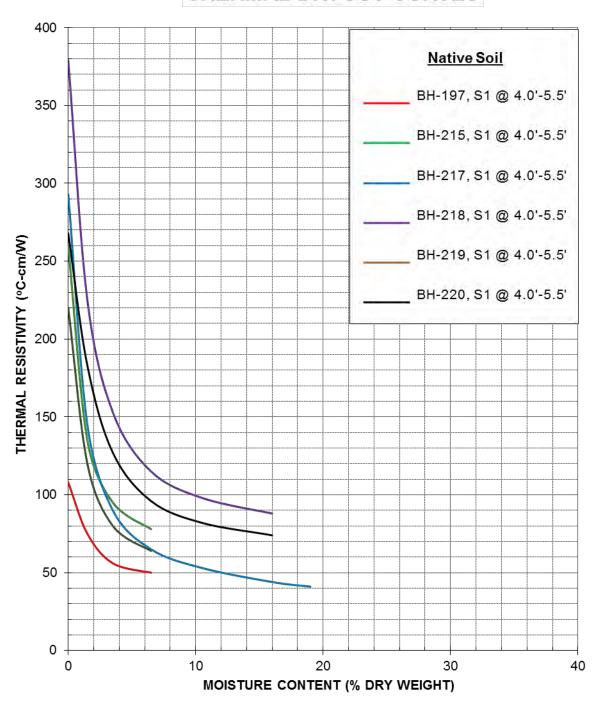
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





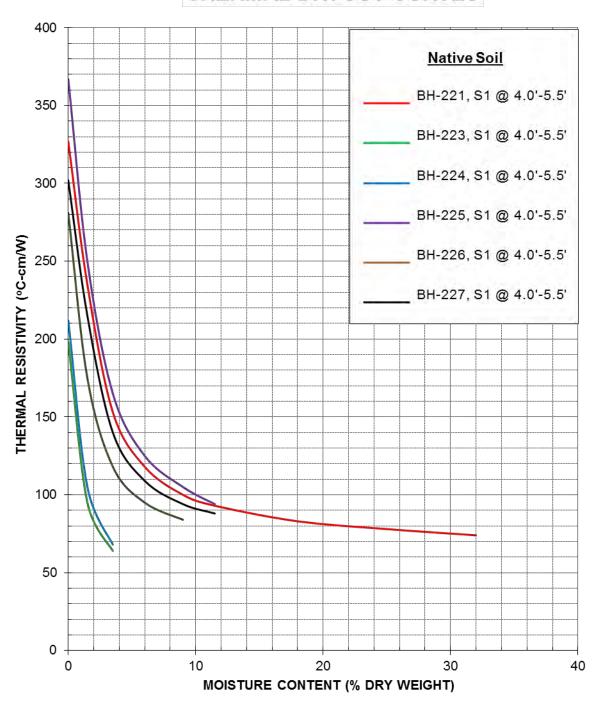
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





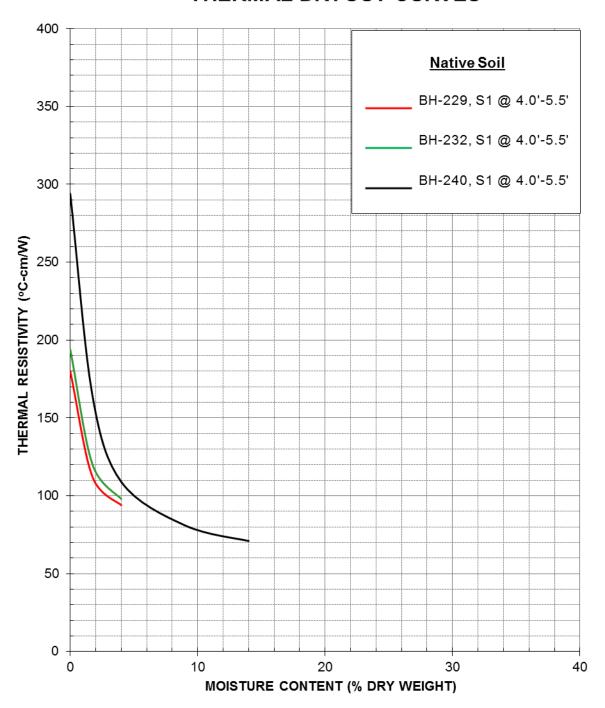
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation



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July 14, 2016

Quanta Subsurface

4308 N. Barker Road Spokane Valley, WA 99027

Attn: Zach Wright

Re: Thermal Analysis of Native Soil **Northern Pass Trenchless Investigation - New Hampshire (Project No. 201-16-NH)**

The following is the report of thermal dryout characterization tests conducted on nineteen (19) undisturbed tube samples of native soil received at our laboratory.

<u>Thermal Resistivity Tests:</u> For thermal dryout characterization the tube samples were tested 'as-received'. A series of thermal resistivity measurements were made in stages with moisture content ranging from the 'as-received' to the totally dry condition. The tests were conducted in accordance with the IEEE standard 442. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 4**.

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
-	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-161 @ 4' - 5.5'	Sand with gravel (SP)	98	185	3	107
BH-162 @ 4' - 5.5'	Poorly graded silty sand with gravel (SP-GP)	65	135	6	126
BH-200 @ 4' - 5.5'	Silty sand (SM)	54	267	19	83
BH-201 @ 4' - 5.5'	Silty sand with gravel and silt with trace organics (SM-ML)	85	315	18	99
BH-202 @ 4' - 5.5'	Silty sand with gravel and trace organics (SM)	78	382	20	75
BH-231 @ 4' - 5.5'	Silty sand with gravel (SM)	62	154	16	112
BH-233 @ 4' - 5.5'	Poorly graded sand with gravel (SP)	68	175	9	99

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION



Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
•	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-235 @ 4' - 5.5'	Poorly graded sand (SP)	65	198	11	97
BH-238 @ 4' - 5.5'	Silty sand with gravel (SM)	57	219	10	106
BH-239 @ 5' - 6.5'	Poorly graded sand (SP)	62	188	5	104
BH-241 @ 4' - 5.5'	Poorly graded sand (SP)	59	227	7	98
BH-243 @ 4' - 5.5'	Poorly graded sand (SP)	67	254	5	88
BH-244alt @ 4' - 5.5'	Sandy gravel with silt and trace asphalt (GM)	55	197	7	109
BH-245alt @ 4' - 5.5'	Sandy gravel and poorly graded sand (GW-SP)	56	162	9	102
BH-247A @ 4' - 5.5'	Boulders, cobbles and silty sand	52	86	3	122
BH-249 @ 4' - 5.5'	Poorly graded sand (SP)	60	231	4	98
BH-254 @ 4' - 5.5'	Sandy gravel (GW)	41	98	11	114
BH-255 @ 4' - 5.5'	Sandy gravel with silt and trace asphalt (GM)	58	244	13	90
BH-256 @ 4' - 5.5'	Poorly graded sand with trace organics (SP)	82	360	15	90

<u>Comments:</u> The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

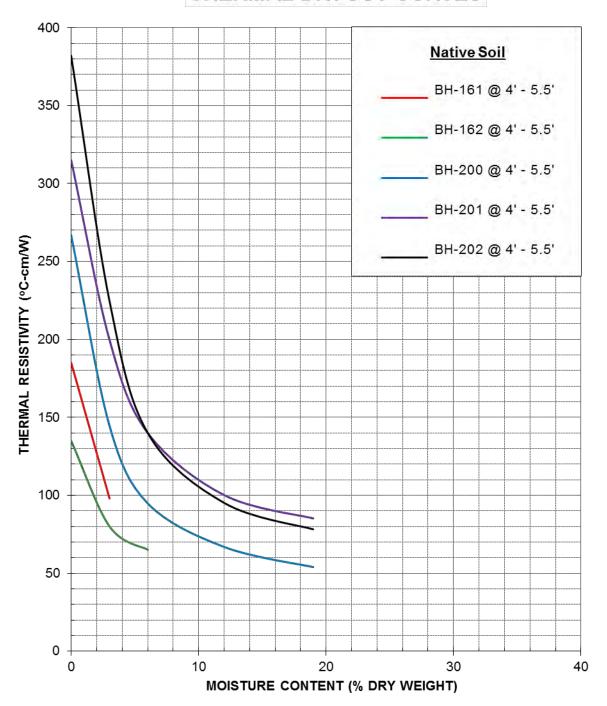
Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel

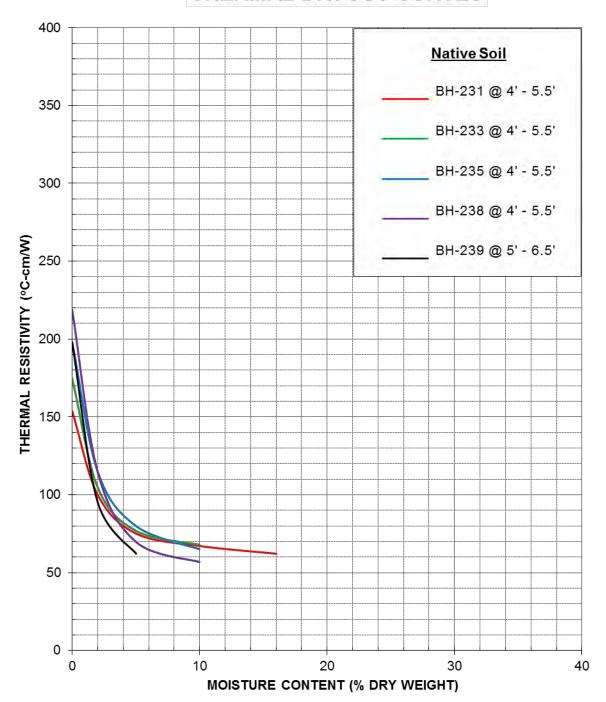
Please Note: All samples will be disposed of after 5 days from date of report.





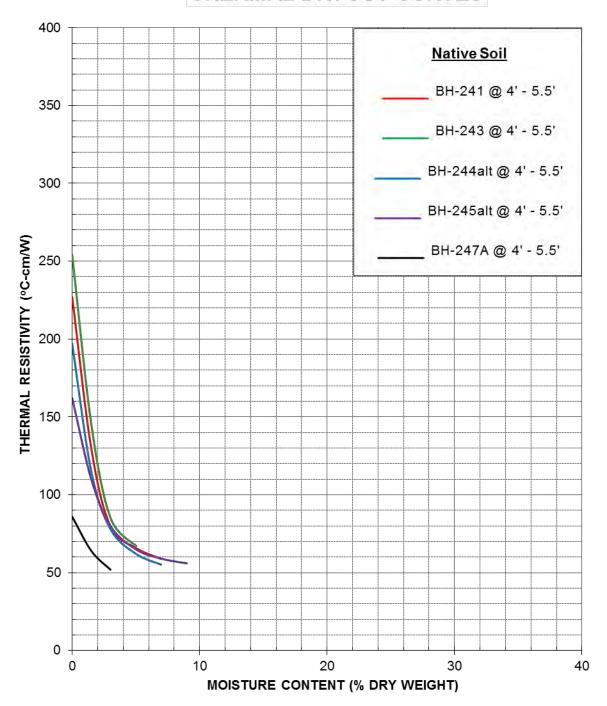
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





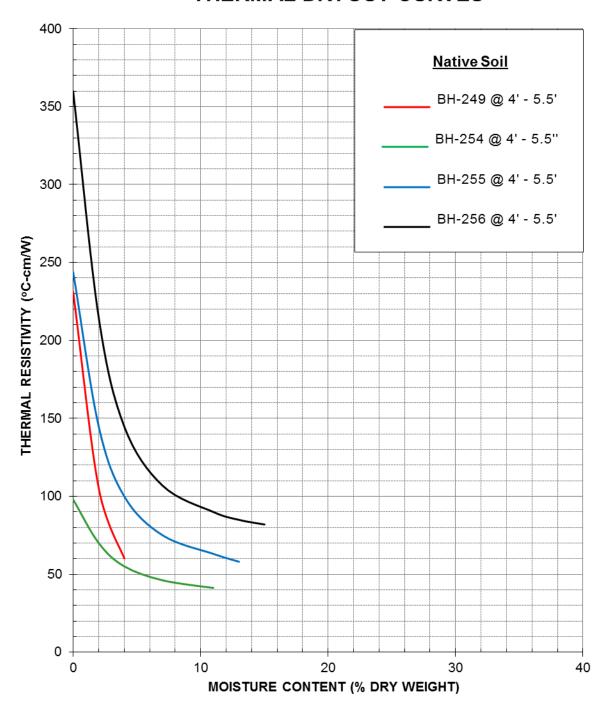
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation



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August 25, 2016

Quanta Subsurface

4308 N. Barker Road Spokane Valley, WA 99027

Attn: Zach Wright

Re: Thermal Analysis of Native Soil Samples Northern Pass Trenchless Investigation - New Hampshire (Project No. 201-16-NH)

The following is the report of thermal dryout characterization tests conducted on fifty-five (55) undisturbed tube samples of native soil received at our laboratory.

<u>Thermal Resistivity Tests:</u> For thermal dryout characterization the tube samples were tested 'as-received'. A series of thermal resistivity measurements were made in stages with moisture content ranging from the 'as-received' to the totally dry condition. The tests were conducted in accordance with the IEEE standard 442. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 10**.

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
•	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-77 @ 4' - 5.5'	Silty gravel with sand	105	194	1.8	105
BH-94 @ 4' - 5.5'	Silty gravel with sand	56	177	7	110
BH-98 @ 4' - 5.5'	Silty gravel with sand	94	218	3.8	99
BH-99 @ 4' - 5.5'	Well graded sand	65	198	19	96
BH-102 @ 4' - 5.5'	Sandy silt	54	233	24	89
BH-104 @ 4' - 5.5'	Well graded sand	66	167	7	108

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION



Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-113 @ 4' - 5.5'	Silty sand	48	214	27	87
BH-114 @ 4' - 5.5'	Silty sand with gravel	65	289	41	53
BH-115 @ 4' - 5.5'	Silty sand with gravel	56	228	26	80
BH-117 @ 4' - 5.5'	Silty sand with gravel	78	175	7	103
BH-119 @ 4' - 5.5'	Poorly graded sand	44	298	38	56
BH-121 @ 4' - 5.5'	Silty sand with gravel	53	244	25	75
BH-122 @ 4' - 5.5'	Well graded sand	70	148	4.3	116
BH-123 @ 4' - 5.5'	Poorly graded sand	49	162	12	118
BH-124 @ 4' - 5.5'	Silty sand with gravel	77	318	42	50
BH-126 @ 4' - 5.5'	Poorly graded sand	88	227	7	100
BH-129 @ 4' - 5.5'	Silty sand	58	192	24	75
BH-130 @ 4' - 5.5'	Poorly graded sand with gravel	61	218	33	71
BH-131 @ 4' - 5.5'	Well graded sand	51	184	19	110
BH-133 @ 4' - 5.5'	Well graded sand	58	199	13	100
BH-135 @ 4' - 5.5'	Poorly graded sand with gravel	90	178	2.8	103
BH-136 @ 4' - 5.5'	Poorly graded sand with silt	64	223	30	76
BH-137 @ 4' - 5.5'	Clayey sand	74	207	25	80
BH-138 @ 4' - 5.5'	Poorly graded sand with silt	55	294	34	63
BH-139 @ 4' - 5.5'	Silty sand	67	187	7	100



Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-141 @ 4' - 5.5'	Silty sand	52	138	7	124
BH-142 @ 4' - 5.5'	Silty sand	57	156	6	117
BH-143 @ 4' - 5.5'	Poorly graded sand with gravel	77	165	4.2	115
BH-144 @ 4' - 5.5'	Silty sand with gravel	80	184	4	111
BH-145 @ 4' - 5.5'	Silty sand with gravel	68	143	8	121
BH-146 ALT @ 4' - 5.5'	Silty sand with gravel	71	177	9	113
BH-147 @ 4' - 5.5'	Silty sand	58	184	11	112
BH-148 @ 4' - 5.5'	Silty sand with gravel	69	208	14	105
BH-149 @ 4' - 5.5'	Well graded sand	63	193	6	106
BH-150 @ 4' - 5.5'	Silty Sand	66	188	12	111
BH-151 @ 4' - 5.5'	Poorly graded sand	74	216	13	109
BH-152 @ 4' - 5.5'	Poorly graded sand with gravel	61	197	18	92
BH-153 @ 4' - 5.5'	Sandy peat	108	385	15	83
BH-154 @ 4' - 5.5'	Sandy peat	94	328	24	100
BH-156 @ 4' - 5.5'	Clayey sand	95	189	5	103
BH-157 @ 4' - 5.5'	Sandy silt	66	244	19	77
BH-159 @ 4' - 5.5'	Poorly graded sand with gravel	61	172	15	103
BH-164 @ 4' - 5.5'	Sandy silt	77	277	25	85
BH-167 @ 4' - 5.5'	Sandy silt	63	190	12	104



Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-171 @ 4' - 5.5'	Silty sand with gravel	80	164	6	110
BH-172 @ 4' - 5.5'	Poorly graded sand with gravel	69	170	10	113
BH-189 @ 4' - 5.5'	Silty gravel with sand	75	212	11	94
BH-193 @ 4' - 5.5'	Poorly graded sand with gravel	68	194	8	104
BH-209 @ 4' - 5.5'	Poorly graded sand with gravel	55	152	17	118
BH-211 @ 4' - 5.5'	Silty sand	61	188	8	105
BH-212 @ 4' - 5.5'	Poorly graded sand with gravel	59	178	15	105
BH-228 @ 4' - 5.5'	Well graded sand	70	216	5	108
BH-230 @ 4' - 5.5'	Poorly graded sand with gravel	64	199	10	92
BH-236 @ 4' - 5.5'	Silty sand with gravel	57	183	14	106
BH-237 @ 4' - 5.5'	Silty sand with gravel	80	207	5	96

<u>Comments:</u> The thermal characteristic depicted in the dryout curves applies for the soils at their respective test dry density.

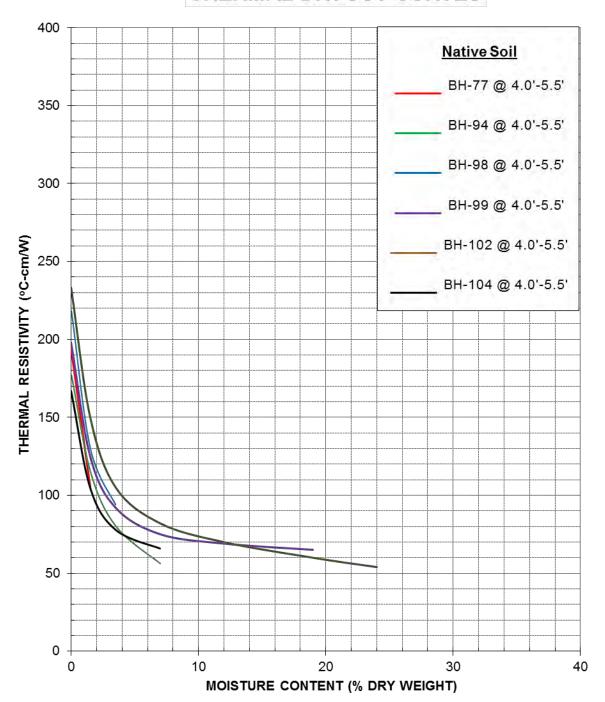
Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel

Please Note: All samples will be disposed of after 5 days from date of report.

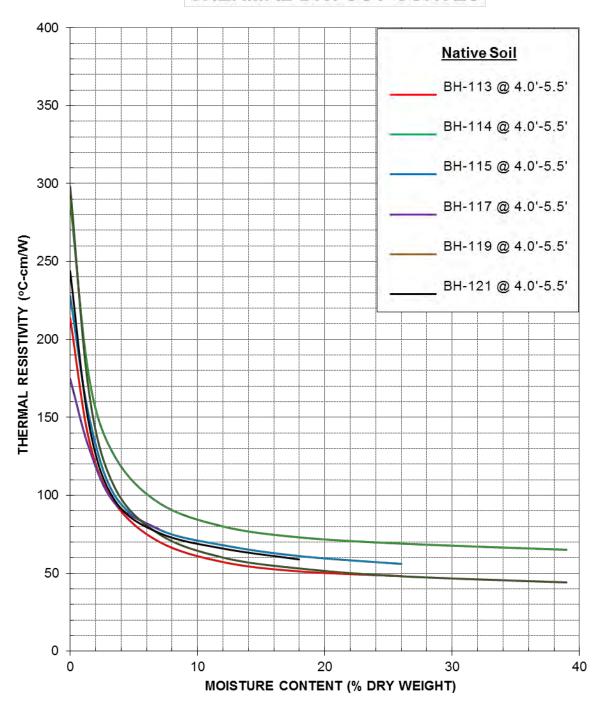




Quanta Subsurface Thermal Analysis of Native Soil Samples Northern Pass Trenchless Investigation

August 2016 Figure 1

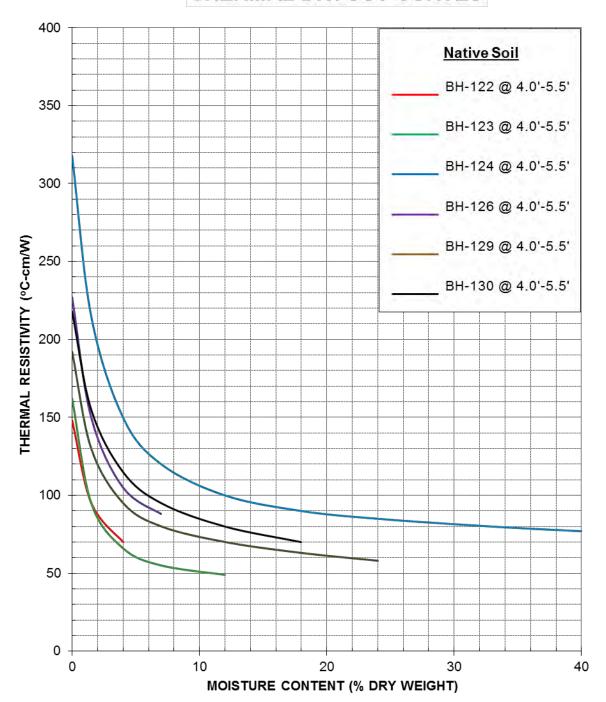




Quanta Subsurface Thermal Analysis of Native Soil Samples Northern Pass Trenchless Investigation

August 2016 Figure 2

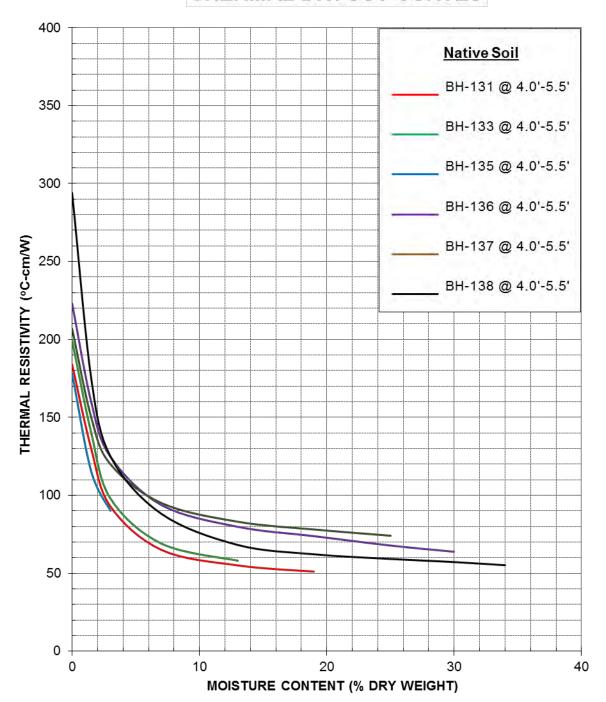




Quanta Subsurface Thermal Analysis of Native Soil Samples Northern Pass Trenchless Investigation

August 2016 Figure 3

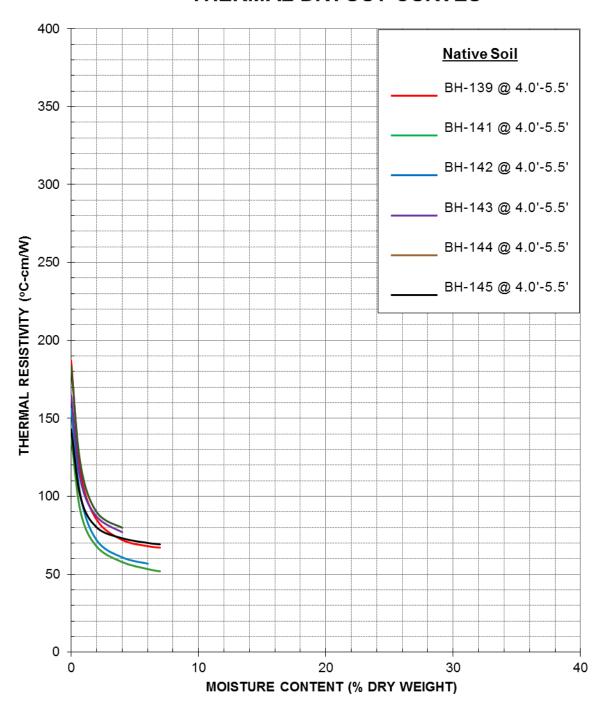




Quanta Subsurface Thermal Analysis of Native Soil Samples Northern Pass Trenchless Investigation

August 2016 Figure 4

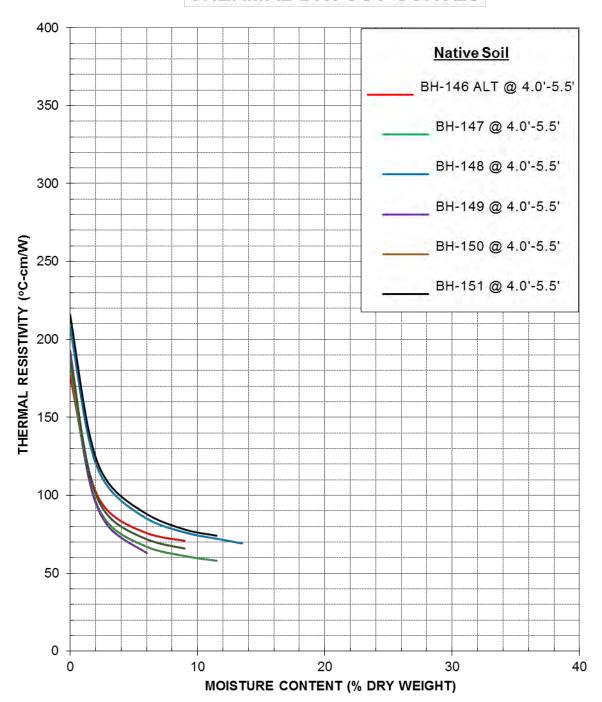




Quanta Subsurface Thermal Analysis of Native Soil Samples Northern Pass Trenchless Investigation

August 2016 Figure 5

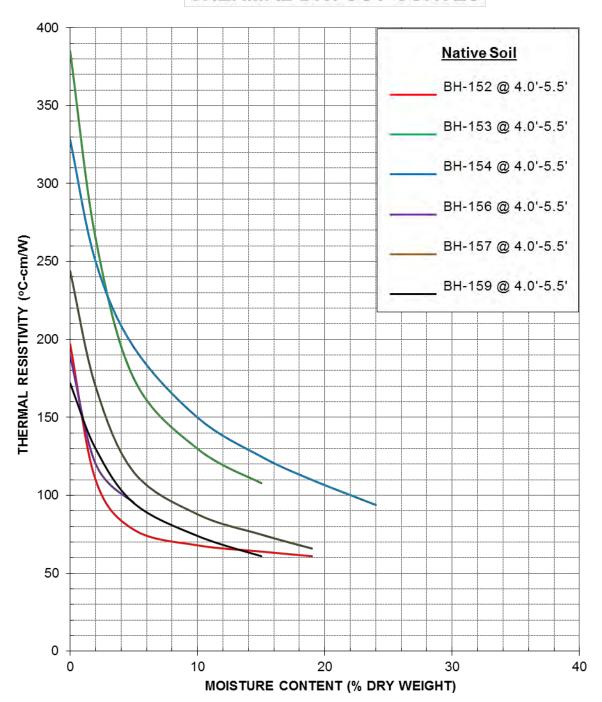




Quanta Subsurface
Thermal Analysis of Native Soil Samples
Northern Pass Trenchless Investigation

August 2016 Figure 6

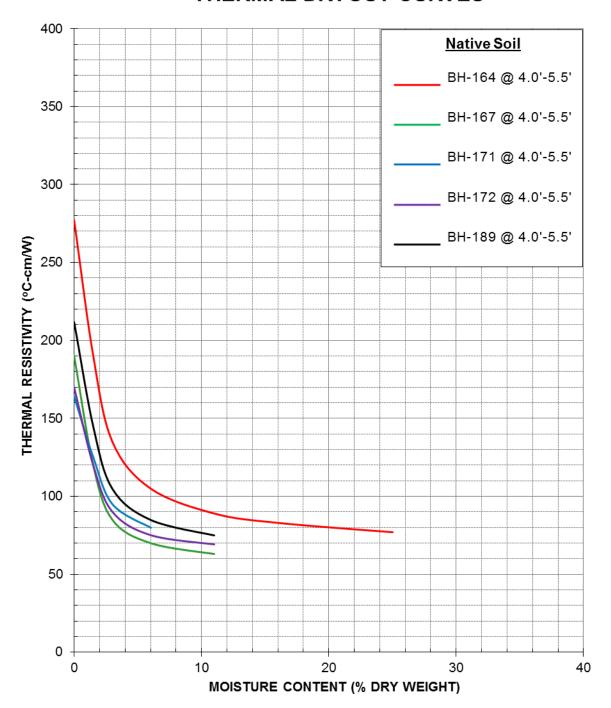




Quanta Subsurface Thermal Analysis of Native Soil Samples Northern Pass Trenchless Investigation

August 2016 Figure 7

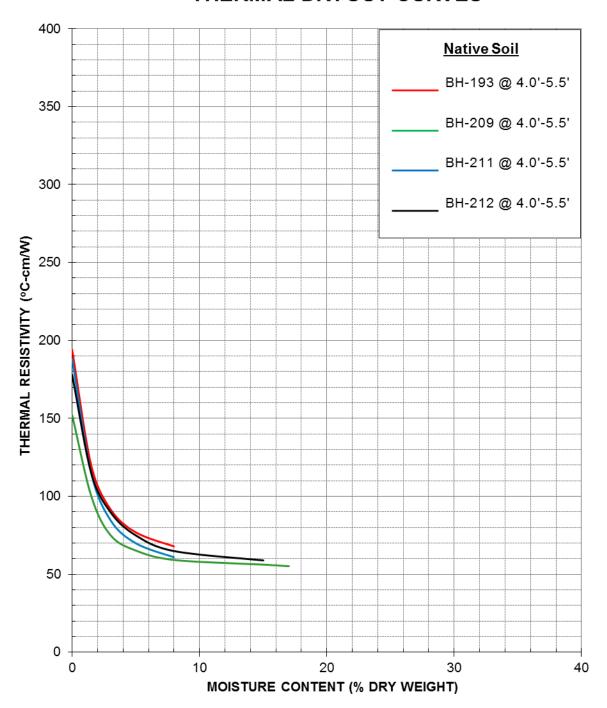




Quanta Subsurface
Thermal Analysis of Native Soil Samples
Northern Pass Trenchless Investigation

August 2016 Figure 8

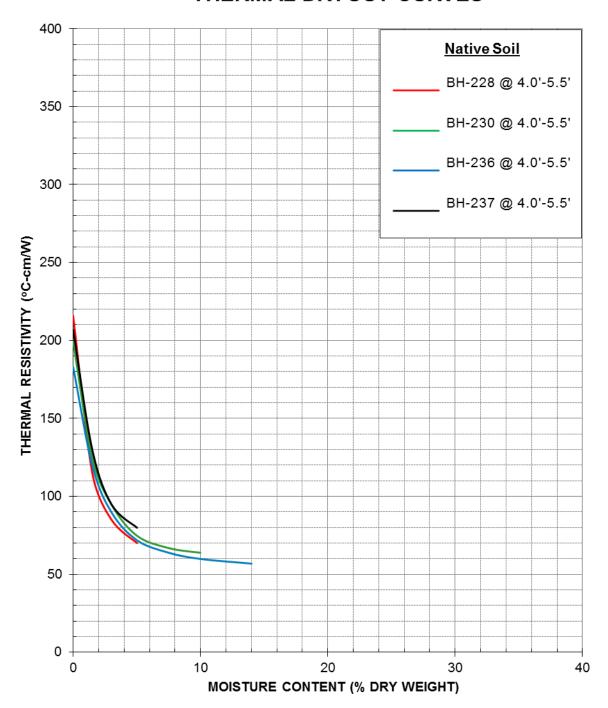




Quanta Subsurface
Thermal Analysis of Native Soil Samples
Northern Pass Trenchless Investigation

August 2016 Figure 9





Quanta Subsurface
Thermal Analysis of Native Soil Samples
Northern Pass Trenchless Investigation

August 2016 Figure 10



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September 16, 2016

Quanta Subsurface 4308 N. Barker Road

Spokane Valley, WA 99027

Attn: Zach Wright

Re: Thermal Analysis of Native Soil Northern Pass Trenchless Investigation - New Hampshire (Project No. 201-16-NH)

The following is the report of thermal dryout characterization tests conducted on twenty-five (25) bulk samples of native soil received at our laboratory.

<u>Thermal Resistivity Tests:</u> For thermal dryout characterization the bulk samples were tested at 'as-received' moisture content and 95% of maximum dry density *provided by Quanta Subsurface*. A series of thermal resistivity measurements were made in stages with moisture content ranging from the 'as-received' to the totally dry condition. The tests were conducted in accordance with the IEEE standard 442. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 5**.

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Description (Overta)		Resistivity m/W)	Moisture Content	Dry Density
-	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-208 @ 0-4'	Brown fine to coarse silty sand with trace fine to coarse gravel	46	142	6	118
BH-210 @ 0-4'	Brown fine to coarse silty sand with trace fine to coarse gravel	52	144	4	118
BH-213 @ 0-4'	Brown fine to medium silty sand	39	160	14	118
BH-250 @ 0-4'	Brown fine to coarse silty sand with trace fine gravel	43	146	6	118
BH-251 @ 0-4'	Dark brown medium to coarse silty sand with trace fine gravel	45	143	8	118
BH-252 @ 0-4'	Brown fine to coarse silty sand with little fine to coarse gravel	44	138	9	118
BH257 @ 0-4'	Silty sand	42	158	19	118

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION



Sample ID	Description (Quanta)	Thermal Resistivity (°C-cm/W)		Moisture Content	Dry Density
		As-rcvd	Dry	(%)	(lb/ft³)
BH260 @ 0-4'	Sandy silt clay	45	138	13	114
BH261 @ 0-4'	silty sand	55	165	10	116
BH 262 @ 0-4'	Silty sand	57	165	10	116
BH264 @ 0-4'	Poorly grade sand	45	144	8	121
BH265 @ 0-4'	Silty sand	47	166	11	116
BH271 @ 0-4'	poorly graded gravel	46	129	9	122
BH273 @ 0-4'	Silty sand	50	155	10	121
BH274 @ 0-4'	Silty sand	49	140	7	123
BH275 @ 0-4'	Silty sand	55	138	5	123
BH276 @ 0-4'	Silty sand	46	135	11	126
BH278 @ 0-4'	poorly graded gravel	44	98	6	137
BH279 @ 3'-5.5'	Silty sand	51	158	11	121
BH281 @ 0-4'	Silty sand	48	149	9	121
BH283 @ 0-4'	Silty sand	56	160	19	121
BH284 @ 0-4'	Silty sand	52	154	12	121
BH285 @ 0-4'	Silty sand	47	140	12	124
BH287 @ 0-4'	Silty sand	48	148	13	121
BH288 @ 1-4'	Silty sand	50	165	5	116



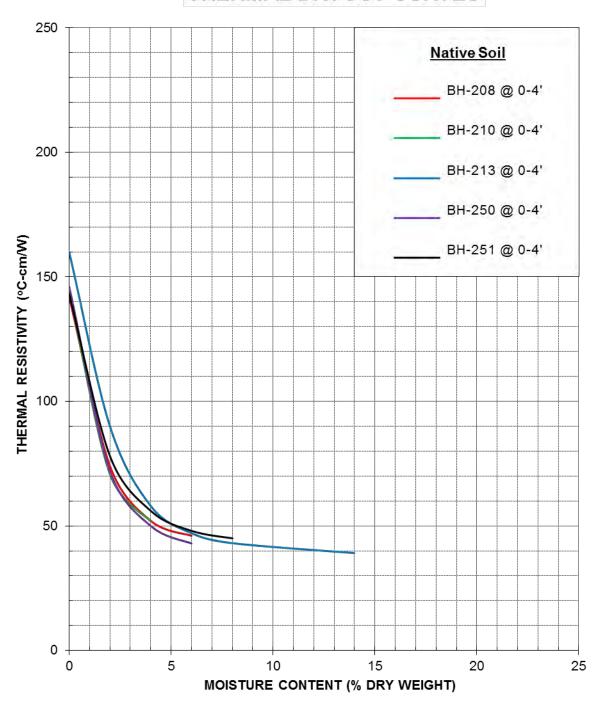
<u>Comments:</u> The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

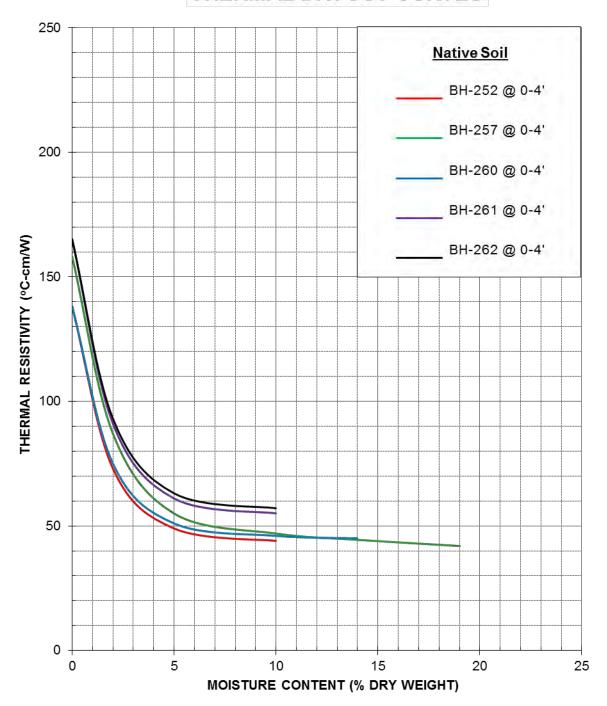
Nimesh Patel





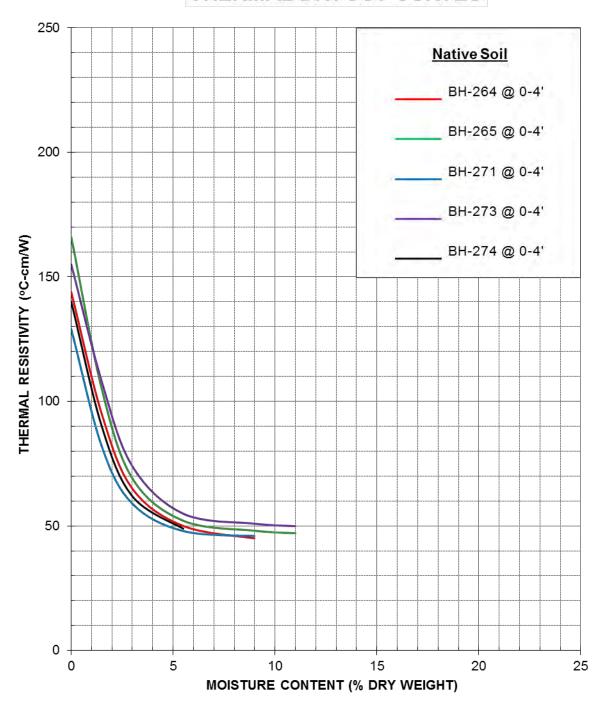
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





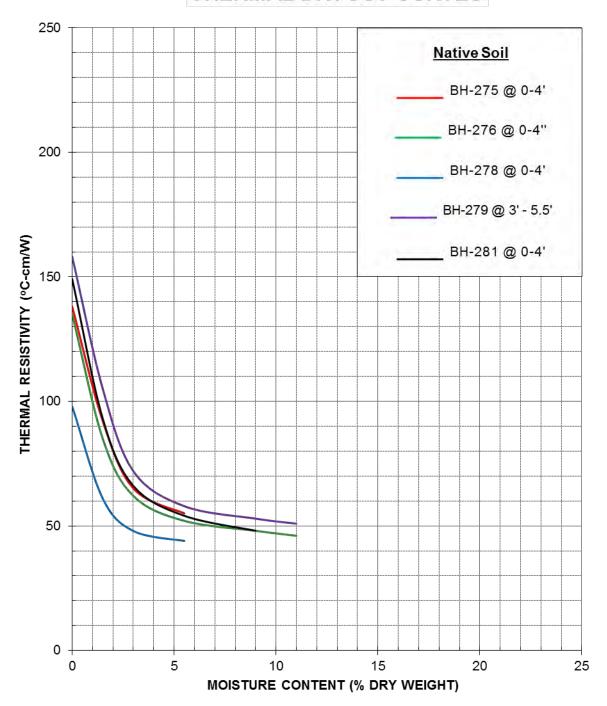
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





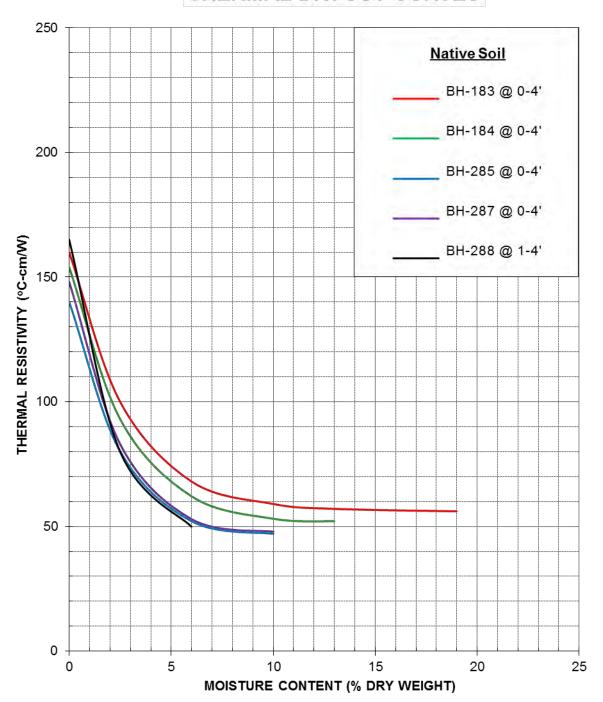
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation



4370 Contractors Common Livermore, CA 94551

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September 30, 2016

Quanta Subsurface 4308 N. Barker Road Spokane Valley, WA 99027 Attn: Zach Wright

Re: Thermal Analysis of Native Soil Northern Pass Trenchless Investigation - New Hampshire (Project No. 201-16-NH)

The following is the report of thermal dryout characterization tests conducted on forty-four (44) undisturbed tube samples and two (2) bulk samples of native soil received at our laboratory.

Thermal Resistivity Tests: For thermal dryout characterization the tube samples were tested 'as-received' and the bulk samples were tested at the 'as-received' moisture content and 95% of the maximum dry density **provided by Quanta Subsurface**. A series of thermal resistivity measurements were made in stages with moisture content ranging from the 'as-received' to the totally dry condition. The tests were conducted in accordance with the IEEE standard 442. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 8**.

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID Description			Resistivity m/W)	Moisture Content	Dry Density
-	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-53 S1 @ 4'-5.1'	Silty sand with gravel	58	151	8	122
BH-54 S1 @ 4'-5.5'	Silty sand	54	175	26	102
BH-55 S1 @ 4'-5.5'	Silty sand with gravel	50	161	18	120
BH-56 S1 @ 4'-5.5'	Poorly graded sand	60	202	13	112
BH-57 S1 @ 4'-5.5'	Silty sand with gravel	69	155	3	128
BH-58 S1 @ 4'-5.5'	Silty sand with gravel	72	175	3	122
BH-59 S1 @ 4'-5.5'	Well graded sand	68	146	4	117

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION



Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Description (Quanta)	Thermal Resistivity (°C-cm/W)		Moisture Content	Dry Density
	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-60 S1 @ 4'-5.5'	Poorly graded sand with silt	65	201	8	121
BH-61 S1 @ 4'-5.5'	Poorly graded sand with silt	59	177	11	123
BH-62 S1 @ 4'-5.5'	Poorly graded sand with silt and gravel	56	157	7	121
BH-63 S1 @ 4'-5.5'	Poorly graded sand with silt and gravel	62	198	8	114
BH-64 S1 @ 4'-5.5'	Poorly graded sand with silt and gravel	56	155	4	127
BH-65 S1 @ 4'-5.5'	Silty sand with gravel	63	159	6	117
BH-66 S1 @ 4'-5.5'	Poorly graded sand with silt	52	155	11	126
BH-67 S1 @ 4'-4.5'	Silty sand with gravel	62	170	12	106
BH-70 S1 @ 4'-5.5'	Poorly graded sand with silt	59	223	17	110
BH-72 S1 @ 4'-5.5'	Silty sand with gravel	57	166	5	129
BH-73 S1 @ 4'-5.5'	Poorly graded sand with gravel	68	190	7	98
BH-75 S1 @ 4'-5.5'	Silty sand with gravel	73	168	5	127
BH-76 S1 @ 4'-5.5'	Silty sand	57	185	15	105
BH-78 S1 @ 5-6.5'	Silty sand with gravel	79	180	3	112
BH-81 S1 @ 4'-5.5'	Organic soil with sand	127	397	8	90
BH-82 S1 @ 4'-5.5'	Silty sand with gravel	66	186	12	101
BH-83 S1 @ 4'-5.5'	Poorly graded sand	77	222	5	105
BH-84 S1 @ 4'-5.5'	Poorly graded sand	68	290	27	84
BH-85 S1 @ 4'-5.5'	Lean Clay	82	285	25	99
BH-86 S1 @ 4'-5.5'	Silty sand	58	180	17	108
BH-87 S1 @ 4'-5.5'	Poorly graded sand with gravel	70	185	3	102



Sample ID	Description		Resistivity m/W)	Moisture Content	Dry Density
	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-88 S1 @ 4'-5.5'	Silty sand with gravel	55	162	13	115
BH-89 S1 @ 4'-5.5'	Poorly graded sand with silt and gravel	50	140	9	130
BH-90 S1 @ 4'-5.5'	Poorly graded sand with gravel	58	170	15	119
BH-91 S1 @ 4'-5.5'	Poorly graded sand	75	223	8	104
BH-92 S1 @ 4'-5.5'	Poorly graded sand with gravel	64	170	7	109
BH-95 S1 @ 4'-5.5'	Poorly graded sand with gravel	60	155	7	117
BH-96 S1 @ 4'-5.5'	Poorly graded sand	56	165	6	116
BH-100 S1 @ 4'-5.5'	Well graded sand	62	181	3	112
BH-103 S1 @ 4'-5.5'	Poorly graded sand	59	263	16	105
BH-106 S1 @ 4'-5.5'	Poorly graded sand with silt	66	228	17	111
BH-107 S1 @ 0-4'	Silty gravel	60	218	8	135
BH-109 S1 @ 4'-5.5'	Well graded sand with gravel	63	142	6	120
BH-110 S1 @ 4'-5.5'	Poorly graded sand	66	205	9	112
BH-166 S1 @ 0-4'	Silty sand with gravel	70	160	4	116
BH-173 S2 @ 9-10.5'	Poorly graded sand with gravel	64	170	5	107
BH-206 @ 0-4'	Silty sand with gravel	66	165	8	115
BH-234 S1 @ 9-10.5'	Sandy silt	55	228	29	91
BH-270 S1 @ 0-4'	Silty sand with gravel	79	208	5	96



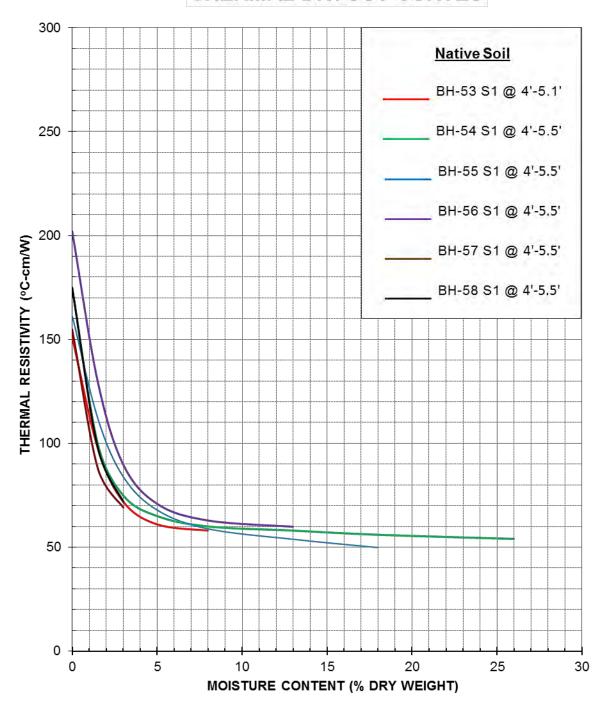
<u>Comments:</u> The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel



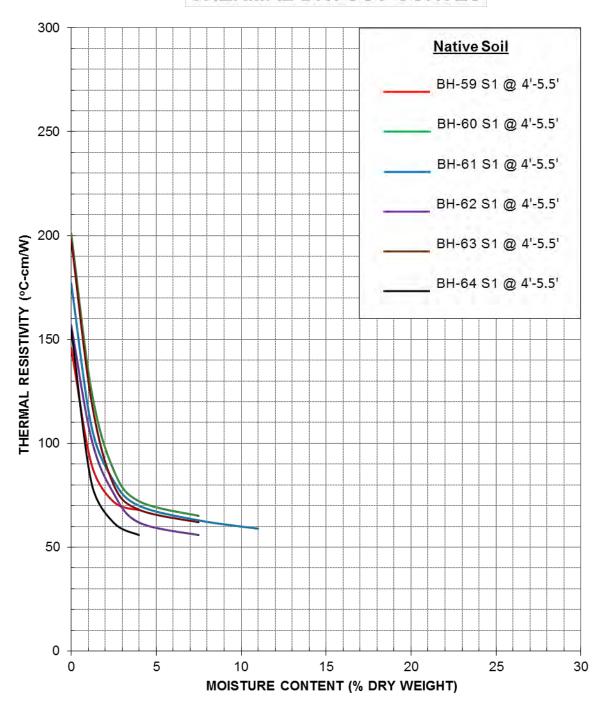


Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation

September 2016 Figure 1

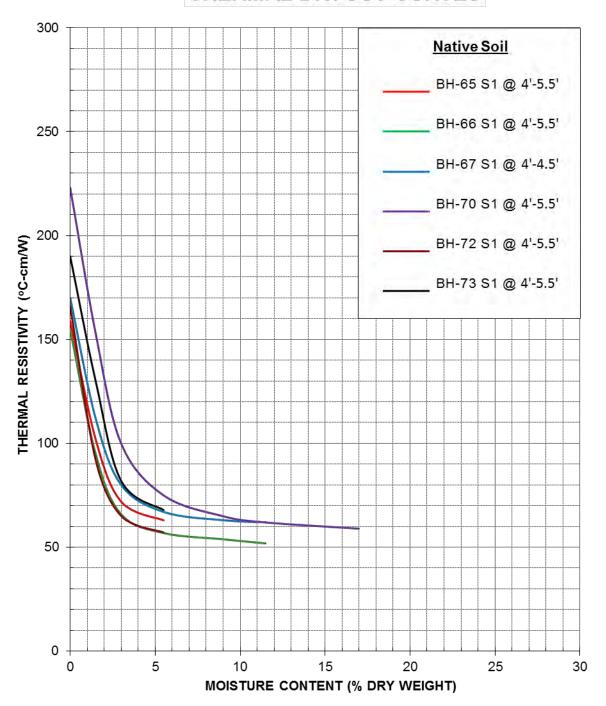
5





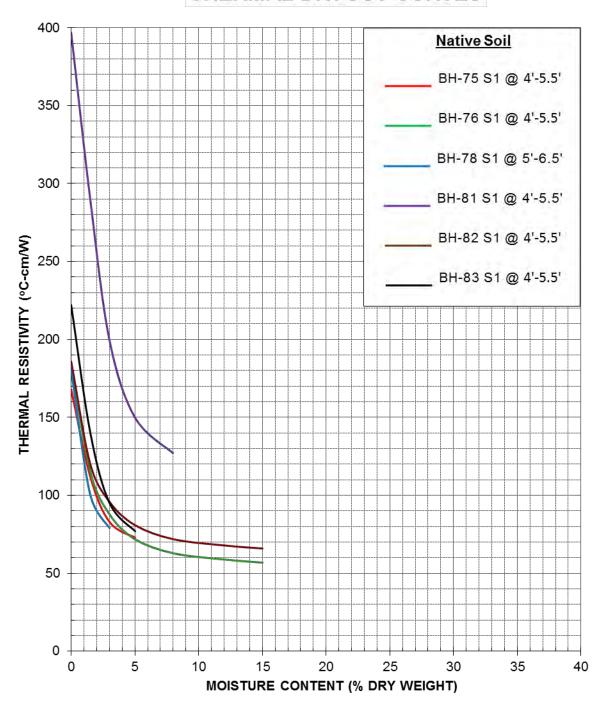
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





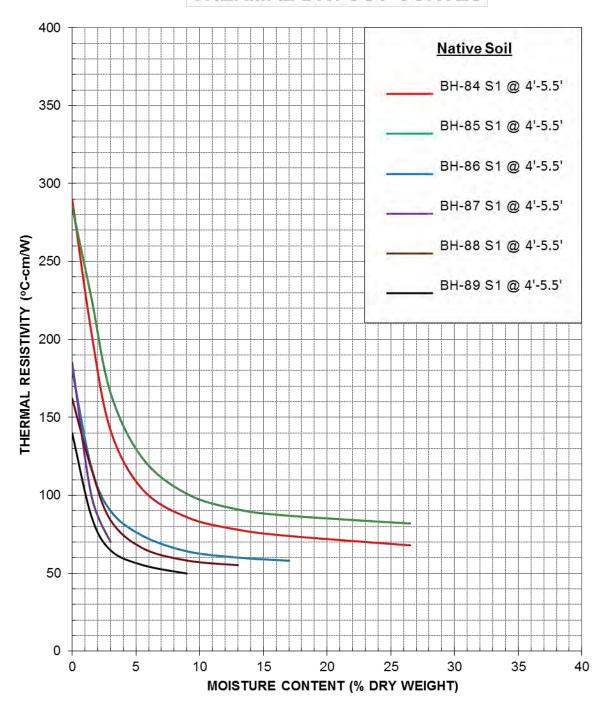
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





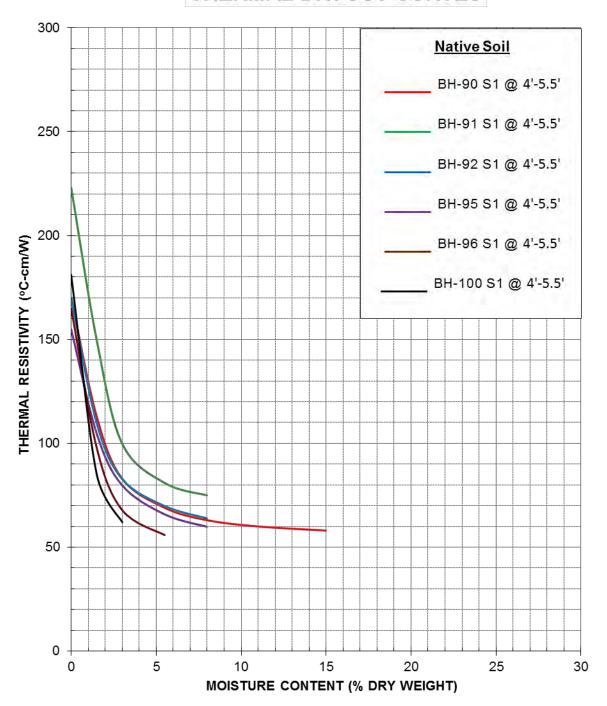
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





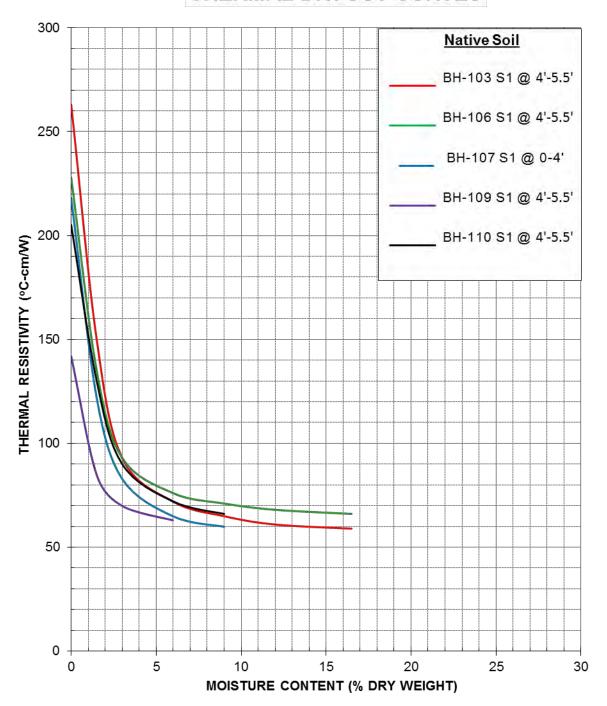
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





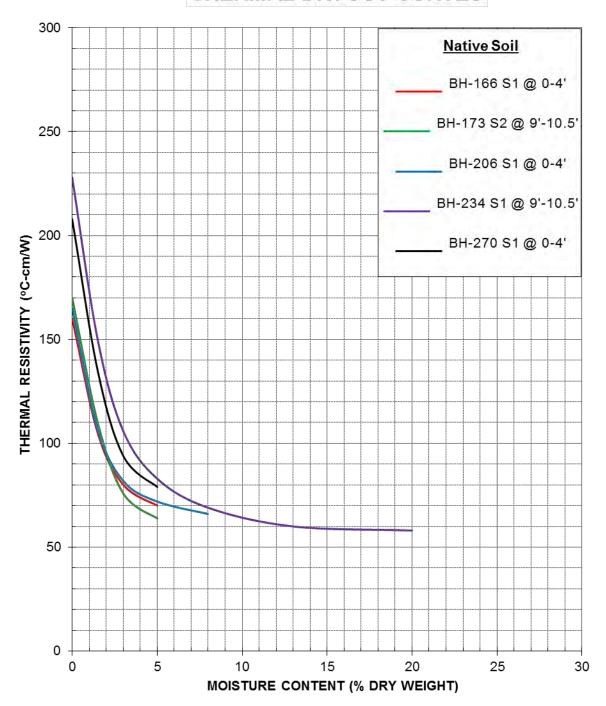
Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation



4370 Contractors Common Livermore, CA 94551

Tel: 925-999-9232 Fax: 925-999-8837 info@geothermusa.com

October 7, 2016

Quanta Subsurface

4308 N. Barker Road Spokane Valley, WA 99027

Attn: Zach Wright

Re: Thermal Analysis of Native Soil Northern Pass Trenchless Investigation - New Hampshire (Project No. 201-16-NH)

The following is the report of thermal dryout characterization tests conducted on sixteen (16) undisturbed tube samples and one (1) bulk sample of native soil received at our laboratory.

<u>Thermal Resistivity Tests:</u> For thermal dryout characterization the tube samples were tested 'as-received' and the bulk sample was tested at the 'as-received' moisture content and 95% of the maximum dry density *provided by Quanta Subsurface*. A series of thermal resistivity measurements were made in stages with moisture content ranging from the 'as-received' to the totally dry condition. The tests were conducted in accordance with the IEEE standard 442. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 3**.

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Description	· (C-0		Moisture Content	Dry Density
•	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-68 S1 @ 6' – 7.5'	Silty sand	80	242	7	106
BH-69 S1 @ 4' – 5.5'	Silty sand	78	168	3	123
BH-71 S1 @ 4' – 5.5'	Poorly graded sand	77	322	10	98
BH-101 S1 @ 5.5' – 7'	Silty sand	79	287	10	96
BH-105 S1 @ 5.5' – 7'	Poorly graded sand	65	158	15	123
BH-108 S1 @ 9.5' – 11'	Gravel sand silt mixture poorly graded sand	64	174	14	117
BH-118 S1 @ 9.5' – 11'	Gravel sand silt mixture	62	144	12	131

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION



Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID Description			Thermal Resistivity (°C-cm/W)		Dry Density
•	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-134 S1 @ 4.5' – 6'	Well graded sand	59	140	8	131
BH-155 S1 @ 4' – 5.5'	Sandy gravel	72	178	5	111
BH-165 S1 @ 4' – 5.5'	Poorly graded sand	87	329	4	98
BH-188 S1 @ 9.5' – 11'	Silty sand	62	171	12	122
BH-199 S1 @ 9' – 10.5'	Poorly graded sand	83	379	10	90
BH-205 S1 @ 6' – 7.5'	Poorly graded sand	89	267	3	107
BH-246 S1 @ 6' – 7.5'	Gravel sand silt mixture	112	263	2	113
BH-268 S1 @ 5' – 6.5'	Poorly graded sand	85	291	4	111
BH-269 S1 @ 5' – 6.5'	Silt inorganic	56	365	23	90
BH-204 S1 @ 0-4' (Bulk Sample)	Silty sand	64	179	11	122

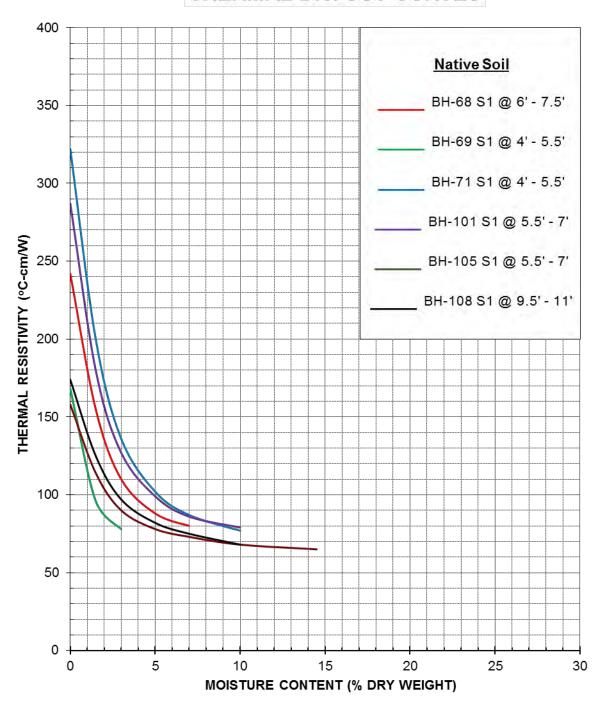
 $\underline{\textbf{Comments:}} \ \ \, \textbf{The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.}$

Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel

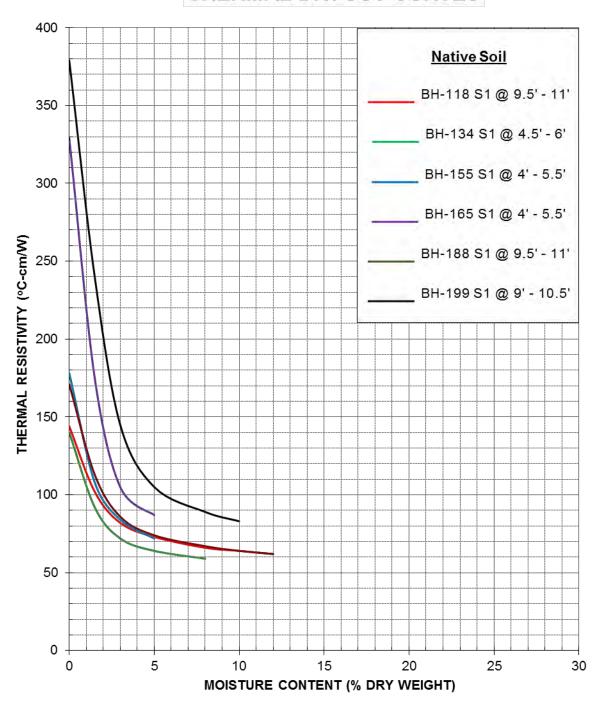




Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation

October 2016 Figure 1



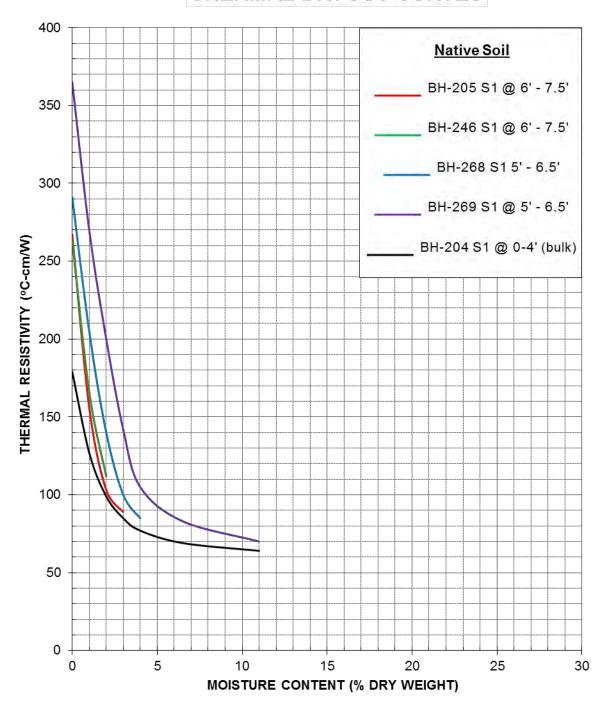


Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation

October 2016 Figure 2

4





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation

October 2016 Figure 3

5



4370 Contractors Common Livermore, CA 94551

Tel: 925-999-9232 Fax: 925-999-8837 info@geothermusa.com

October 20, 2016

Quanta Subsurface

4308 N. Barker Road Spokane Valley, WA 99027

Attn: Zach Wright

Re: Thermal Analysis of Native Soil and Rock Core Northern Pass Trenchless Investigation - New Hampshire (Project No. 201-16-NH)

The following is the report of thermal dryout characterization tests conducted on two (2) tube samples of native soil and three (3) rock core samples received at our laboratory.

<u>Thermal Resistivity Tests:</u> For thermal dryout characterization the samples were tested 'asreceived'. A series of thermal resistivity measurements were made in stages with moisture content ranging from the 'as-received' to the totally dry condition. The tests were conducted in accordance with the IEEE standard 442. The results are tabulated below and the thermal dryout curves are presented in **Figures 1**. Due to the low moisture content of the rock core samples (surface moisture of less than 1%), it was not possible to draw the thermal dryout graphs.

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Description		Thermal Resistivity Moisture (°C-cm/W) Content		Dry Density	
	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)	
BH-112 @ 9.6' – 10.5'	Rock Core	36	73	<1	164	
BH-272 @ 4.65' – 5.75'	Rock Core	36	74	<1	178	
BH-120 @ 11.2'	Rock Core	49	69	<1	160	
BH-160 @ 6.5' SPT1 S1	SW-SM	133	345	5	96	
BH-267 @ 5' – 6.5'	SP	73	262	14	83	

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION



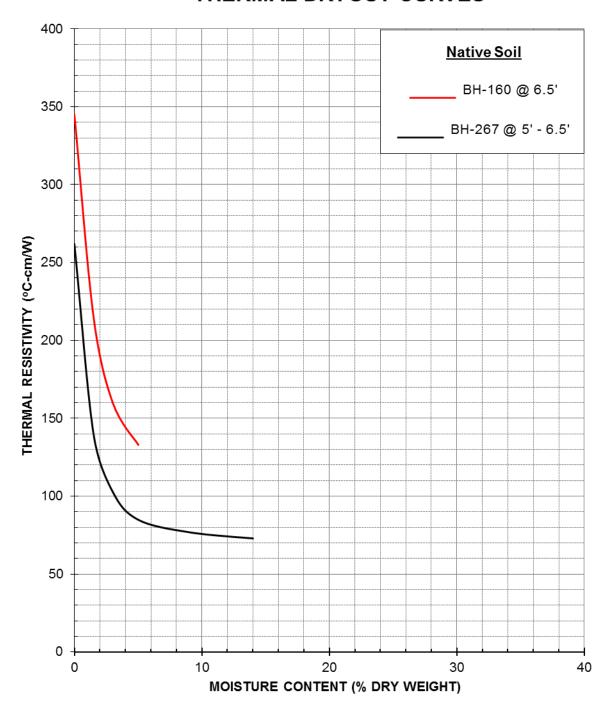
<u>Comments:</u> The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel





Quanta Subsurface Thermal Analysis of Native Soil Northern Pass Trenchless Investigation

October 2016 Figure 1

3



4370 Contractors Common Livermore, CA 94551

Tel: 925-999-9232 Fax: 925-999-8837 info@geothermusa.com

November 9, 2016

Quanta Subsurface

4308 N. Barker Road Spokane Valley, WA 99027

Attn: Zach Wright

Re: Thermal Analysis of Rock Core Sample

Northern Pass Trenchless Investigation - New Hampshire (Project No. 201-16-NH)

The following is the report of thermal dryout characterization tests conducted on one (1) rock-core sample received at our laboratory.

<u>Thermal Resistivity Tests:</u> For thermal dryout characterization the sample was tested 'as-is'. A series of thermal resistivity measurements were made in stages with moisture content ranging from the 'as-received' to the totally dry condition with results tabulated below. The tests were conducted in accordance with the IEEE standard 442. Due to the low moisture content (surface moisture of less than 1%), it was not possible to draw the thermal dryout graph.

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Description (Overte)	Thermal Resistivity (°C-cm/W)		Moisture Content	Dry Density
·	(Quanta)	As-rcvd	Dry	(%)	(lb/ft³)
BH-185 @ 11.8' – 12.64'	Rock Core	36	62	<1	176

Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION

Job Number: 16004

ATTACHMENT C

Dry Density Test Results



ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH-274 (0-4')

Project Number 16-0600

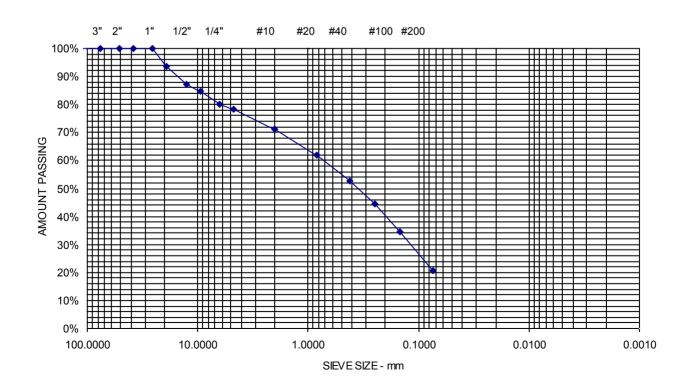
Lab ID 1277M

Date Received 6/27/2016

Date Completed 6/29/2016

Tested By RILEY MOYER

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%	1
150 mm	6"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	100	
19.0 mm	3/4"	94	
12.5 mm	1/2"	87	
9.5 mm	3/8"	85	
6.3 mm	1/4"	80	
4.75 mm	No. 4	78	21.8% Gravel
2.00 mm	No. 10	71	
850 um	No. 20	62	
425 um	No. 40	53	57.4% Sand
250 um	No. 60	44	
150 um	No. 100	34	
75 um	No. 200	20.8	20.8% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH-276 (0-4')

Project Number 16-0600

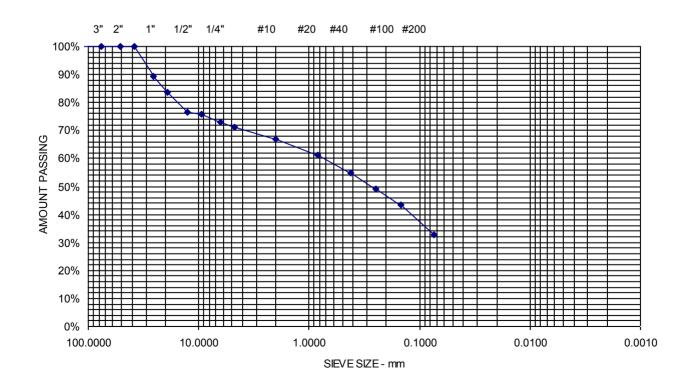
Lab ID 1278M

Date Received 6/27/2016

Date Completed 6/29/2016

Tested By RILEY MOYER

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	!
150 mm	6"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	89	
19.0 mm	3/4"	83	
12.5 mm	1/2"	76	
9.5 mm	3/8"	76	
6.3 mm	1/4"	73	
4.75 mm	No. 4	71	28.8% Gravel
2.00 mm	No. 10	67	
850 um	No. 20	61	
425 um	No. 40	55	38.4% Sand
250 um	No. 60	49	
150 um	No. 100	43	
75 um	No. 200	32.9	32.9% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH-278 (0-4')

Project Number 16-0600

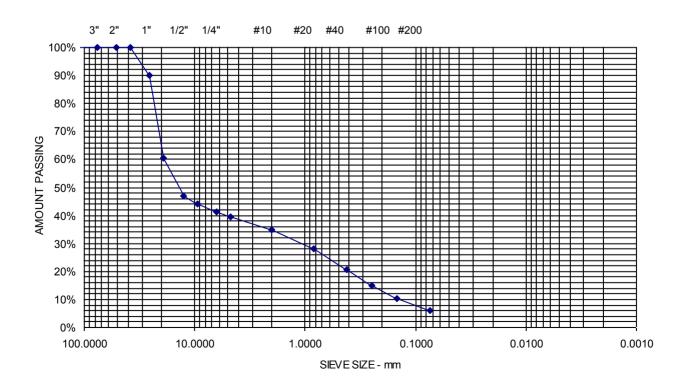
Lab ID 1279M

Date Received 6/27/2016

Date Completed 6/29/2016

Tested By RILEY MOYER

<u>STANDARD</u> <u>DESIGNATION (mm/µm)</u>	SIEVE SIZE	AMOUNT PASSING (%)	
150 mm	6"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	90	
19.0 mm	3/4"	61	
12.5 mm	1/2"	47	
9.5 mm	3/8"	44	
6.3 mm	1/4"	41	
4.75 mm	No. 4	40	60.5% Gravel
2.00 mm	No. 10	35	
850 um	No. 20	28	
425 um	No. 40	20	33.6% Sand
250 um	No. 60	15	
150 um	No. 100	10	
75 um	No. 200	5.9	5.9% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH-285 (0-4')

Project Number 16-0600

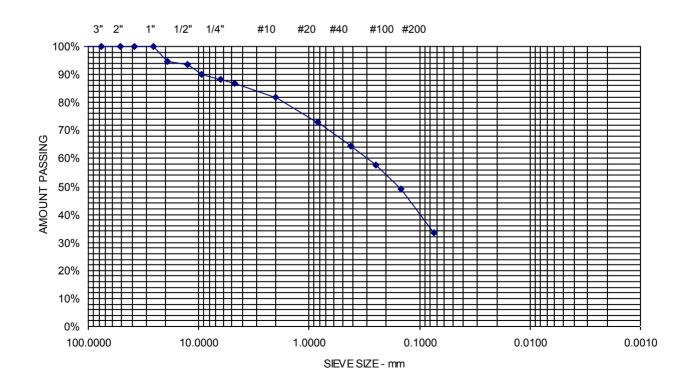
Lab ID 1280M

Date Received 6/27/2016

Date Completed 6/29/2016

Tested By MARK BENNETT

<u>STANDARD</u> <u>DESIGNATION (mm/μm)</u>	SIEVE SIZE	AMOUNT PASSING (%)	1
150 mm	6"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	3 2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1-1/2		
=***	-	100	
19.0 mm	3/4"	95	
12.5 mm	1/2"	93	
9.5 mm	3/8"	90	
6.3 mm	1/4"	88	
4.75 mm	No. 4	87	13.1% Gravel
2.00 mm	No. 10	82	
850 um	No. 20	73	
425 um	No. 40	64	53.3% Sand
250 um	No. 60	58	
150 um	No. 100	49	
75 um	No. 200	33.6	33.6% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

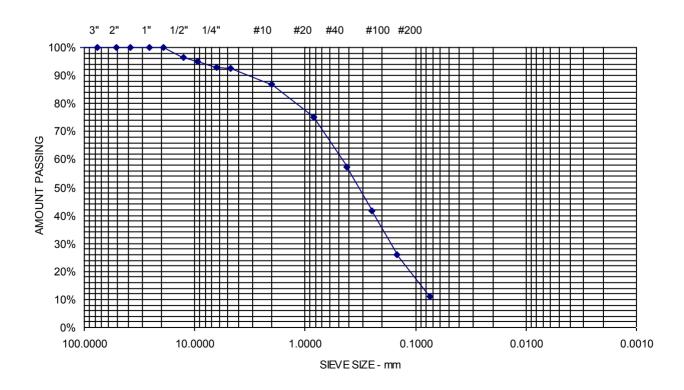
LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH-287 (0-4')

Project Number 16-0600
Lab ID 1281M
Date Received 6/27/2016
Date Completed 6/29/2016
Tested By MARK BENNETT

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	ı
150 mm	6"	100	
	4"	100	
100 mm	=		
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	100	
19.0 mm	3/4"	100	
12.5 mm	1/2"	97	
9.5 mm	3/8"	95	
6.3 mm	1/4"	93	
4.75 mm	No. 4	92	7.6% Gravel
2.00 mm	No. 10	87	
850 um	No. 20	75	
425 um	No. 40	57	81.3% Sand
250 um	No. 60	42	
150 um	No. 100	26	
75 um	No. 200	11.1	11.1% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH 260, 0-4 FOOT DEPTH

Project Number 16-0600

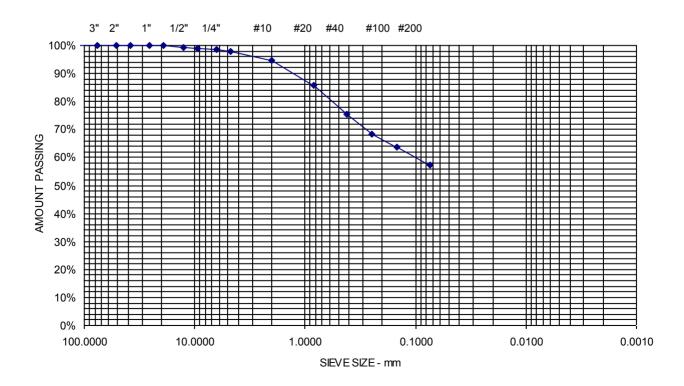
Lab ID 1295M

Date Received 7/6/2016

Date Completed 7/14/2016

Tested By MARK BENNETT

<u>STANDARD</u> <u>DESIGNATION (mm/μm)</u>	SIEVE SIZE	AMOUNT PASSING (%	1
150 mm	6"	100	
100 mm	4 "	100	
	=		
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	100	
19.0 mm	3/4"	100	
12.5 mm	1/2"	99	
9.5 mm	3/8"	99	
6.3 mm	1/4"	98	
4.75 mm	No. 4	98	2.3% Gravel
2.00 mm	No. 10	95	
850 um	No. 20	86	
425 um	No. 40	75	40.5% Sand
250 um	No. 60	68	
150 um	No. 100	64	
75 um	No. 200	57.2	57.2% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH 261, 0-4 FOOT DEPTH

Project Number 16-0600

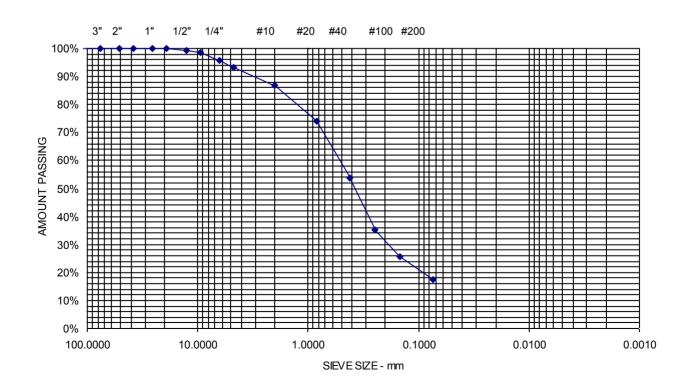
Lab ID 1296M

Date Received 7/6/2016

Date Completed 7/14/2016

Tested By MARK BENNETT

STANDARD DESIGNATION (mm/μm)	SIEVE SIZE	AMOUNT PASSING (%)	l
150 mm	6"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	100	
19.0 mm	3/4"	100	
12.5 mm	1/2"	99	
9.5 mm	3/8"	99	
6.3 mm	1/4"	96	
4.75 mm	No. 4	93	6.8% Gravel
2.00 mm	No. 10	87	
850 um	No. 20	74	
425 um	No. 40	54	75.7% Sand
250 um	No. 60	35	
150 um	No. 100	26	
75 um	No. 200	17.5	17.5% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH 264, 0-4 FOOT DEPTH

Project Number 16-0600

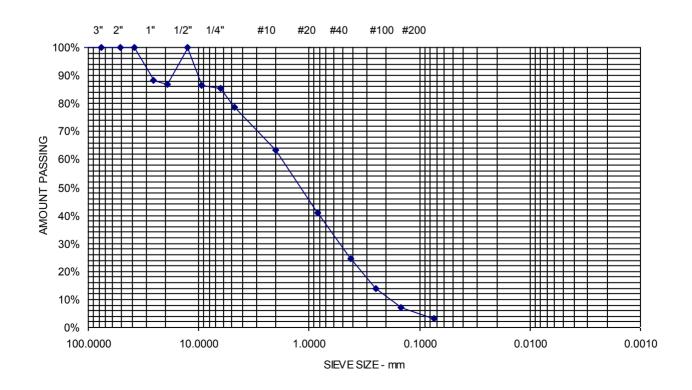
Lab ID 1297M

Date Received 7/6/2016

Date Completed 7/14/2016

Tested By MARK BENNETT

<u>STANDARD</u> <u>DESIGNATION (mm/μm)</u>	SIEVE SIZE	AMOUNT PASSING (%)	1
150 mm	6"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	88	
19.0 mm	3/4"	87	
12.5 mm	1/2"	100	
9.5 mm	3/8"	86	
6.3 mm	1/4"	85	
4.75 mm	No. 4	79	21.3% Gravel
2.00 mm	No. 10	63	
850 um	No. 20	41	
425 um	No. 40	24	75.5% Sand
250 um	No. 60	14	
150 um	No. 100	7	
75 um	No. 200	3.2	3.2% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH 265, 0-4 FOOT DEPTH

Project Number 16-0600

Lab ID 1298M

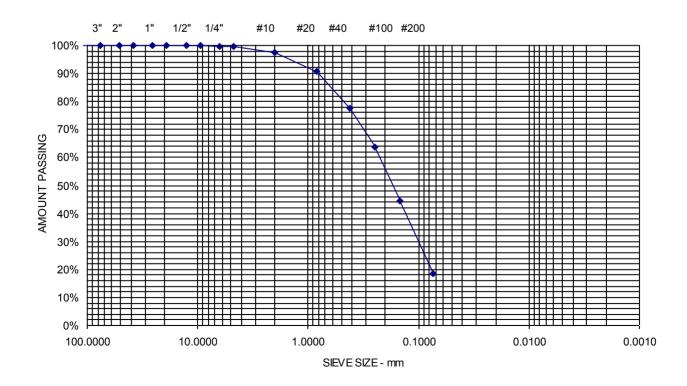
Date Received 7/6/2016

Date Completed 7/14/2016

Tested By MARK BENNETT

<u>STANDARD</u> <u>DESIGNATION (mm/μm)</u>	SIEVE SIZE	AMOUNT PASSING (%)
150 mm	6"	100

150 mm	6"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	100	
19.0 mm	3/4"	100	
12.5 mm	1/2"	100	
9.5 mm	3/8"	100	
6.3 mm	1/4"	100	
4.75 mm	No. 4	100	0.2% Gravel
2.00 mm	No. 10	97	
850 um	No. 20	91	
425 um	No. 40	78	81.3% Sand
250 um	No. 60	64	
150 um	No. 100	44	
75 um	No. 200	18.5	18.5% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH 271, 0-4 FOOT DEPTH

Project Number 16-0600

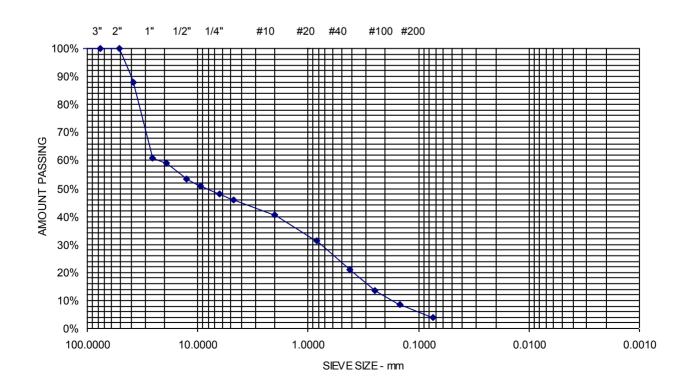
Lab ID 1299M

Date Received 7/6/2016

Date Completed 7/14/2016

Tested By MARK BENNETT

<u>STANDARD</u> <u>DESIGNATION (mm/μm)</u>	SIEVE SIZE	AMOUNT PASSING (%)	
150	6"	400	
150 mm	-	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	88	
25.0 mm	1"	61	
19.0 mm	3/4"	59	
12.5 mm	1/2"	54	
9.5 mm	3/8"	51	
6.3 mm	1/4"	48	
4.75 mm	No. 4	46	53.9% Gravel
2.00 mm	No. 10	40	
850 um	No. 20	31	
425 um	No. 40	21	42.3% Sand
250 um	No. 60	14	
150 um	No. 100	8	
75 um	No. 200	3.8	3.8% Fines





ASTM C-117 & C-136

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

75 um

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Source BH 273, 0-4 FOOT DEPTH

Project Number 16-0600

Lab ID 1300M

Date Received 7/6/2016

Date Completed 7/14/2016

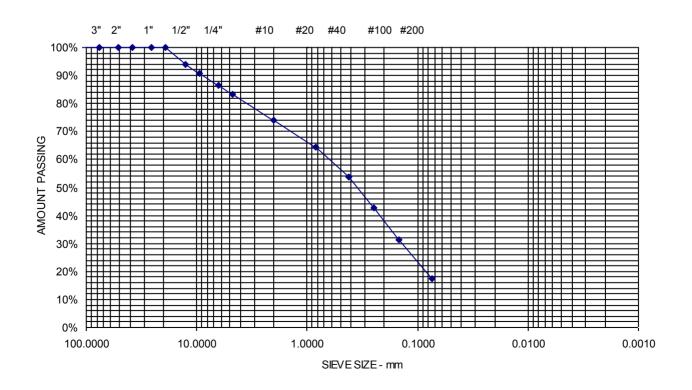
Tested By MARK BENNETT

17.5% Fines

STANDARD_ DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	
150 mm	6"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	100	
19.0 mm	3/4"	100	
12.5 mm	1/2"	94	
9.5 mm	3/8"	91	
6.3 mm	1/4"	87	
4.75 mm	No. 4	83	16.8% Gravel
2.00 mm	No. 10	74	
850 um	No. 20	64	
425 um	No. 40	54	65.7% Sand
250 um	No. 60	43	
150 um	No. 100	31	

No. 200

17.5





Method ASTM D-698 STANDARD Procedure B

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

SILTY SAND W/ TRACE GRAVEL Material Type

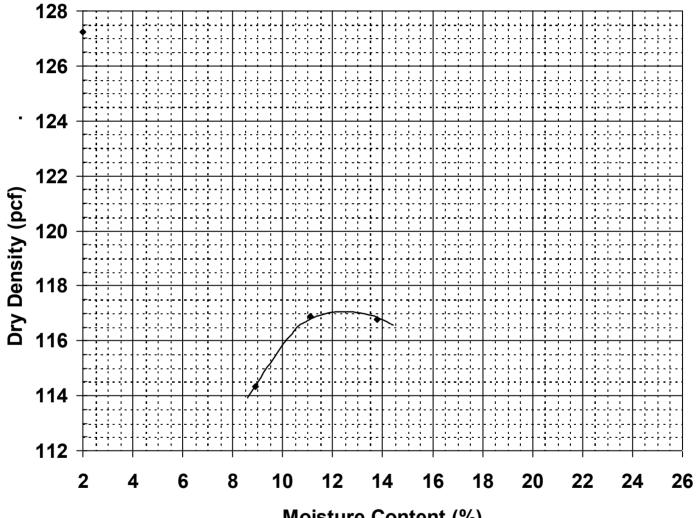
Material Source BH-260

16-0600 **Project Number** Lab ID 1395M 8/12/2016 **Date Received**

Date Completed 8/15/2016

Tested By ANDREW MICHAUD

Moisture-Density Relationship Curve



Moisture Content (%)

Maximum Dry Density (pcf) 117.4 Corrected Dry Density (pcf) 119.4 12.5 Optimum Moisture Content (%) Corrected Moisture Content (%) 11.8 Percent Oversized 6.7%



Method ASTM D-698 STANDARD Procedure B

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Type SANDY GRAVEL W/ TRACE SILT

Material Source BH-271

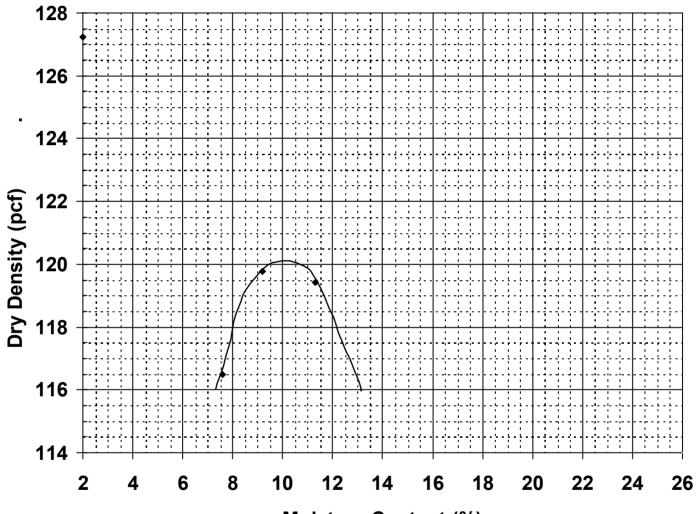
Project Number 16-0600 Lab ID 1396M

Date Received 8/12/2016

Date Completed 8/15/2016

Tested By ANDREW MICHAUD

Moisture-Density Relationship Curve



Moisture Content (%)

Maximum Dry Density (pcf)

Optimum Moisture Content (%)

Percent Oversized

120

Corrected Dry Density (pcf)

127.5

Corrected Moisture Content (%)

8.0



Method ASTM D-698 STANDARD Procedure B

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

Material Type SILTY SAND W/ SOME GRAVEL

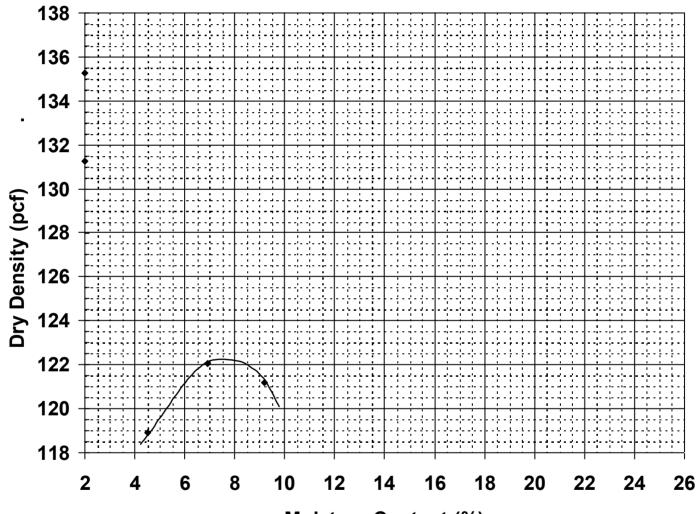
Material Source BH-285

Project Number 16-0600 Lab ID 1397M

Date Received 8/12/2016
Date Completed 8/15/2016

Tested By ANDREW MICHAUD

Moisture-Density Relationship Curve



Moisture Content (%)

Maximum Dry Density (pcf)

122.3

Optimum Moisture Content (%)

Percent Oversized

122.3

Corrected Dry Density (pcf)

7.9

Corrected Moisture Content (%)

6.5



Method ASTM D-698 STANDARD Procedure B

Project Name VARIOUS NH - NORTHERN PASS TRANSMISSION LINE -

LABORATORY TESTING SERVICES

Client QUANTA SUBSURFACE

SAND W/TRACE SILT AND GRAVEL Material Type

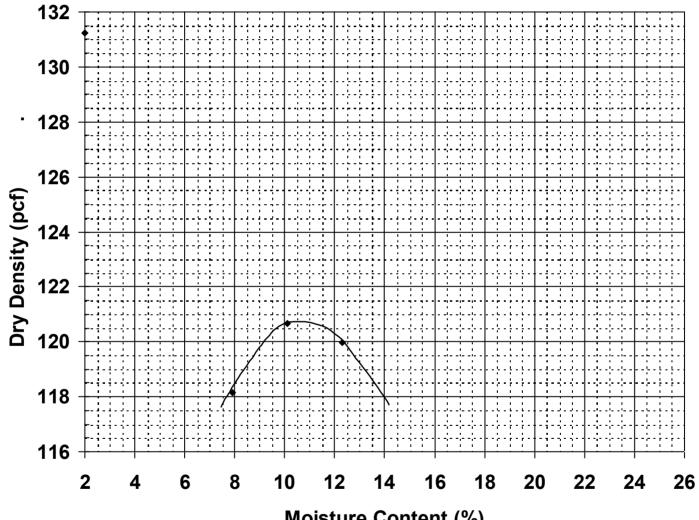
Material Source BH-287

16-0600 **Project Number** Lab ID 1398M

8/12/2016 Date Received **Date Completed** 8/15/2016

Tested By ANDREW MICHAUD

Moisture-Density Relationship Curve



Moisture Content (%)

Maximum Dry Density (pcf) 120.5 Corrected Dry Density (pcf) 126.7 10.5 Optimum Moisture Content (%) Corrected Moisture Content (%) 8.7 Percent Oversized 21.1%