# KIBBY WIND POWER PROJECT CLASS "C" MEDIUM HIGH-INTENSITY SOIL SURVEY

Prepared for:









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#### **KIBBY WINDPOWER PROJECT**

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# Section 1 Introduction

TransCanada is proposing to develop a wind energy project on Kibby Mountain and Kibby Range in northern Franklin County, Maine. The Kibby Wind Power Project will generate approximately 130 megawatts (MW) of electrical power from 44 wind turbine sites along the ridgelines of the Kibby Range and Kibby Mountain. The project will require new road construction and a new transmission line corridor to tie into the existing power grid. Soil mapping is required to provide a basis for the Land Use Regulation Commission (LURC) standards for Erosion and Sediment Control, Rule 10.25G.

The Kibby Wind Power Project Team presented a preliminary plan of the proposed wind energy project to the LURC on September 13, 2006. Marcia-Spencer Famous (LURC Land Use Planner), Robert Marvinney, (Director and State Geologist), and Mr. David Rocque (State Soil Scientist), identified potential environmental issues to be addressed for the proposed project. The agencies recommended minimizing soil impacts as much as possible on the mountaintops. It was further recommended any "borrowed" soils should be mixed with common erosion seed mix and used throughout the project for erosion control. These concerns have been considered, along with Mr. Marvinney's recommendation to test rock characteristics to determine whether utilization of these materials near streams would be a potential leaching contaminant concern.

Prior to that meeting and prior to starting the soil survey, we met with David Rocque on August 14, 2006, to discuss and determine soil survey limits, soil survey level of intensity, project hydrology and the protection of the natural resources. Mr. Rocque currently reviews permit applications for projects under LURC's jurisdiction and identified the challenges associated with soil hydrology and road design and construction. Mr. Rocque requested a Class "C" Medium High-Intensity Soil Survey be submitted for the proposed project. The standards requirements for Class "C" Medium-Intensity Soil Surveys can be found in the *Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping*, by the Maine Association of Professional Soil Scientists, dated September 2000. After reviewing the project maps, we agreed a Class "C" level of intensity would provide the necessary information needed not only to design the project upon, but also to address regulatory concerns.

It was also determined that a soil survey along the existing 115-kilovolt (kV) transmission corridor would not be required due to the lack of proposed permanent impacts; rather, it was determined that existing wetland data would suffice. Instead, Mr. Rocque directed that the focus should be concentrated in areas with proposed roads, lay down, turbine construction sites and other areas with significant soil disturbances. Mr. Rocque expressed the primary concerns of retaining hydraulic connections with road alignments and construction areas. Specifically, projects need to maintain a continued hydraulic interconnection between the upstream to the downstream while passing through the new roadbeds. Additionally, he suggested that using granular materials in necessary fill areas would aid in promoting desirable water movement through these areas. Mr. Rocque further stressed ensuring proper culvert sizing and placement in areas of concentrated flow and recommended utilizing a "rock sandwich" in areas where wider or "sheet-flows" exist. The "rock sandwich" (called a "French mattress" according to the technical bulletin from Penn State) would allow free water passage and maintain hydraulic connectivity.

In order to ensure interconnected hydrology and reduce potential environmental impacts in sensitive areas, it was recommended that an approach be used that would identify a range of construction techniques to respond to the various types of conditions known to exist and expected to occur in the project area. An on-site engineer would select the most effective technique to employ based on the conditions encountered during construction and the site-specific details at the wetland, seeps, streams or water body crossings. It was suggested that, although the specific construction techniques for maintaining hydrology and minimizing environmental impacts in the project area be identified and reviewed prior to construction, an on-site engineer/contractor should use engineering judgment in the field to refine the approach to further decrease the potential for environmental impacts and ensure the hydrology in sensitive areas is maintained.

Properly sized and positioned culverts were recommended for stream crossings and areas with "concentrated" flow. For surface groundwater and "seeps," a "rock sandwich" was recommended, consisting of two layers of filter fabric with a "stone bed" in the middle allowing free water movement under the roadway and maintaining hydraulic connectivity. The road base would be constructed on top of the fabric over the stone bed and seeded with erosion control mix, if necessary. Mr. Rocque also recommended mixing wood chips from grinding local stumps with topsoils for road bases in certain "soft" crossing areas. Winter clearing was also suggested to minimize soil disturbance, although it was recommended that road construction occur only during periods when frozen ground is not present, such as June through September. After the meeting, several areas of the project were visited to observe typical and potential problem areas, including sites with hydrology, relating to the soil survey efforts.

The project mountaintops are generally around 3,000 feet above sea level. The surficial topography along the ridge tops is broad and flat with intermittent saddles and areas with steep slopes. The mountainside slopes are generally steep and forested with coniferous trees intermixed with a few deciduous tree species.

Most areas were forested above 2,700 feet; however, some mountain top areas had been cut over in the past, as evidenced by decaying stumps.

The soils were examined in the field using test pits intermittently observed across the site by four Soil Scientists and two Soil/Global Positioning System (GPS) technicians in August and September 2006. The soil survey was documented, under the direction of Dale Brewer of Statewide Surveys, Inc., by a group of experienced Maine Certified Soil Scientists, namely Christopher Dorion, Donald Philips, Paul Corey, and soil technicians Jonathan Gravel and Dayna DeValk. Fieldwork consisted of documenting soil morphology with hand dug test pits dug to bedrock or refusal. Survey areas and locations for test pits were selected based on observations of slopes, land form and vegetative characteristics within proposed development locations. The goal was to represent potential soils and conditions throughout the development area. The soil data was then applied to soil taxonomy for the soil mapping units and/or soil series determinations as shown on the Class C Medium High-Intensity Soils Map. Please see the soil map in Appendix F for a depiction of the survey limits.

It was not feasible to utilize mechanized equipment to excavate test pits considering accessibility, safety and environmental concerns. Although a significant network of existing roads is located on the site, none are currently available that would be suitable to mobilize equipment to the ridge tops. The soil mapping teams used a variety of shovels and hand augers to excavate the test pits to a depth of  $\pm$  40 inches (40") or refusal. The test pits were located with a Trimble GEO-XT Global GPS with sub-meter accuracy and incorporated into the Class C Medium High-Intensity Soil Map. The soil map has been merged into the topographic and existing conditions plan, prepared by TRC's Augusta office. The soil map units and soil boundaries have been drawn, reviewed, and forwarded to project engineers for consideration during the design of the project.

Soils found underlying the site, described in the following sections, were examined and classified to identify potential soil limitations relating to the development of the Kibby Wind Power Project. This report has been prepared as part of the LURC's standards for erosion and sediment control rule 10.25G and may be used to support permitting procedures as required under the regulations.

# Section 2 Purpose of Soil Survey

The purpose of this Class C Medium High-Intensity Soil Survey is to address LURC standards for erosion and sediment control rule 10.25G for the Kibby Wind Power Project. Soils data collected in August and September 2006 were used to identify, classify, describe, and map the soils in the areas of proposed development of the wind power project. Soil mapping also included the proposed access roads and proposed workspace areas anticipated to be required for construction of the project.

The accompanying soil survey map (Appendix F) depicts the location, size and types of soil found underlying the site. The soils information is being considered by Professional Engineer Joseph Bellini and AMEC's engineering staff for the design of the proposed access roads, workspace areas, turbine placement and storm water management controls. The soils data provides the relationship between existing conditions and anticipated conditions considering soil properties, drainage classifications, rock outcroppings, surface conditions and slope ranges.

# Section 3 Site Locations and Descriptions

The site is located in Kibby and Skinner Township, Franklin County, Maine (specifically, Township 1, Range 6, West of Bingham's Kennebec Purchase [T1-R6 WBKP] and T1 R7 WBKP, respectively). The proposed Kibby Wind Power Project will encompass two ridge tops known as Series "A" and Series "B" (please see the Soil Map located in Appendix F).

Series "A" is located along the southern ridgelines of Kibby Mountain, with Series "B" along the crest of the Kibby Range. Initial access to both project sites is gained off Route 27 and Gold Brook Road in Chain of Ponds Township. Series "A" will have primary access routes from an unnamed logging road off Gold Brook Road and the Spencer Bale Road. Series "B" will have access roads from an unnamed logging road off Gold Brook Road and another unnamed logging road off of Wahl Road. New road construction will be needed to augment the existing access routes for access to the ridge tops.

The Series "A" portion of the project currently has a meteorological tower at its southerly summit collecting wind resource data (see photo 3.1). Series "A" will be accessed off existing roads including Spencer Bale Road, with new road construction extending to access the northerly portions and the Kibby Mountain ridgelines. The new construction will originate at the terminus of the clear-cut area and the unnamed logging road. Generally, the proposed access road will follow the less restrictive topography to the summit.

The primary watershed of Series "A" generally has drainage patterns oriented southwesterly from the ridge tops. However, drainage occurs in most directions off the summit. A number of clear cuts to  $\pm 2,700$  feet are located along the base of Kibby Mountain with long slopes leading down to wet toe slopes. The Series "A"

ridgelines are generally gently sloping (1 to 8%) with limited rock outcrop exposures and areas of steep and very steep slopes. The very steep slopes tend to be short in length and unavoidable. According to interpretations from the United States Geological Survey (USGS) Topographic Survey the proposed work for Series "A" will approximately occur between elevations 2,400 and 3,100 feet.

The Series "B" portion of the project has two meteorological towers on the ridge currently collecting wind resource data. The "wishbone" shaped Series "B" Wind farm has a ridge spanning approximately 5.3 miles from the eastern to the western end. Series "B" will be accessed off Gold Brook Road and Wahl Road with two new access roads to the ridge. The new road construction to access the western ridge of Series "B" will originate off the Gold Brook Road utilizing existing unnamed logging road for a section then cross country in a southeasterly direction to the ridge of Kibby Range. Generally, the proposed access road will utilize less restrictive slopes to the summit. The other new road construction to access the eastern ridge originates off Wahl Road utilizing an existing unnamed logging road for a section the road construction to access the eastern ridge originates off Wahl Road utilizing an existing unnamed logging road for a section, then cross country in a westerly direction to the ridge.

The primary watershed for Series "B" has drainage patterns oriented southeasterly from the ridge tops. However, drainage occurs in most directions off the summit. A number of clear cuts to  $\pm 2,700$  feet are located along the base of Kibby Range with long slopes leading down to wet toe slopes. The wind turbine sites and workspace are proposed on the gently sloping areas, while some road sections have steeper slope gradients. According to interpretations from the USGS Topographic Survey, the proposed work for Series "B" will approximately occur between elevations  $\pm 2,400$  feet near Gold Brook Road and  $\pm 3,200$  feet at the northern peak.

# Section 4 Site Investigation

Site-specific soil information was collected at various locations across Series "A" and Series "B" in August and September of 2006 (see Soils maps, Appendix F). The test pits and borings examined were marked in the field with orange flagging and designated with letters from A06-TP-A-1 to A06-TP-A-67 and B06-TP-B-1 to B06-TP-B-50. Test pit locations were selected based on topographic relief and vegetation stands, which typically are indicative of soil type variations. Test pits were also observed in many of the proposed workspaces and turbine locations. Excavated test pits were examined for soil colors, rock content, texture, consistency, root depths, redoximorphic features, and depth to bedrock. Test pit logs were completed from this information and are included in Appendix E.

The test pits observed in the field were located by GPS and plotted to aid in the preparation of a soil map of the project area. The base map and topographic information used on the Class C Medium High-Intensity Soil Map was provided and assumed correct. The topography and base map were compiled from field surveys by James W. Sewall Company with a scale of 1 inch = 500 feet and 5 foot contour intervals on the site (Appendix F).

The Kibby Wind Power Project soil mapping and drainage classifications were determined by parameters located in the *Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping*, published by the Maine Association of Soil Scientists in 1990 and revised in 2000.

# Section 5 Soil Characteristics

The soils series identified underlying the site include: the excessively and somewhat excessively drained Abram, Lyman, Mahoosuc and Ricker (also well drained) soils; the well drained Marlow, Saddleback, Sisk and Tunbridge soils; the moderately well drained Chesuncook and Surplus soils; the somewhat poorly drained Brayton (also poorly drained) Colonel and Telos soils; the poorly drained Bemis, Brayton and Monarda soils; and the very poorly drained Burnham soils. Please see Appendix A for specific soil information.

These soils developed in parent materials consisting of glacial till, compact loamy glacial till, dense glacial till, and organic deposits over thin mineral soils underlain by bedrock or fragmental colluviums of glacial till and glacio-fluvial deposits.

The "higher" elevation soils, generally above  $\pm 2,500$ ' in elevation, were considered in a "cryic" temperature regime. According to the *Keys to Soil Taxonomy*, soils in a cryic temperature regime have mean annual temperatures higher than 0° Celsius, (C), but lower than 8° C. Of note, cryic soils that have an aquic moisture regime commonly are churned by frost. All isofrigid<sup>1</sup> soils without permafrost are considered to have a cryic moisture regime. Generally, soils below the  $\pm 2,500$  feet in elevation were considered in a "frigid" temperature regime. As described in the *Keys to Soil Taxonomy*, "a soil with a frigid regime is warmer in summer than a soil with a cryic regime, but its mean annual temperature is lower than 8°C, and the difference between mean summer and mean winter soil temperatures (June-July-August and December-January-February) is more than 5°C either at a depth of 50 centimeter (cm) from the soil surface or at a lithic or paralithic contact whichever is shallower."

<sup>&</sup>lt;sup>11</sup> Isofrigid soils are soils with a mean soil temperature of less than 8 degrees Celsius.



Many "cryic" soils tend to have higher amounts of organics in the upper part providing dark "reddish" colors as shown here. Many cryic soils are also classified as "thixotropic." According to *Soil Taxonomy*, by the United States Department of Agriculture (USDA), thixotropic and thixotropic-skeletal soils have a fine earth fraction with an exchange complex dominated by amorphous clays.

The identified soils have similar properties to the established soil series and should respond to use and management as determined and described in the *Soil Series of Maine Soil Interpretations*, published by the Maine Association of Professional Soil Scientists in cooperation with the USDA Soil Conservation Service, dated January 1987 and revised January 1988 and 1989. Please review Appendix D for detailed soils information and terminology.

# Section 6 Soil Map and Map Unit Descriptions

Soil complexes were used to define the mapping units shown on the Class C Medium-High Intensity Soil Survey. Soil complexes consist of two or more dissimilar soils occurring in a regular pattern in the landscape. The soil mapping units delineated on the soil survey were achieved by observing soil profiles from 117 test pits, numerous borings and USACE data plots. Mapping units were designed to identify distinct separations between dissimilar soils relative to the proposed site development.

Soil complexes have the identified soils present; however each soil may vary greatly in proportions between map units used. The following soil complexes or soil map unit symbols in parenthesis were found underlying the site: Abram (AbA, AbB, AbC), Abram-Mahoosuc Complex (AMD), Abram-Rock Outcrop-Lyman Complex (ARB, ARC), Abram-Saddleback (ASA, ASB), Colonel-Brayton Complex (CBA), Chesuncook-Telos Complex (CTB), Enchanted-Surplus Complex (ESA), Monarda-Burnham (MBA), Saddleback-Abram-Rock Outcrop (SAA, SAB, SAC, SAD), Saddleback (SaA, SaB, SaC, SaD), Surplus-Bemis Complex (SBB), Saddleback-Enchanted Complex (SEB, SEC), Sisk (SiD), Saddleback-Sisk Complex (SKB, SKC, SKD), Sisk-Mahoosuc (SMC), Saddleback-Rock Outcrop Complex (SRB, SRC), Surplus-Ricker Complex (SrC), Saddleback-Surplus Complex (SSB, SSC), Surplus (SuB, SuC), Tunbridge-Bemis Complex (TBB), Telos-Monarda Complex (TMB). The attached soil survey map (Appendix F) depicts the size and location of these soil map units relative to each other and existing site features.

Each soil map unit consists of three letters (e.g., SaA), with the first two letters representing the abbreviation for the established soil series found within soil map unit areas. The soil map unit is a representation of the soil characteristics, such as texture, stoniness, drainage, and depth to bedrock, all of which may affect the

use and management of the soil. The third capitalized letter represents the surface slope gradient of the area within the soil map unit, (e.g., "A" represents 0 to 3 percent slopes). Therefore, in this example, "SaA" is interpreted as Saddleback silt loam on a 0 to 3 percent slope.

There may be small areas of different or dissimilar soils within a soil map unit, known as inclusions. Inclusions may exist within a delineated soil map unit, although the size of the inclusion may be too small (>5 acre) to stand alone as a soil map unit. Typically, inclusions would not exceed 15 percent if limiting, 25 percent if non-limiting or not more than 10 percent of the soil map unit if very contrasting. Please see Appendix C for the Soil Map Unit Descriptions underlying the project areas.

# Section 7 Conclusions

Based on observations, the soils are suitable for the proposed development; however, erosion control structures are needed to meet the erosion control standards and appropriate engineering measures must be utilized to ensure connected hydrology where flowages, wetlands, seeps or other drainages exist. There are limitations inherent to some of the soils identified at the site including seasonally high water tables, shallow depths to bedrock and steep slopes. These soil limitations have been considered during project design and have been avoided to the extent practicable. Where such areas exist, the soil limitations will be considered and overcome with site engineering practices. A geotechnical survey is recommended prior to final design to confirm bedrock depths and types in the project areas, especially in areas identified for foundation or turbine placement. These studies will ensure proper foundation footings to support the bearing weight load on the underlying soils.

Site features such as: the depth to bedrock or refusal, seasonal soil saturation depths, active water tables, rock outcrops and man-made features were examined and located. The following is a summary of these features and where they occur, as well as potential limitations relating to the proposed wind farm development.

 Steep slopes occur in some locations on the side-slopes leading down from the ridge tops toward the valley floors around Kibby Mountain and Kibby Range. Areas with slopes exceeding 45 percent in slope gradient should be avoided where possible, eliminating the need for substantial grading to accomplish safe access routes. These areas would require cuts, fills and/or additional engineered structures to accommodate the proposed project. Although project layout has prioritized used of more gradual slopes, some construction in unavoidable steep areas is proposed.

- 2. Jurisdictional wetlands occur intermittently within the project area requiring avoidance or minimizing impacts to these resources. The project area falls under the wetland jurisdiction of both LURC and the United States Army Corps of Engineers (USACE). Avoiding or minimizing impacts to "hydric soils" (poorly and/or very poorly drained soils) will reduce the potential for additional hydrology to manage for the project. The project layout has substantially avoided such areas, and minimized impact where avoidance was not possible. Where unavoidable, road design has incorporated special engineering design measures to address the soils and hydrology associated with these areas.
- 3. *Hydric soils* are soils formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils may be underlying areas adjacent to "seeps" or intermittent discharge sites. Hydric soils identified underlying the project site include the poorly drained Brayton and Monarda soils. These occur primarily within the jurisdictional wetlands previously mapped at the site, impact to which has been substantially avoided or minimized.

Where warranted, erosion and sediment control measures to reduce potential site erosion and sedimentation should be in place prior to actual construction. During the construction phases of the project, an on-site inspector should be available to make determinations regarding wet crossings should site conditions warrant culverts or the "rock sandwich"/"French mattress" approach is employed. A geotechnical study may be necessary to analyze soils for strength and suitability for erosion control measures, building foundations and or subsurface utilities. A Licensed Site Evaluator (LSE) will need to conduct further soil investigations for suitable locations for any on-site subsurface waste disposal facilities. A goal of the soil survey was to safely obtain the necessary soil data while limiting damage to live trees, avoiding and/or minimizing wetland disturbances and avoiding damage to the existing trail network. The required soil observations were achieved by traversing the project areas and selecting areas representative of common conditions or displaying variations in the landscape, including topographical, surficial features or variations in vegetative stands. Without using mechanized equipment, there was little environmental distruptance resultant from the soil field effort. However, soil observations were limited to the use of hand-dug test pits, hand borings, existing borrow pit areas, road cuts and surficial observations. Through this extensive field program, the necessary soil data were gathered to produce the Class C Medium High-Intensity Soil Survey for the Kibby Wind Power Project.

# Section 8 Limitations

The scope of this investigation has been limited to this Class C Medium High-Intensity Soil Survey in general accordance with standards and guidelines established by the Maine Association of Professional Soil Scientists. The soil map and soil survey report were prepared for the exclusive use of TransCanada, AMEC and TRC for specific application to the proposed Kibby Wind Power Project.

No other warranty, expressed or implied, is made. The conclusions and recommendations presented in this soil report are based on data obtained at the referenced site and our interpretation of this information. This report and soil map may not reflect soil variations that may occur between our observation test pits. It should be noted, with the great variation in bedrock depth fluctuations, there is potential for shallow soils where soils were not examined. Additionally, hand excavated test pits limited the ability to make large boulder or bedrock determinations. Soil scientists exercised professional judgment to make these determinations in the field. Follow-up geotechnical evaluation using mechanized equipment could determine the rock refusal limits encountered to be moveable boulders rather than bedrock. Regardless, if large boulders or bedrock is present, these areas will require additional and similar site modifications for use, such as blasting, ripping or crushing.

Data from this soil report and soil map should not be used for any other purpose other than the proposed Kibby Wind Power Project, as some soils, which may be considered limiting for a particular use, could be considered non-limiting for different use. The soil mapping units used in the soil report and on the soil map are at least in part influenced by the intended proposed use and may not always be adequate for other intended uses than that of which the soil survey was completed.

# **APPENDICES**

# **APPENDIX A**

# SOIL NARRATIVE REPORT

# KIBBY WIND POWER PROJECT CLASS C MEDIUM HIGH-INTENSITY SOIL NARRATIVE REPORT

#### Kibby and Skinner Townships T1 R6 WBKP November 2006

Date:	Soil profiles observed August and September 2006
Base Map:	Topographic Survey Map, James A. Sewall Company/TRC 5-foot contour intervals Map Scale: 1 inch = 500 feet

**Ground Control:** Test pits located by GPS with sub-meter capability.

The Maine Association of Professional Soil Scientists has adopted standards for soil surveys. Soil surveys are divided into four classes of survey, which are dependent upon the amount of information required for the project. The following is a summary of requirements for a Class C Medium High-Intensity Soil Survey.

## Class C – Medium High Intensity Soil Survey Standards

- 1. Map units will not contain dissimilar limiting inclusions larger than 5 acres.
- 2. Scale of 1 inch = 500 feet or larger.
- 3. Dissimilar limiting inclusions may total more than 5 acres per map unit delineation in the aggregate, if not contiguous.
- 4. Ground control Test pits located by means of compass, chaining, pacing or taping from known survey points, or other methods of equal accuracy.
- 5. Base map with 5-foot contour intervals.

BREWER

Dale Brewer, C.S.S. #304

The accompanying soil profile descriptions, soil map and this soil narrative report were completed in general accordance with the standards adopted by the Maine Association of Soil Scientists and the Board of Certification of Geologists and Soil Scientists.

This Soil Survey was prepared in relation to a proposed Kibby Wind Power Project and associated access routes. Some mapping units may be smaller than 5 acres in size and, therefore, more intensive than Standards for Class C Medium High Intensity Soil Survey. However, the smaller units are wetland areas and useful for planning purposes and not indicative for the entire soil map.

12/27/06

Date

# ABRAM (Frigid Lithic Udorthents)

#### SETTING

Parent Material: Thin mantle of glacial till
 Landform: Bedrock controlled ridges
 Position in Landscape: Mountain tops, ridge tops, side slopes, shoulders, miscellaneous areas
 Slope Gradient Ranges: 0 to 80 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

**Drainage Class:** Excessively drained soils **Typical Profile Description:** 

Surface Layer: Thin organic matSubsurface Layer: Pinkish gray sandy loam, 1 inch thickSubsoil Layer: Very dusky red and brown sandy loam, 3 inches thickSubstratum: Bedrock is at 4 inches

Hydrologic Group:	Group D
Surface Run Off:	Rapid
Permeability:	Moderately rapid
Depth to Bedrock:	Very Shallow, 4 inches
Hazard to Flooding:	None

#### **INCLUSIONS**

#### (Within Mapping Unit)

Similar:	Saddleback
Contrasting:	Enchanted, Sisk, Surplus

#### **USE AND MANAGEMENT**

Abram soils have limiting factors for building site development including steep slopes and shallow depth to bedrock (<4 inches). Blasting or ripping of the bedrock is necessary for deep excavation. Abram is typically below 2,500 feet and represented by test pits: A14, A31, A36, A61, B9, B18, B43, and B48.

# BEMIS (Aeric Cryaquepts)

#### SETTING

Parent Material: Dense glacial till
Landform: Smooth, concave high elevation valleys
Position in Landscape: Lower to intermediate positions
Slope Gradient Ranges: 0 to 15 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

**Drainage Class:** Poorly drained **Typical Profile Description: Surface Layer:** Highly decomposed organic materials, 0 to 5 inches Subsoil Layer: Mottled dark gravish brown gravelly fine sandy loam, 5 to 13 inches **Substratum:** Mottled olive and olive brown gravelly loam to 65 inches Hydrologic Group: Group C Surface Run Off: Slow Permeability: Moderately slow to moderately rapid in the organic surface layer, moderate in the mineral subsoil and slow or very slow in the substratum Very deep, greater than 60 inches Depth to Bedrock: **Hazard to Flooding:** May flood occasionally on lowest fringes during spring and periods of excessive precipitation

#### **INCLUSIONS**

#### (Within Mapping Unit)

**Similar:** Colonel, Brayton **Contrasting:** Mahoosuc, Saddleback, Surplus, Ricker

#### **USE AND MANAGEMENT**

Development with subsurface wastewater disposal: The limiting factor for building site development is wetness due to the presence of shallow water table throughout most of the year. The poorly drained Bemis soils frequently occur in wetland environments and are represented by test pits and USACE data forms documenting wetland areas.

## BERKSHIRE (Frigid Typic Haplorthods)

#### SETTING

Parent Material: Glacial tillLandform: UplandsPosition in Landscape: Moderate to highSlope Gradient Ranges: 3 to 75 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Well	l drain	led
Typical Profile Description:		
Surface L	ayer:	Dark brown fine sandy loam, 0 to 6 inches thick over 2 inches of light gray fine sandy loam
Subsoil La	ayer:	The subsoil from 8 to 22 inches is mostly dark reddish brown, yellowish-red, and yellowish brown fine sandy loam
Substratu	ım:	The substratum from 22 to 60 inches is light olive brown fine sandy loam
Hydrologic Group:	Grou	рВ
Surface Run Off: Moderate		
Permeability: Moderate or moderately rapid		
Depth to Bedrock:	Deep	, greater than 60 inches
Hazard to Flooding:	None	

#### **INCLUSIONS**

#### (Within Mapping Unit)

**Similar:** Marlow, Dixfield. **Contrasting:** Lyman Tunbridge

#### **USE AND MANAGEMENT**

Berkshire soils have few limitations for the construction of foundations, buildings, roads and streets. Sanitary facilities are severely limited due to severe slopes and seepage. Berkshire is represented by test pit A28.

# BRAYTON (Frigid Aeric Haplaquepts)

#### SETTING

Parent Material: Dense glacial tillLandform: Level or sloping lake plainsPosition in Landscape: Lower to intermediate positionsSlope Gradient Ranges: 0 to 25 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

**Drainage Class:** Somewhat poorly and poorly drained soils **Typical Profile Description:** 

Surface Layer: Black organic matter, 0 to 4 inches Subsurface Layer: Gray fine sandy loam, 4 to 15 inches Subsoil layer: Light olive brown sandy loam, 15 to 28 inches Substratum: Olive sandy loam to 28 to 65 inches

Hydrologic Group:	Group D
Surface Run Off:	Slow
Permeability:	Moderate or moderately slow in upper profile and very slow in dense substratum
-	Very deep, greater than 60 inches
Hazard to Flooding:	May flood occasionally

#### **INCLUSIONS**

#### (Within Mapping Unit)

Similar: Colonel

**Contrasting:** Lyman, Telos, Tunbridge

#### **USE AND MANAGEMENT**

A limiting factor for building site development is wetness due to the presence of a water table within 1.5 feet of the soil surface for a significant portion of the year. Brayton soils are hydric and usually found in wetland environments and therefore may be subject to regulations. Wetland delineations are recommended prior to impacting these areas, as environmental permits could be required. Represented by test pit A2.

# BURNHAM (Typic Haplaquepts)

#### SETTING

Parent Material: Glacial tillLandform: Level flat areasPosition in Landscape: Lower to intermediate positionsSlope Gradient Ranges: 0 to 3 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

**Drainage Class:** Very poorly drained soils **Typical Profile Description:** 

Surface Layer: Very dark brown muck, 0 to 6 inchesSubsurface Layer: Mottled gray loam 12 inches thickSubsoil layer: Mottled gray gravelly loam, 12 to 20 inchesSubstratum: Very firm olive gravelly loam to 20 to 60 inches

Hydrologic Group:	Group D
Surface Run Off:	Slow
Permeability:	Moderate or moderately slow in upper profile and very slow in dense substratum
Depth to Bedrock:	Very deep, greater than 60 inches
Hazard to Flooding:	Possible

#### **INCLUSIONS**

#### (Within Mapping Unit)

Similar: None

**Contrasting:** Lyman, Monarda, Telos, Tunbridge

#### **USE AND MANAGEMENT**

A limiting factor for building site development is wetness due to inundated or ponded areas on the surface for much of the year. Burnham soils are hydric and usually found in wetland environments and therefore may be subject to regulations. Wetland delineations are recommended prior to impacting these areas, as environmental permits could be required. Represented by test pit B36, B49 and B50.

## CHESUNCOOK (Frigid Typic Haplorthods)

#### SETTING

Parent Material: Glacial till
Landform: Glaciated uplands
Position in Landscape: Upland till plains, hills, ridges and mountains
Slope Gradient Ranges: 3 to 45 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Moderately well drained soils Typical Profile Description: Surface Layer: Brown silt loam, 0 to 8 inches Subsurface Layer: Yellowish brown and olive brown gravelly loam, 8 inches thick Subsoil Layer: Mottled grayish brown gravelly loam, 5 inches thick Substratum: Very firm olive gravelly loam to 60 inches deep

Hydrologic Group: Group C
 Surface Run Off: Slow to rapid, depending upon slope gradient
 Permeability: Moderate in solum<sup>2</sup> to very slow or very slow underlying material
 Depth to Bedrock: Very deep, greater than 60 inches

Hazard to Flooding: None

#### **INCLUSIONS**

#### (Within Mapping Unit)

**Similar:** Surplus, Telos **Contrasting:** Lyman, Tunbridge, Mahoosuc, Monarda

#### **USE AND MANAGEMENT**

Chesuncook soils have limiting factors for building site development including slow percolation rates, seasonal perched water table (1.5 to 3 feet), and being prone to frost action. Chesuncook soils generally require ditching to control hydrology once road cuts are made. Represented by test pits: A4, A11, and A34.

 $<sup>^{2}</sup>$  Solum (plural, sola) of a soil consists of a set of horizons that related through the same cycle of pedogenic processes.

# COLONEL (Frigid Aquic Haplorthods)

#### SETTING

Parent Material: Compact glacial tillLandform: Lower toe slopes, gently sloping crests of broad till ridgesPosition in Landscape: Lower to intermediate positionsSlope Gradient Ranges: 0 to 35 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

**Drainage Class:** Somewhat poorly drained soils **Typical Profile Description:** 

**Surface Layer:** Very dark grayish brown fine sandy loam, 0 to 6 inches

**Subsoil Layer:** Dark brown and mottled dark yellowish brown fine sandy loam in the upper part and mottled olive brown gravelly fine sandy loam in the lower part, 11 inches thick

**Substratum:** Mottled olive gravelly fine sandy loam to 65 inches

Hydrologic Group: Group C
Surface Run Off: Medium
Permeability: Moderate in the solum and moderately slow or slow in substratum
Depth to Bedrock: Deep, greater than 60 inches
Hazard to Flooding: None

#### **INCLUSIONS**

#### (Within Mapping Unit)

Similar:	Brayton, Chesuncook, Telos
<b>Contrasting:</b>	Lyman, Tunbridge

#### **USE AND MANAGEMENT**

A limiting factor for building site development is wetness due to the presence of a water table within 1.5 feet of the soil surface for a significant portion of the year. Colonel soils generally require ditching to control hydrology once road cuts are made. Colonel is represented by test pit A1.

# DIXFIELD (Frigid Typic Haplorthods)

#### SETTING

Parent Material: Compact loamy glacial tillLandform: Glaciated uplandsPosition in Landscape: Ridge tops and side slopesSlope Gradient Ranges: 0 to 50 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Moderately well drained Typical Profile Description: Surface Layer: Dark brown fine sandy loam, 0 to 6 inches

Subsoil Layer:	The subsoil 15 inches thick is strong brown and dark yellowish brown fine sandy in the upper part and mottled light olive brown gravelly fine sandy
	loam in the lower part
<b>•</b> • • •	

**Substratum:** The substratum to 65 feet is very firm and mottled light olive brown gravelly fine sandy loam

Hydrologic Group: Group C
Surface Run Off: Medium
Permeability: Moderate in the solum and moderately slow or slow in substratum
Depth to Bedrock: Deep, greater than 60 inches
Hazard to Flooding: None

#### **INCLUSIONS**

#### (Within Mapping Unit)

**Similar:** Marlow, Tunbridge, Colonel **Contrasting:** Lyman

#### **USE AND MANAGEMENT**

Seasonal water tables are the main limitation for most uses. Dixfield is represented by test pit A9.

## ENCHANTED

## (Mixed, Thixotropic over Loamy-Skeletal Humic Cryorthods)

#### SETTING

Parent Material: Glacial till
Landform: Mountains
Position in Landscape: Mountain side slopes above 2,300 feet
Slope Gradient Ranges: 15 to 80 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Well drained soils
 Typical Profile Description:

 Surface Layer: Organic layer, 6 inches thick
 Subsurface Layer: Pinkish gray very stony very fine sandy loam, 3 inches thick
 Subsoil layer: Dark reddish brown and yellowish red channery fine sandy loam over mostly olive brown very gravelly sandy loam, 33 inches thick
 Substratum: Dark grayish brown extremely cobbly loamy sand to 46 inches. Bedrock is at 46 inches.

Hydrologic Group: Group B
Surface Run Off: Dependent upon slope gradient
Permeability: Moderate or moderately rapid in the solum and rapid or very rapid in the substratum
Depth to Bedrock: 46 inches
Hazard to Flooding: None

#### **INCLUSIONS**

#### (Within Mapping Unit)

**Similar:** Saddleback **Contrasting:** Abram, Sisk, Mahoosuc

#### **USE AND MANAGEMENT**

The limiting factor for building site development is the typical depth to bedrock (<46 inches). Blasting or ripping of the bedrock is necessary for deep excavations. Enchanted soils are represented by test pits: A17, A48, and A50.

## LYMAN (Frigid Loamy Mixed Lithic Haplorthods)

#### SETTING

Parent Material: Glacial till
Landform: Rocky hills and high plateaus
Position in Landscape: Uppermost locations, side-slopes, shoulders, and crests of ridges.
Slope Gradient Ranges: 3 to 80 percent

#### **COMPOSITION AND SOIL CHARACTERISTICS**

Drainage Class: Somewhat excessively drained

#### **Typical Profile Description:**

Surface Layer: Black loam, 0 to 2 inches
Subsurface Layer: Reddish gray fine sandy loam, 2 to 4 inches
Subsoil Layer: Very dusky red 4 to 6 inches, from 6 to 10 inches is dark red loam, and from 10 to 17 inches is dark brown loam
Substratum: Bedrock is at 17 inches

Hydrologic Group:	Group C/D
Surface Run Off:	Slow to rapid, depending upon slope and bedrock
	exposure
Permeability:	Moderately rapid
Depth to Bedrock:	Shallow 8 to 20 inches
Hazard to Flooding:	None

#### **INCLUSIONS**

#### (Within Mapping Unit)

**Similar:** Tunbridge **Contrasting:** Brayton, Colonel, Dixfield, Marlow

#### **USE AND MANAGEMENT**

The limiting factor for building site development is the depth to bedrock (<20 inches) within this complex. Blasting or ripping of the bedrock is necessary for deep excavation. Lyman is represented by test pit B10.

# MAHOOSUC (Typic Borofolists, Dysic)

#### SETTING

**Parent Material:** Organic deposits over dense compact glacial till **Landform:** Mountain side slopes and valleys at the base of these areas **Position in Landscape:** Variable **Slope Gradient Ranges:** 8 to 80 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Somewhat excessively drained
 Typical Profile Description:
 Surface layer: Dusky red and black undecomposed and partially decomposed organic materials, 0 to 8 inches
 Substratum: Gravel, cobbles, stones and boulders with little organic materials to 65 inches

Hydrologic Group: Group A Surface Run Off: Slow Permeability: Very rapid Depth to Bedrock: Very deep, greater than 60 inches Hazard to Flooding: None

### **INCLUSIONS**

### (Within Mapping Unit)

**Similar:** Abram, rock outcrop **Contrasting:** Saddleback, Sisk, Lyman, Tunbridge

### **USE AND MANAGEMENT**

Mahoosuc has severe limiting factors for building site development including steep slopes, large stones and seepage. Represented by test pits: A44, AB-3, B8, and B15

## MARLOW (Frigid Typic Haplorthods)

#### SETTING

Parent Material: Glacial tillLandform: Glaciated uplandsPosition in Landscape: Ridge tops and side slopesSlope Gradient Ranges: 0 to 60 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Well drained soils
 Typical Profile Description:
 Surface Layer: Light gray fine loamy sand, 0 to 6 inches
 Subsoil Layer: The subsoil 15 inches thick is strong brown and dark yellowish brown fine sandy in the upper part and mottled light olive brown gravelly fine sandy loam in the lower part
 Substratum: The substratum to 65 inches is very firm and mottled light olive brown gravelly fine sandy loam

Hydrologic Group: Group C
Surface Run Off: Medium
Permeability: Moderate in the solum and moderately slow or slow in substratum
Depth to Bedrock: Deep, greater than 60 inches
Hazard to Flooding: None

#### INCLUSIONS

#### (Within Mapping Unit)

Similar: Contrasting: Lyman, Tunbridge

#### **USE AND MANAGEMENT**

There are few limitations for most uses. Marlow is represented by test pit A3.

# MONARDA (Frigid Aeric Haplaquepts)

#### SETTING

Parent Material: Dense glacial till
Landform: Glaciated uplands
Position in Landscape: Nearly level to strongly sloping
Slope Gradient Ranges: 0 to 15 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Poorly drained soils
 Typical Profile Description:

 Surface Layer: 4-inch organic mat
 Subsurface Layer: Light brownish gray extremely gravelly silt loam 5 inches thick
 Subsoil Layer: Mottled gray, gray and olive gravelly silt loam and very gravelly loam to 24 inches
 Substratum: The substratum to 65 inches is very dense mottled olive gravelly loam

Hydrologic Group: Group D
Surface Run Off: Medium
Permeability: Moderate to moderately rapid in the subsurface, moderate to moderately slow in the lower part of the subsoil and substratum
Depth to Bedrock: Deep, greater than 60 inches
Hazard to Flooding: None

#### INCLUSIONS

#### (Within Mapping Unit)

**Similar:** Brayton, Colonel **Contrasting:** Chesuncook, Lyman

#### **USE AND MANAGEMENT**

A perched fluctuating water table is at or near the surface for 7 to 9 months of the year. Monarda soils have many use limitations relating to site development. Monarda soils generally occur in jurisdictional wetland environments typically requiring environmental permits to alter. Monarda soils have severe limitations for septic systems, excavations and building foundations due to a high water table and slow percolation rates. Additionally, Monarda soils are "poor" for road fill due to wetness and frost action. Monarda soils are represented by test pits: A66, A67, and B4.

## RICKER (Lithic Borofolists, Dysic)

#### SETTING

Parent Material: Organic deposits over bedrock
Landform: Mountains and hills
Position in Landscape: Variable
Slope Gradient Ranges: 3 to 80 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Well to excessively drained
Typical Profile Description:
Surface layer: Peat and Mucky peat organic materials, 0 to 4 inches
Subsoil: 3" muck layer over a dark bluish gray channery silt loam 3" to 5" Bedrock is at 5"
Hydrologic Group: Group A
Surface Run Off: Dependent upon slope
Permeability: Very rapid
Depth to Bedrock: Very shallow, less than 10 inches
Hazard to Flooding: None

### **INCLUSIONS**

### (Within Mapping Unit)

**Similar:** Abram, rock outcrop **Contrasting:** Saddleback, Sisk, Surplus

#### **USE AND MANAGEMENT**

Ricker soils have severe limiting factors for building site development including steep slopes, shallow depth to bedrock, organic materials and excess fine materials. Represented by test pits: B17 and B42.

## SADDLEBACK (Cryic Thixotropic Humic Lithic Cryorthods)

#### SETTING

Parent Material: Thin veneer of glacial till
Landform: Glaciated uplands
Position in Landscape: Mountain ridges above 2,300 feet
Slope Gradient Ranges: 3 to 80 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Well drained soils
 Typical Profile Description:

 Surface Layer: Organic mat, 0 to 5 inches
 Subsurface Layer: Dark grayish brown fine sandy loam, 1 inch
 Subsoil Layer: Very dusky red, dark reddish brown and reddish brown fine sandy loam
 Substratum: Bedrock is at 20 inches

**Hydrologic Group:** Group C/D **Surface Run Off:** Dependent upon slope gradient **Permeability:** Moderate **Depth to Bedrock:** 20 inches **Hazard to Flooding:** None

#### **INCLUSIONS**

### (Within Mapping Unit)

**Similar:** Abram, Enchanted **Contrasting:** Surplus, Ricker, Mahoosuc

#### **USE AND MANAGEMENT**

The limiting factor for building site development is the depth to bedrock (<20 inches) within this complex. Blasting or ripping of the bedrock is necessary for deep excavations. Filling areas in Saddleback is not limited; however, excavations can be costly and require large equipment and impacts for certain uses. Saddleback is represented by test pits: A6, A7, A10, A12, A13, A16, A20, A21, A22, A24, AB-1, A25, A26, A29, A30, AB-2, A33, A37, A39, A40, A41, A42, A43, A45, A46, A47, A49, A51, A52, A53, A54, AB-4, A55, A56, A57, A58, A59, A60, A62, A63, A64, A65, B2, B7, B12, B13, B19, B26, B27, B28, B30, B31, B33, B35, B37, B38, B41, B44, B45, and B47.

## SISK (Mixed Humic Cryorthods)

#### SETTING

Parent Material: Dense glacial till
Landform: Glaciated uplands and mountain ridges
Position in Landscape: Mountain side slopes above 2,300 feet
Slope Gradient Ranges: 12 to 60 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Well drained soils
 Typical Profile Description:

 Surface Layer: Organic mat, 0 to 2 inches
 Subsurface Layer: Weak red silt loam, 1 inch thick
 Subsoil Layer: Dusky red, reddish brown silt loam in the upper part and yellowish brown and light olive brown gravelly loam in the lower part, 19 inches thick
 Substratum: Firm, brown gravelly fine sandy loam to 65 inches

Hydrologic Group: Group C
Surface Run Off: Variable dependent upon slope gradient
Permeability: Moderate in the solum and moderately slow or very slow in the substratum
Depth to Bedrock: Very deep, greater than 60 inches
Hazard to Flooding: None

#### INCLUSIONS

### (Within Mapping Unit)

Similar: Surplus, Chesuncook Contrasting: Enchanted

#### **USE AND MANAGEMENT**

Sisk soils have limiting factors for building site development including severe slopes, stoniness, frost action and slow percolation rates. Sisk soils are represented by test pits: A5, A8, A23, A38, B14, and B21.

## SURPLUS (Mixed Typic Cryorthods, Thixotropic)

#### SETTING

Parent Material: Dense glacial till
Landform: Glaciated uplands
Position in Landscape: Mountain side slopes above 2,300 feet
Slope Gradient Ranges: 3 to 45 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

**Drainage Class:** Moderately well and somewhat poorly drained soils **Typical Profile** 

Surface Layer: Organic mat, 0 to 7 inches
 Subsurface Layer: Brown sandy loam, 7 to 11 inches
 Subsoil Layer: Dark reddish brown fine sandy loam in the upper part and mottled yellowish red to brown gravelly fine sandy and sandy loam, 11 to 33 inches
 Substratum: Firm, mottled light olive brown sandy loam, 33 to 60 inches

Hydrologic Group: Group C
Surface Run Off: Dependent upon slope gradient
Permeability: Moderate in the solum and moderately slow to very slow in the substratum
Depth to Bedrock: Greater than 60 inches
Hazard to Flooding: None

#### **INCLUSIONS**

### (Within Mapping Unit)

**Similar:** Sisk **Contrasting:** Enchanted

### **USE AND MANAGEMENT**

The Surplus Series limiting factor for building site development is the depth to seasonal perched water table (<24 inches), frost action and strong slopes. Surplus soils are represented by test pits: A18, A19, A27, A32, A35, B1, B3, B5, B6, B16, B20, B22, B23, B24, B25, B29, B32, B34, B39, B40, and B46.

## TELOS (Frigid Typic Haplorthods)

#### SETTING

Parent Material: Glacial tillLandform: Drumlins and glaciated uplandsPosition in Landscape: UpperSlope Gradient Ranges: 3 to 60 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

**Drainage Class:** Somewhat poorly drained **Typical Profile Description:** 

Surface Layer: Dark brown fine sandy loam, 0 to 8 inches
 Subsoil Layer: Strong brown fine sandy loam 8 to 12 inches; yellowish brown gravelly sandy loam 12 to 22 inches; light olive brown gravelly sand loam 22 to 31 inches
 Substratum: Olive gravelly loamy sand, 31 to 60 inches

Substratum. Onve graveny loanty sand, 51 to 00 menes

Hydrologic Group: Group C
Surface Run Off: Slow to rapid, depending upon slope gradient
Permeability: Moderate permeability in the solum and moderately slow to slow in the compact substratum
Depth to Bedrock: Deep, greater than 60 inches
Hazard to Flooding: None

### **INCLUSIONS**

### (Within Mapping Unit)

**Similar:** Marlow, Dixfield, Skerry **Contrasting:** Lyman Tunbridge, Colonel

#### **USE AND MANAGEMENT**

A high water table is a limiting factor for most uses. Severe frost action is possible with subsurface foundations and road beds. Telos was examined in association with Chesuncook soils in test pit A4.

## TUNBRIDGE (Frigid Typic Haplorthods)

#### SETTING

Parent Material: Loamy glacial till
 Landform: Glaciated uplands
 Position in Landscape: Uppermost locations on landform, side slopes, shoulders, and crests of ridges
 Slope Gradient Ranges: 8 to 15 percent

#### **COMPOSTION AND SOIL CHARACTERISTICS**

Drainage Class: Well drained soils

#### **Typical Profile Description:**

Surface Layer: Dark brown fine sandy loam, 0 to 2 inches
Subsurface Layer: Grayish brown fine sandy loam, 1 inch thick
Subsoil layer: Dark reddish brown in the upper part and yellowish brown silt loam in the lower part 11 inches thick
Substratum: Dark grayish brown gravelly fine sandy loam, 14 inches thick

Hydrologic Group: Group C
Surface Run Off: Slow to rapid, depending upon slope gradient
Permeability: Moderate to moderately rapid
Depth to Bedrock: Moderately deep, 20 to 40 inches to bedrock surface
Hazard to Flooding: None

#### **INCLUSIONS**

### (Within Mapping Unit)

Similar: Lyman Contrasting: Colonel, Marlow

#### **USE AND MANAGEMENT**

The limiting factor for building site development is the depth to bedrock (<40 inches) within these soils. Blasting or ripping of the bedrock is necessary for deep excavation. Tunbridge is represented by test pit B11.

# **APPENDIX B**

# SOIL LEGEND

## KIBBY WIND POWER PROJECT CLASS C MEDIUM HIGH-INTENSITY SOIL SURVEY Kibby and Skinner Township (T1-R6 WBKP)

## SERIES "A" SOIL LEGEND

Symbol	Complex/Series	Texture	Slope Gradient	Hydrologic Soil Group (HSG)
ARB	Abram-Rock Outcrop-Lyman Complex	Fine sandy loams Stony	8 to 15% slopes	D/C
ARC	Abram-Rock Outcrop-Lyman Complex	Fine sandy loams Stony	15 to 30% slopes	D/C
CBA	Colonel-Brayton Complex	Fine sandy loams Stony-Bouldery	0 to 8% slopes	С
CTB	Chesuncook-Telos Complex	Silt Loams-Stony	8 to 15% slopes	С
ESA	Enchanted-Surplus Complex	Very fine & fine sandy loams	0 to 8% slopes	B/C
SAA	Saddleback-Abram-Rock Outcrop Complex	Fine sandy loam Cobbly-Bouldery	0 to 8% slopes	C/D
SAB	Saddleback-Abram-Rock Outcrop Complex	Fine sandy loam Cobbly-Bouldery	8 to 15% slopes	C/D
SaA	Saddleback	Fine sandy loams Stony-Bouldery	0 to 8% slopes	C/D
SaB	Saddleback	Fine sandy loams Stony-Bouldery	8 to 15% slopes	C/D
SaC	Saddleback	Fine sandy loams Stony-Bouldery	15 to 30% slopes	C/D
SBB	Surplus-Bemis Complex	Fine sandy loams	8 to 15% slopes	C/D
SEB	Saddleback-Enchanted Complex	Fine sandy loam Stony	8 to 15% slopes	C/B
SEC	Saddleback-Enchanted Complex	Fine sandy loam Stony	15 to 30% slopes	C/B
SKB	Saddleback-Sisk Complex	Fine sandy loam Stony-Bouldery	8 to 15% slopes	C/D
SKC	Saddleback-Sisk Complex	Fine sandy loam Stony-Bouldery	15 to 30% slopes	C/D
SKD	Saddleback-Sisk Complex	Fine sandy loam Stony-Bouldery	Greater than 30% slopes	C/D
SRB	Saddleback-Rock Outcrop Complex	Fine sandy loam	8 to 15% slopes	С
SRC	Saddleback-Surplus Complex	Fine sandy loam	15 to 30% slopes	C
SSB	Saddleback-Surplus Complex	Fine sandy loam Stony	8 to 15% slopes	С
SSC	Saddleback-Surplus Complex	Fine sandy loam Stony	15 to 30% slopes	С
TBB	Tunbridge-Bemis Complex	Fine sandy loam	8 to 15% slopes	D
TMB	Telos-Monarda Complex	Silt Loam Stony	8 to 15% slopes	D

## SERIES "B" SOIL LEGEND

Symbol	Complex/Series	Texture	Slope Gradient	HSG
AbA	Abram	Fine sandy loams	0 to 8% slopes	D
AbB	Abram	Fine sandy loams	8 to 15% slopes	D
AbC	Abram	Fine sandy loams	15 to 30% slopes	D
AbD	Abram	Fine sandy loams	Greater than 30% slopes	D
ARB	Abram-Rock Outcrop-Lyman Complex	Fine sandy loams Bouldery	8 to 15% slopes	D/C
ARC	Abram-Rock Outcrop-Lyman Complex	Fine sandy loams Bouldery	15 to 30% slopes	D/C
ASA	Abram-Saddleback Complex	Fine sandy loams Bouldery	0 to 8% slopes	C/D
ASB	Abram-Saddleback Complex	Fine sandy loams Bouldery	8 to 15% slopes	C/D
MBA	Monarda-Burnham	Silt loam-Stony	0 to 8% slopes	D
SAA	Saddleback-Abram-Rock Outcrop Complex	Fine sandy loam Bouldery	0 to 8% slopes	C/D
SAB	Saddleback-Abram-Rock Outcrop Complex	Fine sandy loam Bouldery	8 to 15% slopes	C/D
SAC	Saddleback-Abram-Rock Outcrop Complex	Fine sandy loam Bouldery	15 to 30% slopes	C/D
SAD	Saddleback-Abram-Rock Outcrop Complex	Fine sandy loam Stony	Greater than 30% slopes	C/D
SaA	Saddleback	Fine sandy loam Stony-Very Bouldery	0 to 8% slopes	C/D
SaB	Saddleback	Fine sandy loam Stony-Very Bouldery	8 to 15% slopes	C/D
SaC	Saddleback	Fine sandy loam Stony-Very Bouldery	15 to 30% slopes	C/D
SaD	Saddleback	Fine sandy loam Stony-Very Bouldery	Greater than 30% slopes	C/D
SEB	Saddleback-Enchanted-Rock Outcrop Complex	Fine sandy loam Stony	8 to 15% slopes	C/B
SEC	Saddleback-Enchanted-Rock Outcrop Complex	Fine sandy loam Stony	15 to 30% slopes	C/B
SiD	Sisk	Silt Loam Stony-Bouldery	Greater than 30% slopes	С
SKB	Saddleback-Sisk Complex	Fine sandy loam-silt loams-Bouldery	8 to 15% slopes	С
SMC	Sisk-Mahoosuc-Rock Outcrop Complex	Fine sandy loam	15 to 30% slopes	B/A

Symbol	Complex/Series	Texture	Slope Gradient	HSG
SRC	Surplus Ricker Complex	Sandy loam/peat Bouldery	Greater than 30% slopes	C/A
SSB	Saddleback-Surplus Complex	Fine sandy loam Stony	8 to 15% slopes	C/D
SSC	Saddleback-Surplus Complex	Fine sandy loam Stony	15 to 30% slopes	C/D
SuB	Surplus	Fine sandy loam Bouldery	8 to 15% slopes	C
SuC	Surplus	Fine sandy loam Bouldery	15 to 30% slopes	C

# **APPENDIX C**

# SOIL SURVEY MAP UNITS

### KIBBY WIND POWER PROJECT CLASS C MEDIUM HIGH-INTENSITY

#### SOIL SURVEY MAP UNITS

## AbA ABRAM, 0 to 8% slopes Excessively drained, sandy loam

This small map unit occurs intermittently throughout the Series "A" project area. These extremely shallow soils are on the highest and side sloping positions in the landscape. These soils consist of shallow, fine sandy loams overlying bedrock. There are many areas of exposed bedrock outcrops. There may be inclusions of Lyman or Saddleback soils. Interpretations for these soils are given below.

## AbB ABRAM, 8 to 15% slopes Excessively drained, sandy loam

This small map unit occurs intermittently throughout the Series "A" project area. These extremely shallow soils are on the highest and side sloping positions in the landscape. These soils consist of shallow, fine sandy loams overlying bedrock. There are many areas of exposed bedrock outcrops. There may be inclusions of Lyman or Saddleback soils. Interpretations for these soils are given below.

## AbC ABRAM, 15 to 30% slopes Excessively drained, sandy loam

This small map unit occurs intermittently throughout the Series "A" project area. These extremely shallow soils are on the highest and side sloping positions in the landscape. These soils consist of shallow, fine sandy loams overlying bedrock. There are many areas of exposed bedrock outcrops. There may be inclusions of Lyman or Saddleback soils. Interpretations for these soils are given below.

# AbD ABRAM, >30% slopes

### Excessively drained, sandy loam

This small map unit occurs intermittently throughout the Series "A" project area. These extremely shallow soils are on the highest and side sloping positions in the landscape. These soils consist of shallow, fine sandy loams overlying bedrock. There are many areas of exposed bedrock outcrops. There may be inclusions of Lyman or Saddleback soils. Interpretations for these soils are given below.

#### AMD ABRAM-MAHOOSUC COMPLEX, >30% slopes Excessively well drained, bouldery, fine sandy loam

This small map unit occurs in the southeasterly portions of the Series "A" project site. These soils are on the highest position in the landscape leading down off the smooth flat slopes. These soils consist of shallow, fine sandy loams overlying bedrock and organic materials over boulders. There are many areas of exposed bedrock outcrops. There may be inclusions of Saddleback or Ricker soils. Interpretations for these soils are given below.

## ARB ABRAM-ROCK OUTCROP-LYMAN COMPLEX, 8 to 15% slopes Excessively well and well drained, fine sandy loam

This small map unit occurs in the southerly portions of the Series "A" site near the Spencer Bale Road and also in the southern portions of Series "B". These soils are on the highest position in the landscape leading down long smooth toe-slopes. These soils consist of shallow, fine sandy loams overlying bedrock. There are many areas of exposed bedrock outcrops. There may be inclusions of Bemis, Burnham, Mahoosuc or Saddleback soils. Interpretations for these soils are given below.

## ARC ABRAM-ROCK OUTCROP-LYMAN COMPLEX, 8 to 15% slopes Excessively well and well drained, fine sandy loam

This small map unit occurs in the southerly portions of the Series "A" site near the Spencer Bale Road and also in the southern portions of Series "B". These soils are on the highest position in the landscape leading down long smooth toe-slopes. These soils consist of shallow fine sandy loams overlying bedrock. There are many areas of exposed bedrock outcrops. There may be inclusions of Mahoosuc, Saddleback, Tunbridge or Ricker soils. Interpretations for these soils are given below.

## ASA ABRAM-SADDLEBACK COMPLEX, 0 to 8% slopes Excessively well and well drained, fine sandy loam

This small map unit occurs mainly in the southeasterly portions of Series "B" and intermittently across the project areas. These soils are on the highest position on smooth flat areas. These soils consist of shallow fine sandy loams overlying bedrock. There are many areas of exposed bedrock outcrops. There may be inclusions of Mahoosuc, Saddleback, Tunbridge or Ricker soils. Interpretations for these soils are given below.

## ASB ABRAM-SADDLEBACK COMPLEX, 8 to 15% slopes Excessively well and well drained, fine sandy loam

This small map unit occurs mainly in the southeasterly portions of Series "B" and intermittently across the project areas. These soils are on the highest position on smooth flat areas. These soils consist of shallow fine sandy loams overlying bedrock. There are many areas of exposed bedrock outcrops. There may be inclusions of Mahoosuc, Saddleback, Tunbridge or Ricker soils. Interpretations for these soils are given below.

## CBA COLONEL-BRAYTON Complex, 0 to 8% slopes

#### Very stony, somewhat poorly and poorly drained, fine sandy loam

This small map unit occurs in the northwesterly portion of the Series "A" site, specifically in a large clear-cut area. These soils are on long smooth slopes near the end of an unnamed logging road providing access to Series "A." These soils consist of fine sandy loams overlying dense loamy sand basal till. There may be inclusions of Telos soils. Interpretations for these soils are given below.

# CTB CHESUNCOOK-TELOS COMPLEX, 8 to 15% slopes

Stony, moderately well and somewhat poorly drained, silt loams

This map unit occurs in the large proposed workspace area in the northwesterly portions of the Series "A" site. These soils are in the slope transition from the very steep mountainside slopes to the lower flatter toe slopes. There may be inclusions of Brayton, Saddleback or Sisk soils. Interpretations for these soils are given below.

## ESA ENCHANTED-SURPLUS COMPLEX, 0 to 8% slopes Well, moderately well and somewhat poorly drained, Channery very fine sandy loams and sandy loams

This small map unit occurs along the broad flat ridge top of Kibby Mountain in the northerly portion of the Series "A" site. The Surplus soils have seasonal water tables < 30" from the surface making them moderately well drained and somewhat poorly and poorly drained intermixed with the well drained Enchanted soils. There may be inclusions of Saddleback soils within this mapping unit. Interpretations for these soils are given below.

## MBA MONARDA-BURNHAM COMPLEX, 8 to 15% slopes Poorly and very poorly drained, silt loams, peat

This map unit occurs along the Gold Brook road on long smooth flatter slopes leading down from the toe slopes of Series "B". Generally, these soils occur in wetland environments and may require permits to alter. There may be inclusions of Bemis or Colonel soils within this mapping unit. Interpretations for these soils are given below.

## SAA SADDLEBACK-ABRAM-ROCK OUTCROP COMPLEX, 0 to 8% slopes Well drained, fine sandy loam

This map unit occurs along the flat mountain ridge tops of both Series "A" and "B" project areas. Abram and Saddleback soils are shallow to bedrock < 4" and <20" respectively. Generally, these soils have a thin mineral soil layer over bedrock with intermittent areas of rock outcrops and boulders. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Enchanted, Ricker or Sisk soils within this mapping unit. Interpretations for these soils are given below.

## SAB SADDLEBACK-ABRAM-ROCK OUTCROP COMPLEX, 8 to 15% slopes Well drained, fine sandy loam

This map unit occurs along the flat mountain ridge tops of the Series "A" and "B" project areas. Abram and Saddleback soils are shallow to bedrock < 4" and <20" respectively. Generally, these soils have a thin mineral soil layer over bedrock with intermittent areas of rock outcrops and boulders. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Enchanted, or Sisk soils within this mapping unit. Interpretations for these soils are given below.

## SAC SADDLEBACK-ABRAM-ROCK OUTCROP COMPLEX, 15 to 30% slopes Well drained, fine sandy loam

This small map unit occurs along the steep mountain ridge tops of the Series "B" project areas. Abram and Saddleback soils are shallow to bedrock < 4" and <20" respectively. Generally, these soils have a thin mineral soil layer over bedrock with intermittent areas of rock outcrops and boulders. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Enchanted or Sisk soils within this mapping unit. Interpretations for these soils are given below.

## SAD SADDLEBACK-ABRAM-ROCK OUTCROP COMPLEX, > 30% slopes Well drained, fine sandy loam

This small map unit occurs along the very steep mountain ridge tops in Series "B" project area. Abram and Saddleback soils are shallow to bedrock < 4" and <20" respectively. Generally, these soils have a thin mineral soil layer over bedrock with intermittent areas of rock outcrops and boulders. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Enchanted or Sisk soils within this mapping unit. Interpretations for these soils are given below.

#### SaA SADDLEBACK, 0 to 8% slopes Well drained, fine sandy loam

This map unit occurs along the flat mountain ridge tops in both Series "A" and "B" project areas. Saddleback soils are shallow to bedrock <20" or a thin mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Enchanted, Sisk or Abram soils with Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SaB SADDLEBACK, 8 to 15% slopes Well drained, fine sandy loam

This map unit occurs along the flat mountain ridge tops in both Series "A" and "B" project areas. Saddleback soils are shallow to bedrock <20" or a thin mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Enchanted, Sisk or Abram soils with Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SaC SADDLEBACK, 15 to 30% slopes Well drained, fine sandy loam

This map unit occurs along the steep mountain ridge tops of the Series "B" project area. Saddleback soils are shallow to bedrock <20" or a thin mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Enchanted, Sisk or Abram soils with Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SaD SADDLEBACK, Greater than 30% slopes Well drained, fine sandy loam

This map unit occurs along the very steep mountain ridge tops of the Series "B" project area. Saddleback soils are shallow to bedrock <20" or a thin mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Enchanted, Sisk or Abram soils with Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SBB SURPLUS-BEMIS COMPLEX, 8 to 15% slopes Moderately well, somewhat poorly and poorly drained Fine sandy loam

This map unit occurs in a proposed workspace area near the Spencer Bale Road in the southerly portion of the Series "A" project area. The soils are on the upper sections of the long smooth westerly slopes down toward the Gold Brook Road. Scattered boulders and stones are found throughout the map unit. These soils have a firm subsurface layer making them moderately well drained, somewhat poorly and poorly drained. There may be small inclusions of Telos and Monarda soils within this mapping unit. Interpretations for these soils are given below.

#### SEB SADDLEBACK-ENCHANTED COMPLEX, 8 to 15% slopes Well drained, fine sandy loam and channery very fine sandy loams

This small map unit occurs along the flat mountain ridge tops in northern portion of both Series "A" and "B" project areas. The Saddleback and Enchanted soils are shallow to bedrock <20" and <40", respectively. Generally, these soils have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Abram soils or Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

#### SEC SADDLEBACK-ENCHANTED COMPLEX, 15 to 30% slopes Well drained, fine sandy loam and channery very fine sandy loams

This small map unit occurs along the steep mountain ridge tops in northern portion of both the Series "A" and "B" project areas. The Saddleback and Enchanted soils are shallow to bedrock <20" and <40", respectively. Generally, these soils have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Abram soils or Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SiD Sisk, Greater than 30% slopes Well drained, bouldery silt loams

This small map unit occurs along the very steep mountain ridge tops in north central portion of the Series "B" project area. The Sisk soils are very deep >60" to bedrock. Generally, these soils have a thin organic layer over a silt loam surface layer above loamy subsoils with a gravelly fine sandy loam substratum. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Sisk soils "smeary" and slick under pressure. There may be inclusions of Abram, Rock Outcrops or Saddleback soils within this mapping unit. Interpretations for these soils are given below.

## SKB SADDLEBACK-SISK COMPLEX, 8 to 15% slopes Bouldery, well drained, fine sandy loam and silt loams

This small map unit occurs along the steep mountainside slopes leading down to the flatter transitional areas of both Series "A" and "B" project areas. The Saddleback and Sisk soils are well drained, shallow and very deep to bedrock <20" and deep soils >40" to bedrock, respectively. Generally, the Saddleback soils have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Abram, Bemis, Enchanted, Surplus soils or Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SKC SADDLEBACK-SISK COMPLEX, 15 to 30% slopes Bouldery, well drained fine sandy loam and silt loams

This small map unit occurs along the very steep mountainside slopes leading down to the flatter transitional areas of the Series "A" project area. The Saddleback and Sisk soils are well drained and shallow to bedrock <20" and deep soils >40" to bedrock, respectively. Generally, the Saddleback soils have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Abram, Bemis, Enchanted, Surplus soils or Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SKD SADDLEBACK-SISK COMPLEX, 8 to 15% slopes Bouldery, well drained fine sandy loam and silt loams

This small map unit occurs along the very steep mountainside slopes leading down to the flatter transitional areas in the westerly portion of the Series "A" project area. The Saddleback and Sisk soils are well drained and shallow to bedrock <20" and deep soils >40" to bedrock, respectively. Generally, the Saddleback soils have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Abram, Bemis, Enchanted, Surplus soils or Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SMC SISK-MAHOOSUC-ROCK OUTCROP COMPLEX, 15 to 30% slopes Bouldery, well drained, fine sandy loam and silt loams

This small map unit occurs along the steep mountainside slopes leading down to the flatter transitional areas in the westerly portion of the Series "B" project area. The Sisk soils are well drained and shallow to bedrock <20" and deep soils >40" to bedrock, respectively. Generally, the Saddleback soils have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Abram, Bemis, Enchanted, Surplus soils or Rock Outcrops within this mapping unit. Interpretations for these soils are given below.

## SRB SADDLEBACK-ROCK OUTCROP COMPLEX, 8 to 15% slopes Stony, well drained, fine sandy loam

This small map unit occurs along the ridge tops leading down into the flatter transitional areas in the southerly portion of the Series "A" project area. The Saddleback soils are well drained and shallow to bedrock <20". Generally, the Saddleback soils have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Abram or Mahoosuc soils within this mapping unit. Interpretations for these soils are given below.

## SRC SADDLEBACK-ROCK OUTCROP COMPLEX, 15 to 30% slopes Stony, well drained, fine sandy loam

This small map unit occurs along the ridge tops leading down into the flatter transitional areas in the southerly portion of the Series "A" project area. The Saddleback soils are well drained and shallow to bedrock <20". Generally, the Saddleback soils have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. There may be inclusions of Abram or Mahoosuc soils within this mapping unit. Interpretations for these soils are given below.

## SrC SURPLUS-RICKER COMPLEX, 15 to 30% slopes Stony, well drained, fine sandy loam

This small map unit occurs along the steep ridge tops and side slopes of the Series "B" project area. The Surplus soils are moderately well drained and typically have a thick organic layer over a sandy loam subsurface layer above the gravelly sandy or fine sandy loam subsoil. The substratum is firm sandy loam. Generally, the Ricker soils are very shallow or shallow to bedrock and have an organic layer over a thin mineral soil layer above bedrock. There may be inclusions of Abram or Mahoosuc soils within this mapping unit. Interpretations for these soils are given below.

## SSB SADDLEBACK-SURPLUS-ROCK OUTCROP COMPLEX, 8 to 15% slopes Stony, well drained, fine sandy loam and sandy loam

This small map unit occurs along the ridge tops leading down into the flatter transitional areas in both Series "A" and "B" project areas. The Saddleback soils are well drained and shallow to bedrock <20" and generally have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. The Surplus soils are deep moderately well drained and somewhat poorly drained. There may be inclusions of Abram or Mahoosuc soils within this mapping unit. Interpretations for these soils are given below.

### SSC SADDLEBACK-SURPLUS-ROCK OUTCROP COMPLEX, 15 to 30% slopes Stony, well drained, fine sandy loam and sandy loam

This small map unit occurs along the ridge tops leading down into the flatter transitional areas in the central portion of the Series "B" project area. The Saddleback soils are well drained and shallow to bedrock <20" and generally have a thin or moderately deep mineral soil layer over bedrock. These soils are considered cryic with thixotropic properties. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. The Surplus soils are deep moderately well drained and somewhat poorly drained. There may be inclusions of Abram or Mahoosuc soils within this mapping unit. Interpretations for these soils are given below.

## SuB SURPLUS, 8 to 15% slopes

## Stony, well drained, fine sandy loam and sandy loam

This small map unit occurs along the long smooth side slopes leading down into the flatter transitional areas in the westerly portion of the Series "B" project area. The Surplus soils are moderately well and somewhat poorly drained and very deep. Surplus soils generally have a thick organic layer over a loamy subsurface layer above a fine sandy loam and gravelly fine sandy loam subsoil. The substratum is firm loam. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. The Surplus soils are deep moderately well drained and somewhat poorly drained. There may be inclusions of Bemis or Saddleback soils within this mapping unit. Interpretations for these soils are given below.

## SuC SURPLUS, 15 to 30% slopes

### Stony, well drained, fine sandy loam and sandy loam

This small map unit occurs along the long smooth side slopes leading down into the flatter transitional areas in the westerly portion of the Series "B" project area. The Surplus soils are moderately well and somewhat poorly drained and very deep. Surplus soils generally have a thick organic layer over a loamy subsurface layer above a fine sandy loam and gravelly fine sandy loam subsoil. The substratum is firm loam. The high organic contents and fine soil textures combined with moist conditions make the Saddleback soils "smeary" and slick under pressure. The Surplus soils are deep moderately well drained and somewhat poorly drained. There may be inclusions of Bemis or Saddleback soils within this mapping unit. Interpretations for these soils are given below.

## TBB TUNBRIDGE-BEMIS COMPLEX, 8 to 15% slopes

## Excessively and poorly drained, fine sandy loam and silt loam

This small map unit occurs in an isolated area adjacent to the Gold Brook Road and is associated with the Series "B" project area. Observations found the area to have intermixed shallow to bedrock soils with poorly drained wetland soils. The poorly drained soils are deep to bedrock. These soils are considered hydric soils and usually in wetland environments. There may be inclusions of Lyman and Monarda soils within this mapping unit. Interpretations for these soils are given below.

## TMB TELOS-MONARDA COMPLEX, 8 to 15% slopes Poorly drained, silt loam

This small map unit occurs along the toe slopes leading down from steeper slopes of the Series "A" project area. The somewhat and poorly drained soils are deep or very deep to bedrock. Monarda soils are considered hydric soils and usually in wetland environments. There may be inclusions of Chesuncook soils within this mapping unit. Interpretations for these soils are given below.

# **APPENDIX D**

# SOIL SURVEY INTERPRETATIONS

## SOIL SURVEY INTERPRETATIONS

Soil survey interpretations are derived from the inherent soil characteristics found within the soil profile. The interpretations are predictions (numerical and descriptive) of soil reaction to a specific use, based on the soil's characteristics. These interpretations have many uses, such as: estimating costs for land development, storm water runoff calculations, structural bearing strengths, estimating erodability, etc. Soil interpretations are also useful for using and managing existing soils for specific uses. Soil interpretations often identify potential soil limitations, which can be considered during project designs to overcome these limitations for the proposed use.

## Soil Interpretations

Soil interpretations are very useful for many purposes and projects, although they do have limitations with their use. The following is a listing of limitations for the usage of soil interpretations:

- 1. An interpretation for a specific purpose is rarely adaptable for another use without management considerations.
- 2. Use of interpretations for specific areas has an inherent limitation relating to variability of the soil map unit. This limitation is related to the size of the area of the soil survey and the size of the soil map units.
- 3. Interpretations are also limited by the variability within a soil in nature, which directly affects the precision of the soil interpretation.
- 4. Soil interpretations are predictions of suitability or limitations by soil properties. A soil may possess several limiting factors and must be site specific for accurate interpretations.
- 5. Soil interpretations are used to predict the costs of development and to ultimately determine feasibility of a project. It should be noted that most soil limitations can be overcome with engineering solutions to make the soil suitable for a proposed use.

### Soil Limitations

Soils are assigned a limitation range according to their genetic makeup in their natural state when characterized for a specific use. Limitation ratings can be based on hazards, risks and obstructions. These ratings range from slight, moderate, severe and very severe.

1. **Slight** is a rating given to soils that have, at most, minor problems associated with a specific use.

- 2. **Moderate** is the rating given to a soil that possesses certain undesirable characteristics that can be overcome. These soils may be modified, special designs, and/or maintenance may be required to achieve satisfactory soil performance. The cost to modify these soils for a particular use may increase costs to use, although the costs usually are not prohibitive.
- 3. **Severe** is the rating given to soils that require modification to become satisfactory for use at reduced risks. These soils can be modified to meet standards for a proposed use, although the costs may be high to overcome the undesirable characteristics.
- 4. **Very severe** are soils that have such severe limitations for a particular use and should be avoided, unless no other options exist. The negative characteristics may be overcome with substantial costs.

## Soil Suitability

Soils suitability is based on the characteristics of soils that influence the usability of the soil for a particular use. The range of ratings is from good, fair, poor and unsuitable.

- 1. **Good** is the rating assigned to soils that possess properties favorable for the proposed use.
- 2. **Fair** includes soils that may possess one or more unfavorable properties that impact the use and less suitable than the good rating.
- 3. **Poor** rating is applied to soils with one or more unfavorable properties that require special practices to overcome the negative qualities within the soil. These soils will require special designs, extra maintenance, extra costs or field alterations.
- 4. **Unsuitable** are soils that are unacceptable for the proposed use.

Many soils possess unfavorable properties in relation to their development, which can become easily overcome with simple cost-effective modifications. Some examples of unfavorable soil qualities inherent in Maine soils are listed below:

- 1. **Depth to Bedrock** is a significant soil property in relation to the development of lands. The solid rock usually requires blasting or specialized equipment to amend this negative quality. This factor impacts storm-water runoff, rooting depths, soil permeability, impedes downward movement of water in the soil, subsurface waste disposal, and subsurface piping, etc.
- 2. **Seasonally High Water Table** is an unfavorable aspect relating to most development. The amount of groundwater within a soil profile can effect vegetative growth, subsurface wastewater disposal and saturation, which may require drainage for construction.

- 3. **Depth to Restrictive Layers** is the depth within the soil horizon in which a firm or cemented layer exists. Restrictive layers impede rooting depths and downward movement of water in the soil horizon and may cause a seasonable high water table.
- 4. **Soil Slopes** impact surface water runoff, influences water retention, govern the potential for erosion or sloughing, limit accessibility by machinery, etc.
- 5. **Flooding** is a major factor governing land development. Many regulations do not allow for development within a flood zone due to the high costs involved with reconstruction after flooding occurs.

## **Drainage Classes**

Drainage classes are the relative wetness that a soil under normal conditions has relating to the soil water table. The following seven drainage classes are used for the soils found in Maine as defined in the "*Guidelines for Maine Certified Soil Scientists For Soil Identification and Mapping*" (Maine Association of Professional Soil Scientists 2000):

- 1. **Excessively Drained**. Water is removed from the soil very rapidly and the soils do not have a seasonal high water table. Droughtiness is a limiting factor for establishing and sustaining most types of vegetation in these soils. Therefore, their use for agricultural, forestry and urban activities that require healthy plant growth is limited.
- 2. **Somewhat Excessively Drained**. Water is removed from the soil rapidly and the soils do not have a seasonal high water table. These soils are droughty during the summer months. Droughtiness is a moderate limitation for agricultural, forestry and urban uses that require good plant growth.
- 3. **Well Drained**. Water is removed from the soil readily, but not rapidly, and the soil does not have a seasonal high water table within forty inches of the surface throughout the year. These soils typically are not limiting for agricultural, forestry or urban activities.
- 4. **Moderately Well Drained**. Water is removed from the soil somewhat slowly, so that the soil is wet for a short, but significant period of time. A seasonal water table is at sixteen inches to forty inches in depth from November through May. The seasonal water table may be a moderate limitation to most agricultural, forestry and urban activities, however, these limitations can typically be overcome with simple corrective measures and practices.
- 5. **Somewhat Poorly Drained**. Water is removed from the soil slowly enough to keep it wet for significant periods of time, but not the entire year. A seasonal high water table is at seven inches to sixteen inches in depth from October through May and sometimes June. From July to October it may recede below thirty in depth. A seasonal water table limits the use of these soils for most

agricultural, forestry and urban activities. These soils are not hydric in Maine, and commonly found in the transitional landscape positions between wetland and upland soils.

- 6. **Poorly Drained**. Water is removed from the soil so slowly that the soil remains wet most of the year. A seasonal high water table is at or near the surface from October through June. In July, August and September it may recede below sixteen inches. The seasonal high water table limits the use of these soils for most agricultural, forestry and urban activities. These soils are hydric and typically support a wetland plant community.
- 7. **Very Poorly Drained**. Water is removed from the soil so slowly that the water table remains at or above the surface most of the year. A seasonal high water table is at or above the surface from at least October through July and sometimes throughout the year. In August and September the water table may recede below twelve inches. The high water table severely limits the use of these soils for most agricultural, forestry and urban activities. These soils are hydric and typically support a wetland plant community.

#### Depth to Bedrock

- 1. Very Shallow
- 2. Shallow
- 3. Moderately Deep
- 4. **Deep**
- 5. Very Deep

### **Stoniness Class**

- 1. Non-stony
- 2. Stony or bouldery
- 3. Very stony
- 4. Very bouldery
- 5. **Extremely stony**
- 6. **Extremely bouldery**
- 7. **Rubble**
- 8. **Rubble Land**

- Less than10 inches to bedrock 10 inches to 20 inches to bedrock 20 inches to 40 inches to bedrock 40 inches to 60 inches to bedrock Greater than 60 inches to bedrock
- Less than 0.01 percent surface coverage
- 0.01 to 0.1 percent surface coverage
- 0.1 to 3.0 percent surface coverage
- 0.1 to 3.0 percent surface coverage
- 3.0 to 15 percent surface coverage
- 3.0 to 15 percent surface coverage
- 15 to 75 percent surface coverage
- More than 75 percent surface coverage

# **APPENDIX E**

# SOIL TEST PITS

FORM F SOIL PROFILE/CLASSIFICATION INFORMATION for subsurface investigations at DEP Site Location Projects Project Location (municipality) KIBBY TOWNSHIP Project Name Applicant Name: KIBBY WIND-POWER PROJECT TRANS-CANADA-AMEC SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Exploration Symbol: A 06-TP-1 X Test Pit Boring Exploration Symbol: A 06-TP-2 X Test Pit Boring " Depth of Organic Horizon Above Mineral Soil 5 " Depth of Organic Horizon Above Mineral Soil 3 Mottling Color Mottling Texture Consistency Texture Consistency Color 7.5YR 6/1 FINE 5Y 5/2 5Y 6/1 SANDY 7.5YR 3/2 LOAM 4 FINE SANDY FRIABLE (Inches) (Inches) 7.5YR 3/4 GRAVELLY FRIABLE FINE 5Y 4/3 5Y 6/1 JRFACE ( SANDY SURFACE 10 LOAM 10 12 10YR 4/6 12 14 15 SC 14 SOIL SOIL 18 SAND GRAVELLY 18 10YR 3/6 FINE 2.5YR 5/4 LOAM/ 2.5Y 3/2 20 22 MINERAL 3 DEPTH BELOW MINERAL SANDY FIRM 2.5Y 6/2 FINE SANDY LOAM 24 LOAM LIMIT OF TEST PIT 24" REFUSAL AT 24" 28 МО 30 30 BEL Ш 42 47 50 48 52 60 Slope % Limiting factor hydric Limiting factor ground wate . hydric Slope % ground water restrictive layer . non-hydric restrictive layer non-hydric ۰ 8-15 20" 3-8 5" bedrock her Soil Series / phase name: COLONEL Drainage MWD HSG C Soil Series / phase name BRAYTON Drainage HSG C C.S.S. C.S.S. PD FSL SWPD FSL SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION  $\square$ Boring Boring Exploration Symbol: A 06-TP-3 X Test Pit Exploration Symbol: A 06-TP-4 X Test Pit Depth of Organic Horizon Above Mineral Soil Depth of Organic Horiz on Above Mineral Soil 3 Texture Consistency Color Mottling Texture Consistency Color Mottling 7.5YR 6/2 10YR 5/2 FINE \_\_\_\_ 7.5YR 4/4 SAND LOAM 7.5YR 4/6 (Inches) (Inches) 8 9 8 FRIABLE SILT FRIABLE SURFACE 10 10YR 4/6 LOAM 12 7.5YR 3/4 16 18 16 SOIL 16 17 MINERAL 5 20 MINERAL 2.5Y 5/4 10YR 3/4 \_ 23 10YR 5/1 BELOW MO 2.5Y 4/3 24 26 30 H FIRM 5Y 5./4 10YR 5/6 REFUSAL GRAVELLY 26' AT F FINE SANDY DEP DEF LOAM 40 50 60 55 I IMIT OF TEST PIT 60" ground wa hydric Slope % Limiting factor Slone % Limiting factor ground wate . non-hydric restrictive layer non-hydric . restrictive layer 30" 8-15 26" 15-30 C.S.S. Soil Series / phase name: HSG Drainage HSG Soil Series / phase name Drainage .S.S. MARLOW FSL WD С CHESUNCOOK SiL MWĎ С Professional Endorsements (as applicable) C.S.S. Date: DALE A. BREWER Lic 304

FORM F SOIL PROFILE/CLASSIFICATION INFORMATION for subsurface investigations at DEP Site Location Projects Project Location (municipality) KIBBY TOWNSHIP Project Name: KIBBY WIND-POWER PROJECT Applicant Name: TRANS-CANADA-AMEC SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Exploration Symbol: A 06-TP-5 X Test Pit Boring Exploration Symbol: A 06-TP-6 X Test Pit Boring 3 " Depth of Organic Horizon Above Mineral Soil " Depth of Organic Horizon Above Mineral Soil 2 Mottling Color Color Mottling Texture Consistency Texture Consistency FINE FINE SANDY 7.5YR 5/2 SANDY 5YR 5/1 LOAM LOAM \_ \_ 5YR 3/4 2.5YR 3/3 (Inches) (Inches) SILT FRIABLE LOAM FRIABLE LOAM 7.5YR 4/6 8 7.5YR 4/6 9 10 JRFACE ( SURFACE 10YR 4/6 10 11 12 GRAVELLY FINE GRAVELLY LOAM 10YR 4/6 14 15 SL 14 2.5Y 5/4 SOIL SOIL GRAVELLY SANDY 16 18 FINE 2.5Y 5/6 LOAM 19 22 24 WINERAL 5 17 DEPTH BELOW MINERAL SANDY ASSUMED BEDROCK AT 19" 19 LOAM 20 LIMIT OF TEST PIT 19" МО 24 30 BEL Ш 42 47 50 48 52 60 Slope % Limiting factor Limiting factor hydric ground wate • hydric Slope % ground water . non-hydric ٥ restrictive layer non-hydric ۰ restrictive layer 30 0-3 19" bedrock C.S.S. Soil Series / phase name: SISK Drainage WD HSG C Soil Series / phase name SADDLEBACK Drainage SWED HSG C/D C.S.S. SiL FSL SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION  $\Box$ Boring Boring Exploration Symbol: A 06-TP-7 X Test Pit Exploration Symbol: A 06-TP-8 X Test Pit Depth of Organic Horizon Above Mineral Soil Depth of Organic Hori on Above Mineral Soil 5 Texture Consistency Color Mottling Consistency Color Mottling Texture FINE SANDY LOAM 7.5YR 6/1 7.5YR 4/2 CHANNERY 7.5YR 3/4 3 2.5YR 3/1 FINE SANDY LOAM VERY (Inches) (Inches) FRIABLE 10YR 3/6 FRIABLE 2.5YR 2.5/3 8 9 8 SURFACE 10 12 13 LOAM 10YR 4/6 SILT LOAM 16 17 16 SOIL SOIL 17 18 20 GRAVELLY FSL 2.5Y 5/4 MINERAL 5YR 3/2 ASSUMED BEDROCK AT 20" 23 BELOW MO 24 30 26 28 DTJBETC DEPTH I 30 LIMIT OF TEST PIT 30" Ш \_ 40 50 50 55 6 ground wat hydri Slope % Limiting factor 0 Slone % Limiting factor ground wate 0 non-hydric restrictive layer non-hydric restrictive layer 20" 15-30 3-8 C.S.S. Soil Series / phase name: SADDLEBACK HSG Drainage HSG Soil Series / phase name Drainage .S.S. FSL SWED C/D SISK SiL WD С Professional Endorsements (as applicable) C.S.S. signature: name: Date: DALE A. BREWER Lic 304

FO	RMF			SOIL PROFILE/CLAS	SIFICATIO	ON INFORMATION			
Projec	t Name:			subsurface investigation			ts Project Location (r	nunicipality)	
	KIBBY WIND-POW	ER PROJECT		TRANS-CANADA	AMEC			KIBBY TOWNSHIP	
		L DESCRIPTION AN							
	Exploration Symbol:	" Depth of Organic Horizo	X Test Pit	Boring		Exploration Symbol:	" Depth of Organic Horizo	X Test Pit	Boring
	Texture FINE	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2	SANDY		7.5YR 5/1			SANDY		7.5YR 5/1	
4	EOAM	_				LOAM			
5 (Se	FINE		7.5YR 3/4		(Se			5YR 2.5/2	
SURFACE (Inches)	SANDY LOAM/	FRIABLE			SURFACE (Inches)	SILT LOAM/	FRIABLE		
aCE (	LOAM				ACE (			5YR 3/4	
			10YR 4/6						
5 7/OS	GRAVELLY FINE				S TIOS			10YR 3/6	
S 4L S	SANDY		2.5Y 5/4					10110 3/0	
DEPTH BELOW MINERAL			.=			GRAVELLY		2.5Y 5/4	
N MC 28	APPARENT	BOULDER	AT	23"	W MC	FSL	REFUSAL	AT	26"
BEL(					BEL(				
НЦ Ц					HLL				
DE					DE				
40					42				
50 60					48	5 0			
•	hydric non-hydric	Slope %	Limiting factor	ground water     restrictive layer	•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer
	Soil Series / phase name	3-8		Drainage HSG		Soil Series / phase name:	8-15		bedrock Drainage HSG
C.S.S.	DIXFIELD	FSL		MWD C	C.S.S.	SADDLEBACK	FSL		SEWD_ C/D
		L DESCRIPTION AN				SO Exploration Symbol:		ID CLASSIFICATION	Boring
	Exploration Symbol:	A 06-1P-11	X Test Pit	Boring			A 00-1P-12		
	5	" Depth of Organic Horizo	on Above Mineral Soil			3	" Depth of Organic Horizo		Boining
0	5 Texture	" Depth of Organic Horizo Consistency	on Above Mineral Soil Color	Mottling				n Above Mineral Soil Color	Mottling
0 1 2						3 Texture	" Depth of Organic Horizo	n Above Mineral Soil	
0 1 2 3 4			Color			3	" Depth of Organic Horizo	n Above Mineral Soil Color	
0 1 2 3 4 5 6 (Se	Texture		Color 10YR 4/3		(se	3 Texture SILT	* Depth of Organic Horizo Consistency	n Above Mineral Soil Color 7.5YR 6/1	
(Inches)		VERY	Color		( <i>Inches</i> )	3 Texture SILT LOAM	" Depth of Organic Horizo	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3	
ACE (Inches) تَأَدُّ الله الحالي التي التي التي التي التي التي التي ا	Texture	Consistency	Color 10YR 4/3		ACE (Inches)	3 Texture SILT	* Depth of Organic Horizo Consistency	n Above Mineral Soil Color 7.5YR 6/1	
sURFACE (Inches) इ. [ त   त   क   क   क   6   n   1   0	Texture	VERY	Color 10YR 4/3		sURFACE (Inches) surface (Inches) stitt pin ne stitt	3 Texture SILT LOAM SILT LOAM/ LOAM	* Depth of Organic Horizo Consistency	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3	
	Texture	VERY	Color 10YR 4/3		Ins 14	3	* Depth of Organic Horizo Consistency	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3	
	Texture	VERY	Color 10YR 4/3 10YR 4/6				Depth of Organic Horizo     Consistency     Very     FRIABLE	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6	Mottling
	Texture SILT LOAM SILT LOAM/	VERY	Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8				* Depth of Organic Horizo Consistency	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6	
	Texture SILT LOAM	VERY	Color 10YR 4/3 10YR 4/6				Depth of Organic Horizo     Consistency     Very     FRIABLE	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6	Mottling
	Texture SILT LOAM SILT LOAM/	VERY	Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8				Depth of Organic Horizo     Consistency     Very     FRIABLE	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6	Mottling
	Texture SILT LOAM SILT LOAM/	Consistency VERY FRIABLE	Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4	Mottling			Depth of Organic Horizo     Consistency     Very     FRIABLE	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6	Mottling
DEPTH BELOW MINERAL SOIL           8         8         1 <td>Texture SILT LOAM SILT LOAM/</td> <td>Consistency VERY FRIABLE</td> <td>Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4</td> <td>Mottling</td> <td>DEPTH BELOW MINERAL SOIL</td> <td></td> <td>Depth of Organic Horizo     Consistency     Very     FRIABLE</td> <td>n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6</td> <td>Mottling</td>	Texture SILT LOAM SILT LOAM/	Consistency VERY FRIABLE	Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4	Mottling	DEPTH BELOW MINERAL SOIL		Depth of Organic Horizo     Consistency     Very     FRIABLE	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6	Mottling
DEPTH BELOW MINERAL SOIL            a	Texture SILT LOAM SILT LOAM/	Consistency VERY FRIABLE	Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4	Mottling	DEPTH BELOW MINERAL SOIL		Depth of Organic Horizo     Consistency     Very     FRIABLE	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6	Mottling
DEPTH BELOW MINERAL SOIL           8         8         1         8         1 <td>Texture SILT LOAM SILT LOAM/</td> <td>Consistency VERY FRIABLE</td> <td>Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4</td> <td>Mottling</td> <td>DEPTH BELOW MINERAL SOIL</td> <td></td> <td>Depth of Organic Horizo     Consistency     Very     FRIABLE</td> <td>n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6</td> <td>Mottling</td>	Texture SILT LOAM SILT LOAM/	Consistency VERY FRIABLE	Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4	Mottling	DEPTH BELOW MINERAL SOIL		Depth of Organic Horizo     Consistency     Very     FRIABLE	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6	Mottling
DEPTH BELOW MINERAL SOIL            a	Texture SILT LOAM SILT LOAM/	Consistency VERY FRIABLE	Color 10YR 4/3 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4	Mottling	DEPTH BELOW MINERAL SOIL 25 22 22 22 22 22 22 22 22 22 22 22 22 2		Depth of Organic Horizo     Consistency     Very     FRIABLE	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6	Mottling
DEPTH BELOW MINERAL SOIL           8         8         1         8         1 <td>Texture SILT LOAM SILT LOAM/</td> <td>Consistency VERY FRIABLE REFUSAL Slope %</td> <td>Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT Limiling factor</td> <td>Mottling</td> <td>DEPTH BELOW MINERAL SOIL 25 22 22 22 22 22 22 22 22 22 22 22 22 2</td> <td></td> <td>Depth of Organic Horizo Consistency VERY FRIABLE REFUSAL Slope %</td> <td>n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT Limiting factor</td> <td>Mottling</td>	Texture SILT LOAM SILT LOAM/	Consistency VERY FRIABLE REFUSAL Slope %	Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT Limiling factor	Mottling	DEPTH BELOW MINERAL SOIL 25 22 22 22 22 22 22 22 22 22 22 22 22 2		Depth of Organic Horizo Consistency VERY FRIABLE REFUSAL Slope %	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT Limiting factor	Mottling
DEPTH BELOW MINERAL SOIL     B   B   B   B   B   B   B   B   B	Texture         SILT         LOAM         SILT LOAM/         LOAM         hydric         non-hydric         Soil Series / phase name	Consistency VERY FRIABLE REFUSAL Slope % 3-8	Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT	Mottling	DEPTH BELOW MINERAL SOIL     DEPTH BELOW MINERAL SOIL     DEPTH BELOW MINERAL SOIL		Depth of Organic Horizo     Consistency     VERY     FRIABLE      REFUSAL      Slope %     _3-8	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT AT	Mottling Mottling
DEPTH BELOW MINERAL SOIL           '''         DEPTH BELOW MINERAL SOIL	SILT LOAM/ LOAM SILT LOAM/ LOAM hydric non-hydric Soil Series / phase name CHESUNCOOK	Consistency	Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT Limiting factor 30	Mottling	DEPTH BELOW MINERAL SOIL		Depth of Organic Horizo Consistency VERY FRIABLE REFUSAL Slope % 3-8	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT Limiting factor	Mottling Mottling
DEPTH BELOW MINERAL SOIL           Signature         DEPTH BELOW MINERAL SOIL           Signature         Signature           Signature         Signature	SILT         SILT         LOAM         SILT LOAM/         LOAM         Silt Coam         Silt Coam         Silt Silt Coam         Chesuncook         CHESUNCOOK	Consistency VERY FRIABLE REFUSAL Slope % 3-8	Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT Limiting factor 30	Mottling	DEPTH BELOW MINERAL SOIL     DEPTH BELOW MINERAL SOIL     DEPTH BELOW MINERAL SOIL		Depth of Organic Horizo     Consistency     VERY     FRIABLE      REFUSAL      Slope %     _3-8	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT Limiting factor	Mottling Mottling
DEPTH BELOW MINERAL SOIL           '''         DEPTH BELOW MINERAL SOIL	SILT LOAM SILT LOAM SILT LOAM Number of the second	Consistency	Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT Limiting factor 30	Mottling			Depth of Organic Horizo     Consistency     VERY     FRIABLE      REFUSAL      Slope %     _3-8	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT Limiting factor	Mottling Mottling
DEPTH BELOW MINERAL SOIL           53         •         0           53         •         18         18         12         12	SILT LOAM SILT LOAM/ LOAM LOAM LOAM Soll Series / phase name CHESUNCOOK Seil Series / phase name cHESUNCOOK	Consistency VERY FRIABLE REFUSAL REFUSAL Slope % 3-8 SiL ments (as applicable	Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT Limiting factor 30	Mottling	100 DEPTH BELOW MINERAL SOLUTION		Depth of Organic Horizo     Consistency     VERY     FRIABLE      REFUSAL      Slope %     _3-8	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT Limiting factor	Mottling Mottling
DEPTH BELOW MINERAL SOIL           53         •         0           53         •         18         18         12         12	SILT LOAM SILT LOAM/ LOAM LOAM LOAM Soll Series / phase name CHESUNCOOK Seil Series / phase name cHESUNCOOK	Consistency VERY FRIABLE REFUSAL REFUSAL Slope % 3-8 SiL ments (as applicable	Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT Limiting factor 30	Mottling	100 DEPTH BELOW MINERAL SOLUTION		Depth of Organic Horizo     Consistency     VERY     FRIABLE      REFUSAL      Slope %     _3-8	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT Limiting factor	Mottling Mottling
DEPTH BELOW MINERAL SOIL           Signature         DEPTH BELOW MINERAL SOIL           Signature         Signature           Signature         Signature	SILT LOAM SILT LOAM/ LOAM LOAM LOAM Soll Series / phase name CHESUNCOOK Seil Series / phase name cHESUNCOOK	Consistency VERY FRIABLE REFUSAL REFUSAL Slope % 3-8 SiL ments (as applicable	Color 10YR 4/3 10YR 4/6 10YR 5/8 2.5Y 5/4 AT Limiting factor 30	Mottling	100 DEPTH BELOW MINERAL SOLUTION		Depth of Organic Horizo     Consistency     VERY     FRIABLE      REFUSAL      Slope %     _3-8	n Above Mineral Soil Color 7.5YR 6/1 7.5YR 2.5/3 7.5YR 4/6 2.5Y 5/6 AT Limiting factor	Mottling Mottling

ORM F		for s	SOIL PROFILE/CLAS subsurface investigatio			cts		
ct Name: KIBBY WIND-POW		Applicant Name:	TRANS-CANADA			Project Location (r	nunicipality) KIBBY TOWNSHI	>
		ID CLASSIFICATION				DIL DESCRIPTION AN		
Exploration Symbol		X Test Pit	Boring		Exploration Symbol		X Test Pit	Boring
3	" Depth of Organic Horiz	on Above Mineral Soil				" Depth of Organic Horizo		
o Texture	Consistency	Color 5YR 3/3	Mottling	0	Texture	Consistency	Color	Mottling
2		7.5YR 6/1		2	FINE			
4		7.511( 0/1		4	SANDY	FRIABLE	7.5YR 6/2	
5 6 SILT				s (S	LOAM			
	FRIABLE	7.5YR 2.5/3		nche.	BEDROCK	AT	7"	
9				CE (I	222110011		•	
0		10YR 3/4		SURFACE (Inches)				
3 5 <b>LOAM</b>		2.5Y 5/4	_	7S 71				
8 9 ASSUMED	BEDROCK	AT	18"	OS 18				
2	DEDITOON		10	EKAI				
3				BELOW MINERAL 30 30 30 30				
8				R OW				
				H BE				
	1			<i>DEPTH</i>		1		1
0			+	Q 42				
7			1					
0	1		1	48				1
				-				
hydric non-hydric	Slope %	Limiting factor	ground water     restrictive layer	•	hydric non-hydric	Slope %	Limiting factor	ground water
	8-15		bedrock	<b>ال</b> ــــــــــــــــــــــــــــــــــــ				bedrock
Soil Series / phase name SADDLEBACK	BOULDERY FSL	SWED	Drainage HSG WD C/D	C.S.S.	Soil Series / phase name ABRAM	si SL		Drainage HS ED D
SOI			ı —		SC	DIL DESCRIPTION AN	D CLASSIFICATION	· — –
SOI Exploration Symbol	L DESCRIPTION AN	D CLASSIFICATION	N Boring		SC Exploration Symbol		X Test Pit	Boring
Exploration Symbol	L DESCRIPTION AN A 06-TP-15	X Test Pit	Boring		Exploration Symbol	A 06-TP-16	X Test Pit	Boring
	L DESCRIPTION AN	X Test Pit			Exploration Symbol	: A 06-TP-16	X Test Pit on Above Mineral Soil Color	
Exploration Symbol	L DESCRIPTION AN A 06-TP-15	X Test Pit	Boring		Exploration Symbol	A 06-TP-16	X Test Pit	Boring
Exploration Symbol	L DESCRIPTION AN A 06-TP-15	X Test Pit	Boring		Exploration Symbol	A 06-TP-16	X Test Pit on Above Mineral Soil Color	Boring
Exploration Symbol  Texture	L DESCRIPTION AN A 06-TP-15	X Test Pit on Above Mineral Soil Color	Boring		Exploration Symbol	A 06-TP-16	X Test Pit on Above Mineral Soil Color	Boring
Exploration Symbol	L DESCRIPTION AN A 06-TP-15	X Test Pit	Boring		Exploration Symbol	A 06-TP-16	X Test Pit on Above Mineral Soil Color	Boring
Exploration Symbol	L DESCRIPTION AN A 06-TP-15	X Test Pit on Above Mineral Soil Color	Boring		Exploration Symbol 4 Texture FINE SANDY	A 06-TP-16	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1	Boring
Exploration Symbol	L DESCRIPTION AN A 06-TP-15	X Test Pit on Above Mineral Soil Color	Boring		Exploration Symbol 4 Texture FINE	: A 06-TP-16 <sup>1</sup> Depth of Organic Horizz  Consistency	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1	Boring
Exploration Symbol  Texture  Texture  Texture  Texture  Contemporation  Texture  Texture  Contemporation  Contemporation  Texture  Contemporation  Texture  Texture T	L DESCRIPTION AN A 06-TP-15	X Test Pit on Above Mineral Soil Color	Boring	L SURFACE (Inches) 5 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>1</sup> Depth of Organic Horizz  Consistency	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1	Boring
Exploration Symbol  Texture  Texture  Comparison  Comp	L DESCRIPTION AN A 06-TP-15	X Test Pit on Above Mineral Soil Color	Boring	L SURFACE (Inches) 5 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>1</sup> Depth of Organic Horizz  Consistency	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -	Boring
Exploration Symbol  Texture	L DESCRIPTION AN A 06-TP-15	X Test Pit on Above Mineral Soil Color	Boring	L SURFACE (Inches) 5 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>1</sup> Depth of Organic Horizz  Consistency	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -	Boring
Exploration Symbol o Texture	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X     Test Pit       on Above Mineral Soll     Color       Color     10YR 2/1	Boring Mottling	L SURFACE (Inches) 5 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>*</sup> Depth of Organic Horizz  Consistency  FRIABLE  FRIABLE	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -           2.5Y 5/1         -	Boring Mottling Mottling
Exploration Symbol  Texture	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X     Test Pit       on Above Mineral Soll     Color       Color     10YR 2/1	Boring Mottling	L SURFACE (Inches) 5 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>1</sup> Depth of Organic Horizz  Consistency	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -	Boring
Exploration Symbol o Texture	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X     Test Pit       on Above Mineral Soll     Color       Color     10YR 2/1	Boring Mottling	L SURFACE (Inches) 5 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>*</sup> Depth of Organic Horizz  Consistency  FRIABLE  FRIABLE	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -           2.5Y 5/1         -	Boring Mottling Mottling
Exploration Symbol  Texture	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X     Test Pit       on Above Mineral Soll     Color       Color     10YR 2/1	Boring Mottling	L SURFACE (Inches) 5 1 2 1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>*</sup> Depth of Organic Horizz  Consistency  FRIABLE  FRIABLE	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -           2.5Y 5/1         -	Boring Mottling Mottling
Exploration Symbol  Texture	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X     Test Pit       on Above Mineral Soll     Color       Color     10YR 2/1	Boring Mottling	2W MINERAL SOIL SURFACE (Inches) 말 빈뉞 8 8 8 4 4 5 15 15 6 0 0 1 2 10 0 10 10 10 10 10 10 10 10 10 10 10 1	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>*</sup> Depth of Organic Horizz  Consistency  FRIABLE  FRIABLE	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -           2.5Y 5/1         -	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X     Test Pit       on Above Mineral Soll     Color       Color     10YR 2/1	Boring Mottling	DEPTH BELOW MINERAL SOIL SURFACE (Incres)  DEPTH BELOW MINERAL SOIL SURFACE (Incres)	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>*</sup> Depth of Organic Horizz  Consistency  FRIABLE  FRIABLE	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -           2.5Y 5/1         -	Boring Mottling Mottling
Exploration Symbol o  Texture ORGANIC ORGANIC O ORGANIC O O O O O O O _ O O _ O _ O _ O _ O _ O _ O _ O	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X     Test Pit       on Above Mineral Soll     Color       Color     10YR 2/1	Boring Mottling	DEPTH BELOW MINERAL SOIL SURFACE (Inches)         영남 방방 방남 그 로 남 남 등 등 등 등 1 등 1 등 1 등 1 등 1 등 1 등 1	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>*</sup> Depth of Organic Horizz  Consistency  FRIABLE  FRIABLE	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -           2.5Y 5/1         -	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN L DESCRIPTION AN A 06-TP-15 Depth of Organic Horiz Consistency Consistency REFUSAL	X     Test Pit       on Above Mineral Soll     Color       Color     10YR 2/1	Boring Mottling	DEPTH BELOW MINERAL SOIL SURFACE (Inches) 8   6       영업 방법 8 홈 로그 로 E E E 등 6 6 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16 <sup>*</sup> Depth of Organic Horizz  Consistency  FRIABLE  FRIABLE	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -           2.5Y 5/1         -           AT         -	Boring Mottling Mottling
Exploration Symbol o  Texture ORGANIC ORGANIC O ORGANIC O O O O O O O _ O O _ O _ O _ O _ O _ O _ O _ O	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X         Test Pit           on Above Mineral Sol         Color           Color	Boring Mottling	DEPTH BELOW MINERAL SOIL SURFACE (Inches) 8   6       영업 방법 8 홈 로그 로 E E E 등 6 6 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Exploration Symbol 4 Texture FINE SANDY	: A 06-TP-16   * Depth of Organic Horize Consistency  FRIABLE  FRIABLE  REFUSAL  Slope %	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X         Test Pit           on Above Mineral Sol         Color           Color         10           10YR 2/1         10           AT         10           10         10	Boring Mottling Mottling	•         DEPTH BELOW MINERAL SOL SURFACE (inches)           1         1         8         1         1         8         1	Exploration Symbol  4 Texture FINE SANDY LOAM	: A 06-TP-16	Test Pit           on Above Mineral Soil         Color           7.5YR 6/1         -           5YR 2.5/2         -           10YR 4/4         -           2.5Y 5/1         -           AT         -	Boring  Mottling  Mottling  Za <sup>**</sup>
Exploration Symbol	L DESCRIPTION AN A 06-TP-15 * Depth of Organic Horiz Consistency	X         Test Pit           on Above Mineral Sol         Color           Color	Boring Mottling Mottling	□ DEPTH BELOW MINERAL SOIL SURFACE (Inches) □ BE   b       8   8   8   8   8   8   8   5   5	Exploration Symbol  4 Texture FINE SANDY LOAM	: A 06-TP-16	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring      Mottling      Mottling      23"
Exploration Symbol	L DESCRIPTION AN A 06-TP-15  Depth of Organic Horiz Consistency REFUSAL	X         Test Pit           on Above Mineral Sol         Color           Limiting factor         Limiting factor	Boring Mottling Mottling	3     ■     DEPTH BELOW MINERAL SOIL SURFACE (Inches)       9     1     1       9     1     1       1     1     1       1     1     1	Exploration Symbol  4 Texture FINE SANDY LOAM	: A 06-TP-16 <sup>1</sup> Depth of Organic Horize Consistency  FRIABLE  FRIABLE  REFUSAL  Slope % <u>8</u>	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN A 06-TP-15 Depth of Organic Horiz Consistency REFUSAL REFUSAL Slope % 0-3 Slope % 0-3 Stope % 0-3	X         Test Pit           on Above Mineral Sol         Color           Color         10YR 2/1           Image: Color         Image: Color           Image: Color         Image: Color	Boring Mottling Mottling	Bit Interference         DEPTH BELOW MINERAL SOIL SURFACE (Inches)           9         0           9         1           9         1           9         1           1         1	Exploration Symbol 4 Texture FINE SANDY LOAM LOAM SANDY LOAM SADDEBACK SADDLEBACK	: A 06-TP-16 <sup>1</sup> Depth of Organic Horize Consistency  FRIABLE  FRIABLE  REFUSAL  Slope % <u>8</u>	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN A 06-TP-15	X         Test Pit           on Above Mineral Sol         Color           Color         10YR 2/1           Image: Color         Image: Color           Image: Color         Image: Color	Boring Mottling Mottling	3     ■     DEPTH BELOW MINERAL SOIL SURFACE (Inches)       9     1     1       9     1     1       1     1     1       1     1     1	Exploration Symbol  4 Texture FINE SANDY LOAM	: A 06-TP-16 <sup>1</sup> Depth of Organic Horize Consistency  FRIABLE  FRIABLE  REFUSAL  Slope % <u>8</u>	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN A 06-TP-15 Depth of Organic Horiz Consistency REFUSAL REFUSAL Slope % 0-3 Slope % 0-3 Stope % 0-3	X         Test Pit           on Above Mineral Sol         Color           Color         10YR 2/1           Image: Color         Image: Color           Image: Color         Image: Color	Boring Mottling Mottling	Bit Interference         DEPTH BELOW MINERAL SOIL SURFACE (Inches)           9         0           9         1           9         1           9         1           1         1	Exploration Symbol 4 Texture FINE SANDY LOAM LOAM SANDY LOAM SADDEBACK SADDLEBACK	: A 06-TP-16 <sup>1</sup> Depth of Organic Horize Consistency  FRIABLE  FRIABLE  REFUSAL  Slope % <u>8</u>	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN A 06-TP-15 Depth of Organic Horiz Consistency REFUSAL REFUSAL Slope % 0-3 Slope % 0-3 Stope % 0-3	X         Test Pit           on Above Mineral Sol         Color           Color         10YR 2/1           Image: Color         Image: Color           Image: Color         Image: Color	Boring Mottling Mottling	Bit Interference         DEPTH BELOW MINERAL SOIL SURFACE (Inches)           9         0           9         1           9         1           9         1           1         1	Exploration Symbol 4 Texture FINE SANDY LOAM LOAM SANDY LOAM SADDEBACK SADDLEBACK	: A 06-TP-16 <sup>1</sup> Depth of Organic Horize Consistency  FRIABLE  FRIABLE  REFUSAL  Slope % <u>8</u>	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN A 06-TP-15 Depth of Organic Horiz Consistency REFUSAL REFUSAL Slope % 0-3 Slope % 0-3 Stope % 0-3	X         Test Pit           on Above Mineral Sol         Color           Color         10YR 2/1           Image: Color         Image: Color           Image: Color         Image: Color	Boring Mottling Mottling	Bit Interference         DEPTH BELOW MINERAL SOIL SURFACE (Inches)           9         0           9         1           9         1           9         1           1         1	Exploration Symbol 4 Texture FINE SANDY LOAM LOAM SANDY LOAM SADDEBACK SADDLEBACK	: A 06-TP-16 <sup>1</sup> Depth of Organic Horize Consistency  FRIABLE  FRIABLE  REFUSAL  Slope % <u>8</u>	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring Mottling Mottling
Exploration Symbol	L DESCRIPTION AN A 06-TP-15 Depth of Organic Horiz Consistency REFUSAL REFUSAL Slope % 0-3 Slope % 0-3 Stope % 0-3	X         Test Pit           on Above Mineral Sol         Color           Color         10YR 2/1           Image: Color         Image: Color           Image: Color         Image: Color	Boring Mottling Mottling	Bit Interference         DEPTH BELOW MINERAL SOIL SURFACE (Inches)           9         0           9         1           9         1           9         1           1         1	Exploration Symbol 4 Texture FINE SANDY LOAM LOAM SANDY LOAM SADDEBACK SADDLEBACK	: A 06-TP-16 <sup>1</sup> Depth of Organic Horize Consistency  FRIABLE  FRIABLE  REFUSAL  Slope % <u>8</u>	Test Pit           on Above Mineral Soil           Color           7.5YR 6/1           5YR 2.5/2           10YR 4/4           2.5Y 5/1           AT           Limiting factor	Boring Mottling Mottling

-f News		for s	SOIL PROFILE/CLASS subsurface investigation			cts	(	
ct Name: KIBBY WIND-POWE	R PROJECT	Applicant Name:	TRANS-CANADA	AMEC		Project Location	(municipality) KIBBY TOWNSHII	Þ
SOIL	DESCRIPTION A	ND CLASSIFICATION	1		sc	DIL DESCRIPTION A	ND CLASSIFICATION	N
Exploration Symbol:		X Test Pit	Boring		Exploration Symbol		X Test Pit	Boring
• Texture	" Depth of Organic Horiz Consistency	izon Above Mineral Soil Color	Mottling		3 Texture	" Depth of Organic Horiz Consistency	zon Above Mineral Soil Color	Mottling
1	Consistency		Wotanig	1		Consistency	00101	Motang
2		5YR 6/1	-	2	SANDY LOAM		7.5YR 5/1	
4			4	4	LOAM		1.511( 6/1	
5 6 <b>FINE</b>		5YR 2.5/2	_			VERY		
7 SANDY		0111 2.0/2		seyes		FRIABLE	5YR 2.5/2	
	FRIABLE			<i>u</i> i)	FINE SANDY			
0					LOAM		10YR 3/4	
2	}	7.5YR 3/4	-	SURFACE (Inches)			2.5Y 5/4	10YR 4/4
6				17				10YR 3/3
8	L	-		18 19	SANDY LOAM		2.5Y 4/4	
		10YR 3/4		21 21				
A SANDY T LOAM		-		NW 26				
18		2.5Y 5/4	10YR 3/6	MO7				
1	REFUSAL	AT	30"	DEPTH BELOW MINERAL				
		+	+	HLL				
		<u> </u>	1					
10			+	42				
0			<u> </u>	48				
0		-	-	52				
1								
hydric non-hydric	Slope % 0-3	Limiting factor 27"	ground water restrictive layer	•	hydric non-hydric	Slope % 0-1	Limiting factor 12"	ground water
Soil Series / phase name:			Drainage HSG		Soil Series / phase name			Drainage HS
ENCHANTED	ChVFSL		MWD B	C.S.S.	SURPLUS	SL	SWPD	/ MWD_ C
SOIL	DESCRIPTION AN	ND CLASSIFICATION		1	sc	DIL DESCRIPTION A	ND CLASSIFICATION	N
Exploration Symbol:	A 06-TP-19	X Test Pit	Boring		Exploration Symbol	: A 06-TP-20	X Test Pit	Boring
0 Texture	" Depth of Organic Horiz	zon Above Mineral Soil Color	Mottling		4	" Depth of Organic Horiz	zon Above Mineral Soil Color	N d = Ablin =
1	Consistency		Moting	1	Texture	Consistency	000	Mottling
2 SANDY 3 LOAM		7.5YR 5/1		2	SANDY		7.5YR 5/2	
4			1	4	LOAM			
5	VERY	_		(a) 6				
7	FRIABLE	5YR 2.5/2		(Inches)			7 570 0 5/0	
8 FINE 9 SANDY		_					7.5YR 2.5/3	
		10YR 3/4						
2					LOAM			
4		2.5Y 5/4	10YR 4/4		LOAM			
7			10YR 4/4 10YR 3/3	IN 14			5YR 3/4	
7 8 SANDY 10 LOAM		2.5Y 5/4 2.5Y 4/4					5YR 3/4	
7 8 SANDY 10 LOAM							5YR 3/4	
7 8 <b>SANDY</b> 0 <b>LOAM</b> 12 14 6					SANDY		5YR 3/4	
7 8 <b>SANDY</b> 20 <b>LOAM</b> 22	REFUSAL				SANDY			
7 8 8 SANDY 0 LOAM 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	REFUSAL	2.5Y 4/4	10YR 3/3		SANDY	REFUSAL		
7 8 8 SANDY 0 LOAM 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	REFUSAL	2.5Y 4/4	10YR 3/3		SANDY	REFUSAL	2.5Y 5/4	
7 8 SANDY 1 0 LOAM 2 2 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	REFUSAL	2.5Y 4/4	10YR 3/3	DEPTH BELOW MINERAL SOIL	SANDY	REFUSAL	2.5Y 5/4	26"
7 8 8 SANDY 0 LOAM 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	REFUSAL	2.5Y 4/4	10YR 3/3		SANDY	REFUSAL	2.5Y 5/4	26"
7 8 SANDY 1 0 LOAM 2 2 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	REFUSAL	2.5Y 4/4	10YR 3/3	DEPTH BELOW MINERAL SOIL	SANDY LOAM	REFUSAL	2.5Y 5/4	26"
7 8 SANDY 1 0 LOAM 2 2 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	REFUSAL	2.5Y 4/4	10YR 3/3	DEPTH BELOW MINERAL SOIL	SANDY LOAM	REFUSAL	2.5Y 5/4	26"
7 8 SANDY 0 LOAM 2 4 6 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		AT	29"	DEPTH BELOW MINERAL SOIL	SANDY LOAM		2.5Y 5/4	
7 8 8 SANDY 0 LOAM 2 4 6 9 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	REFUSAL	2.5Y 4/4	29"	DEPTH BELOW MINERAL SOIL	SANDY LOAM	REFUSAL	2.5Y 5/4	ground water
7 8 8 SANDY 0 LOAM 2 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Slope %	2.5Y 4/4	29" 29" ground water restrictive layer bedrock Drainage HSG	DEPTH BELOW MINERAL SOIL     DePTH BELOW MINERAL SOIL     DePTH BELOW MINERAL SOIL	SANDY LOAM hydric non-hydric Soil Series / phase nam	Slope % 	2.5Y 5/4 AT Limiting factor26"	ground water     restrictive layer     Drainage HS
7 8 8 SANDY 0 LOAM 2 4 4 9 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Slope % 	2.5Y 4/4	29" 29" ground water restrictive layer bedrock Drainage HSG	DEPTH BELOW MINERAL SOIL	SANDY LOAM hydric non-hydric	Slope %	2.5Y 5/4 AT Limiting factor26"	ground water     restrictive layer     bedrock
7 8 8 8 8 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Slope % 	2.5Y 4/4	29" 29" ground water restrictive layer bedrock Drainage HSG	100 THE ACT OF A CONTRACT OF A	SANDY LOAM LOAM hydric non-hydric Soil Series / phase nam SADDLEBACK	Slope % 	2.5Y 5/4 AT Limiting factor26"	ground water     restrictive layer     Drainage HS
7 8 8 SANDY 0 LOAM 2 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Slope % 	2.5Y 4/4	29" 29" ground water restrictive layer bedrock Drainage HSG	DEPTH BELOW MINERAL SOIL     DePTH BELOW MINERAL SOIL     DePTH BELOW MINERAL SOIL	SANDY LOAM LOAM hydric non-hydric Soil Series / phase nam SADDLEBACK	Slope % 	2.5Y 5/4 AT Limiting factor26"	ground water     restrictive layer     Drainage HS
7 8 8 SANDY 0 LOAM 2 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Slope %  SL nents (as applicabl	2.5Y 4/4	29" 29" ground water restrictive layer bedrock Drainage HSG	10         10           11         17           11         17           11         10           11         10           11         10           11         10           11         10           12         10           13         10           14         10           15         10           16         10           17         10           18         10           10         <	SANDY LOAM LOAM hydric non-hydric Soil Series / phase nam SADDLEBACK	Slope % 	2.5Y 5/4 AT Limiting factor26"	ground water     restrictive layer     Drainage HS
7 8 8 SANDY 0 LOAM 2 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Slope %  SL nents (as applicabl	2.5Y 4/4	29" 29" ground water restrictive layer bedrock Drainage HSG	10         10           11         17           11         17           11         10           11         10           11         10           11         10           11         10           12         10           13         10           14         10           15         10           16         10           17         10           18         10           10         <	SANDY LOAM LOAM hydric non-hydric Soil Series / phase nam SADDLEBACK	Slope % 	2.5Y 5/4 AT Limiting factor26"	ground water     restrictive layer     Drainage HS
7 8 8 SANDY 0 LOAM 2 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Slope %  SL nents (as applicabl	2.5Y 4/4	29" 29" ground water restrictive layer bedrock Drainage HSG	10         10           11         17           11         17           11         10           11         10           11         10           11         10           11         10           12         10           13         10           14         10           15         10           16         10           17         10           18         10           10         <	SANDY LOAM LOAM hydric non-hydric Soil Series / phase nam SADDLEBACK	Slope % 	2.5Y 5/4 AT Limiting factor26"	ground water     restrictive layer     Drainage HS

	ORM F			SOIL PROFILE/CLASS			ts		
	t Name:		Applicant Name:				Project Location (r		
	KIBBY WIND-POWE			TRANS-CANADA	-AMEC			KIBBY TOWNSHIP	
					-				
	Exploration Symbol:		X Test Pit	Boring	41	Exploration Symbol:		X Test Pit	Boring
	2 Texture	Depth of Organic Horizo Consistency	on Above Mineral Soil Color	Mottling		8 Texture	" Depth of Organic Horizo Consistency	on Above Mineral Soil Color	Mottling
1	Texture	Consistency	00101	Wotanig	1	Texture	Consistency	00101	Motanig
2	SANDY LOAM/		7.5YR 6/1		2			7.570.54	
3	LOAMY SAND				4			7.5YR 5/1	
5			7.5YR 2.5/3		5	FINE			
6					les)	SANDY LOAM	FRIABLE		
8		FRIABLE			(Inches)	LOAM			
9	FINE				°E(				
10	SANDY LOAM		7.5YR 4/6		9 10 12 14			5YR 2.5/2	
13									
15					710S		REFUSAL	AT	17"
19			2.5Y 5/4						
20		DEEUQAL			21 21				
23		REFUSAL	AT	20"	NW 24 26				
28					MO				
30			1	-	BEL(				
				1	H I		L	1	1
					рертн				
40	·		1	+	42			+	<u> </u>
47									
50	Ţ				48				<u>_</u>
60				1	52			1	1
	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer		hydric non-hydric	Slope %	Limiting factor	ground water
	non-nyune	0-3		<ul> <li>bedrock</li> </ul>	-	non-nyane	38		bedrock
s.	Soil Series / phase name: SADDLEBACK	FSL		Drainage HSG WD C/D	C.S.S.	Soil Series / phase name: SADDLEBACK	STONY/BLDRY	FSL	Drainage HSG WD C/D
								_	
			DCLASSIFICATION					D CLASSIFICATION	
	Exploration Symbol:		X Test Pit	Boring		Exploration Symbol:		X Test Pit	Boring
		" Depth of Organic Horizo		Mattling		3	" Depth of Organic Horizo		Mottling
- 0	Texture SANDY LOAM/	Consistency	Color	Mottling	0	Texture FINE	Consistency VERY	Color	Mottling
2	LOAMY SAND		7.5YR 5/2		2	SANDY	FRIABLE	7.5YR 5/2	
3					3	LOAM			
5		VERY	5YR 2.5/2		4		-	5YR 2.5/2	
6	FINE	FRIABLE			(Se	GREASY			
7	SANDY LOAM				40 7	FINE		7 5¥7 0//	
9	LOAM				Ĕ.	SANDY	FRIARIE		
_	1		5YR 3/4		E (Inches)	SANDY LOAM	FRIABLE	7.5YR 3/4	
10			5YR 3/4		FACE (Int		FRIABLE	7.5YR 3/4	
10 12 13	SANDY LOAM/				SURFACE (Inc 11 6 8	LOAM	FRIABLE	7.5YR 3/4	
	SANDY LOAM/ GRAVELLY		5YR 3/4 7.5YR 3/4		8 11 12 14 14 14	LOAM FINE SANDY	FRIABLE	2.5Y 5/4	
	GRAVELLY FINE				SOIL SURFACE	FINE	FRIABLE		
	GRAVELLY				SOIL SURFACE	LOAM FINE SANDY	REFUSAL		18"
	GRAVELLY FINE SANDY				SOIL SURFACE	LOAM FINE SANDY		2.5Y 5/4	18"
12 13	GRAVELLY FINE SANDY				SOIL SURFACE	LOAM FINE SANDY		2.5Y 5/4	18"
12 13	GRAVELLY FINE SANDY				SOIL SURFACE	LOAM FINE SANDY		2.5Y 5/4	18"
12 13	GRAVELLY FINE SANDY				SOIL SURFACE	LOAM FINE SANDY		2.5Y 5/4	18"
12 13	GRAVELLY FINE SANDY				SOIL SURFACE	LOAM FINE SANDY		2.5Y 5/4	18"
12 13 16 17 18 20 30 30	GRAVELLY FINE SANDY				DEPTH BELOW MINERAL SOIL SURFACE 	LOAM FINE SANDY		2.5Y 5/4	18"
12 13	GRAVELLY FINE SANDY				SOIL SURFACE	LOAM FINE SANDY		2.5Y 5/4	18"
12 13 16 17 18 20 30 30	GRAVELLY FINE SANDY				DEPTH BELOW MINERAL SOIL SURFACE           0         0         12         12         12         1         0           0         0         12         12         12         12         1         1         0	LOAM FINE SANDY		2.5Y 5/4	18"
16 17 18 20 30 30 40 50	GRAVELLY FINE SANDY				DEPTH BELOW MINERAL SOIL SURFACE	LOAM FINE SANDY		2.5Y 5/4	18"
16 17 18 20 30 30 40	GRAVELLY FINE SANDY				DEPTH BELOW MINERAL SOIL SURFACE           0         0         12         12         12         1         0           0         0         12         12         12         12         1         1         0	LOAM FINE SANDY		2.5Y 5/4	18"
16 17 18 20 30 30 40 50	GRAVELLY FINE SANDY LOAM	Slope %		ground water	DEPTH BELOW MINERAL SOIL SURFACE           9         0           9         0           108         108           108         108           109         108           101         108           102         108           103         108           103         108           104         108           105         108           108         108           108         108           109         108           100         108           101         108           102         108           103         108           104         108           105         108           108         108           109         108           109         108           100         108           101         108           102         108           103         108           104         108           105         108           108         108           109         108           108         108           108	LOAM FINE SANDY LOAM		2.5Y 5/4	ground water
16 17 18 20 30 30 40 50	GRAVELLY FINE SANDY LOAM	Slope % 8-15	7.5YR 3/4	ground water restrictive layer befork	DEPTH BELOW MINERAL SOIL SURFACE	LOAM FINE SANDY LOAM	REFUSAL	2.5Y 5/4	
12 13 16 17 18 20 30 40 50 60 8	GRAVELLY FINE SANDY LOAM	_8-15	7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE     Set 21 at 12	LOAM FINE SANDY LOAM	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG
12 13 16 17 18 20 30 40 60	GRAVELLY FINE SANDY LOAM		7.5YR 3/4	restrictive layer     bedrock	DEPTH BELOW MINERAL SOIL SURFACE           9         0           9         0           108         108           108         108           109         108           101         108           102         108           103         108           103         108           104         108           105         108           108         108           108         108           109         108           100         108           101         108           102         108           103         108           104         108           105         108           108         108           109         108           109         108           100         108           101         108           102         108           103         108           104         108           105         108           108         108           109         108           108         108           108	LOAM FINE SANDY LOAM	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     bedrock
12 13 16 17 18 20 30 40 50 60 Prc	GRAVELLY FINE SANDY LOAM UOAM hydric non-hydric Soil Series / phase name: SISK	8-15 BOULDERY SIL	7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE     Service 1 = 0     DePTH BELOW MINERAL SOIL SURFACE     Service 1 = 0     Servi	LOAM FINE SANDY LOAM 	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG
12 13 16 17 18 20 1 30 1 40 50 60 S. Pro	GRAVELLY FINE SANDY LOAM UOAM bydric non-hydric Soil Series / phase name: SSK foessional Endorsen signature:		7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           ''''         ''''''''''''''''''''''''''''''''''''	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG
16 17 18 20 30 40 50 60 8 S	GRAVELLY FINE SANDY LOAM UOAM hydric non-hydric Soil Series / phase name: Slisk Sofessional Endorsem signature:	8-15 BOULDERY SIL	7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE     Service 1 = 0     DePTH BELOW MINERAL SOIL SURFACE     Service 1 = 0     Servi	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG
16 17 18 20 30 40 50 60 8 S	GRAVELLY FINE SANDY LOAM UOAM bydric non-hydric Soil Series / phase name: SSK foessional Endorsen signature:		7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           ''''         ''''''''''''''''''''''''''''''''''''	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG
12 13 16 17 18 20 30 40 50 60 Pro S.	GRAVELLY FINE SANDY LOAM UOAM bydric non-hydric Soil Series / phase name: SSK foessional Endorsen signature:		7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           ''''         ''''''''''''''''''''''''''''''''''''	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG
16 17 18 20 30 40 50 60 8 S	GRAVELLY FINE SANDY LOAM UOAM bydric non-hydric Soil Series / phase name: SSK foessional Endorsen signature:		7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           ''''         ''''''''''''''''''''''''''''''''''''	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG
12 13 16 17 18 20 1 30 1 40 50 60 S. Pro	GRAVELLY FINE SANDY LOAM UOAM bydric non-hydric Soil Series / phase name: SSK foessional Endorsen signature:		7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           ''''         ''''''''''''''''''''''''''''''''''''	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Drainage HSG
12 13 16 17 18 20 30 40 50 60 S. Pro	GRAVELLY FINE SANDY LOAM UOAM bydric non-hydric Soil Series / phase name: SSK foessional Endorsen signature:		7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           ''''         ''''''''''''''''''''''''''''''''''''	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG
12 13 16 17 18 20 30 40 50 60 Prc S.	GRAVELLY FINE SANDY LOAM UOAM bydric non-hydric Soil Series / phase name: SSK foessional Endorsen signature:		7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           ''''         ''''''''''''''''''''''''''''''''''''	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Drainage HSG
12 13 16 17 18 20 30 40 50 60 S. Prc	GRAVELLY FINE SANDY LOAM UOAM bydric non-hydric Soil Series / phase name: SSK foessional Endorsen signature:		7.5YR 3/4	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           ''''         ''''''''''''''''''''''''''''''''''''	LOAM FINE SANDY LOAM LOAM SANDY LOAM SANDY SADDLEBACK SADDLEBACK	REFUSAL	2.5Y 5/4 AT Limiting factor	ground water     restrictive layer     Dedrock Drainage HSG

-0	RM F			SOIL PROFILE/CLASS					
rojec	t Name:		for s	subsurface investigation	ns at DEP	Site Location Projec	ts Project Location (n	nunicipality)	
	KIBBY WIND-POW	ER PROJECT		TRANS-CANADA	AMEC			KIBBY TOWNSHI	P
	SOI	L DESCRIPTION AN	D CLASSIFICATION	N		SO	L DESCRIPTION AN	ID CLASSIFICATIO	N
	Exploration Symbol:	A 06-B-1	Test Pit	X Boring		Exploration Symbol:	A 06-TP-25	X Test Pit	Boring
	3	" Depth of Organic Horizo		_		4	" Depth of Organic Horizo		
0	Texture FINE	Consistency VERY	Color	Mottling		Texture	Consistency	Color 7.5YR 6/2	Mottling
2	SANDY	FRIABLE	7.5YR 5/2		2			5YR 2.5/2	
3	LOAM				3				
4			5YR 2.5/2		4	FINE		7.5YR 3/4	
(Sé	GREASY				(Se	SANDY	5014.01.5		
nche	FINE SANDY	FRIABLE	7.5YR 3/4		(Inches)	LOAM	FRIABLE		-
<u>い</u> で	LOAM				1) 1) 1) 1)				
10 11								10YR 3/6	
13 13	FINE								
15 10S	SANDY LOAM		2.5Y 5/4			FINE SANDY			
S 75	LOAM				S 75	LOAM/		2.5Y 5/4	
22		REFUSAL	AT	18"	20 21	SANDY LOAM BEDROCK	AT	20"	
NN 23 27					NW 24 26	BEDRUCK	AI	20	
NO 28					Mo				
BELOW MINERAL 31 21 22 23 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 3									1
DEPTH					E .				
DE		+	+		DEF				1
40					42				
47					48				
60					52				
_					-				
0	hydric	Slope %	Limiting factor	ground water	•	hydric	Slope %	Limiting factor	ground water
•	non-hydric	0-3		restrictive layer     bedrock	•	non-hydric	0-3	20"	restrictive layer     bedrock
.s.s.	Soil Series / phase name			Drainage HSG	C.S.S.	Soil Series / phase name:			Drainage HSG
/	SADDLEBACK	FSL		WED/ED C/D		SADDLEBACK	FSL		WD _ C/D
		L DESCRIPTION AN	_				L DESCRIPTION AN	_	
	Exploration Symbol:		X Test Pit	Boring	11	Exploration Symbol:		X Test Pit	Boring
	2 Texture	" Depth of Organic Horizo Consistency	n Above Mineral Soil Color	Mottling		3 Texture	" Depth of Organic Horizo Consistency	n Above Mineral Soil Color	Mottling
1	FINE	Consistency	5YR 6/1	wounng	1	Texture	Consistency	COOI	wounng
2	SANDY LOAM				2	FINE			
4					3	SANDY		7.5YR 3/3	
5	LOAM				4	LUAIN		1.515 3/3	
			7,5YR 2.5/3		4	LOAM	VERY	7.5TK 3/3	
6 7		VERY FRIABLE	7,5YR 2.5/3		(səu	LOAM	VERY FRIABLE	7.51K 3/3	
(Inches)		VERY FRIABLE	7,5YR 2.5/3		(Inches)				
VCE (Inches)			7,5YR 2.5/3		VCE (Inches)			10YR 3/6	
IRFACE (Inches)	GRAVELLY		7,5YR 2.5/3		IRFACE (Inches)	SANDY			
	GRAVELLY LOAM				12 12 14 14 14				
						SANDY			
						SANDY			7 5VR 2 5/3
				20"		SANDY			7.5YR 2.5/3 2.5Y 4/3
		FRIABLE	7.5YR 3/4	20"		SANDY	FRIABLE	10YR 3/6	
		FRIABLE	7.5YR 3/4	20"		SANDY	FRIABLE	10YR 3/6	
		FRIABLE	7.5YR 3/4	20"		SANDY	FRIABLE	10YR 3/6	
		FRIABLE	7.5YR 3/4	20"		SANDY	FRIABLE	10YR 3/6	2.5Y 4/3
DEPTH BELOW MINERAL SOIL SURFACE 0 8 81 21 91 61 71 01 6		FRIABLE	7.5YR 3/4	20"	DEPTH BELOW MINERAL SOIL	SANDY	FRIABLE	10YR 3/6	2.5Y 4/3
OW MINERAL SOIL SURFACE           00         01<		FRIABLE	7.5YR 3/4	20"		SANDY	FRIABLE	10YR 3/6	2.5Y 4/3
DEPTH BELOW MINERAL SOIL SURFACE 0 8 81 21 91 61 71 01 6		FRIABLE	7.5YR 3/4	20"	16         17         18         17         18         12<	SANDY	FRIABLE	10YR 3/6	2.5Y 4/3
DEPTH BELOW MINERAL SOIL SURFACE           0         <		FRIABLE	7.5YR 3/4	20"	DEPTH BELOW MINERAL SOIL	SANDY	FRIABLE	10YR 3/6	2.5Y 4/3
DEPTH BELOW MINERAL SOIL SURFACE		REFUSAL	7.5YR 3/4		DEPTH BELOW MINERAL SOIL	SANDY LOAM	FRIABLE	10YR 3/6	2.5Y 4/3
DEPTH BELOW MINERAL SOIL SURFACE       8     8       8     8	LOAM	FRIABLE	AT	ground water	DEPTTH BELOW MINERAL SOIL	SANDY LOAM	FRIABLE FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3
■ □ DEPTH BELOW MINERAL SOIL SURFACE	LOAM	FRIABLE	7.5YR 3/4	G ground water restrictive layer bedrook	DEPTH BELOW MINERAL SOIL	SANDY LOAM	FRIABLE FIRM FIRM REFUSAL Slope % 0-3	10YR 3/6	2.5Y 4/3 25"
DEPTH BELOW MINERAL SOIL SUPFACE     B	LOAM	FRIABLE	AT	ground water restrictive layer	DEPTTH BELOW MINERAL SOIL	SANDY LOAM	FRIABLE FIRM FIRM REFUSAL Slope % 0-3	10YR 3/6	2.5Y 4/3
	LOAM	FRIABLE REFUSAL	7.5YR 3/4	ground water     restictive layer     bedrock Drainage HSG	DEPTH BELOW MINERAL SOIL     DEPTH BELOW MINERAL SOIL     DEPTH BELOW MINERAL SOIL	SANDY LOAM	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE           8         8         8         12         <	LOAM	REFUSAL	AT 	ground water     restictive layer     bedrock Drainage HSG	DEPTH BELOW MINERAL SOIL     DEPTH BELOW MINERAL SOIL     DEPTH BELOW MINERAL SOIL	SANDY LOAM	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
0         0	LOAM	FRIABLE REFUSAL	7.5YR 3/4     7.5YR 3/4     AT	ground water     restictive layer     bedrock Drainage HSG	100 TIVE AND THE ADDRESS OF THE ADDR	SANDY LOAM LOAM Superior Superior Super	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE           8         8         8         12         <	LOAM	FRIABLE  FRIABLE  REFUSAL  Slope % 15-30 FSL ments (as applicable	7.5YR 3/4     7.5YR 3/4     AT	ground water     restictive layer     bedrock Drainage HSG	DEPTTH BELOW MINERAL SOIL	SANDY LOAM LOAM Superior Superior Super	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE           8         8         8         12         <	LOAM	FRIABLE  FRIABLE  REFUSAL  Slope % 15-30 FSL ments (as applicable	7.5YR 3/4     7.5YR 3/4     AT	ground water     restictive layer     bedrock Drainage HSG	DEPTTH BELOW MINERAL SOIL	SANDY LOAM LOAM Superior Superior Super	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE           8         8         8         12         <	LOAM	FRIABLE  FRIABLE  REFUSAL  Slope % 15-30 FSL ments (as applicable	7.5YR 3/4     7.5YR 3/4     AT	ground water     restictive layer     bedrock Drainage HSG	DEPTTH BELOW MINERAL SOIL	SANDY LOAM LOAM Superior Superior Super	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE           8         8         8         12         <	LOAM	FRIABLE  FRIABLE  REFUSAL  Slope % 15-30 FSL ments (as applicable	7.5YR 3/4     7.5YR 3/4     AT	ground water     restictive layer     bedrock Drainage HSG	DEPTTH BELOW MINERAL SOIL	SANDY LOAM LOAM Superior Superior Super	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE           8         8         8         12         <	LOAM	FRIABLE  FRIABLE  REFUSAL  Slope % 15-30 FSL ments (as applicable	7.5YR 3/4     7.5YR 3/4     AT	ground water     restictive layer     bedrock Drainage HSG	DEPTTH BELOW MINERAL SOIL	SANDY LOAM LOAM Superior Superior Super	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
	LOAM	FRIABLE  FRIABLE  REFUSAL  Slope % 15-30 FSL ments (as applicable	7.5YR 3/4     7.5YR 3/4     AT	ground water     restictive layer     bedrock Drainage HSG	DEPTTH BELOW MINERAL SOIL	SANDY LOAM LOAM Superior Superior Super	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG
	LOAM	FRIABLE  FRIABLE  REFUSAL  Slope % 15-30 FSL ments (as applicable	7.5YR 3/4     7.5YR 3/4     AT	ground water     restictive layer     bedrock Drainage HSG	DEPTTH BELOW MINERAL SOIL	SANDY LOAM LOAM Superior Superior Super	FIRM FIRM REFUSAL	10YR 3/6	2.5Y 4/3 25" ground water ground water ground water ground water befrock Drainage HSG

FO	RM F			SOIL PROFILE/CLAS	SIFICATIO				
Projec	t Name:			ubsurface investigation			ts Project Location (r	municipality)	
	KIBBY WIND-POW	ER PROJECT	Applicant Name.	TRANS-CANADA	-AMEC		Troject Location (i	KIBBY TOWNSHIP	
	SOI	L DESCRIPTION ANI	D CLASSIFICATION	1		SOI	L DESCRIPTION AN	ND CLASSIFICATION	1
	Exploration Symbol:		Test Pit	X Boring		Exploration Symbol:		X Test Pit	Boring
	3 Texture	" Depth of Organic Horizo Consistency	n Above Mineral Soil Color	Mottling	1	4 Texture	" Depth of Organic Horizo Consistency	on Above Mineral Soil Color	Mottling
1	FINE	Consistency		Wotting	1		Consistency		Motanig
2	SANDY LOAM		5YR 6/1		2	SANDY LOAM		5YR 5/1	
4	GRAVELLY				4				
(s 6	FINE SANDY LOAM		7.5YR 2.5/3		(s 6			5YR 2.5/2	
SURFACE (Inches)					SURFACE (Inches)	LOAM			
ле (л			7.5YR 3/4		<u> </u>	LOAM		7.5YR 3/4	
		VERY FRIABLE			10 12				
	EXTREMELY							10//5 0/0	
16 17	GRAVELLY LOAM						FRIABLE	10YR 3/6	
			10YR 3/4		19 20			[	_
			1011(3/4		INI 22				
W 23 M 24					W 24			2.5Y 5/4	
073		REFUSAL	AT	24"					
DEPTH BELOW MINERAL		<u> </u>			19 HL	FINE			
DEP					DEPTH	SANDY LOAM		5Y 4/3	
40					50			514/3	
47					-				
60					72				
					-	LIMIT	OF	TEST PIT	72"
•	hydric non-hydric	Slope %	Limiting factor	ground water     restrictive layer	•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer
				bedrock					bedrock
C.S.S.	Soil Series / phase name SADDLEBACK	FSL		Drainage HSG ED C/D	C.S.S.	Soil Series / phase name: BERKSHIRE	FSL		Drainage HSG WD B
	SOI	L DESCRIPTION ANI			1	SO	L DESCRIPTION AN		· — —
	Exploration Symbol:		X Test Pit	Boring		Exploration Symbol:		X Test Pit	Boring
	4	" Depth of Organic Horizo				3	" Depth of Organic Horizo		
0	Texture EXTREMELY	Consistency	Color	Mottling	1	Texture FINE	Consistency	Color	Mottling
2	GRAVELLY SANDY		7.5YR 6/1		2	SANDY LOAM		5YR 6/1	
4	LOAM		7.51K 0/1		4	GRAVELLY			_
5		VERY	1			FINE SANDY LOAM		7.5YR 2.5/3	
(Inches,		FRIABLE			ches.	0,112 - 20,11			
e (h	GRAVELLY		5YR 3/4		SURFACE (Inches)			7.5YR 3/4	
	LOAM				10 FAC		VERY FRIABLE		
			7.5YR 3/3				FRIABLE		
AL S		REFUSAL	AT	17"	AL S				
NER.					NER 20			10YR 3/4	
V MI					W 23				
DEPTH BELOW MINERAL SOIL   <td></td> <td></td> <td></td> <td></td> <td>DEPTH BELOW MINERAL SOIL</td> <td></td> <td></td> <td></td> <td></td>					DEPTH BELOW MINERAL SOIL				
H BI					H BI	ASSUMED	BEDROCK	AT	25"
DEP1					EP1				
J 40					40				
50					50				
60					-				
0	hydric	Slope %	Limiting factor	ground water	•	hydric	Slope %	Limiting factor	ground water
•	non-hydric	8		restrictive layer     bedrock	•	non-hydric	0-3	25"	restrictive layer     bedrock
C.S.S.	Soil Series / phase name SADDLEBACK	FSL		Drainage HSG SWED C/D	C.S.S.	Soil Series / phase name: SADDLEBACK	FSL		Drainage HSG SWED C/D
, Dre		ments (as applicable	)						
	signature:		•		Da				
0.0.0.	name:	DALE A. BREWE	R		Lic	304			

FC	ORM F			SOIL PROFILE/CLASS subsurface investigations			ts		
Projec	t Name: KIBBY WIND-POW		Applicant Name:	TRANS-CANADA-			Project Location (n	unicipality) KIBBY TOWNSHI	<b>b</b>
L									
	SOII Exploration Symbol:	DESCRIPTION AN A 06-TP-31	X Test Pit	Boring		Exploration Symbol:	IL DESCRIPTION AN A 06-TP-32	X Test Pit	Boring
	3	" Depth of Organic Horizo	n Above Mineral Soil			3	" Depth of Organic Horizo	n Above Mineral Soil	
- 0	Texture	Consistency	Color	Mottling		Texture FINE	Consistency VERY	Color	Mottling
2	SANDY LOAM	FRIABLE	5YR 5/1			2 SANDY	FRIABLE	5YR 5/1	
	BEDROCK	AT	3"		-				
5								5YR 2.5/2	
thes)					(Inches)	7			
(Inc					(Inc	B FINE	FRIABLE	7.5YR 4/6	
SOIL SURFACE (Inches)					SURFACE	SANDY		1.511( 4/0	
					surf				7.5YR 5/6
S 7/C					1	В		2.5Y 5/4	7.5YR 6/1
OS 18 71 20							REFUSAL	AT	18"
22 23									
JIW 27					JIW /				
NO 7: 30					NO 73	D			
1 BE					1 BE				
DEPTH BELOW MINERAL					DEPTH BELOW MINERAL				
<u> </u>				+	ID 4	2			<u> </u>
40		1		1					
50 60		<u> </u>			48				┼───┤
				<b>_</b>		ļ			
•	hydric	Slope %	Limiting factor	ground water	0	hydric	Slope %	Limiting factor	ground water
•	non-hydric		3"	restrictive layer     bedrock	•	non-hydric		12"	restrictive layer     bedrock
C.S.S.	Soil Series / phase name:	SL		Drainage HSG	C.S.S.	Soil Series / phase name:		1	Drainage HSG
	ABRAM			ED D		SURPLUS	SL		SWPD_C
	SOII Exploration Symbol:	DESCRIPTION AN	X Test Pit	Boring		SO Exploration Symbol:	L DESCRIPTION AN	X Test Pit	N Boring
	3	" Depth of Organic Horizo	_			5	" Depth of Organic Horizo	_	
0	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2	SANDY		5YR 5/2			2	VERY FRIABLE	7.5YR 5/1	
3	LOAM					3			
5						5		7.5YR 4/6	
hes)		FRIABLE			(sey	7			
SURFACE (Inches)	LOAM		5YR 3/3		SURFACE (Inches)	SILT	FRIABLE		
	LOAM				ACE	B LOAM			
12 13					SURF				
- 16			7.5YR 4/6			В		10YR 4/6	
OS 71	BEDROCK	AT	17"		r sc				
					ERA 12	D			
VIW.						3 SANDY	FIRM	2.5Y 4/4	10YR 4/6
MO7:					MO 7:		REFUSAL	AT	24"
DEPTH BELOW MINERAL SOI				1	DEPTH BELOW MINERAL SOIL           1 년 1 년 1 1 1 1 1 1 1 1 1 1 1				
EPTI					ΕΡT				<u> </u>
				+					
40		1		1	40				
50				+	50				╂────┤
60					-				
	hydric	Slope %	Limiting factor	ground water	•	hydric	Slope %	Limiting factor	ground water
•	non-hydric	3-8	17"	restrictive layer     bedrock	•	non-hydric	15-30		restrictive layer     bedrock
C.S.S.	Soil Series / phase name: SADDLEBACK	FSL		Drainage HSG ED C/D	C.S.S.	Soil Series / phase name: CHESUNCOOK	SiL		Drainage HSG MWD C
Dr	ofessional Endorse								
C.S.S.	signature:				Da				
0.0.0.	name:	DALE A. BREWE	R		Li	c <b>304</b>	-		

non-hydic         0.3         9*         0         execute layer         non-hydic         15         7*         0           C.s.s.         Soil Series / phase name: SURPLUS         SL         Dranage         HSG SWPD         Soil DeSCRIPTION AND CLASSIFICATION         Soil DESCRIPTION AND CLASSIFICATION         Soil DESCRIPTION AND CLASSIFICATION         Soil DESCRIPTION AND CLASSIFICATION	FC	RM F			SOIL PROFILE/CLASS			nte		
SOL DESCRIPTION AND CLASSIFICATION         SOL DESCRIPTION AND CLASSIFICATION			FR PROJECT							P
Subscription         Subscripion         Subscription         Subscription </td <td></td> <td></td> <td></td> <td>D CLASSIFICATION</td> <td></td> <td></td> <td>50</td> <td></td> <td></td> <td></td>				D CLASSIFICATION			50			
Image: Considering to the state of									_	Boring
Image: state in the s										
SAMOY         STR 01         STR 01           SAMOY         STR 01         STR 01         STR 01           COM         FRIADLE         STR 01         STR 01           IOM         FRIADLE         STR 01         STR 01           SAMOY         STR 01         STR 01         STR 01           IOM         FRIADLE         STR 01         STR 01           SAMOY         STR 01         STR 01         STR 01           STR 01         STR 01         STR 01         STR 01           STR 01         STR 01         STR 01         STR 01           STR 01         STR 01         STR 01         STR 01	0	l exture	Consistency		Mottling	_	o l'exture	Consistency		Mottling
IoAM         IoAM <th< td=""><td>2</td><td></td><td></td><td>7.5YR 2.5/2</td><td>-</td><td>-  </td><td>2 3 SANDY</td><td></td><td></td><td></td></th<>	2			7.5YR 2.5/2	-	-	2 3 SANDY			
0         FRIABLE         7.5YR 3/4         5         5500000000000000000000000000000000000	4				-			FRIABLE		_
Image: state in the second s	68) 6	LOAM		7 EVD 3/4		es)	6		5YR 4/2	
Image: state in the second s	(Inch		FRIABLE	7.51K 3/4		(Inch	BEDROCK	AT	7"	
Image: state in the second s	9 4CE					ACE	9			
Image: state in the second s	HUN 13	LOAMY		2.5Y 4/4	5Y 6/1					
Image: state in the second s	S 710						6			
Image: state in the s							9			
Image: state in the s	22 23	LIMIT	OF	TEST PIT	20"					
Image: state in the s	W 27 M 28					W M	5			
Image: state in the s	3ELO					3ELO	0			
Image: state in the s	1 HL					1 HTC				
Image: state in the s	DEF					DEF				
Image: state in the s						4	2			
Image: Solution Symbol: A Def: P1-33         Image: Solution Symbol: A	50									
•         non-hydric         0-3         9*         0         restantive         15         7*         0           Css         biol Setter, / phase name: SURPLUS         Soll DeSCRIPTION AND CLASSIFICATION         (s.s.)         Soll Setter, / phase name: SURPLUS         D         Soll DeSCRIPTION AND CLASSIFICATION         (s.s.)         (s.s.)         (s.s.)         Soll DeSCRIPTION AND CLASSIFICATION         (s.s.)         (s.s.) <td< td=""><td>60</td><td></td><td>ļ</td><td></td><td></td><td></td><td>*</td><td></td><td><u> </u></td><td><u> </u></td></td<>	60		ļ				*		<u> </u>	<u> </u>
Loc         Job Server, Jobes name: SURPLUS         Loc         Job Server, Jobes name: ABRAM         Job Server, Jobes name: ABRAM         Job Server, Jobes name: SURPLUS         Jobes na			Slope %	Limiting factor				Slope %	Limiting factor	ground water
SurpLus     SL     SVPD     C     Cash     ABRAM     SL       Soll DESCRIPTION AND CLASSIFICATION     Soll DESCRIPTION AND CLASSIFICATION     Soll DESCRIPTION AND CLASSIFICATION     Soll DESCRIPTION AND CLASSIFICATION	•	non-hydric		9"		•	non-hydric	15		restrictive layer     bedrock
Exploration Symbol: A 06-TP-37         X         Test Pit         Boring	c.s.s.					C.S.S.				Drainage HSG ED D
Exploration Symbol: A 06-TP-37         X         Test Pit         Boring			L DESCRIPTION AN				so	IL DESCRIPTION A	ND CLASSIFICATIO	
o         Texture         Color         Mottling           2         -									-	Boring
s         SANDY         SANDY           s					Mottling					Mottling
Sample         Sample<	1	I exture	Consistency	Color	Mottling	_	1 SANDY	Consistency		Mottling
Image: Solution of the	2					-	2 LOAM 3		5YR 5/1	
Image: Solution of the	4			7.5YR 5/2		-	4 5 I QAM		5YB 2 5/2	
10     11     <	es)	FINE	VERV			es)	6			
10     11     <	(Inch	SANDY				(Inch				
10     11     <	ACE 10	LOAM				ACE		FRIABLE	7.5YR 3/3	
10     11     7.5YR 2.5/3     11 </td <td></td> <td></td> <td></td> <td>2.5YR 2.5/1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				2.5YR 2.5/1						
40         41<					-		6 FINE		2.57 4/4	
40         40<	AL S			7.5YR 2.5/3		AL S	8 LOAM		2.31 4/4	
40         41<		BEDROCK	AT	20"				AT	19"	
40         41<	M M					W M0 2				
40         41<	BELC					≥ PELC				
40         41<	HTH.					HTH				<b> </b>
so         so<										
a         b	40					_4	0			
ed	50									+
non-hydric     35     20"     restrictive layer       C.S.S.     Soil Series / phase name: SADDLEBACK     Drainage     HSG       Professional Endorsements (as applicable)     ED     C.S.S.	60					_				
			Slope %	Limiting factor				Slope %	Limiting factor	ground water
Cost     SADDLEBACK     FSL     ED     C/D     Cost     SISK       Professional Endorsements (as applicable)	L <b>.</b> ,			20"	bedrock				19"	bedrock
css signature: Date:	C.S.S.					C.S.S.				Drainage HSG WD C
CSS signature: Date:	Pre	ofessional Endorse	ments (as applicable	)						7
		signature:						-		

			for s	SOIL PROFILE/CLASS subsurface investigation			ects		
	Name:		Applicant Name:				Project Location (		
	KIBBY WIND-POW	ER PROJECT	_	TRANS-CANADA	AMEC			KIBBY TOWNSHI	•
	SOI	L DESCRIPTION A	ND CLASSIFICATION			SC	DIL DESCRIPTION A	ND CLASSIFICATION	N
E	Exploration Symbol:	A 06-TP-39	X Test Pit	Boring		Exploration Symbo	l: A 06-TP-40	X Test Pit	Boring
ľ	3	" Depth of Organic Horiz	zon Above Mineral Soil			3	" Depth of Organic Horiz	on Above Mineral Soil	
0	Texture	Consistency	Color	Mottling		o Texture	Consistency	Color	Mottling
1			7.5YR 3/2		- 1			7 CVD 7/4	
2			_	_		2 SANDY 3 LOAM		7.5YR 7/1	
4	LOAM	1			11 -	4			
5			7.5YR 3/4			5		7.5YR 2.5/3	
6					(Se	6			
7		FRIABLE	_		(Inches	7	FRIABLE	7.5YR 4/4	
9					1 <u></u>	9 FINE		7.511( 4/4	
0	FINE		10YR 3/4		ACI				
1	SANDY				SURFACE			10/5 ///	
3	LOAM		2.5Y 4/4		-   - 1 SN			10YR 4/4	
7			2.01 4/4		TIOS				
0	REFUSAL	AT	17"				FIRM	2.5Y 5/4	2.5Y 6/2
2					12 I 2				7.5YR 4/4
3			+				AT	21"	
8			-		$\tilde{\lambda}^2$	. NEFUSAL	AI	21	1
0					ELO	0			
Ţ					1 BL				
╀				-	DEPTH BELOW MINERAL	+	+		
$^{+}$		1			DE	1			
0				1	4	2			
7					11 -				
0			-		4				-
0			-		5	2			1
T					11 -				
	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water
	non-hydric	15	17"	restrictive layer     bedrock	-	non-hydric	_1	16"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>
s	Soil Series / phase name			Drainage HSG	C.S.S.	Soil Series / phase nam	e:		Drainage HS
/	SADDLEBACK	FSL		ED C/D	0.3.3.	SADDLEBACK	FSL		MWD_ C/
	SOI	DESCRIPTION A	ND CLASSIFICATION		<u>ا ا</u>	s	DIL DESCRIPTION A	ND CLASSIFICATION	·
F	Exploration Symbol:		X Test Pit	Boring		Exploration Symbo		X Test Pit	Boring
F	5	" Depth of Organic Horiz		Doning	-	5	" Depth of Organic Horiz		
	Texture	Consistency	Color	Mottling	1	• Texture	Consistency	Color	Mottling
1						1			
2	SANDY LOAM		7.5YR 6/1	-	-	3		5YR 4/2	
4			7.5YR 2.5/3			4			
5				_	-	5			-
6	FINE	FRIABLE			les)	6 FINE 7 SANDY	1		-
8	SANDY	TRADEL	+		URFACE (Inches)	B LOAM		7.5YR 2.5/2	
9	LOAM		10YR 4/4		) 2	9	FRIABLE		
0			-		- FAC				-
2			-		LRF	3			
6			2.5Y 5/6		0	6		7.5YR 3/3	
7	BEDROCK	AT	2.5Y 5/6 16"		0	7		7.5YR 3/3	
7 8	BEDROCK	AT			0	7 8 SANDY			
7 8	BEDROCK	AT			0	7 8 SANDY 9 LOAM		7.5YR 3/3 2.5Y 5/4	
7 8	BEDROCK	AT			0	7 8 SANDY 9 LOAM 2	AT		
7	BEDROCK	AT			0	7 8 SANDY 9 LOAM 2 3 BEDROCK 4	AT	2.5Y 5/4	
7 8	BEDROCK	AT			0	7 8 SANDY 9 LOAM 2 3 BEDROCK 4	AT	2.5Y 5/4	
7 8	BEDROCK	AT			0	7 8 SANDY 9 LOAM 2 3 BEDROCK 4	AT	2.5Y 5/4	
7 8	BEDROCK	AT			0	7 8 SANDY 9 LOAM 2 3 BEDROCK 4	AT	2.5Y 5/4	
7 8 0	BEDROCK	AT			OW MINERAL SOIL S	7 8 SANDY 9 LOAM 2 3 BEDROCK 4	AT	2.5Y 5/4	
7 8 0 0	BEDROCK	AT			0	7 8 SANDY 9 LOAM 2 3 BEDROCK 4	AT	2.5Y 5/4	
7 8 0	BEDROCK	AT			DEPTH BELOW MINERAL SOIL S	7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	AT	2.5Y 5/4	
8 20 60	BEDROCK	AT			0	7 8 8 SANDY 9 LOAM 2 3 BEDROCK 4 5 5 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AT	2.5Y 5/4	
17 18 20 50 50	BEDROCK	AT			DEPTH BELOW MINERAL SOIL S	7 8 8 SANDY 9 LOAM 2 3 BEDROCK 4 5 5 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AT	2.5Y 5/4	
16 17 20 30 30 40 50			16"			7 8 8 SANDY 9 LOAM 2 3 BEDROCK 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		2.5Y 5/4 22"	
7 8 0 0 0 0 0	BEDROCK	Slope %	16"	ground water	DEPTH BELOW MINERAL SOIL S	7 8 8 SANDY 9 LOAM 2 3 BEDROCK 4 5 5 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Stope %	2.5Y 5/4 22" 22"	Grand water
7 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	hydric non-hydric	Slope %	16"	restrictive layer     bedrock		7 8 8 SANDY 9 LOAM 2 3 BEDROCK 4 6 6 6 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Stope % 15	2.5Y 5/4 22"	restrictive layer     bedrock
7 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	hydric non-hydric Soil Series / phase name	Slope %	16"	restrictive layer     bedrock     Drainage HSG		7 8 9 CANDY 9	Slope % 	2.5Y 5/4 22" 22"	restrictive layer     bedrock     Drainage HS
	hydric non-hydric Soll Series / phase name SADDLEBACK	Slope % 	16"	restrictive layer     bedrock		7 8 8 SANDY 9 LOAM 2 3 BEDROCK 4 6 6 6 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Stope % 15	2.5Y 5/4 22" 22"	restrictive layer     bedrock
	hydric non-hydric Soil Series / phase name SADDLEBACK	Slope % 	16"	restrictive layer     bedrock     Drainage HSG		7 8 9 CANDY 9 CAN 2 2 3 BEDROCK 4 5 5 0 0 0 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Slope % 	2.5Y 5/4 22" 22"	restrictive layer     bedrock     Drainage HS
	hydric non-hydric Soil Series / phase name SADDLEBACK fessional Endorse signature:	Slope % 	Limiting factor	restrictive layer     bedrock     Drainage HSG		7 8 8 SANDY 9 LOAM 2 1 8 BEDROCK 4 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Slope % 	2.5Y 5/4 22" 22"	restrictive layer     bedrock     Drainage HS
	hydric non-hydric Soil Series / phase name SADDLEBACK	Slope % 	Limiting factor	restrictive layer     bedrock     Drainage HSG		7 8 8 SANDY 9 LOAM 2 1 8 BEDROCK 4 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Slope % 	2.5Y 5/4 22" 22"	restrictive layer     bedrock     Drainage HS
	hydric non-hydric Soil Series / phase name SADDLEBACK fessional Endorse signature:	Slope % 	Limiting factor	restrictive layer     bedrock     Drainage HSG		7 8 8 SANDY 9 LOAM 2 1 8 BEDROCK 4 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Slope % 	2.5Y 5/4 22" 22"	restrictive layer     bedrock     Drainage HS
	hydric non-hydric Soil Series / phase name SADDLEBACK fessional Endorse signature:	Slope % 	Limiting factor	restrictive layer     bedrock     Drainage HSG		7 8 8 SANDY 9 LOAM 2 1 8 BEDROCK 4 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Slope % 	2.5Y 5/4 22" 22"	restrictive layer     bedrock     Drainage HS

FC	RM F			SOIL PROFILE/CLASS					
Projec	t Name:		for s Applicant Name:	ubsurface investigation		Site Location Projec	ts Project Location (m		
	KIBBY WIND-POWI			TRANS-CANADA-	AMEC			KIBBY TOWNSHIP	
	SOIL Exploration Symbol:	DESCRIPTION AND	CLASSIFICATION	Boring		SOI Exploration Symbol:	L DESCRIPTION AN	CLASSIFICATION X Test Pit	Boring
	3	" Depth of Organic Horizon		Doning		14	" Depth of Organic Horizon	_	Doning
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
- 1	SANDY		7.5YR 5/2		2		INTERMEDIATE DECOMPOSITION		
3	LOAM				3				
5					5				
hes)			7.5YR 2.5/3		hes)		HIGHLY DECOMPOSED	10YR 2/1	
(Inc	FINE SANDY	FRIABLE	7.5YR 3/4		(Inc				
SURFACE (Inches)	LOAM		7.5TR 3/4		SURFACE (Inches)				
HUNS 12									
14			2.5Y 5/6		7	REFUSAL	AT	14"	
22 23	BEDROCK	AT	16"		20 24				
MO 7: 30					107= 30				
H BE					H BE				
DEPTH BELOW MINERAL					DEPTH				
Q					<u>q</u> 42				
47					=				
50 60					48				
•	hydric	Slope %	Limiting factor	ground water	•	hydric	Slope %	Limiting factor	ground water
•	non-hydric	8		restrictive layer     bedrock	•	non-hydric		14"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>
C.S.S.	Soil Series / phase name: SADDLEBACK	FSL		Drainage HSG ED C/D	C.S.S.	Soil Series / phase name: MAHOOSUC	MP		Drainage HSG SWED A
		DESCRIPTION AND					L DESCRIPTION AN		
	Exploration Symbol:		Test Pit	X Boring		Exploration Symbol:		X Test Pit	Boring
	12	" Depth of Organic Horizon	]				" Depth of Organic Horizon		
	Texture	Consistency SLIGHTLY	Color	Mottling		Texture SANDY	Consistency	Color 7.5YR 5/2	Mottling
2		DECOMPOSED			2	LOAM		7.51R 5/2	
					3	FSL/LOAM		7.5YR 2.5/3	
5		INTERMEDIATE	10YR 2/1		5				
ihes)		DECOMPOSITION			hes)		VERY		
(Inc					(Inc	LOAM	FRIABLE	10YR 3/4	
SURFACE (Inches)					SURFACE (Inches)	LOAM		10111 0/4	
HUNS 13	BOULDERS	AT	12"			GRAVELLY			_
J 16					2 14	SANDY LOAM/		2.5Y 5/4	
OS 17					DS 7k	LOAMY SAND			
20 20					19 22	BEDROCK	AT	16"	
IIW A					11W 23				
DEPTH BELOW MINERAL SOI				<u> </u>	DEPTH BELOW MINERAL SO				
H BE					H BF				
EPT					EPT.				
Q 40					Q 40				
50					50				
60					—				
	hydric	Slope %	Limiting factor	ground water	•	hydric	Slope %	Limiting factor	ground water
•	non-hydric	35	12"	restrictive layer     bedrock	•	non-hydric			restrictive layer     bedrock
C.S.S.	Soil Series / phase name: MAHOOSUC	MP		Drainage HSG SWED A	C.S.S.	Soil Series / phase name: SADDLEBACK	FSL		Drainage HSG ED C/D
/		ments (as applicable,	)		/				0.2
C.S.S.	signature:				Da		1		
0.0.0.	name:	DALE A. BREWE	R		Lic	304			

FO	RM F			SOIL PROFILE/CLAS					
Projec	Name:		for a Applicant Name:	subsurface investigatio	ns at DEP	Site Location Project	Project Location (r	nunicipality)	
	KIBBY WIND-POWE	ER PROJECT		TRANS-CANADA	-AMEC			KIBBY TOWNSHIP	5
	SOIL	DESCRIPTION AN		۱		SO	IL DESCRIPTION AN		1
	Exploration Symbol:	A 06-TP-46	X Test Pit	Boring		Exploration Symbol:	A 06-TP-47	X Test Pit	Boring
	3 Texture	" Depth of Organic Horiz	con Above Mineral Soil Color	Mottling		3 Texture	" Depth of Organic Horizo	on Above Mineral Soil Color	Mottling
1	SANDY	Consistency	5YR 5/1	wotuing	1	Texture	Consistency	Color	Mottling
2	LOAM				2	SANDY		7.5YR 5/2	
4			5YR 3/2		4	LOAM			
5	FINE				5			7.5YR 2.5/3	
SURFACE (Inches)	SANDY				hes)			7.518 2.5/5	
° (Inc	LOAM	EDIADI E	7.575.044		SURFACE (Inches,		VEDV	7.520.044	
9 4 CE		FRIABLE	7.5YR 3/4				VERY FRIABLE	7.5YR 3/4	
12 14					12 14 14	FINE			
S 14 J 16					S 14	DANDY			
10S	FINE SANDY LOAM/		2.5Y 5/4		7/OS	LOAM		10YR 4/6	
20 22	SANDY LOAM		2.51 5/4		19 20				
24 27	REFUSAL	AT	24"						
1 MC 28	KEI USAE		24		MO 27			2.5Y 5/4	
3EL (					31	BEDROCK	AT	31"	
DEPTH BELOW MINERAL 00 88 212 00 88 212 01 12 02 12 02 02 02 02 02 02 02 02 02 0			<u> </u>	<u> </u>	DEPTH BELOW MINERAL	BEDROCK		51	<u> </u>
DEF					DEP				
40			1	<u> </u>	42			<u> </u>	<u> </u>
47					48				
60			1	1	48			1	1
_					-				
0	hydric	Slope %	Limiting factor	ground water	0	hydric	Slope %	Limiting factor	ground water
•	non-hydric	15+	24"	restrictive layer     bedrock	•	non-hydric	10	31"	restrictive layer     bedrock
.s.s.	Soil Series / phase name:	01.1/501		Drainage HSG	C.S.S.	Soil Series / phase name	011/501	1	Drainage HSG
/	SADDLEBACK	ChVFSL	_	WD B		ENCHANTED	ChVFSL	_	WD B
	Exploration Symbol:	" Depth of Organic Horiz	X Test Pit	Boring	-	Exploration Symbol: 5	" Depth of Organic Horizo	X Test Pit	Boring
0	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
1									
-	SANDY		7 5VP 5/2					5VB 4/2	
2	SANDY LOAM		7.5YR 5/2		1 2 3	SANDY LOAM		5YR 4/2	
2 3 4 5			7.5YR 5/2			SANDY		5YR 4/2	
2 3 4 5 6			7.5YR 5/2 7.5YR 2.5/3			SANDY		5YR 4/2	
nches)					uches)	SANDY LOAM	VERY		
CE (Inches)		VERY			2E (Inches)	SANDY	VERY FRIABLE	5YR 4/2	
ZFACE (Inches) 2 01 6 8 7 1 21 01 6 8 2 1 21 01 6 8 1 21 01 6 8 1 21 01 6 8 1 21 01 6 8 1 21 01 6 1 21 0 1 6 1 6 1 21 0 1 6 1 6 1 21 0 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6		VERY FRIABLE	7.5YR 2.5/3		RFACE (Inches)           21           21           22           23           24           25	SANDY LOAM LOAM/			
SURFACE	LOAM		7.5YR 2.5/3		SURFACE (Inches)	SANDY LOAM LOAM/			
SURFACE	LOAM Fine DANDY		7.5YR 2.5/3 7.5YR 3/4			SANDY LOAM LOAW/ SILT LOAM		5YR 2.5/2 5YR 3/3	
	LOAM		7.5YR 2.5/3			SANDY LOAM LOAM/ SILT LOAM		5YR 2.5/2 5YR 3/3 7.5YR 3/3	
SURFACE	LOAM Fine DANDY		7.5YR 2.5/3 7.5YR 3/4			SANDY LOAM LOAM/ SILT LOAM		5YR 2.5/2 5YR 3/3	
SURFACE	LOAM Fine DANDY		7.5YR 2.5/3 7.5YR 3/4			SANDY LOAM LOAM/ SILT LOAM		5YR 2.5/2 5YR 3/3 7.5YR 3/3	
	LOAM FINE DANDY LOAM	FRIABLE	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4			SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6	
9 10 12 14	LOAM Fine DANDY		7.5YR 2.5/3 7.5YR 3/4 10YR 4/6			SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6	
SURFACE	LOAM FINE DANDY LOAM	FRIABLE	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4			SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6	
DEPTH BELOW MINERAL SOIL SURFACE           9         0         10         0	LOAM FINE DANDY LOAM	FRIABLE	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4		DEPTH BELOW MINERAL SOIL	SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6	
SURFACE	LOAM FINE DANDY LOAM	FRIABLE	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4			SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6	
DEPTH BELOW MINERAL SOIL SURFACE	LOAM FINE DANDY LOAM	FRIABLE	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4		DEPTH BELOW MINERAL SOIL	SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6	
DEPTH BELOW MINERAL SOIL SURFACE           0         <	LOAM FINE DANDY LOAM	FRIABLE	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4		DEPTH BELOW MINERAL SOIL	SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6	
DEPTH BELOW MINERAL SOIL SURFACE	EDROCK	AT	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4 25"		DEPTH BELOW MINERAL SOIL	SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM BEDROCK	AT	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	
	LOAM FINE DANDY LOAM	AT Slope %	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4	ground water     restrictive layer	DEPTH BELOW MINERAL SOIL	SANDY LOAM LOAW/ SILT LOAM FINE SANDY LOAM	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6	
DEPTH BELOW MINERAL SOIL SOIL SURFACE     B	LOAM FINE DANDY LOAM BEDROCK BEDROCK	AT	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4 25"	restrictive layer     bedrock     Drainage HSG	DEPTH BELOW MINERAL SOIL	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE     Soil SURFACE     B	LOAM FINE DANDY LOAM BEDROCK BEDROCK	AT Slope %	7.5YR 2.5/3 7.5YR 3/4 10YR 4/6 2.5Y 5/4 25"	restrictive layer     bedrock	DEPTH BELOW MINERAL SOIL	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK	FRIABLE	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock
	LOAM FINE DANDY LOAM BEDROCK BEDROCK	FRIABLE	7.5YR 2.5/3 7.5YR 3/4 7.5YR 3/4 10YR 4/6 2.5Y 5/4 2.5Y 5/4 25"	restrictive layer     bedrock     Drainage HSG	11         15           17         17           18         11           20         22           19         23           24         24           25         25           26         55           55         55           56         55           57         55           58         55           59         55           50         <	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE     Solt SURFACE     Solt SURFACE     Solt SURFACE     Solt SURFACE	LOAM FINE DANDY LOAM BEDROCK BEDROCK BEDROCK Soli Series / phase name: Soli Series / phase nam	FRIABLE AT Slope % 3 ChVFSL ments (as applicabl	7.5YR 2.5/3         7.5YR 3/4         10YR 4/6         2.5Y 5/4         25"         Limiting factor         25"	restrictive layer     bedrock     Drainage HSG	DE	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	LOAM FINE DANDY LOAM BEDROCK BEDROCK BEDROCK Soli Series / phase name: Soli Series / phase nam	FRIABLE	7.5YR 2.5/3         7.5YR 3/4         10YR 4/6         2.5Y 5/4         25"         Limiting factor         25"	restrictive layer     bedrock     Drainage HSG	11         15           17         17           18         11           20         22           19         23           24         24           25         25           26         55           55         55           56         55           57         55           58         55           59         55           50         <	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE	LOAM FINE DANDY LOAM BEDROCK BEDROCK BEDROCK Soli Series / phase name: Soli Series / phase nam	FRIABLE AT Slope % 3 ChVFSL ments (as applicabl	7.5YR 2.5/3         7.5YR 3/4         10YR 4/6         2.5Y 5/4         25"         Limiting factor         25"	restrictive layer     bedrock     Drainage HSG	DE	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE	LOAM FINE DANDY LOAM BEDROCK BEDROCK BEDROCK Soli Series / phase name: Soli Series / phase nam	FRIABLE AT Slope % 3 ChVFSL ments (as applicabl	7.5YR 2.5/3         7.5YR 3/4         10YR 4/6         2.5Y 5/4         25"         Limiting factor         25"	restrictive layer     bedrock     Drainage HSG	DE	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE	LOAM FINE DANDY LOAM BEDROCK BEDROCK BEDROCK Soli Series / phase name: Soli Series / phase nam	FRIABLE AT Slope % 3 ChVFSL ments (as applicabl	7.5YR 2.5/3         7.5YR 3/4         10YR 4/6         2.5Y 5/4         25"         Limiting factor         25"	restrictive layer     bedrock     Drainage HSG	DE	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE	LOAM FINE DANDY LOAM BEDROCK BEDROCK BEDROCK Soli Series / phase name: Soli Series / phase nam	FRIABLE AT Slope % 3 ChVFSL ments (as applicabl	7.5YR 2.5/3           7.5YR 3/4           10YR 4/6           2.5Y 5/4           25"           Limiting factor           25"	restrictive layer     bedrock     Drainage HSG	DE	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE	LOAM FINE DANDY LOAM BEDROCK BEDROCK BEDROCK Soli Series / phase name: Soli Series / phase nam	FRIABLE AT Slope % 3 ChVFSL ments (as applicabl	7.5YR 2.5/3           7.5YR 3/4           10YR 4/6           2.5Y 5/4           25"           Limiting factor           25"	restrictive layer     bedrock     Drainage HSG	DE	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG
DEPTH BELOW MINERAL SOIL SURFACE     Solt SURFACE     Solt SURFACE     Solt SURFACE     Solt SURFACE	LOAM FINE DANDY LOAM BEDROCK BEDROCK BEDROCK Soli Series / phase name: Soli Series / phase nam	FRIABLE AT Slope % 3 ChVFSL ments (as applicabl	7.5YR 2.5/3           7.5YR 3/4           10YR 4/6           2.5Y 5/4           25"           Limiting factor           25"	restrictive layer     bedrock     Drainage HSG	DE	SANDY LOAM LOAM/ SILT LOAM SILT LOAM FINE SANDY LOAM BEDROCK BEDROCK	FRIABLE           AT           Slope %           35	5YR 2.5/2 5YR 3/3 7.5YR 3/3 2.5Y 5/6 20"	restrictive layer     bedrock     Drainage HSG

		for s	SOIL PROFILE/CLASS subsurface investigation					
ct Name: KIBBY WIND-POWE	R PROJECT	Applicant Name:	TRANS-CANADA	-AMEC		Project Location (	municipality) KIBBY TOWNSHI	<b>b</b>
		D CLASSIFICATION		11	so	DESCRIPTION A	ND CLASSIFICATION	
Exploration Symbol:		X Test Pit	Boring		Exploration Symbol		X Test Pit	Boring
3	" Depth of Organic Horiz				4	" Depth of Organic Horiz		
o Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2 SANDY		7.5YR 5/2			2		7.5YR 3/2	
3 <b>LOAM</b>		-	-		3			
5		7.5YR 2.5/3			FINE SANDY	VERY	7.5YR 2.5/2	
7		7.5TK 2.5/5		ihes)	LOAM	FRIABLE		
8	VERY	7.5YR 3/4		E (Inc	2		7.5YR 3/3	
0	FRIABLE		_					
2 4 <b>FINE</b>		-	+	SURFACE (Inches	5		10YR 4/4	
6 DANDY		10YR 4/6		1	7		2.5Y 5/4	
8 LOAM		101R 4/6	-			AT	18"	
3				ZH 20				
5				VIW 25				
7		2.5Y 5/4	+	BELOW MINERAL	5	-	+	<u> </u>
BEDROCK	AT	31"		H BE				
<u> </u>			<u> </u>	рертн				
			_					
7				-	5			
0			-	48			-	
-		-	1					
hydric	Slope %	Limiting factor	ground water	0	hydric	Slope %	Limiting factor	ground wate
non-hydric	5	31"	restrictive layer     bedrock	•	non-hydric	15		restrictive layer     bedrock
Soil Series / phase name:			Drainage HSG	C.S.S.	Soil Series / phase name			Drainage HS
ENCHANTED	ChVFSL		WD B		SADDLEBACK	FSL		ED _ C/
Exploration Symbol: 4	" Depth of Organic Horiz	X Test Pit	Boring	-	Exploration Symbol 2	" Depth of Organic Horiz	X Test Pit	Boring
o Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2		7.5YR 3/2	+				7.5YR 5/2	
3					3		7 EVD 2 5/2	
5 FINE		7.5YR 2.5/2			5		7.5YR 2.5/2	
6 SANDY 8 LOAM	VERY FRIABLE	_		(Inches)	FINE		5YR 4/4	
0		7.5YR 3/3		2	SANDY			
			-	ミニ			-	
3					LOAM			
3		10YR 4/4		RFACE		VERY FRIABLE	7.5YR 3/4	
3 4 6 7				SURFACE	Description of the second seco	VERY FRIABLE	7.5YR 3/4	
3 4 6		10YR 4/4		SURFACE			7.5YR 3/4	
3 4 6 7 8	AT	10YR 4/4		SURFACE				
3 4 6 7 8 9	AT	10YR 4/4 2.5Y 5/4		SURFACE	LOAM		7.5YR 3/4	
3 4 7 8 9 0 REFUSAL	AT	10YR 4/4 2.5Y 5/4		SURFACE	LOAM			
3 4 6 7 8 9	AT	10YR 4/4 2.5Y 5/4		SURFACE	LOAM SANDY LOAM	FRIABLE	2.5Y 5/4	
3 4 7 8 9 0 REFUSAL	AT	10YR 4/4 2.5Y 5/4		SURFACE	LOAM SANDY LOAM			
3 4 5 7 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	AT	10YR 4/4 2.5Y 5/4		DEPTH BELOW MINERAL SOIL SURFACE	LOAM SANDY LOAM REFUSAL	FRIABLE	2.5Y 5/4	
3 4 7 8 9 0 REFUSAL	AT	10YR 4/4 2.5Y 5/4		SURFACE	LOAM SANDY LOAM REFUSAL	FRIABLE	2.5Y 5/4	
3 4 5 7 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	AT	10YR 4/4 2.5Y 5/4		DEPTH BELOW MINERAL SOIL SURFACE	LOAM SANDY LOAM REFUSAL	FRIABLE	2.5Y 5/4	
3 4 5 7 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	AT	10YR 4/4 2.5Y 5/4		DEPTH BELOW MINERAL SOIL SURFACE	LOAM SANDY LOAM REFUSAL	FRIABLE	2.5Y 5/4	
3 4 5 7 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	AT	10YR 4/4 2.5Y 5/4	ground water	DEPTH BELOW MINERAL SOIL SURFACE	LOAM SANDY LOAM REFUSAL	FRIABLE	2.5Y 5/4	
3 4 5 6 7 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		10YR 4/4 2.5Y 5/4 19"	ground water restrictive layer bedrok	DEPTH BELOW MINERAL SOIL SURFACE	LOAM	AT	2.5Y 5/4	restrictive layer
3 4 6 7 7 8 9 0 <b>REFUSAL</b> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Slope % 3-8	10YR 4/4 2.5Y 5/4 19" 19" 	restrictive layer     bedrock Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE           19           19           19           10   10           10 <td>LOAM</td> <td>AT</td> <td>2.5Y 5/4</td> <td>restrictive layer     bedrock     Drainage HS</td>	LOAM	AT	2.5Y 5/4	restrictive layer     bedrock     Drainage HS
s  4  5  7  8  9  9  9  9  9  9  9  9  9  9  9  9	Slope % 	Limiting factor 19"	restrictive layer     bedrock	DEPTH BELOW MINERAL SOIL SURFACE     BELOW MINERAL SOIL SURFACE     BELOW MINERAL SOIL SURFACE	LOAM	FRIABLE	2.5Y 5/4	restrictive layer     bedrock
s  s  s  s  s  s  s  s  s  s  s  s  s	Slope % 	Limiting factor 19"	restrictive layer     bedrock Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE     DEPTH BELOW MINERAL SOIL SURFACE     Determine the second	LOAM  SANDY LOAM  REFUSAL  hydric non-hydric Soll Series / phase name SADDLEBACK	FRIABLE	2.5Y 5/4	restrictive layer     bedrock     Drainage HS
s  4  5  7  8  9  9  9  9  9  9  9  9  9  9  9  9	Slope % 	e)	restrictive layer     bedrock Drainage HSG	DEPTH BELOW MINERAL SOIL SURFACE     BELOW MINERAL SOIL SURFACE     BELOW MINERAL SOIL SURFACE	LOAM	FRIABLE	2.5Y 5/4	restrictive layer     bedrock     Drainage HS
s 4 6 7 7 8 9 0 REFUSAL 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Slope % 	e)	restrictive layer     bedrock Drainage HSG	B     DEPTH BELOW MINERAL SOIL SURFACE       S     -       B     -       B     -       B     -	LOAM	FRIABLE	2.5Y 5/4	restrictive layer     bedrock     Drainage HS
s 4 6 7 7 8 9 0 REFUSAL 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Slope % 	e)	restrictive layer     bedrock Drainage HSG	B     DEPTH BELOW MINERAL SOIL SURFACE       S     -       B     -       B     -       B     -	LOAM	FRIABLE	2.5Y 5/4	restrictive layer     bedrock     Drainage HS

FORM F SOIL PROFILE/CLASSIFICATION INFORMATION for subsurface investigations at DEP Site Location Projects Project Location (municipality) KIBBY TOWNSHIP Project Name: KIBBY WIND-POWER PROJECT Applicant Name: TRANS-CANADA-AMEC SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Exploration Symbol: A 06-TP-54 X Test Pit Boring Exploration Symbol: A 06-B-4 Test Pit х Boring 3 " Depth of Organic Horizon Above Mineral Soil 2 " Depth of Organic Horizon Above Mineral Soil Mottling Color Color Mottling Texture Consistency Texture Consistency SANDY GRAVELLY LOAM 7.5YR 5/2 7.5YR 5/2 SANDY LOAM 7.5YR 2.5/2 \_\_\_\_ (Inches) (Inches) SANDY 7.5YR 2.5/2 FINE 5YR 4/4 FRIABLE SANDY LOAM LOAM 8 JRFACE ( 9 10 SURFACE 10 FINE 7.5YR 3/4 11 12 VERY 7.5YR 3/4 FRIABLE SANDY 13 15 14 SC SOIL SOIL 18 17 SANDY 2.5Y 5/4 MINERAL 3 20 22 DEPTH BELOW MINERAL REFUSAL AT 20" LOAM 23 27 1 23 24 JIW MO REFUSAL AT 22" 30 25 BEL 26 Ш 42 47 50 48 60 52 Slope % Limiting factor Limiting factor hydric ground wate • hydric Slope % ground water . non-hydric . restrictive layer non-hydric . restrictive layer 5 20" 25 22" bedrock bed Drainage ED HSG Soil Series / phase name SADDLEBACK Drainage HSG C/D Soil Series / phase n C.S.S. C.S.S. SADDLEBACK C/D ED FSL FSL SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION  $\Box$ Boring Boring Exploration Symbol: A 06-TP-55 X Test Pit Exploration Symbol: A 06-TP-56 X Test Pit Depth of Organic Horizon Above Mineral Soil Depth of Organic Horiz on Above Mineral Soil 6 Texture Color Consistency Consistency Mottling Texture Color Mottling 7.5YR 6/1 LOAM 5YR 5/1 5YR 2.5/2 FINE SANDY (Inches) (Inches) LOAM 7 8 10 5YR 3/4 SILT 5YR 2.5/2 8 FRIABLE LOAM FRIABLE SURFACE ( SURFACE 11 7.5YR 3/4 12 14 10YR 4/4 LOAM/ 16 16 SOIL 16 17 18 FSL 7.5YR 4/6 20 GRAVELLY NINERAL 23 BELOW MINERAL 2.5Y 5/6 BEDROCK AT FSL 18' 24 REFUSAL AT 26" MO 24 30 25 H DEPTH I <u>н</u> – 40 50 50 55 6 ground wat ground wate hydri Slope % Limiting factor Slope % Limiting factor . non-hydric restrictive layer non-hydric restrictive layer 26" 18" 22 30 C.S.S. Soil Series / phase name: Soil Series / phase name SADDLEBACK Drainage HSG Drainage HSG C.S.S. SADDLEBACK FSL ED C/D FSL ED C/D Professional Endorsements (as applicable) C.S.S. signature: name: Date: DALE A. BREWER Lic 304

FO	RMF								
			for s	SOIL PROFILE/CLASS ubsurface investigation					
	t Name: KIBBY WIND-POWI	ER PROJECT	Applicant Name:	TRANS-CANADA	AMEC		Project Location (r	nunicipality) KIBBY TOWNSHIP	<b>b</b>
		DESCRIPTION ANI			m	50		D CLASSIFICATION	
	Exploration Symbol:	A 06-TP-57	X Test Pit	Boring		Exploration Symbol:	A 06-TP-58	X Test Pit	Boring
0	4 Texture	" Depth of Organic Horizo Consistency	Color	Mottling		5 Texture	" Depth of Organic Horizo Consistency	on Above Mineral Soil Color	Mottling
2	FSL		7.5YR 5/2		2			7.5YR 6/1	
3	LOAM		7.5YR 3/3		4			5YR 2.5/2	
5	FINE				5	FINE SANDY			
(Inches) ∞   ₋   ₀	SANDY LOAM/ LOAM		10YR 3/4		- Thes	LOAM		5YR 3/4	
SE (∥ " ° °	LOAM		1018 3/4		した。 10		FRIABLE	51K 3/4	
RFAC □ 0		FIRM			11 12				
SOIL SURFACE	FINE SANDY LOAM		2.5Y 5/6		SOIL SURFACE (Inches) 8   1   1   1   0   8   2   6			10YR 4/4	
				10YR 4/4		GRAVELY			
ERAI			0.57(5/0	1011(4)4	20 22			2.5Y 5/6	
24 26	SANDY LOAM		2.5Y 5/3		NIW 26				
28 MOT:	ASSUMED	BEDROCK	AT	27"	NO 7:	REFUSAL	AT	26"	
H BE					H BE				
DEPTH BELOW MINERAL					DEPTH BELOW MINERAL				ļ
40					1 42				
47					48				
60					52				
	hu udaža.	Slope %	Limiting foster			la salata	Slope %	l inside a factor	
•	hydric non-hydric	8	Limiting factor 16"	ground water  restrictive layer	•	hydric non-hydric	Siope %	Limiting factor 26"	ground water restrictive layer
C.S.S.	Soil Series / phase name:			Drainage HSG	C.S.S.	Soil Series / phase name:			Drainage HSG
	SADDLEBACK	FSL		ED C/D		SADDLEBACK	FSL		ED C/D
-	SOIL Exploration Symbol:	DESCRIPTION AND	CLASSIFICATION	Boring	-	SO Exploration Symbol:		D CLASSIFICATION	Boring
	4	" Depth of Organic Horizo	]	Doning		4	" Depth of Organic Horizo		Doning
0	Texture	Consistency	Color						
	FINE	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
2	FINE SANDY LOAM	Consistency	7.5YR 5/2	Mottling	0 1 2	Texture FINE SANDY LOAM	Consistency	Color 7.5YR 5/2	Mottling
1 2 3 4				Mottling	1 3 4	FINE	Consistency		Mottling
1 2 3 4 5 6			7.5YR 5/2	Mottling	0 1 2 3 4 5 (\$ 6	FINE	Consistency	7.5YR 5/2	Mottling
nches) 2 2 9 2 1 9 2 1 2 1 2 1 2	SANDY LOAM		7.5YR 5/2	Mottling	0 1 2 3 4 5 6 7 8 7 8	FINE SANDY LOAM	Consistency	7.5YR 5/2	Mottling
(Inc.		FRIABLE	7.5YR 5/2	Mottling	CE (Inches) 6 8 1 4 9 5 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FINE SANDY LOAM	FRIABLE	7.5YR 5/2	Mottling
	SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2	Mottling	IRFACE (Inches) 17 10 6 8 4 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FINE SANDY LOAM LOAM		7.5YR 5/2 7.5YR 2.5/2	Mottling
	SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2	Mottling	SURFACE (Inches	FINE SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2	Mottling
	SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3	Mottling	SURFACE (Inches	FINE SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3	Mottling
	SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2	Mottling	SURFACE (Inches	FINE SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2	Mottling
SURFACE	SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3	Mottling	SURFACE (Inches	FINE SANDY LOAM LOAM GRAVELY SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3	Mottling
SURFACE	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4	Mottling	SURFACE (Inches	FINE SANDY LOAM LOAM GRAVELY SANDY LOAM REFUSAL	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4	Mottling
	SANDY LOAM		7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3	Mottling	SURFACE (Inches	FINE SANDY LOAM LOAM GRAVELY SANDY LOAM REFUSAL	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4	Mottling
W MINERAL SOIL SURFACE           2         2         2         4         1         1         6         7         10         10         6         6         6         7         10         10         6         6         7         10         10         10         6         6         7         10         10         6         6         7         10         10         10         6         6         7         10	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4	Mottling	OW MINERAL SOIL SURFACE (Inches           57         12         11	FINE SANDY LOAM LOAM GRAVELY SANDY LOAM REFUSAL	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4	Mottling
	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4	Mottling	SURFACE (Inches	FINE SANDY LOAM LOAM GRAVELY SANDY LOAM REFUSAL	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4	Mottling
DEPTH BELOW MINERAL SOIL SURFACE   <	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4	Mottling	DEPTH BELOW MINERAL SOIL SURFACE (Inches           8         8         12         15         16         8         1         1         2	FINE SANDY LOAM LOAM GRAVELY SANDY LOAM REFUSAL	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4	Mottling
DEPTH BELOW MINERAL SOIL SURFACE   <	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4	Mottling	DEPTH BELOW MINERAL SOIL SURFACE (Inches 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FINE SANDY LOAM LOAM GRAVELY SANDY LOAM REFUSAL	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4	Mottling
DEPTH BELOW MINERAL SOIL SURFACE             2             2             2	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4	Mottling  Mottling  groundwater	DEPTH BELOW MINERAL SOIL SURFACE (Inches           8         8         12         15         16         8         1         1         2	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	Mottling
DEPTH BELOW MINERAL SOIL SURFACE           [8]         [8]         [8]         [8]         [6]         [	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4		DEPTH BELOW MINERAL SOIL SURFACE (Inches)           18         8         12         12         1 <td>FINE SANDY LOAM LOAM GRAVELY SANDY LOAM REFUSAL</td> <td>FRIABLE</td> <td>7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4</td> <td></td>	FINE SANDY LOAM LOAM GRAVELY SANDY LOAM REFUSAL	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4	
DEPTH BELOW MINERAL SOIL SURFACE            8           8           2	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4	ground water     restrictive layer     restrictive layer     brainage HSG	DEPTH BELOW MINERAL SOIL SURFACE (inchesting)           DEPTH BELOW MINERAL SOIL SURFACE (inchesting)           1         15           15         15           15         15	FINE SANDY LOAM LOAM COAM GRAVELY SANDY LOAM REFUSAL	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	ground water     festicitive layer     festicitive layer
Signal         DEPTH BELOW MINERAL SOLL SURFACE           9         8         18         1         1         8         1         1         8         1         1         8         1	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4 26"		□ □ DEPTH BELOW MINERAL SOIL SURFACE (Inches □ □   □   □   0   0   0   0   0   0   0	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	
DEPTH BELOW MINERAL SOIL SURFACE           (*)         (*)           (*)         (*)           (*)         (*)	SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4 26" Limiting factor 26"	ground water     restrictive layer     restrictive layer     brainage HSG	pp         pePTH BELOW MINERAL SOIL SURFACE (Inchesting)           '''         '''           '''         '''           '''         '''	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	ground water     festicitive layer     festicitive layer
Signal         DEPTH BELOW MINERAL SOLL SURFACE           9         8         18         1         1         8         1         1         8         1         1         8         1	SANDY LOAM LOAM GRAVELLY SANDY LOAM BEDROCK BEDROCK Nydric non-hydric Soil Series / phase name: SADDLEBACK ofessional Endorser	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4 26" Limiting factor 26"	ground water     restrictive layer     restrictive layer     brainage HSG	DEPTH BELOW MINERAL SOIL SURFACE (Inches 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	ground water     festicitive layer     festicitive layer
DEPTH BELOW MINERAL SOLL SURFACE           (*)         (*)           (*)         (*)           (*)         (*)	SANDY LOAM LOAM GRAVELLY SANDY LOAM BEDROCK BEDROCK Solid Series / phase name: SADDLEBACK Solid Series / phase name: SaDDLEBACK	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4 26" Limiting factor 26"	ground water     restrictive layer     restrictive layer     brainage HSG	pp         pePTH BELOW MINERAL SOIL SURFACE (Inchesting)           '''         '''           '''         '''           '''         '''	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	ground water     festicitive layer     festicitive layer
DEPTH BELOW MINERAL SOLL SURFACE           (*)         (*)           (*)         (*)           (*)         (*)	SANDY LOAM LOAM GRAVELLY SANDY LOAM BEDROCK BEDROCK Solid Series / phase name: SADDLEBACK Solid Series / phase name: SaDDLEBACK	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4 26" Limiting factor 26"	ground water     restrictive layer     restrictive layer     brainage HSG	pp         pePTH BELOW MINERAL SOIL SURFACE (Inchesting)           '''         '''           '''         '''           '''         '''	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	ground water     festicitive layer     festicitive layer
DEPTH BELOW MINERAL SOIL SURFACE           (*)         (*)           (*)         (*)           (*)         (*)	SANDY LOAM LOAM GRAVELLY SANDY LOAM BEDROCK BEDROCK Solid Series / phase name: SADDLEBACK Solid Series / phase name: SaDDLEBACK	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4 26" Limiting factor 26"	ground water     restrictive layer     restrictive layer     brainage HSG	pp         pePTH BELOW MINERAL SOIL SURFACE (Inchesting)           '''         '''           '''         '''           '''         '''	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	ground water     festicitive layer     festicitive layer
DEPTH BELOW MINERAL SOIL SURFACE           (*)         (*)           (*)         (*)           (*)         (*)	SANDY LOAM LOAM GRAVELLY SANDY LOAM BEDROCK BEDROCK Solid Series / phase name: SADDLEBACK Solid Series / phase name: SaDDLEBACK	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4 26" Limiting factor 26"	ground water     restrictive layer     restrictive layer     brainage HSG	pp         pePTH BELOW MINERAL SOIL SURFACE (Inchesting)           '''         '''           '''         '''           '''         '''	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	ground water     festicitive layer     festicitive layer
DEPTH BELOW MINERAL SOLL SURFACE           (*)         (*)           (*)         (*)           (*)         (*)	SANDY LOAM LOAM GRAVELLY SANDY LOAM BEDROCK BEDROCK Solid Series / phase name: SADDLEBACK Solid Series / phase name: SaDDLEBACK	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 7.5YR 3/3 2.5Y 4/4 2.5Y 4/4 26" Limiting factor 26"	ground water     restrictive layer     restrictive layer     brainage HSG	pp         pePTH BELOW MINERAL SOIL SURFACE (Inchesting)           '''         '''           '''         '''           '''         '''	FINE SANDY LOAM	FRIABLE	7.5YR 5/2 7.5YR 2.5/2 7.5YR 3/3 2.5Y 4/4 21"	ground water     festicitive layer

FC	RMF			SOIL PROFILE/CLASS	IFICAT	ION INFORMATION			
Projec	t Name:			ubsurface investigation			ets Project Location (r	nunicipality)	
Projec	KIBBY WIND-POWI	ER PROJECT	Applicant Name:	TRANS-CANADA-	AMEC		Project Location (i	KIBBY TOWNSHI	P
	SOIL	DESCRIPTION AN	ND CLASSIFICATION			SO	IL DESCRIPTION AN	D CLASSIFICATION	N
	Exploration Symbol:	A 06-TP-61	X Test Pit	Boring		Exploration Symbol:	A 06-TP-62	X Test Pit	Boring
	6 Texture	" Depth of Organic Horiz Consistency	con Above Mineral Soil Color	Mottling		• Texture	" Depth of Organic Horizo Consistency	n Above Mineral Soil Color	Mottling
1	VERY FINE		5YR 3/1	motang	-	1 VERY FINE	Contractionary	7.5YR 4/1	motang
3	SANDY LOAM	FRIABLE	5YR 6/1		-	2 SANDY LOAM		2.5YR 2.5/1	
4	BEDROCK	AT	3"		-	4	VERY		
) (S) 6					(\$	6 LOAM	FRIABLE	5YR 2.5/2	
SURFACE (Inches)					SURFACE (Inches)	7			
0 = 0   °					1) JC	9			
10 10					RFAC	10			
						14 BEDROCK	AT	12"	
7/OS						16			
						19			
					INE	24			
W A27					N MC	25			
3EL C					BELC	30			
HL					HE				
DEPTH BELOW MINERAL					DEPTH				<u>                                     </u>
40			1	1	]	42		-	
47					-	48			<u>+</u>
60						52			
					-				
•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer	•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer
			3"	bedrock				12"	bedrock
C.S.S.	Soil Series / phase name: ABRAM	SL		Drainage HSG SWED D	C.S.S.	Soil Series / phase name: SADDLEBACK	FSL		Drainage HSG SWED_ C/D
	SOIL	DESCRIPTION AN	ND CLASSIFICATION		1	SO	IL DESCRIPTION AN		N
	Exploration Symbol:		X Test Pit	Boring		Exploration Symbol:		X Test Pit	Boring
		" Depth of Organic Horiz				3	" Depth of Organic Horizo		
- 0	Texture	Consistency	Color	Mottling	-	Texture	Consistency	Color 7.5YR 4/1	Mottling
2			7.5YR 5/2		-	2		7.5YR 3/3	
4	VERY				-	4		7.5YR 3/4	
	FINE SANDY					5 6 LOAM	-		
ches	LOAM	5014.01.5	7.51/5.4/6		(Inches)	7			
SURFACE (Inches)		FRIABLE	7.5YR 4/6		<u>し</u>	8	FRIABLE	10YR 4/4	
10 12					SURFACE	10			
	LOAM		10YR 4/4			14			_
7/OS	GRAVELLY		2.5Y 5/3		SOIL	16 18 SILT		2.5Y 5/4	
20 742	SANDY LOAM BEDROCK	AT	20"		SAL S	20 LOAM		2.5Y 4/4	7.5YR 4/4 & 2.5Y 3/1
NER 22	BEDROCK	AI	20		INEF	22			2.51 5/1
M M					MM	26 BEDROCK 28	AT	24"	
07 <u>3</u>						30			
DEPTH BELOW MINERAL SC				<u> </u>	DEPTH BELOW MINERAL SOIL	<u> </u>			<u> </u>
DEP					DEP				+
40			1	1	- 11	40			<u> </u>
50			+	1	-	50	<u> </u>	+	╂────┤
						55			
60			1	1		1		<u> </u>	
•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer	•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer
	Soil Series / phase name:	3/20		bedrock Drainage HSG		Soil Series / phase name	+25		bedrock Drainage HSG
C.S.S.	SADDLEBACK	FSL		SWED C/D	C.S.S.	SADDLEBACK	FSL		MWD C//D
Pr	ofessional Endorse	<b>ments</b> (as applicabl	e)		I	Date:	1		
Pr C.S.S.	signature:								
		ments (as applicabl DALE A. BREW				Lic 304	-		
	signature:								
	signature:						-		
	signature:			<u>.</u>					
	signature:			·					
	signature:			·			-		
	signature:			<u>.</u>			-		
	signature:			<u> </u>			-		

F	ORM F			SOIL PROFILE/CLASS					
Proje	ct Name:		for s Applicant Name:	ubsurface investigation	ns at DEF	Site Location Project	rts Project Location (r	nunicipality)	
	KIBBY WIND-POWI	ER PROJECT		TRANS-CANADA-	AMEC			KIBBY TOWNSH	IP
	SOIL	DESCRIPTION AND	CLASSIFICATION			SO	IL DESCRIPTION A	ND CLASSIFICATIO	DN
	Exploration Symbol:		X Test Pit	Boring		Exploration Symbol:		X Test Pit	Boring
	6 Texture	" Depth of Organic Horizor Consistency	Above Mineral Soil Color	Mottling		5 Texture	" Depth of Organic Horizo Consistency	n Above Mineral Soil Color	Mottling
	FSL	Consistency	7.5YR 4/1	Wotting	1	Texture	Consistency		
	3		5YR 2.5/2		2			5Y 6/1	7.5YR 4/6 & 2.5Y 5/3
_	4				4				
() ()			7.5YR 3/3		(6 <sup>5</sup>				2.5Y 5/6 &
(Inches)	7				che:			2.5Y 5/2	5Y 6/1
	9				1) =				
SURFACE		FRIABLE	10YR 3/4			SILTY LOAM	FIRM		
SUF	4								
soll								5Y 4/2	5Y 5/1 &
	D				S 74				2.5Y 4/3
			2.5Y 4/4		22 24 24				
21 W N					1W A				
	D				MO 7=				
DEPTH BELOW MINERAL	REFUSAL	AT	30"		DEPTH BELOW MINERAL SOIL SURFACE (Inches)       영업 문화 영업 등 등 등 1 등 1 등 1 등 1 등		VERY FIRM	5Y 3/2	2.5Y 5/6 & 2.5Y 4/3
EP1	1			1	IEP1		1 11/04		2.51 7/3
Q	D			<u> </u>	Q				
4	7			1		LIMIT	OF	TEST PIT	40"
5					-				
					=				
0	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	<ul> <li>ground water</li> </ul>
•	non-hydric	south 27/north 40	30"	restrictive layer     bedrock	•	non-hydric	_7	3"	restrictive layer     bedrock
C.S.S.	Soil Series / phase name: SADDLEBACK		I	Drainage HSG	C.S.S.	Soil Series / phase name: MONARDA	61		Drainage HSG PD/DWPD D
		FSL					SiL		
	SOIL Exploration Symbol:	DESCRIPTION AND	CLASSIFICATION X Test Pit	Boring		SO Exploration Symbol:	IL DESCRIPTION A	Test Pit	DN Boring
		" Depth of Organic Horizor	]	Bonng		exploration Symbol.	" Depth of Organic Horizo		Boiling
	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
	SILT LOAM		10YR 2/1 7.5YR 5/2	-	2				
_	SANDY LOAM		7.5YR 2.5/2		3				
		VERY	7.5TK 2.5/2		4				
ies)	LOAM/	FRIABLE	10YR 3/4		hes)				
(Inches)	В				(Inch				
ACE	SILT		2.5Y 4/3		ACE .				
L I	1				IRF,				
ין יין יי סוד צר:		FIRM	5Y 4/3	7.5YR 4/4 &	0/L SURFACE (Inches) 1 등 1 급 1 급 1 등 1 등 1 등				
=  = NL SO	SANDY			2.5Y 4/3					
ERAI	D								
DEPTH BELOW MINERAL S	4	VERY FIRM	5Y 4/2	10Y 5/1 & 2.5Y 4/3	DEPTH BELOW MINERAL S	<u> </u>			
MO	GRAVELLY				MO 24				
BEL	LOAMY SAND/ GRAVELLY	FRIABLE	2.5Y 4/2	<u> </u>	25 1387 (				
HLLda	SANDY LOAM				HLL.				+
DE	LIMIT	OF	TEST PIT	40"					
-				<u> </u>	40				
5	D			ļ	50				
6		<u> </u>			55				
	hydric	Slope %	Limiting factor	<ul> <li>ground water</li> </ul>		hydric	Slope %	Limiting factor	ground water
•	non-hydric	8	11"	restrictive layer	0	non-hydric	Эюре //		restrictive layer
C.S.S.	Soil Series / phase name:			Drainage HSG	C.S.S.	Soil Series / phase name:			Drainage HSG
5.5.3.	MONARDA	SiL		SWPD D	0.0.0.	·			
Pi	rofessional Endorse	ments (as applicable)			10				
c.s.s	signature: name:	DALE A. BREWE	R		Dat				
						•			

Data         Applicat Norm         These CANADE-ANCE         Project CasaDia (Provide)           SUC DESCRIPTION AND CLASSIFICATION         SUC DESCRIPTION AND CLASSIFICATION         SUC DESCRIPTION AND CLASSIFICATION           Table And Applicat Norm         SUC DESCRIPTION AND CLASSIFICATION         SUC DESCRIPTION AND CLASSIFICATION         SUC DESCRIPTION AND CLASSIFICATION           Table And Applicat Norm         Table And Applicat Norm         SUC DESCRIPTION AND CLASSIFICATION         SUC DESCRIPTION AND CLASSIFICATION           Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Suc DESCRIPTION AND CLASSIFICATION           Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Suc DESCRIPTION AND CLASSIFICATION           Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm           Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm           Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm           Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Applicat Norm         Table And Ap			for s	SOIL PROFILE/CLASS subsurface investigation					
Circletation Symbol: B06-TP-2         Care         During         Total Constructions Symbol: B06-TP-2         Care         Monthling           Total Constructions Symbol: B06-TP-3         Care         Monthling         1         Image: Symbol: B06-TP-3         Image		ER PROJECT	Applicant Name:	TRANS-CANADA	-AMEC		Project Location (r		<b>,</b>
Circletation Symbol: B06-TP-2         Care         During         Total Constructions Symbol: B06-TP-2         Care         Monthling           Total Constructions Symbol: B06-TP-3         Care         Monthling         1         Image: Symbol: B06-TP-3         Image					11	03			
Total of Construction Kook Model and Moding         Construction Kook Model and Moding           Total of Construction Kook Model and Moding         Construction Kook Model and Moding           DBA         TOTR 22         Moding           ORA MELLY         Construction Kook Model and Moding         Construction Kook Model and Moding           ORA MELLY         Total of Construction Kook Model and Model			_					_	
Tentom         Constituting         Constituting <thconstituting< th="">         Constituting</thconstituting<>			. —		11			_	
LOAM         TOYR 4/2         Construction	Texture	Consistency		Mottling	0	Texture	Consistency	Color	Mottling
SANDY         1078 42           GRAVELY         PRIABLE         -           00AW         PRIABLE         -           10AW         -         10AW           10AW         -         10AW           10AW         -         10AW           10AW         -         10AW           10AW         -         -           10AW         -	LOAM	+	10YR 2/2		2				
ORAVELLY         PRIABLE         T.SYR 30         Image of the second s	FSL		10YR 4/2		3			40YB 4/2	
LOAN         T.XYR 3/4         PRIABLE         PRIABLE         PRIABLE           1         7.XYR 3/4         SET         7.XYR 3/4         SET         7.XYR 3/4           1         1         1078 4/3         SET         7.XYR 3/4         SET         7.XYR 3/4           1         1078 4/3         1078 4/3         1078 4/4         SET         7.XYR 3/4         1078 4/4           1         1078 4/4         1078 4/4         1078 4/4         1078 4/4         1078 4/4           SANDY         VERY         CF         1078 4/4         1078 4/4         1078 4/4           1         1078 4/4         1078 4/4         1078 4/4         1078 4/4         1078 4/4           REFUSAL         AT         20°         1078 4/4         1078 4/4         1078 4/4           1         1078 1/4         1078 4/4         1078 4/4         1078 4/4         1078 4/4           1         1078 1/4         1078 1/4         1078 1/4         1078 1/4         1078 1/4           1         108         108         108         108         108         108           1         108         108         108         108         108         108           1         101 <td></td> <td></td> <td>7.5YR 3/3</td> <td></td> <td>4</td> <td></td> <td></td> <td>101K 4/2</td> <td></td>			7.5YR 3/3		4			101K 4/2	
LOAM         FIRM         107R 4/3         IOAM         FIRM         107R 4/4           SANDY         VERY         CF         BEDROCK         AT         20"           REPUSAL         AT         38"         IOAM         FIRM         107R 4/4         IOAM           REPUSAL         AT         38"         IOAM         FIRM         00"R.4/4         IOAM           Mathematical and the second and the seco		FRIABLE	1	-	es)		EDIABLE		
LOAM         FIRM         107R 4/3         IOAM         FIRM         107R 4/4           SANDY         VERY         CF         BEDROCK         AT         20"           REPUSAL         AT         38"         IOAM         FIRM         107R 4/4         IOAM           REPUSAL         AT         38"         IOAM         FIRM         00"R.4/4         IOAM           Mathematical and the second and the seco	LOAM		7.5YR 3/4		(Inch		TRIADEL		
LOAM         FIRM         107R 4/3         IOAM         FIRM         107R 4/4           SANDY         VERY         CF         BEDROCK         AT         20"           REPUSAL         AT         38"         IOAM         FIRM         107R 4/4         IOAM           REPUSAL         AT         38"         IOAM         FIRM         00"R.4/4         IOAM           Mathematical and the second and the seco		+			9 10	SILT		7.5YR 3/3	
LOAM         FIRM         107R 4/3         IOAM         FIRM         107R 4/4           SANDY         VERY         CF         BEDROCK         AT         20"           REPUSAL         AT         38"         IOAM         FIRM         107R 4/4         IOAM           REPUSAL         AT         38"         IOAM         FIRM         00"R.4/4         IOAM           Mathematical and the second and the seco									
LOAM         FRM         10YR 4/3           SANDY         VERY         25YR 4/4         GP           REFUSAL         AT         20"           AT         23"		<u> </u>	-		7S 7			7.5YR 2.5/2	
SANDY         VERY         10YR 4/4           SANDY         VERY         CF         Second	LOAM	FIRM	10YR 4/3		OS 18		FIDM	40/15 4/4	
Image: Second Symbol:         Direction Symbol:		-	+		BAL 20				
Image: Second Symbol:         Direction Symbol:	CANDY	VEDY							
Image: Second Symbol:         Direction Symbol:			2.5YR 4/4	CF	MA -				
Image: Second Symbol:         Direction Symbol:	REFUSAL	AT	28"		3ELC				
Image: State in the second state is provided at the second state is pro		1	<u> </u>	<u> </u>	TH E				
Image: Second Symbol: 806-175         Limiting factor: 0         0         grand etails           hyde:         Sign #1, 10 <sup>1</sup> 0         grand etails         1         hyde:         0         monthyde:         0.3         grand etails         1         hyde:         0.3         hyde:         hyd		<b>_</b>			DEP				
Image: State of phase name:         St		1	<u> </u>	<u> </u>					
Image: Section of the section is an analysis of the section is an analysi			1						
non-hydric         8-15         10*         •         meanse ware balance           Soll Zeta Cription And CLASSIFICATION         Datange         H Soll Description And CLASSIFICATION         Datange         H Soll Description And CLASSIFICATION           Exploration Symbol: B06-TP-3         Stat Pit I         Boring         Soll Description And CLASSIFICATION         Soll Description And CLASSIFICATION           Exploration Symbol: B06-TP-3         Test Pit         Boring         Soll Description And CLASSIFICATION         Soll Description And CLASSIFICATION           Soll Description And Classifications         Testure         Consistency         Color         Matting           Silt T LoAM         1078 3/2         Motting         3         Description And Classification         Motting           Silt C LOAM         7.5YR 4/4         - <t< td=""><td></td><td><u>†                                    </u></td><td>1</td><td>1</td><td></td><td></td><td></td><td></td><td></td></t<>		<u>†                                    </u>	1	1					
non-hydric         8-15         10*         • macro ware belows           Sold Series / phase name:         LOAM         Drainage         HSC           Sold DESCRIPTION AND CLASSIFICATION         Case         Sold DescRiption AND CLASSIFICATION           Exploration Symbol: B06-TP-3         X         Test Pit         Boring		+			- 11				
Bot         Diff         Diff <thdiff< th="">         Diff         Diff         D</thdiff<>		Slope %	Limiting factor				Slope %	Limiting factor	
SURPLUS         LOAM         MVD         C         Consistency         VD         C           Sold DESCRIPTION AND CLASSIFICATION	non-hydric	8-15	10"		•	non-hydric		20"	
SOIL DESCRIPTION AND CLASSIFICATION           Exploration Symbol: B06-TP-3         X         Test Pit         Boring	Soil Series / phase name				C.S.S.	Soil Series / phase name:			Drainage HS
Exploration Symbol: 806-TP-3       X       Test Pit       Boring        4								_	
			_					_	
Texture         Consistency         Color         Mottling           SILT LOAM         10YR 3/3         10YR 3/4         10YR 3/2         10YR 4/2         10				Boring					Boring
SANDY         2.5Y 6/4         2.5Y 6/4           LOAM         7.5YR 4/4         6         6         MUCKY         6           ILOAM         7.5YR 4/4         6         MUCKY         6         10YR 3/1         6           SANDY         10YR 4/4         6         FRIABLE         6         FRIABLE         6         10YR 3/1         7           SANDY         10YR 4/4         6         FRIABLE         7         6         10YR 3/2         10YR 4/2           LOAM         10YR 3/2         10YR 4/4         6         6         10YR 3/2         10YR 4/2           LOAM         10YR 3/2         10YR 4/2         7         10YR 4/2         10YR 4/2           SANDY         10YR 4/4         10YR 3/2         10YR 4/2         10YR 4/2         10YR 4/2           Sand         Sand         Sand         10YR 3/2         10YR 4/2         10YR 4/2           Sand         Sand         Sand         10YR 3/2         10YR 4/2         10YR 4/2           Sand         Sand         Sand         Sand         10YR 4/2         10YR 4/2           Sand         Sand         Sand         Sand         Sand         10YR 4/2           Sand         San			Color	Mottling	0				Mottling
LOAM         2.5Y 6/1         2.5Y 6/1         CMD           LOAM         7.5YR 4/4			10YR 3/3		1				
LOAM         7.5YR 4/4         MUCKY         10YR 3/1           FRIABLE         IOAM         10YR 3/1         IOYR 3/1           SANDY         10YR 4/4         IOYR 3/2         IOYR 4/2           SANDY         10YR 4/4         IOYR 3/2         IOYR 4/2           VERY FIRM         2.5Y 5/4         2.5Y 4/2         IOYR 4/2         IOYR 4/2           VERY FIRM         2.5Y 5/4         2.5Y 4/2         IOYR 4/2         IOYR 4/2           VERY FIRM         2.5Y 5/4         2.5Y 4/2         IOYR 4/2         IOYR 4/2           Image:         Image:         IOYR 4/2         IOYR 4/2         IOYR 4/2           Image:         Image:         Image:         IOYR 4/2		1	2.5Y 6/1		2				
LOAM         7.5YR 4/4         10YR 3/1           FRIABLE         FRIABLE         FRIABLE           SANDY         10YR 4/4         FRIABLE         FRIABLE           SANDY         10YR 4/4         FRIABLE         FRIABLE           VERY FIRM         2.5Y 5/4         2.5Y 4/2         FRIABLE         FRIABLE           FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE           FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE           SANDY         10YR 4/4         FRIABLE         FRIABLE         FRIABLE           FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE           FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE           FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE           FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE           FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE         FRIABLE				CMD	4	MUCKY			
a	LOAM		7.5YR 4/4		(S) 6			10YR 3/1	
a		FRIABI F	-		- uche		FRIABI F		
a					) = ( 				
i     i     i     COBBLY     in     10YR 3/2     10YR 4/2       i     i     LOAM     10YR 3/2     10YR 4/2       i     i     IOAM     IOYR 3/2     10YR 4/2       i     IOAM     IOYR 3/2     IOYR 3/2     IOYR 4/2       i     IOAM     IOYR 3/2     IOYR 4/2     IOYR 3/2       i     IOAM     IOYR 3/2     IOYR 3/2     IOYR 4/2       i     IOAM     IOYR 3/2     IOYR 4/2     IOYR 3/2       i     IOA     IOAM     IOYR 3/2     IOYR 4/2       i     IOA     IOAM     IOYR 3/2     IOYR 4/2       i     IOA     IOAM     IOYR 3/2     IOYR 4/2       i     IOA     IOA     IOA     IOYR 3/2       i     IOA     IOA     IOA     IOA       i     IOA     IOA	SANDY		10YR 4/4						
VERY FIRM         2.SY 5/4         2.SY 4/2         0         10YR 3/2         10YR 4/2           Image: Star Strain Star Star Star Star Star Star Star Star									
a     a     a     a     a     a     a       a     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     a     a     a     a     a     a       b     b     a     a     a     a     a       b     a     a     a     a     a     a <t< td=""><td></td><td>+</td><td></td><td></td><td>7/OS</td><td></td><td></td><td>10YR 3/2</td><td>10YR 4/2</td></t<>		+			7/OS			10YR 3/2	10YR 4/2
image: second		VERY FIRM	2.5Y 5/4	2.5Y 4/2	S 74				
image: second					- ER	REFUSAL	AT	19"	
image: second									
image: second									
image: second									
image: second					H BELOW MIN				
image: solution of the soluti					ЕРТН ВЕLOW MIN				
interview     inter									
a     non-hydric     Slope %     Limiting factor     a     a     a       hydric     15-30     18"     restrictive layer     b     b     a     a       soil Series / phase name:     Drainage     HSG     Koll Series / phase name:     Soil Series / phase name:     Drainage     HSG       stigrature:     Date:     Date:     Date:     Date:     Date:									
non-hydric     15-30     18"     restrictive layer       Soil Series / phase name:     Drainage     HSG       SurPLUS     SiL     Drainage       MWD     C					40				
non-hydric     15-30     18"     restrictive layer       Soil Series / phase name:     Drainage     HSG       SurPLUS     SiL     Drainage       MWD     C					40				
Soil Series / phase name: SURPLUS SiL Drainage HSG MWD C C.S.S. Soil Series / phase name: MONARDA ML VPD HE signature: Date:	hvdric	Sione %	Limiting factor	grund water	40 	hvdric	Stone %	Limiting factor	
SURPLUS     SiL     MWD     C     U.S.S.     MONARDA     ML     VPD     C       rofessional Endorsements (as applicable)			-	<ul> <li>restrictive layer</li> </ul>	40 50 55			°	<ul> <li>restrictive layer</li> </ul>
signature: Date:	non-hydric Soil Series / phase name	<u>15-30</u>	-	restrictive layer     bedrock Drainage HSG	40 50 55 0	non-hydric Soil Series / phase name:	3-8	°	restrictive layer     bedrock     Drainage HS
	non-hydric Soil Series / phase name	<u>15-30</u>	-	restrictive layer     bedrock Drainage HSG	40 50 55 0	non-hydric Soil Series / phase name:	3-8	°	restrictive layer     bedrock     Drainage HS
	non-hydric Soil Series / phase name SURPLUS ofessional Endorse	<u>15-30</u> SiL		restrictive layer     bedrock Drainage HSG	40 50 55 0 C.S.S.	non-hydric Soil Series / phase name: MONARDA	3-8	°	restrictive layer     bedrock     Drainage HS
	non-hydric Soil Series / phase name SURPLUS Dfessional Endorse signature:			restrictive layer     bedrock Drainage HSG	40 50 55 0 0 0 0 0	non-hydric Soil Series / phase name: MONARDA e:	3-8	°	restrictive layer     bedrock     Drainage HS
	non-hydric Soil Series / phase name SURPLUS Dfessional Endorse signature:			restrictive layer     bedrock Drainage HSG	40 50 55 0 0 0 0 0	non-hydric Soil Series / phase name: MONARDA e:	3-8	°	restrictive layer     bedrock     Drainage HS
	non-hydric Soil Series / phase name SURPLUS Dfessional Endorse signature:			restrictive layer     bedrock Drainage HSG	40 50 55 0 0 0 0 0	non-hydric Soil Series / phase name: MONARDA e:	3-8	°	restrictive layer     bedrock     Drainage HS
	non-hydric Soil Series / phase name SURPLUS Dfessional Endorse signature:			restrictive layer     bedrock Drainage HSG	40 50 55 0 0 0 0 0	non-hydric Soil Series / phase name: MONARDA e:	3-8	°	restrictive layer     bedrock     Drainage HS
	non-hydric Soil Series / phase name SURPLUS Dfessional Endorse signature:			restrictive layer     bedrock Drainage HSG	40 50 55 0 0 0 0 0	non-hydric Soil Series / phase name: MONARDA e:	3-8	°	restrictive layer     bedrock     Drainage HS

FO	DRM F			SOIL PROFILE/CLASS					
Projec	t Name:		Applicant Name:	subsurface investigation		Site Location Project	Project Location (		
	KIBBY WIND-POWE	ER PROJECT		TRANS-CANADA	AMEC			KIBBY TOWNSHI	P
	SOIL	DESCRIPTION AN	ND CLASSIFICATION	4		SO	IL DESCRIPTION A	ND CLASSIFICATIO	N
	Exploration Symbol:	B06-TP-5	X Test Pit	Boring		Exploration Symbol	B06-TP-6	X Test Pit	Boring
	6"	" Depth of Organic Horiz					" Depth of Organic Horiz		
0	Texture	Consistency	Color	Mottling	- 0	Texture LOAM	Consistency	Color 10YR 4/1	Mottling
2					2	LOAM		1011(4/1	
3					3				
4	COBBLY		10YR 4/3		4				
ss)	FINE	FRIABLE			(Se e	VERY		7.5YR 3/4	
nch∈ 	SANDY LOAM				(Inches)	FINE SANDY	FRIABLE		
Ε(h 	Lonin				- <u>-</u>	LOAM	TRIADEE		
SOIL SURFACE (Inches)			10YR 5/3		1 EAC				
16					16			10YR 3/4	
18 20 18 20	<u> </u>			2.5Y 5/2	OS 7 20				2.5Y 4/2 FMF
ERA.	SANDY		2.5Y 5/3	CMF	A 23		FIRM	2.5Y 4/3	10YR 4/4 CMD
	LOAM	FIRM			WINE	SANDY	VERY		
V M(					M -	LOAM	FIRM	2.5Y 4/2	10YR 4/3
EL O		VERY		7.5YR 4/4 CMP					CFF
32 19 11 12	LIMIT	FIRM OF	2.5Y 5/3 TEST PIT	2.5Y 5/2 CMF	H B 36				
DEPTH BELOW		0.			DEPTH BELOW MINERAL	LIMIT	OF	TEST PIT	
40	<u> </u>				42	-		-	+
50					48				
60	ļ!				52				-
٥	hydric	Slope %	Limiting factor	<ul> <li>ground water</li> </ul>		hydric	Slope %	Limiting factor	ground water
•	non-hydric	8-15	14"	restrictive layer     bedrock	•	non-hydric	8-15	18"	restrictive layer     bedrock
c.s.s.	Soil Series / phase name:		•	Drainage HSG	C.S.S.	Soil Series / phase name		•	Drainage HSG
/	SURPLUS	FSL		SPD C		SURPLUS	FSL	_	MWD_C
	SOIL	DESCRIPTION AN	ND CLASSIFICATION	·		SO	IL DESCRIPTION A	ND CLASSIFICATIO	N
	Exploration Symbol:	B06-TP-7	X Test Pit	Boring		Exploration Symbol:	B06-TP-8	X Test Pit	Boring
		" Depth of Organic Horiz		1			" Depth of Organic Horiz		<b>1 1 1 1</b>
0	Texture	Consistency	Color	Mottling		Texture	Consistency	Color	Mottling
2			10YR 5/2		2				
3	GRAVELLY		5YR 3/1		3	MUCKY PEAT		10YR 3/2	
5	FINE				5				
es)	SANDY LOAM		7.5YR 3/3		es)		FRIABLE		-
nch ∞	LUAM	FRIABLE	7.5TK 3/3		(Inches)		FRIADLE		
SE (					с. С.				
10 12 12						MUCK		10YR 2/1	
SURFACE (Inches)			5YR 3/2						
	GRAVELLY SANDY		7.5YR 3/4			REFUSAL	AT	13"	-
DEPTH BELOW MINERAL SOIL	LOAM		7.01K 0/4		DEPTH BELOW MINERAL SOIL				1
ERA  ₀		FIRM	2.5Y 5/3		ER				
	LIMIT	OF	TEST PIT		NIW				
N0				1	NO				1
3EL					3EL				
Ĩ			<u> </u>		I F				
DEP					DEP				
J 40	┟──────┤		+	+	40		+	+	+
50	ļ!				50				-
60		<u> </u>	1	1	55	L	1	1	1
		01	1 familie - Anno			here and the	01	l inside - for sta	
		Slope %	Limiting factor	ground water restrictive layer		hydric non-hydric	Slope %	Limiting factor	ground water     restrictive layer
•	hydric non-hydric	3-8		bedrock	╢╧		15-30		bedrock
•	non-hydric			Drainage HSG	C.S.S.	Soil Series / phase name MAHOOSUC	MP		Drainage HSG SWED A
•	non-hydric Soil Series / phase name:			WD C/D					
C.S.S.	non-hydric Soil Series / phase name: SADDLEBACK	GFSL		WD C/D					-
c.s.s.	non-hydric Soil Series / phase name: SADDLEBACK ofessional Endorser	GFSL	le)	WD C/D		e.			
c.s.s. Pro	non-hydric Soil Series / phase name: SADDLEBACK	GFSL		WD C/D	Da		-		-
C.S.S.	non-hydric Soil Series / phase name: SADDLEBACK ofessional Endorsen signature:	GFSL		WD C/D			-		
c.s.s. Pro	non-hydric Soil Series / phase name: SADDLEBACK ofessional Endorsen signature:	GFSL		WD C/D					
• c.s.s. Pro	non-hydric Soil Series / phase name: SADDLEBACK ofessional Endorsen signature:	GFSL		WD C/D					
• c.s.s. Pro	non-hydric Soil Series / phase name: SADDLEBACK ofessional Endorsen signature:	GFSL		WD C/D			-		
• .s.s.	non-hydric Soil Series / phase name: SADDLEBACK ofessional Endorsen signature:	GFSL		WD C/D					

	ORM F			SOIL PROFILE/CLASS					
ojec	t Name:		for s Applicant Name:	ubsurface investigation	ns at DEF	P Site Location Project	ts Project Location (n	nunicipality)	
	KIBBY WIND-POW	ER PROJECT		TRANS-CANADA	AMEC			KIBBY TOWNSHI	P
	SOIL	L DESCRIPTION AN	ID CLASSIFICATION			SOI	L DESCRIPTION AN	ID CLASSIFICATION	N
	Exploration Symbol:	B06-TP-9	X Test Pit	Boring		Exploration Symbol:	B06-TP-10	X Test Pit	Boring
		" Depth of Organic Horizo		<b>1 1 1 1</b>			" Depth of Organic Horizo		
0	Texture	Consistency	Color	Mottling		SANDY LOAM	Consistency	Color 10YR 4/1	Mottling
2						2			
3	LOAMY SAND	FRIABLE	10YR 6/2			3		7.5YR 2.5/2	
5						5			
6	BEDROCK	AT	6"		les)			7.5YR 3/3	
8					(Inches	В	FRIABLE		
9					SURFACE	e D			
12					IRF,			7.5YR 3/4	
14									
18					= SO/L			10YR 3/4	
20					LAL 2		AT	18"	
25					INE				
28					- M -				
30					BELOW MINERAL	D			
32		1	1		Ш B	6			
					DEРТН	ļ			
40						2			1
47									
50 60					4				
	hydric	Slope %	Limiting factor	ground water	0	hydric	Slope %	Limiting factor	ground water
	non-hydric	0-3	6"	restrictive layer	•	non-hydric	8-15	18"	restrictive layer
s. )	Soil Series / phase name:			bedrock Drainage HSG	C.S.S.	Soil Series / phase name:			Drainage HSG
<u> </u>	ABRAM	SL		ED D	0.0.0.	LYMAN	SL		SED _ C/D
	SOIL	L DESCRIPTION AN	ID CLASSIFICATION			SOI	L DESCRIPTION AN	D CLASSIFICATION	N
	Exploration Symbol:		X Test Pit	Boring		Exploration Symbol:		X Test Pit	Boring
	2" Texture	" Depth of Organic Horizo Consistency	on Above Mineral Soil Color	Mottling		 Texture	" Depth of Organic Horizo Consistency	n Above Mineral Soil Color	Mottling
1	Texture	Consistency	000	Wotting			Consistency	000	Wotting
2		-	10YR 4/2	-		2 SANDY 3 LOAM		10YR 4/1	+
4			10111 4/2			4			
5	LOAM	FRIABLE				5		7.5YR 2.5/2	
7	LOAM	TRABLE			SURFACE (Inches)	7	FRIABLE		
8			5YR 3/4		- <u>-</u>	B FINE		7.5YR 3/2	
10			01110/1		ACE	SANDY			
12	<u> </u>				SURF				
16	FINE					Б			
17 18	SANDY LOAM		7.5YR 3/4		1 2 OS 7F		FIRM	7.5YR 3/4	
	-000		t		ERA		1 11/14		
20		FIRM							10YR 2/1
	SANDY	FIRM	10YR 3/3			3			101K 2/1
25	SANDY LOAM	FIRM		10YR 4/4		5 LOAM		10YR 4/3	CMP
	LOAM		2.5Y 5/4	10YR 4/4 CM		5 LOAM	AT	10YR 4/3 25"	
25		AT			±TH BELOW MIN	5 LOAM	AT		
25	LOAM		2.5Y 5/4		IW MC	5 LOAM	AT		
25	LOAM		2.5Y 5/4		DEPTH BELOW MIN	5 LOAM	AT		
25 30 40	LOAM		2.5Y 5/4		4	BEDROCK	AT		
25 30 40 50	LOAM		2.5Y 5/4		الله المالي الم	LOAM BEDROCK	TA		
25	LOAM		2.5Y 5/4		4	LOAM BEDROCK	TA		
25 30 40 50	LOAM BEDROCK		2.5Y 5/4	CM	4 5 6	bullet bu	AT Slope %		CMP
25 30 40 50	LOAM BEDROCK	AT	2.5Y 5/4 30"	CM		BEDROCK		25"	CMP
25 30 40 50 60	LOAM BEDROCK	AT Slope % 	2.5Y 5/4 30"	CM	4 5 6	bullet bu	Slope % 45	25"	CMP
25 30 40 50 60	LOAM BEDROCK BEDROCK	AT Slope % <u>8-15</u> TUNBRIDGE	2.5Y 5/4 30"	CM	4 5 5 5 5	hydric	Slope %	25"	CMP
25 30 40 50 60 8.	LOAM BEDROCK BEDROCK hydric non-hydric Soil Series / phase name: Soil Series / phase name:	AT Slope % <u>8-15</u> TUNBRIDGE	2.5Y 5/4 30"	CM	44 51 51 0 ■ C.S.S.	LOAM BEDROCK BEDROCK	Slope % 45	25"	CMP
25 30 40 50 60	LOAM BEDROCK BEDROCK	AT Slope % <u>8-15</u> TUNBRIDGE	2.5Y 5/4 30" Limiting factor 12" L	CM	4 5 5 5 5	soil Series / phase name:	Slope % 45	25"	CMP
25 30 40 50 60 8.	LOAM BEDROCK BEDROCK hydric non-hydric Soil Series / phase name: Soil Series / phase name: signature:	AT Slope % 	2.5Y 5/4 30" Limiting factor 12" L	CM		soil Series / phase name:	Slope % 45	25"	CMP
25 30 40 50 60	LOAM BEDROCK BEDROCK hydric non-hydric Soil Series / phase name: Soil Series / phase name: signature:	AT Slope % 	2.5Y 5/4 30" Limiting factor 12" L	CM		soil Series / phase name:	Slope % 45	25"	CMP
25 30 40 50 60	LOAM BEDROCK BEDROCK hydric non-hydric Soil Series / phase name: Soil Series / phase name: signature:	AT Slope % 	2.5Y 5/4 30" Limiting factor 12" L	CM		soil Series / phase name:	Slope % 45	25"	CMP

	Name:		Applicant Name:						Project Location (r			
	KIBBY WIND-POW				IS-CANADA-	AMEC				KIBBY TOWNSHI		
1	SOII Exploration Symbol:		X Test Pit		Boring		F	SOIL Exploration Symbol: I		D CLASSIFICATION X Test Pit		Boring
ŀ	5"	" Depth of Organic Horiz			Joining		-		Depth of Organic Horizo	_		Doning
2	Texture FINE SANDY	Consistency	Color	N	lottling	-	0	Texture	Consistency	Color 10YR 2/2		Mottling
2	LOAM		7.5YR 5/2			-	2					
3			5YR 3/2			-	3					
5	VERY FINE					s)	5 6					
7	SANDY LOAM	FRIABLE	5YR 3/3			(Inches	7		FRIABLE			
9						CE (	9 10	SILT			1	
1			<u> </u>	_		SURFACE	12	LOAM		7.5YR 3/4		
4 6	GRAVELLY SANDY LOAM		7.5YR 3/4			I S I	14 16					
B	GRAVELLY		10YR 4/3				17 20			-		
4	COARSE SANDY LOAM			_		IERA	23		FIRM		-	
Б		FIRM	2.5Y 4/3	_		N MIN			T IIKM			
B	BEDROCK	AT	26"			BELOW MINERAL	30					
2			+	-			36	VERY				
						рертн	_	GRAVELLY SANDY LOAM	VERY FIRM	10YR 4/3	-	
)			<u> </u>			- 1	42	SANDTEGAM				
7			-			-	48					
D						-	52				-	
	hydric	Slope %	Limiting factor	0	ground water	-		hydric	Slope %	Limiting factor	0	ground wate
	non-hydric	15-30	24"		strictive layer bedrock			non-hydric	15-30	17"		restrictive laye
)	Soil Series / phase name			Drainage	HSG	C.S.S.	s	oil Series / phase name:	0101/	0.1	Draina	age H
		SADDLEBACK	FSL	WD	C/D		/		SISK	SiL		)_ ( _
1	SOII Exploration Symbol:		X Test Pit		Boring		E	SOIL Exploration Symbol: I		D CLASSIFICATION	<u> </u>	Boring
ł		" Depth of Organic Horiz			-				Depth of Organic Horizo	_		-
0	Texture	Consistency	Color	N	lottling	-	0	Texture	Consistency	Color		Mottling
2	HEMIC		7.5YR 2.5/2			-	2	LOAM		7.5YR 2.5/2		
4						-	4				_	
6						(Se	6		FRIABLE	10YR 6/2		
7 B	FLAGGY		-			Inche	7	FINE SANDY				
9 0						IRFACE (Inches)	9 10	LOAM		7.5YR 3/3		
2	FLAGGERS	&	CHANNERS				12				_	
4 6						I I	14	GRAVELLY	FIRM			
7 B						JS 7	18 19	SANDY LOAM		7.5YR 2.5/1		
D			+			NER	20 24	VERY GRAVELLY LCS		10YR 3/3	+	
5						W WI		SANDY	VERY FIRM		1	
0			<u> </u>				30	LOAM		2.5Y 5/3		
						TH B	31	LIMIT	OF	TEST PIT		
ſ						DEP	F				+	
D				1		-	40				1	
0			+				50					
0						-	55					
1	hydric	Slope %	Limiting factor		ground water		T	hydric	Slope %	Limiting factor		ground wate
	non-hydric	35	10"		strictive layer bedrock	•		non-hydric	<u>15-30</u>	12"		restrictive laye bedrock
)	Soil Series / phase name	MAHOOSUC	PEAT	Drainage	HSG	C.S.S.	s	oil Series / phase name:	SURPLUS	LOAM	Draina WE	age H
	fossional Er dan			SWED	A		'		JUNFLUJ	LUAIVI	VVL	<u>,                                     </u>
ļ	signature:	ments (as applicabl					Date:					
÷	name:	DALE A. BREWE	ER				Lic	304				

	FORM F		
I			
	Due is at Name		
	Project Name		

#### SOIL PROFILE/CLASSIFICATION INFORMATION for subsurface investigations at DEP Site Location Projects

oie	ect Name:		Applicant Name:	ubsurface investigation	IS ALDEI	F Sile Localion Floje	Project Location (	municipality)	
	KIBBY WIND-POWE	R PROJECT	- pp and - and -	TRANS-CANADA	AMEC			KIBBY TOWNSH	IP
	SOIL	DESCRIPTION AN	D CLASSIFICATION			SC	IL DESCRIPTION A	ND CLASSIFICATIO	N
	Exploration Symbol: I	B06-TP-17	X Test Pit	Boring		Exploration Symbol	: B06-TP-18	X Test Pit	Boring
	7"	Depth of Organic Horizo	on Above Mineral Soil			5"	" Depth of Organic Horiz	on Above Mineral Soil	
	o Texture	Consistency	Color	Mottling		o Texture	Consistency	Color	Mottling
_	1					SANDY LOAM	FRIABLE	10YR 6/2	
	2					2 BEDROCK	AT	1"	
_	3					3			
_	4					4			
_	5	VERY				5			
·	6	FRIABLE	10YR 2/1		(sc)	6			_
_	7				(Inches)	7			
_	8				ця́	8			
_	9				出	9			
_1	10				<u>4</u>	0			
_1	11				SURFACE	2			
_1	14				JS 1	4			
_1	16				zolt	6			
_	18	VERY			S_1				
-	IS LOAM	FIRM	10YR 4/3		- 4 -				
2	BEDROCK	AT	19"		Ľ _2	13			_
_					<u> </u>				_
_	26								_
_	28				- 6 -	-			_
_	30				BEL	10			
3	32								_
_					DEPTH	16			
_					<u> </u>				
_					11~ -	-			
_	40				- 4	12			
-	17		+	-	- 11		+		
_	50		+	-	4		+		
-	50		+		- 5	12	1		+
-			+		11 -	+	1		+
	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water
	non-hydric		÷	restrictive layer		non-hydric		-	restrictive layer
		35		bedrock	11	•	3-8		bedrock
.s.	Soil Series / phase name:		•	Drainage HSG	C.S.S.	Soil Series / phase name		•	Drainage HSG
.5.	7	RICKER	PEAT	SWED A	U.S.S.	7	ABRAM	SL	ED D

Open interface         Open interface         Open interface         SAND         FRIABLE         7.5YR 3/3         5% MD           10	SOI	L DESCRIPTION AN	D CLASSIFICATION	N	SOIL	DESCRIPTION A	ND CLASSIFICATIO	N
Texture         Consistency         Color         Mottling           -         -         -         -         -         -         -         -         -         Mottling           -         -         -         -         -         -         -         -         Mottling           -	Exploration Symbol:	B06-TP-19	X Test Pit	Boring	Exploration Symbol: I	B06-TP-20	X Test Pit	Boring
VERY FLAGGY LOAM         7.5YR 5/2		" Depth of Organic Horiz	on Above Mineral Soil			" Depth of Organic Horiz	on Above Mineral Soil	
SYR 3/2         Image: Syr 3/2				Mottling	o Texture	Consistency	Color	Mottling
LOAM         FRIABLE         7.5YR 3/4           FRIABLE         7.5YR 3/4	VERY FLAGGY LOAN	4	7.5YR 5/2		1			
LOAM         FRIABLE         7.5YR 3/4           FRIABLE         7.5YR 3/4	2		51/5 6/6		2			
Image: stand	3		51R 3/2		3		40V/D 5/0	
No.         FRIABLE         7.5YR 3/4         No.         <	4		-			FRIABLE	1018 5/2	_
No.         FRIABLE         7.5YR 3/4         No.         <								
y         s         y         s         y         s         y         s         k	7	FRIABLE	7.5YR 3/4		hes.			
y         s         y         s         y         s         y         s         k	8 PC				" «			
Image: Samp Loam         Image: Samp Loam<								2.5Y 5/2
Image: Samp Loam         Image: Samp Loam<	-PC				OF 10 SAND	FRIABLE	7.5YR 3/3	5% MD
Image: Sandry LOAM         Image:	GRAVELLY		7 EVD 0/2		<u>12</u>			
Open interface         AT         16"         VERY         2.5Y 5/3         7.5YR 5/           20         1         1         1         5% MP         5% MP           20         20         20         20         20         20         20           30         1         <			7.5YR 2/2					
Image: solution of the second state of the		۸T	16"		10	VERV	2 5V 5/3	7 5VP 5/8
A         Image         Ima			10				2.51 5/5	
1     30     1     1     1     1       30     1     1     1     1     1       40     1     1     1     1     1       41     1     1     1     1     1       42     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       60     1     1     1     1     1       61     1     1     1     1     1       62 <td< td=""><td>20</td><td></td><td></td><td></td><td>20</td><td>1 11 11</td><td></td><td>070 Mil</td></td<>	20				20	1 11 11		070 Mil
1     30     1     1     1     1       30     1     1     1     1     1       40     1     1     1     1     1       41     1     1     1     1     1       42     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       60     1     1     1     1     1       61     1     1     1     1     1       62 <td< td=""><td></td><td></td><td></td><td></td><td>Щ 24</td><td></td><td></td><td></td></td<>					Щ 24			
1     30     1     1     1     1       30     1     1     1     1     1       40     1     1     1     1     1       41     1     1     1     1     1       42     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       50     1     1     1     1     1       60     1     1     1     1     1       61     1     1     1     1     1       62 <td< td=""><td>25</td><td></td><td></td><td></td><td>W</td><td></td><td></td><td></td></td<>	25				W			
January					MC			
Image: Solution of the second seco	J 30				30 EF(			
u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u     u     u     u       u     u     u <td></td> <td></td> <td>-</td> <td></td> <td>10 <u>31</u></td> <td></td> <td></td> <td></td>			-		10 <u>31</u>			
40     1     1     1     1       40     1     1     1     1       50     1     1     1       50     1     1	1				Ш. — — — — — — — — — — — — — — — — — — —			
so     <	ŭ				DE			
so     <	40				40			
image								
eo     Imiting factor     ground water       non-hydric     Slope %     Limiting factor     ground water       non-hydric     3-15     16"     restrictive layer       s.s.     Soil Series / phase name:     SADDLEBACK     Drainage     HSG       WD     C/D     Soil Series / phase name:     SURPLUS     LOAM	50				50			
Image: constraint of the second state in the seco					55			
non-hydric     3-15     16"     restrictive layer bedrock     non-hydric     3-8     8"     restrictive layer bedrock       S.S.     Soil Series / phase name:     SADDLEBACK     LOAM     Drainage     HSG WD     C.S.S.     Soil Series / phase name:     SURPLUS     LOAM     Drainage     HSG SWPD	60							
non-hydric     3-15     16"     restrictive layer bedrock     non-hydric     3-8     8"     restrictive layer bedrock       S.S.     Soil Series / phase name:     SADDLEBACK     LOAM     Drainage     HSG WD     C.S.S.     Soil Series / phase name:     SURPLUS     LOAM     Drainage     HSG SWPD	a hudia	Class %	Limiting forter		a budán	Class %	Limitian fantas	-
3-13     16     bedrock     3-8     8     a     bedrock       Stable     SadbleBack     Drainage     HSG     C.s.s.     Soil Series / phase name:     Drainage     HSG       SAdbleBack     LOAM     WD     C/D     C.s.s.     Soil Series / phase name:     Drainage     HSG			Ū.	-			-	
S.S. Soil Series / phase name: Drainage HSG SADDLEBACK LOAM WD C/D C.S.S. Soil Series / phase name: Drainage HSG SURPLUS LOAM SWPD		3-15			_ non nyano	3-8	8"	
	Soil Series / phase name:		LOAM	Drainage HSG	C.S.S. Soil Series / phase name:	SURPLUS	LOAM	Drainage HSG SWPD C
	Ducto a signal Fundament	manta (an annliach)	- 1	_				
Professional Endorsements (as applicable) Date:	alaratura.	ments (as applicabl	e)		Data			

FIG	Diessional Enuorsei	nents (as applicable)		
666	signature:		Date	e:
C.S.S.	name:	DALE A. BREWER	Lic	304
C.S.S.				

FORM F SOIL PROFILE/CLASSIFICATION INFORMATION for subsurface investigations at DEP Site Location Projects Project Location (municipality) KIBBY TOWNSHIP Project Name Applicant Name: KIBBY WIND-POWER PROJECT TRANS-CANADA-AMEC SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION Exploration Symbol: B06-TP-21 X Test Pit Boring Exploration Symbol: B06-TP-22 X Test Pit Boring  $\square$ 4" " Depth of Organic Horizon Above Mineral Soil 3" " Depth of Organic Horizon Above Mineral Soil Mottling Mottling Texture Consistency Color Texture Consistency Color SANDY 10YR 4/2 7.5YR 3/4 7.5YR 3/4 4 FRIABLE LOAM FRIABLE 7.5YR 3/3 (Inches) (Inches) 7.5YR 4/3 8 JRFACE ( SURFACE 10 10YR 4/3 10 LOAM 11 12 FIRM 10YR 4/3 14 16 SL 14 SOIL SOIL FIRM 10YR 5/3 18 17 70 23 19 20 DEPTH BELOW MINERAL SANDY LOAM ŝ 24 28 VFRY 2.5Y 4/3 MO FIRM 30 30 BEL 32 FINE CMP 10YR 3/2 SANDY VERY FIRM 2.5YR 5/2 FFP 10YR 4/4 38 40 ШО LIMIT OF TEST PIT 42 42 LIMIT OF TEST PIT 50 48 60 52 -Limiting factor hydric Slope % Limiting factor ground wate • hydric Slope % ground water . non-hydric . restrictive layer non-hydric . strictive layer 8-15 10" 8-15 8" bedrock her C.S.S. Soil Series / phase name: Drainage WD HSG C Soil Series / phase name: Drainage MWD HSG C.S.S. SISK SL SURPLUS LOAM С SOIL DESCRIPTION AND CLASSIFICATION SOIL DESCRIPTION AND CLASSIFICATION  $\square$ Boring X Test Pit Exploration Symbol: B06-TP-24 Х Exploration Symbol: B06-TP-23 Test Pit Boring Depth of Organic Horizon Above Mineral Soi Depth of Organic Horiz on Above Mineral Soil Consistency Color 5YR 5/2 Consistency Color Mottling Textur Mottling Texture VERY FINE SANDY SANDY LOAM 7.5YR 4/1 FINE SANDY LOAN LOAM 5YR 3/3 5YR 2.5/2 \_ FINE (Inches) (Inches) FRIABLE 7.5YR 3/4 VERY FRIABLE SANDY 7 8 9 10 LOAM COBBLY 7.5YR 3/4 10YR 4/4 LOAM SURFACE 12 14 16 17 SANDY 10YR 4/4 15 SOIL SOIL 18 10YR 3/3 18 MINERAL FIRM 10YR 4/4 20 MCD 25 CMD 7.5YR 3/4 FIRM 2.5Y 5/3 BELOW SANDY 20 30 GRAVELLY LOAM 30 BEI 10YR 4/4 CFP SANDY 31 VERY DEPTH I 2.5Y 5/3 32 Ш VFRY 46 2.5Y 4/3 FMD 7.5YR 3/4 LIMIT OF TEST PIT FIRM 50 50 55 62 ground wat Slope % hydri Slope % Limiting factor hydri Limiting factor ground wate 0 . non-hydric restrictive layer non-hydric restrictive layer 17" 15" 15 3-8 Soil Series / phase name: Drainage HSG Soil Series / phase name: Drainage HSG .S.S. VFSL SURPLUS MWĎ С SURPLUS SL SWPD С Professional Endorsements (as applicable) C.S.S. signature: Date: DALE A. BREWER Lic 304

FORM F	

FC	ORM F								
				SOIL PROFILE/CLASSI ubsurface investigations			te		
Projec	t Name:		Applicant Name:	ubsullace investigations	alDEF	Sile Location Flojed	Project Location (r	municipality)	
	KIBBY WIND-POWER	R PROJECT		TRANS-CANADA-A	MEC			KIBBY TOWNSHI	P
	SOIL	DESCRIPTION ANI	D CLASSIFICATION			SO	IL DESCRIPTION AN	ND CLASSIFICATIO	N
	Exploration Symbol: B	06-TP-25	X Test Pit	Boring		Exploration Symbol:	B06-TP-26	X Test Pit	Boring
		Depth of Organic Horizo	n Above Mineral Soil				" Depth of Organic Horizo	on Above Mineral Soil	
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
- 1		FRIABLE	10YR 4/4		- 1	FINE			
3					3	SANDY LOAM		7.5YR 5/2	
4	LOAM				4				
5	LUAM	FIRM	2.5Y 5/4					5YR 3/3	
(Inches)		IN PLACE	2.01.0/1		(Inches)			0111.010	
nc s					lnc		FRIABLE		
						VERY			
SURFACE						FINE		7.5YR 4/4	
11					H 12	SANDY			
NS 14						LOAM			
					16				
10S					7/OS		FIRM	10YR 4/4	
P _20					23				
INF	GRAVELLY			10YR 5/6					
24	SANDY	VERY		CMP	~ _	FINE			
0 _28	LOAM	FIRM	5Y 5/3		ō —	SANDY	VERY		
30					BEL	LOAM	FIRM	2.5Y 4/4	
8 1					H B				
DEPTH BELOW MINERAL					DEPTH				
					D D	LIMIT	OF	TEST PIT	
42					42				
	ļ ļ								
50	├				48				
- 52	LIMIT	OF	TEST PIT		- 32				
0	hydric	Slope %	Limiting factor	ground water	0	hydric	Slope %	Limiting factor	ground water
•	non-hydric	3-8	2"	ground water     restrictive layer     bedrock	•	non-hydric	<u>15-30</u>	14"	ground water     restrictive layer     bedrock
C.S.S.	Soil Series / phase name:	SURPLUS	LOAM	Drainage HSG SWPD C	C.S.S.	Soil Series / phase name	SADDLEBACK	GFSL	Drainage HSG WD C/D

	SOIL	DESCRIPTION AN		<u> </u>		SOI	L DESCRIPTION AN	D CLASSIFICATIO	N
	Exploration Symbol:	B06-TP-27	X Test Pit	Boring		Exploration Symbol:	B06-TP-28	X Test Pit	Boring
	3"	" Depth of Organic Horizo					" Depth of Organic Horizo		
0	Texture	Consistency	Color	Mottling	_	o Texture	Consistency	Color	Mottling
	VERY FINE SANDY LOAM		7.5YR 5/2			1		10YR 5/2	
- 3	CAND'I LOAM		7.011( 0/2			3		10111 0/2	
4			7.5YR 3/4			4			
5						5 VERY		7.5YR 2.5/3	
6 7 8		FRIABLE			(Se	6 FINE			
7	LOAM				(Inches)	7 SANDY 8 LOAM	FRIABLE		
			7.5YR 4/4		10 –			7.5YR 3/4	
9 10 12 14					SURFACE	0			1
12					L L				
14									
15		FIRM	10YR 4/3		1 1 SOIL			10YR 4/4	
17		AT	15"						
18					RAI		LOOSE	2.5Y 4/3	
20					Ξų -		10001	2101 110	
25					DEPTH BELOW MINERAL				7.5YR 4/6
					<u>8</u>				CMD @ 17"
18 20 25 30					л Ш		VERY	0.576.570	
32					H BE	1	FIRM	2.5Y 5/3	
32					Ld 3	7			
_					DE	BEDROCK	AT	37"	
40					4	6			
					_				
50					5	0			
62			+	+	5	5		1	+
62					-	1			
	hydric	Slope %	Limiting factor	ground water	۰	hydric	Slope %	Limiting factor	ground water
	non-hydric	42	12"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>	•	non-hydric	0-3		restrictive layer     bedrock
.s.	Soil Series / phase name:	SADDLEBACK	VFSL	Drainage HSG WD C/D	C.S.S.	Soil Series / phase name:	SADDLEBACK	GVFSL	Drainage HSG SWPD C/D
<b>D</b> :									
	ofessional Endorsei signature:	nents (as applicable	9)			ite:			
s.s.	name:	DALE A. BREWE	R		Li				

				SOIL PROFILE/CLAS					
	ct Name:		for s	subsurface investigatio	ns at DE	P Site Location Proje	Project Location (	municipality)	
ojet	KIBBY WIND-POWE	R PROJECT	Applicant Name.	TRANS-CANADA	-AMEC		FIDJECT LOCATION (	KIBBY TOWNSH	IP
	SOIL	DESCRIPTION AN	D CLASSIFICATIO	N		SO	IL DESCRIPTION A	ND CLASSIFICATIO	N
	Exploration Symbol:	B06-TP-29	X Test Pit	Boring		Exploration Symbol	B06-TP-30	X Test Pit	Boring
	4"	" Depth of Organic Horiz	on Above Mineral Soil		-	4"	" Depth of Organic Horiz	on Above Mineral Soil	
a	Texture	Consistency	Color	Mottling		o Texture	Consistency	Color	Mottling
1				J	11 -	VERY FINE			J
2	VERY FINE					2 SANDY LOAM		7.5YR 6/2	
3	SANDY LOAM	FRIABLE	7.5YR 5/2		]  _	3			
4					-    -	4		2.5YR 3/2	
5	FINE	OFMENTER	5VD 0/0		41 -	5		+	+
6 7 8 10 11	SANDY LOAM	CEMENTED	5YR 3/2		es)	6 LOAM	FRIABLE	7.5YR 3/3	
-	LUAM				(Inches)	-	FRIADLE	7.51K 3/3	
	LOAMY			7.5YR 4/6		8			
10	-		10YR 4/4	MMD	SURFACE	VERY FINE			
11	••••				12-	12 SANDY		10YR 3/4	
14	1	FIRM			10	13 LOAM			
16		IN							
16		PLACE		7.5YR 4/6	SOIL		FIRM		
19			10YR 4/3	CFD	4 F	20 LOAM	IN PLACE	2.5Y 5/3	CMD 7.5YR 4/6
20					<u> </u>				AT 19"
21		OF	TEOT DIT		MINERAL	LOAMY	LOOSE	0.5% 5/0	
	LIMIT	UF	TEST PIT		N N		LOUSE	2.5Y 5/3	
28					- 0 -	BEDROCK	AT	28"	
30					BEL	BEDROCK	~	20	
					<i>рертн</i>	36			
40					ā				
42					]  ]	42			
_					<u>   </u>				
50						48			
52			+		-    -	52		+	+
			+		41 -			+	
	hydric	Slope %	Limiting factor	around water	-	hydric	Slope %	Limiting factor	ground water
	non-hydric		÷	restrictive layer		non-hydric		-	restrictive layer
	,			<ul> <li>bedrock</li> </ul>	11-			13"	bedrock
.s.	Soil Series / phase name:		•	Drainage HSG	C.S.S.	Soil Series / phase name		•	Drainage HSG
<i>.</i> .,		SURPLUS	SL	SWPD C	0.0.0.	7	SADDLEBACK	CVFSL	MD C/D

	SOIL	DESCRIPTION ANI	CLASSIFICATION			SOI	L DESCRIPTION A		DN
	Exploration Symbol: I	306-TP-31	X Test Pit	Boring		Exploration Symbol:	B06-TP-32	X Test Pit	Boring
	4"	Depth of Organic Horizo	n Above Mineral Soil			5"	" Depth of Organic Horizo	on Above Mineral Soil	
a	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
1						VERY FINE			
2			7.5YR 6/2		-	SANDY LOAM		10YR 5/2	
3						8		7.5YR 3/2	
4			2.5YR 2.5/2			l .			
5	VERY								
6 7 8	FINE SANDY	EDIADI E	EV/D 0/0		(Se		FRIABLE	5YR 3/3	
- 7		FRIABLE	5YR 3/3		(Inches)	LOAM	FRIABLE		
8	LUAIVI					LUAIVI			
<u> </u>					Щ <u>–</u>			10YR 3/4	
			10YR 4/6		SURFACE			101K 3/4	-
12			1011 4/0						
15		FIRM			≊ ¤		FIRM	2.5Y 4/4	
		IN							
20	LOAM	PLACE	10YR 4/3			)			
					JU Z	8			
22					IW	SANDY	VERY		10YR 5/4
	BEDROCK	AT	22"		Ň	LOAM	FIRM	2.5Y 5/3	FFD @ 22"
30					30				
i					18 <sup>3</sup>				
32					DEPTH	VERY	VERY		
32					Щ _3		FIRM		
_						SANDY LOAM	IN PLACE	2.5Y 4/3	
40					43		-	TEOT DIT	
						LIMIT	OF	TEST PIT	
50					50				
					55	, 			+
62					-				-
-	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water
	non-hydric		-	<ul> <li>restrictive layer</li> </ul>		non-hydric	-	-	<ul> <li>restrictive layer</li> </ul>
		8-15	14"	bedrock			3-8	13"	bedrock
S.S.	Soil Series / phase name:			Drainage HSG	C.S.S.	Soil Series / phase name:			Drainage HSG
0.0.		SADDLEBACK	CVFSL	WD C/D	0.0.0.		SURPLUS	VFSL	MWD C
<b>D</b>	-f								
Pr	ofessional Endorsen signature:	ients (as applicable			Da				

	onooononian Entaoroon	(de applicable)			
000	signature:		Date	e:	
C.S.S.	name:	DALE A. BREWER	Lic		304

		ROFILE/CLASSIFICAT				
		ace investigations at DE	P Site Location Project			
ect Name: KIBBY WIND-POWER PROJECT	Applicant Name:	ANS-CANADA-AMEC		Project Location (n	KIBBY TOWNSHI	0
KIBBT WIND-POWER PROJECT	IR	ANS-CANADA-AMEC				F
SOIL DESCRIPTION AND	CLASSIFICATION		SO	IL DESCRIPTION AN	ID CLASSIFICATION	N
Exploration Symbol: B06-TP-33	X Test Pit	Boring	Exploration Symbol:	B06-TP-34	X Test Pit	Boring
5" Depth of Organic Horizon	Above Mineral Soil		1"	" Depth of Organic Horizo	n Above Mineral Soil	
o Texture Consistency	Color	Mottling	o Texture	Consistency	Color	Mottling
1			FINE SANDY LOAN		10YR 4/2	
2			2		7.5YR 2.5/2	
3	10YR 5/2		3			
4			4			
5			5			
6 LOAMY 7 VERY VERY	5YR 3/2	(se	6 7 LOAM			
8 FINE FRIABLE		(Inches)		FRIABLE	7.5YR 3/4	
8 FINE FRIABLE			8	FRIABLE	7.51R 3/4	
	7.5YR 3/4		9			
10 12	7.511 3/4	SFA(				
14		SURFACE				
16			6 FINE			
18	10YR 4/4	10YR 4/6 100 100 100 100 100 100 100 100 100 10		FIRM	10YR 4/3	
19			19			
20 LOAMY		RA	20			
21 FINE LOOSE	2.5Y 5/3					
25 SAND		W				
28 BEDROCK AT	25"	Ň	28			
30		1 1 1		VERY		
32			LOAM	FIRM	2.5Y 4/3	
		DEPTH				
		ц Ц	36			
40		۵ _				
42			12			
50			19		TEAT DE	
52			12 LIMIT	OF	TEST PIT	
hydric Slope %	Limiting factor	ground water	hydric	Slope %	Limiting factor	ground water
non-hydric		restrictive layer bedrock	non-hydric	8-15	15"	<ul> <li>restrictive layer</li> <li>bedrock</li> </ul>
Soil Series / phase name:	Drain		Soil Series / phase name	1	1	Drainage HSG

	SOI	L DESCRIPTION ANI	CLASSIFICATIO	N	SOIL DESCRIPTION AND CLASSIFICATION					
	Exploration Symbol	: B06-TP-35A	X Test Pit	Boring		Exploration Symbol:	B06-TP-35B	X Test Pit	Boring	
	7	" Depth of Organic Horizo	n Above Mineral Soil				Depth of Organic Horizo	lorizon Above Mineral Soil		
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling	
1	SANDY				1	FSL		10YR 5/1		
2	LOAM		10YR 4/2		2					
3					3	LOAM		7.5YR 2.5/3		
4					4	LUAM		7.51R 2.5/5		
		FRIABLE				LOAMY	FRIABLE			
(Inches)	LOAM		5YR 2.5/2		7 Pes	FINE		2.5Y 4/3		
(Inc					(Inc	SAND				
Щ_9					н -	FINE				
10 II					10 HA(	SANDY LOAM		7.5YR 3/3	1	
		AT	11"	-	SURFACE (Inches)	LUAIN			4	
						SANDY	FIRM	2.5Y 5/3	1	
7/OS						LOAM				
					19					
BELOW MINERAL					DEPTH BELOW MINERAL					
NI										
22					~ -					
107					107					
BE										
H 32					F			1		
HT H J J					<u>а</u> 37					
Δ					Δ					
40		-			43				-	
		-							-	
50					50 55					
62										
	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water	
	non-hydric		÷	restrictive layer		non-hydric		Ŭ.	restrictive layer	
				bedrock					bedrock	
C.S.S.	Soil Series / phase name	SADDLEBACK	FSL	Drainage HSG WD C/D	C.S.S.	Soil Series / phase name:	SADDLEBACK	FSL	Drainage HSG WD C/D	
Pre	ofessional Endorse	ements (as applicable	)							
c.s.s.	signature:			•	Dat					
5.5.5.	name:	DALE A. BREWE	R		Lic	304				

FC	FORM F SOIL PROFILE/CLASSIFICATION INFORMATION									
Projec	t Name:		for se		Ons at DEP Site Location Projects     Project Location (municipality)					
	KIBBY WIND-POWE			TRANS-CANADA-	A-AMEC KIBBY TOWNSHIP SOIL DESCRIPTION AND CLASSIFICATION					
	SOIL Exploration Symbol:		X Test Pit	Boring		SO Exploration Symbol:		X Test Pit	Boring	
		" Depth of Organic Horizo					" Depth of Organic Horizo			
1	Texture	Consistency	Color	Mottling		o Texture	Consistency	Color	Mottling	
2			10YR 2/2			3		7.5YR 6/2		
4					_	5 VERY		2.5YR 2.5/2		
(Inches)					(Inches)	6 FINE 7 SANDY				
∈ (Inc		VERY FRIABLE			E (Inc	8 LOAM	FRIABLE	5YR 3/3		
SURFACE			10YR 2/1		SURFACE	2		7.5YR 3/4		
						5				
<sup>16</sup> <sup>18</sup> <sup>19</sup> 7/OS 7					OS 1	7		10YR 3/4		
	SILT LOAM	FIRM	10YR 4/1	CFD 2.5Y 6/2	BELOW MINERAL		FIRM	10YR 4/4		
VIW A	SANDY LOAM		2.5Y 3/1	CMF 2.5Y 5/1						
28 MO T <u>J</u>	BEDROCK	AT	25"				AT	23"		
DEPTH BEL					TH B					
DEP					DEPTH	6				
42					4	2				
50					4					
•	hydric non-hydric	Slope %	Limiting factor	ground water	•	hydric non-hydric	Slope %	Limiting factor	<ul> <li>ground water</li> <li>restrictive layer</li> </ul>	
	Soil Series / phase name:		19"	bedrock Drainage HSG	_	Soil Series / phase name:	<u>8-15</u>		□ bedrock Drainage HSG	
C.S.S.		BURNHAM	MUCK	VPD D	C.S.S.		SADDLEBACK	FSL	MWD_C/D	
	SOIL Exploration Symbol:		X Test Pit	Boring		SO Exploration Symbol:		D CLASSIFICATION	Boring	
		" Depth of Organic Horizo	on Above Mineral Soil			4"	" Depth of Organic Horizo	n Above Mineral Soil		
0	Texture VFSL	Consistency	Color 7.5YR 4/2	Mottling		o Texture	Consistency	Color	Mottling	
2			7.5YR 2.5/3		_	3	FRIABLE	7.5YR 2.5/3		
4					_	5				
(Inches)					(Inches)	6 7 LOAM				
	LOAM	FRIABLE	7.5YR 3/4			8	FIRM			
RFACE ∷  ₀  ₀					SURFACE			7.4YR 3/4		
IL SURFA						2				
			10YR 3/4		<u></u>	7		10YR 4/3		
DEPTH BELOW MINERAL SC	BEDROCK	AT	20"		DEPTH BELOW MINERAL So  _  _  _  _  _  _  _  _  _  _  _	0			FMD 10YR 4/1	
VIW N	BEDROCK		20		VIW N	SILT	VERY		AT 15"	
101 8EL OI					~  10738	0 LOAM	FIRM	5Y 4/2		
HLC					∃ β β					
40					4	7				
50					5					
62					_					
•	hydric non-hydric	Slope %	Limiting factor 20"	ground water restrictive layer	•	hydric non-hydric	Slope %	Limiting factor 4"	ground water restrictive layer	
c.s.s.	Soil Series / phase name:			bedrock Drainage HSG	C.S.S.	Soil Series / phase name			Drainage HSG	
		SADDLEBACK	VFSL	WD C/D	5.0.0.		SURPLUS	SL	SPD C	
Pr C.S.S.	ofessional Endorser signature:					ate:				
	name:	DALE A. BREWE	R		Li	ic <b>304</b>	-			

FO	RM F			SOIL PROFILE/CLASS					
Projec	t Name:		for s	subsurface investigation	ns at DEP	Site Location Proje	cts Project Location (	(municipality)	
_	KIBBY WIND-POW	ER PROJECT		TRANS-CANADA	-AMEC			KIBBY TOWNSHI	P
		L DESCRIPTION AN	_						
	Exploration Symbol		X Test Pit	Boring		Exploration Symbol	" Depth of Organic Horiz	X Test Pit	Boring
0	3" Texture	" Depth of Organic Horizo Consistency	Color	Mottling	0	5 Texture	Consistency	Color	Mottling
1			2.5YR 2.5/2			VERY FINE SANDY	VERY	10YR 4/1	
3	VERY		2.518 2.5/2		3	LOAM	FRIABLE	101K 4/1	
4	FINE SANDY				4				
s)	LOAM		5YR 3/2		(S)				
nche		FRIABLE			SURFACE (Inches)		FRIABLE	7.5YR 2.5/3	
SURFACE (Inches)					) = (I				
10 12			7.5YR 3/4		10 10	LOAM			
					Ins 15				
16 18					7/OS			7.5YR 3/4	
2AL S	CANDY	FIDM	40//0.4/0				FIDM		
DEPTH BELOW MINERAL	SANDY LOAM	FIRM	10YR 4/3		NER.		FIRM		
25 W N				7.5YR 4/7 MMD @ 18"	IW 23	VERY FINE			
28 30					NO 7= 30	SANDY		2.5Y 4/3	
32 H BH		VERY FIRM	2.5Y 4/3		18 HJ	LOAM			
EPT			2.01 4/0		DEPTH BELOW MINERAL 98 [5] [5] [2] [2] [3] [3]				
40 44					42				
	LIMIT	OF	TEST PIT		44				
50					49				
0	hydric	Slope %	Limiting factor	ground water		hydric	Slope %	Limiting factor	ground water
•	non-hydric	8-15	16"	<ul> <li>restrictive layer</li> </ul>	•	non-hydric	9	11"	restrictive layer
c.s.s.	Soil Series / phase name			Drainage HSG	C.S.S.	Soil Series / phase name	e		Drainage HSG
0.0.0.		SURPLUS	VFSL	MWD C	0.0.0.		SADDLEBACK	VFSL	WD C/D
		L DESCRIPTION AN							
	Exploration Symbol	Exploration Symbol: B06-TP-42 X Test Pit Boring				Exploration Symbol	B06-TP-43	X Test Pit	Boring
	-				-			_ —	<u> </u>
0	5 Texture	" Depth of Organic Horizo Consistency		Mottling	-	5 Texture	" Depth of Organic Horiz Consistency	_ —	Mottling
0	Texture COBBLY		on Above Mineral Soil		0 1	5	" Depth of Organic Horiz	on Above Mineral Soil	Mottling
0 1 2 3	Texture		on Above Mineral Soil			5	" Depth of Organic Horiz	on Above Mineral Soil	Mottling
0 1 2 3 4	Texture COBBLY VERY FINE SANDY	Consistency	on Above Mineral Soil Color			5 Texture VERY FINE	<sup>a</sup> Depth of Organic Horiz Consistency	on Above Mineral Soil	Mottling
s)   1   2   3   4   5   6	Texture COBBLY VERY FINE	Consistency	on Above Mineral Soil Color		0 1 2 3 4 5 6	5 Texture VERY	" Depth of Organic Horiz	con Above Mineral Soil Color	Mottling
nches) • 🗤 🕫 🖡 👘 🐂 🐌	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2		0 1 2 3 4 5 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 Texture VERY FINE SANDY	<sup>a</sup> Depth of Organic Horiz Consistency	con Above Mineral Soil Color	Mottling
2E (Inches)  =  =  =  =  =  =  =  =  =  =  =  =  =	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2		)E (Inches)  ⊆  ∞  ∞  ∞  ∞  ∞  −  ∞	5 Texture VERY FINE SANDY	<sup>a</sup> Depth of Organic Horiz Consistency	con Above Mineral Soil Color	Mottling
RFACE (Inches) ヰ	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2		ኛ FACE (Inches) ב   כ   מ   ∞   ∞   ∞   ∞   ∞   −   ∞	5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling
	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2		SURFACE (Inches)  c  1=  c   c   c   c   c   c   c   c   c   c	5 Texture VERY FINE SANDY	<sup>a</sup> Depth of Organic Horiz Consistency	Color Color 10YR 5/1	Mottling
	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2			5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling
	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2			5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling
	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2			5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling Mottling
	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2			5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling Mottling
	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2			5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling Mottling
	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2			5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling
	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2			5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	
DEPTH BELOW MINERAL SOIL           [8]         [8]         [1]         [2]         [3]         [4]         [5]	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2		DEPTH BELOW MINERAL SOIL SURFACE	5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling
DEPTH BELOW MINERAL SOIL           [a]         [b]         [b]         [c]	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2		DEPTH BELOW MINERAL SOIL SURFACE           1         12         12         15         12         15	5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	
DEPTH BELOW MINERAL SOIL            s           s           s           z	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2		DEPTH BELOW MINERAL SOIL SURFACE           8         4         12         5         6	5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling
DEPTH BELOW MINERAL SOIL           [a]         [b]         [b]         [c]	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2		DEPTH BELOW MINERAL SOIL SURFACE           1         12         12         15         12         15	5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	Mottling
DEPTH BELOW MINERAL SOIL SURF           [8]         [8]         [8]         [2]<	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT	0 Above Mineral Soll Color 7.5YR 5/2 5" 5"	Mottling	DEPTH BELOW MINERAL SOIL SURFACE        g         g         g		* Depth of Organic Horiz Consistency FRIABLE AT AT	Color     Color     Color     Color     Toyr 5/1	
DEPTH BELOW MINERAL SOIL           [3]         [b]         [b]         [b]         [c]	Texture COBBLY VERY FINE SANDY LOAM	FRIABLE	Color 7.5YR 5/2	Mottling	DEPTH BELOW MINERAL SOIL SURFACE           8         4         12         5         6	5 Texture VERY FINE SANDY LOAM	* Depth of Organic Horiz Consistency FRIABLE	Color Color 10YR 5/1 7.5YR 4/4	ground water     ground water
	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT Slope % 15		Mottling		S Texture VERY FINE SANDY LOAM BEDROCK	* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12	Color	gourd water     gesticitle layer     bedick     Drainage HSG
	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT Slope %15_	Color	Mottling	□         DEPTH BELOW MINERAL SOIL SURFACE           □         B[8]         [4]         [6]         [6]		* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12	Color	ground water     restictive layer
BELOW MINERAL SOIL           8         8         8         8         13         13	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT Slope % 15	Color Color 7.5YR 5/2 5" 5" Color Color Color Color Color Color CP	Mottling	DEPTH BELOW MINERAL SOIL SURFACE     DEPTH BELOW MINERAL SOIL SURFACE     S.     .	S Texture VERY FINE SANDY LOAM BEDROCK BEDROCK	* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12	Color	gourd water     gesticitle layer     bedick     Drainage HSG
DEPTH BELOW MINERAL SOIL           13         13         14	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT Slope % 15 KICKER	Color Color 7.5YR 5/2 5" 5" 	Mottling		S Texture VERY FINE SANDY LOAM BEDROCK BEDROCK	* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12	Color	gourd water     gesticitle layer     bedick     Drainage HSG
DEPTH BELOW MINERAL SOIL           13         13         14	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT Slope % 15 KICKER Ments (as applicable	Color Color 7.5YR 5/2 5" 5" 	Mottling	Image: Signal and Sig	S Texture VERY FINE SANDY LOAM BEDROCK BEDROCK	* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12	Color	gourd water     gesticitle layer     bedick     Drainage HSG
Image: Second state         DEPTH BELOW MINERAL SOIL           13         13         14         12 <td>Texture COBBLY VERY FINE SANDY LOAM BEDROCK</td> <td>Consistency FRIABLE AT AT Slope % 15 KICKER Ments (as applicable</td> <td>Color Color 7.5YR 5/2 5" 5" </td> <td>Mottling</td> <td>Image: Signal and Sig</td> <td>S Texture VERY FINE SANDY LOAM BEDROCK BEDROCK</td> <td>* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12</td> <td>Color Color Color</td> <td>gourd water     gesticitle layer     bedick     Drainage HSG</td>	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT Slope % 15 KICKER Ments (as applicable	Color Color 7.5YR 5/2 5" 5" 	Mottling	Image: Signal and Sig	S Texture VERY FINE SANDY LOAM BEDROCK BEDROCK	* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12	Color	gourd water     gesticitle layer     bedick     Drainage HSG
	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT Slope % 15 KICKER Ments (as applicable	Color Color 7.5YR 5/2 5" 5" 	Mottling	Image: Signal and Sig	S Texture VERY FINE SANDY LOAM BEDROCK BEDROCK	* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12	Color	gourd water     gesticitle layer     bedick     Drainage HSG
	Texture COBBLY VERY FINE SANDY LOAM BEDROCK	Consistency FRIABLE AT AT Slope % 15 KICKER Ments (as applicable	Color Color 7.5YR 5/2 5" 5" 	Mottling	Image: Signal and Sig	S Texture VERY FINE SANDY LOAM BEDROCK BEDROCK	* Depth of Organic Horiz Consistency FRIABLE AT AT Slope % 12	Color	gourd water     gesticitle layer     bedick     Drainage HSG

FC	RM F			SOIL PROFILE/CLASS					
			for s	subsurface investigation					
Projec	t Name: KIBBY WIND-POWE	ER PROJECT	Applicant Name:	TRANS-CANADA	AMEC		Project Location (n	nunicipality) KIBBY TOWNSHII	P
	SOIL Exploration Symbol:		D CLASSIFICATION			SU Exploration Symbol:	L DESCRIPTION AN		
	8"	" Depth of Organic Horizo		Boring		4	" Depth of Organic Horizo		Boring
0	Texture	Consistency	Color	Mottling	H .	Texture	Consistency	Color	Mottling
1						SANDY LOAM		7.5YR 5/2	
2						2			
4			7.5YR 3/4			4		5YR 3/3	
5						5			
es)					es)	VERY FINE	FRIABLE	7.5Y 4/4	
" hch					Inch	SANDY	FRIADLE	7.51 4/4	
SURFACE (Inches)					SURFACE (Inches	LOAM			
10 - 10	LOAM	FRIABLE			EAC				
	LOAM	FRIABLE						10YR 4/4	
16					1				
0S 18					=   = 7 SC				
DEPTH BELOW MINERAL 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2									10YR 5/6
Z3			5YR 2.5/2		2 INE		FIRM	2.5Y 5/3	CCP @ 18"
W 25 M 28					W M0 2				
10 12 30					107 <u>=</u>		AT	26"	
32					I BE				
					DEPTH	2			
JD 38	SANDY LOAM	FIRM	10YR 3/3		DE	2			
44	BEDROCK	AT	38"		4				
50					4				
50					5				
_									
	hu adala	Class 0/	Limiting factor	ground water		laudein.	Slope %	Limiting factor	-
•	hydric non-hydric	Slope %	-	ground water     restrictive layer	•	hydric non-hydric	-	-	ground water restrictive layer
L				bedrock					bedrock
C.S.S.	Soil Series / phase name:	SADDLEBACK	MD	Drainage HSG WD C/D	C.S.S.	Soil Series / phase name:	SADDLEBACK	SL	Drainage HSG MWD C/D
					, <u> </u>	-		_	
							L DESCRIPTION AN	_	
	Exploration Symbol:		X Test Pit	Boring		Exploration Symbol:		X Test Pit	Boring
	3 Texture	" Depth of Organic Horizo Consistency	Color	Mottling		2 Texture	" Depth of Organic Horizo Consistency	n Above Mineral Soil Color	Mottling
1	VERY FINE	Consistency	00101	Motanig	-	VERY FINE	Consistency	00101	Wotting
2	SANDY		10YR 5/2			SANDY		7.5YR 4/1	
3	LOAM LOAMY		7.5YR 4/2		- 1			1	
-4	SAND	FRIABLE	7.511( 4/2			5			
(Se 6					(Sé	3	FRIABLE	7.5YR 2.5/3	
SURFACE (Inches)	FINE		5YR 3/2		SURFACE (Inches)				
<u>е</u>	SANDY		0111 0/2		1	9			
10 10	LOAM				= AC				
								7.5YR 3/4	
S 16				7.5YR 5/8			FIRM		
DEPTH BELOW MINERAL SOIL           12	SANDY	VERY	10YR 4/3	5YR 3/4	DEPTH BELOW MINERAL SOIL				
18 20	LOAM	FIRM		MMP @ 13"	RAL 1 2				7.5YR 3/4
INE I	LIMIT	OF	TEST PIT					10YR 4/3	CMD @18
W 22					N N	LOAM	VEDV		
					- 10N		VERY FIRM		
BE					BE		T II CM		
H_ 32					H -	BEDROCK	AT	31"	
					DEF	7			
40					4	7			
50					5				
62									
•	hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer		hydric non-hydric	Slope %	Limiting factor	ground water restrictive layer
-	non nyano	16		bedrock		non nyano			<ul> <li>bedrock</li> </ul>
C.S.S.	Soil Series / phase name:		VECI	Drainage HSG	C.S.S.	Soil Series / phase name:		501	Drainage HSG
/		SURPLUS	VFSL	SWPD C			SADDLEBACK	FSL	MWD C/D
Pr	ofessional Endorser	ments (as applicable	e)		-				
c.s.s.	signature: name:	DALE A. BREWE	R		Da		1		
L	name.				10	1 304	1		

FO	RM F			SOIL PROFILE/CLASS					
Projec	t Name: KIBBY WIND-POWI		Applicant Name:	TRANS-CANADA-		Che Location Fill	Project Location (r	nunicipality) KIBBY TOWNSHI	D
					AWEC				
	SOIL Exploration Symbol:		ID CLASSIFICATION	Boring		S Exploration Symbo	OIL DESCRIPTION AN	X Test Pit	N Boring
	2"	" Depth of Organic Horiz		Bolling		4"	" Depth of Organic Horizo		Bonng
0	Texture	Consistency	Color	Mottling	0	Texture	Consistency	Color	Mottling
1	MUCK SILT	FRIABLE	7.5YR 2.5/1 10YR 6/1		- 1	VERY			
3	LOAM	FIRM			3	FINE		10YR 4/1	10YR 4/4
4	VERY FINE SANDY LOAM		7.5YR 3/2		4	SANDY LOAM			10YR 6/1 C,F,F
es)	BEDROCK	AT	5"		(Se	MUOK	FRIABLE		
(Inches)					luch	MUCK		10YR 2/1	
CE (					SURFACE (Inches)	SANDY			10YR 4/4
SURFACE					10 10 II	LOAM		2.5Y 5/2	M,F,P
14 15 71					7S 7				
OS 18					OS 17				
19 20					18 20		VERY	10YR 4/1	10YR 3/3
23 25					22 23		FIRM		M,MD
20 1 MC					M 24				
30 32 32					BELO				
34 HL			<b>_</b>		DEPTH BELOW MINERAL 35 36 37 37 37 37 37 38 38 38 38 38 38 38 38 38 38 38 38 38				<b>_</b>
DEP 36 38					3 BEF				
44			+	+	42				+
50					49				
52				+	52			+	+
	budrin	Olana of	Limitics fasts			المراجع	Olana oʻ	Limiting factor	<b>I</b>
•	hydric non-hydric	Slope % 3-8	Limiting factor 5"	ground water restrictive layer	•	hydric non-hydric	Slope % 0-3	Limiting factor 0"	ground water restrictive layer
	Soil Series / phase name:			bedrock Drainage HSG		Soil Series / phase nam			Drainage HSG
C.S.S.		ABRAM	SiL	ED D	C.S.S.		BURNHAM		VPD D
	Exploration Symbol:		ID CLASSIFICATION	Boring		Exploration Symbol	OIL DESCRIPTION AN	Test Pit	Boring
		" Depth of Organic Horiz		Mottling		Touture	" Depth of Organic Horizo		Mottling
0	Texture	Consistency	Color	Mottling MCP 7.5Y 4/4	1	Texture	Consistency	Color	Mottling
2			5Y 5/2	MMD 5Y 6/1	2				
4					4				
5 6	GRAVELLY SANDY	FIRM			5 (S				
(Inches) 	LOAM		5BG 4/1	2.5Y 5/4	(Inches)				
			300 4/1	MCP	1) 2) 2)				
SURFACE									
	CTONIX	VEDV	NO						
16 17	SANDY	FIRM	N3		7/OS				
18 20	LOAM				19 20				
I I							_		
22 W MC					MA -				
DEPTH BELOW MINERAL SOIL                               =   =   =					DEPTH BELOW MINERAL SOIL				
32   HLC					HLC 1			<u> </u>	
DEF					4 <u>3</u> 7				
40					47				
50					50				
62				+	55		-		
	bydrie	Clope %	Limiting foots-			hudrio	Close %	Limiting factor	<b>— — — — — — — — — —</b>
•	hydric non-hydric	Slope %	Limiting factor	ground water     restrictive layer     bedrock	0	hydric non-hydric	Slope %	Limiting factor	ground water     restrictive layer     bedrock
c.s.s.	Soil Series / phase name:	BURNHAM	миск	Drainage HSG VPD D	C.S.S.	Soil Series / phase nam	ne:	•	Drainage HSG
Pro	ofessional Endorse								
c.s.s.	signature: name:	DALE A. BREW	R		Dat				

#### **APPENDIX F**

### CLASS C MEDIUM HIGH-INTENSITY SOIL MAP

# **APPENDIX G**

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