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

Prepared for:

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KIBBY WINDPOWER PROJECT

CLASS C MEDIUM HIGH-INTENSITY SOIL SURVEY
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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 ± 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 ± 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, 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 ± 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 ± 2,400 feet near Gold Brook Road and ± 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 ± 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[1] soils without permafrost are considered to have a cryic moisture regime. Generally, soils below the ± 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."

[11] 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.

1. *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.

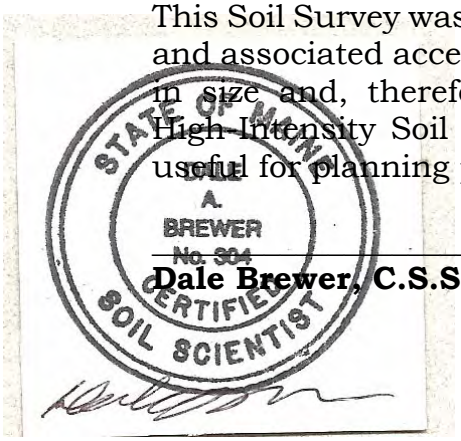
The Maine Association of Professional Soil Scientists has adopted standards for soil surveys. Soil surveys are divided into four classes of survey, which are dependent upon the amount of information required for the project. The following is a summary of requirements for a Class C Medium High-Intensity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

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.



Dale Brewer, C.S.S. #304

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 mat
Subsurface Layer: Pinkish gray sandy loam, 1 inch thick
Subsoil Layer: Very dusky red and brown sandy loam, 3 inches thick
Substratum: 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 grayish 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
Depth to Bedrock: Very deep, greater than 60 inches
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 till
Landform: Uplands
Position in Landscape: Moderate to high
Slope Gradient Ranges: 3 to 75 percent

COMPOSTION AND SOIL CHARACTERISTICS

Drainage Class: Well drained
Typical Profile Description:

Surface Layer: Dark brown fine sandy loam, 0 to 6 inches thick over 2 inches of light gray fine sandy loam

Subsoil Layer: The subsoil from 8 to 22 inches is mostly dark reddish brown, yellowish-red, and yellowish brown fine sandy loam

Substratum: The substratum from 22 to 60 inches is light olive brown fine sandy loam

Hydrologic Group: Group B
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 till
Landform: Level or sloping lake plains
Position in Landscape: Lower to intermediate positions
Slope 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
Depth to Bedrock: 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 till
Landform: Level flat areas
Position in Landscape: Lower to intermediate positions
Slope 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 inches
Subsurface Layer: Mottled gray loam 12 inches thick
Subsoil layer: Mottled gray gravelly loam, 12 to 20 inches
Substratum: 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[2] 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.

[2] 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 till
Landform: Lower toe slopes, gently sloping crests of broad till ridges
Position in Landscape: Lower to intermediate positions
Slope 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
Contrasting: 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 till
Landform: Glaciated uplands
Position in Landscape: Ridge tops and side slopes
Slope 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

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 till
Landform: Glaciated uplands
Position in Landscape: Ridge tops and side slopes
Slope 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 till
Landform: Drumlins and glaciated uplands
Position in Landscape: Upper
Slope 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

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	C
CTB	Chesuncook-Telos Complex	Silt Loams-Stony	8 to 15% slopes	C
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	C
SRC	Saddleback-Surplus Complex	Fine sandy loam	15 to 30% slopes	C
SSB	Saddleback-Surplus Complex	Fine sandy loam Stony	8 to 15% slopes	C
SSC	Saddleback-Surplus Complex	Fine sandy loam Stony	15 to 30% slopes	C
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	C
SKB	Saddleback-Sisk Complex	Fine sandy loam-silt loams-Bouldery	8 to 15% slopes	C
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**	Less than10 inches to bedrock
2.	**Shallow**	10 inches to 20 inches to bedrock
3.	**Moderately Deep**	20 inches to 40 inches to bedrock
4.	**Deep**	40 inches to 60 inches to bedrock
5.	**Very Deep**	Greater than 60 inches to bedrock

Stoniness Class

1.	**Non-stony**	Less than 0.01 percent surface coverage
2.	**Stony or bouldery**	0.01 to 0.1 percent surface coverage
3.	**Very stony**	0.1 to 3.0 percent surface coverage
4.	**Very bouldery**	0.1 to 3.0 percent surface coverage
5.	**Extremely stony**	3.0 to 15 percent surface coverage
6.	**Extremely bouldery**	3.0 to 15 percent surface coverage
7.	**Rubble**	15 to 75 percent surface coverage
8.	**Rubble Land**	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 Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-1** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			7.5YR 6/1	
3				
4			7.5YR 3/2	
5	FINE			
6	SANDY	FRIABLE		
7	LOAM		7.5YR 3/4	
8				
9				
10				
12			10YR 4/6	
14				
15				
18	GRAVELLY			
20	FINE		2.5YR 5/4	
22	SANDY	FIRM		2.5Y 6/2
24	LOAM			
	LIMIT	OF	TEST PIT	24"
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	ground water
[ ] non-hydric	8-15	20"	[■] restrictive layer
			[ ] bedrock

C.S.S. Soil Series / phase name: **COLONEL** **FSL** **SWPD** Drainage: **MWD** HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-2** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	FINE			
3	SANDY		5Y 5/2	5Y 6/1
4	LOAM			
5				
6				
7	GRAVELLY			
8	FINE	FRIABLE		
9	SANDY		5Y 4/3	5Y 6/1
10	LOAM			
12				
14				
17				
18	SANDY			
20	LOAM/		2.5Y 3/2	10YR 3/6
22	FINE			
24	SANDY LOAM			
		REFUSAL	AT	24"
30				
42				
48				
52				

[■] hydric	Slope %	Limiting factor	[■] ground water
[ ] non-hydric	3-8	5"	[ ] restrictive layer
			[ ] bedrock

C.S.S. Soil Series / phase name: **BRAYTON** **FSL** Drainage: **PD** HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-3** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			7.5YR 6/2	
2				
3				
4	FINE			
5	SANDY		7.5YR 4/4	
6	LOAM			
7				
8				
9		FRIABLE		
10			10YR 4/6	
12				
13				
16				
18				
20				
			2.5Y 5/4	
30				
	GRAVELLY	FIRM	5Y 5./4	10YR 5/6
	FINE			
	SANDY			
	LOAM			
40				
60				
	LIMIT	OF	TEST PIT	60"

[ ] hydric	Slope %	Limiting factor	[ ] ground water
[■] non-hydric	15-30	30"	[■] restrictive layer
			[ ] bedrock

C.S.S. Soil Series / phase name: **MARLOW** **FSL** Drainage: **WD** HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-4** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			10YR 5/2	
3				
4				
5				
6			7.5YR 4/6	
7				
8				
9	SILT	FRIABLE		
10	LOAM			
12				
14			7.5YR 3/4	
16				
17				
19				
20			10YR 3/4	
22				
23				
24			2.5Y 4/3	10YR 5/1
26				
		REFUSAL	AT	26"
40				
50				
55				

[ ] hydric	Slope %	Limiting factor	[ ] ground water
[■] non-hydric	8-15	26"	[■] restrictive layer
			[ ] bedrock

C.S.S. Soil Series / phase name: **CHESUNCOOK** **SiL** Drainage: **MWD** HSG: **C**

Professional Endorsements *(as applicable)*

C.S.S. signature: Date:

name: **DALE A. BREWER** Lic: **304**

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-5** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE			
2	SANDY		7.5YR 5/2	
3	LOAM			
4				
5			5YR 3/4	
6				
7	SILT	FRIABLE		
8	LOAM			
9			7.5YR 4/6	
10				
11				
14	GRAVELLY		10YR 4/6	
15	LOAM			
16	GRAVELLY			
17	FINE		2.5Y 5/6	
18	SANDY			
19	LOAM			
20	LIMIT	OF	TEST PIT	19"
22				
24				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	30		[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SISK** **SiL** Drainage **WD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-6** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE			
2	SANDY		5YR 5/1	
3	LOAM			
4				
5			2.5YR 3/3	
6				
7	LOAM	FRIABLE		
8			7.5YR 4/6	
9				
10			10YR 4/6	
12				
14	GRAVELLY			
17	FINE		2.5Y 5/4	
18	SANDY			
19	LOAM			
22	ASSUMED	BEDROCK	AT	19"
24				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	0-3	19"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **SWED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-7** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			7.5YR 6/1	
2				
3	CHANNERY		7.5YR 3/4	
4	FINE			
5	SANDY			
6	LOAM	VERY		
7		FRIABLE	10YR 3/6	
8				
9				
10				
12				
13	LOAM		10YR 4/6	
16				
17				
18	GRAVELLY		2.5Y 5/4	
20	FSL			
	ASSUMED	BEDROCK	AT	20"
30				
40				
50				
60				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	3-8	20"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **SWED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-8** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE		7.5YR 4/2	
2	SANDY LOAM			
3				
4			2.5YR 3/1	
5				
6				
7		FRIABLE		
8			2.5YR 2.5/3	
9				
10				
12				
14	SILT			
16	LOAM			
17				
19				
20			5YR 3/2	
22				
23				
24				
26				
28				
30				
	LIMIT	OF	TEST PIT	30"
40				
50				
55				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	15-30		[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SISK** **SiL** Drainage **WD** HSG **C**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-9** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE			
2	SANDY		7.5YR 5/1	
3	LOAM			
4				
5				
6	FINE		7.5YR 3/4	
7	SANDY			
8	LOAM/	FRIABLE		
9	LOAM			
10				
11			10YR 4/6	
14				
15	GRAVELLY			
18	FINE			
19	SANDY		2.5Y 5/4	
22	LOAM			
23				
	APPARENT	BOULDER	AT	23"
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-8	23"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **DIXFIELD** **FSL** Drainage: **MWD** HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-10** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE			
2	SANDY		7.5YR 5/1	
3	LOAM			
4				
5				
6			5YR 2.5/2	
7	SILT LOAM/			
8	LOAM	FRIABLE		
9				
10			5YR 3/4	
12				
14				
17				
18	LOAM		10YR 3/6	
19				
21				
24	GRAVELLY		2.5Y 5/4	
26	FSL			
		REFUSAL	AT	26"
30				
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	8-15	26"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage: **SEWD** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-11** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			10YR 4/3	
3				
4				
5				
6				
7	SILT		10YR 4/6	
8	LOAM	VERY		
9		FRIABLE		
10				
12				
13				
16			10YR 5/8	
17				
18				
20				
	SILT LOAM/			
	LOAM		2.5Y 5/4	
30				
		REFUSAL	AT	30"
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-8	30	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **CHESUNCOOK** **SiL** Drainage: **MWD** HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-12** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			7.5YR 6/1	
2				
3	SILT			
4	LOAM		7.5YR 2.5/3	
5				
6				
7		VERY		
8		FRIABLE		
9	SILT LOAM/		7.5YR 4/6	
10	LOAM			
12				
14				
16	SILT		2.5Y 5/6	
17	LOAM			
18				
20		REFUSAL	AT	18"
22				
23				
24				
26				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-8	18"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage: **ED** HSG: **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:	
	name:	DALE A. BREWER	Lic	304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-13** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			5YR 3/3	
2				
3			7.5YR 6/1	
4				
5				
6	SILT			
7	LOAM	FRIABLE	7.5YR 2.5/3	
8				
9				
10				
11			10YR 3/4	
13				
15	LOAM		2.5Y 5/4	
18				
19	ASSUMED	BEDROCK	AT	18"
22				
23				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ] non-hydric	8-15	18"	[ ]	[ ]	[ ]

C.S.S. Soil Series / phase name: **SADDLEBACK** **BOULDERY FSL** **SWED**

Drainage: **WD** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-14** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3	FINE			
4	SANDY	FRIABLE	7.5YR 6/2	
5	LOAM			
6				
7				
8	BEDROCK	AT	7"	
9				
10				
12				
14				
17				
18				
19				
21				
24				
26				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ] non-hydric	3-8	7"	[ ]	[ ]	[ ]

C.S.S. Soil Series / phase name: **ABRAM** **SL**

Drainage: **ED** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-15** [X] Test Pit [ ] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5				
6				
7	ORGANIC		10YR 2/1	
8				
9				
10				
12				
13				
16				
17				
18				
20		REFUSAL	AT	18"
30				
40				
50				
60				

hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ] non-hydric	0-3	18"	[ ]	[ ]	[ ]

C.S.S. Soil Series / phase name:

Drainage: **VPD** HSG:

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-16** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			7.5YR 6/1	
3				
4				
5				
6				
7				
8	FINE		5YR 2.5/2	
9	SANDY	FRIABLE		
10	LOAM			
12				
14				
16				
17				
18			10YR 4/4	
20				
22			2.5Y 5/1	
23				
24		REFUSAL	AT	23"
26				
40				
50				
55				

hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ] non-hydric	8	23"	[ ]	[ ]	[ ]

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL**

Drainage: **SWED** HSG: **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic: 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-17** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			5YR 6/1	
3				
4				
5				
6	FINE		5YR 2.5/2	
7	SANDY			
8	LOAM			
9		FRIABLE		
10				
12			7.5YR 3/4	
14				
16				
18				
20				
22			10YR 3/4	
24	SANDY			
27	LOAM			
28			2.5Y 5/4	10YR 3/6
30				
		REFUSAL	AT	30"
40				
47				
50				
60				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	0-3	27"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **ENCHANTED ChVFSL** Drainage **MWD** HSG **B**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-18** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	SANDY			
3	LOAM		7.5YR 5/1	
4				
5				
6		VERY		
7		FRIABLE	5YR 2.5/2	
8	FINE			
9	SANDY			
10	LOAM		10YR 3/4	
12				
14			2.5Y 5/4	10YR 4/4
17				10YR 3/3
18	SANDY		2.5Y 4/4	
19	LOAM			
21				
24				
26				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	0-1	12"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS SL** Drainage **SWPD/ MWD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-19** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	SANDY			
3	LOAM		7.5YR 5/1	
4				
5				
6		VERY		
7		FRIABLE	5YR 2.5/2	
8	FINE			
9	SANDY			
10	LOAM		10YR 3/4	
12				
14			2.5Y 5/4	10YR 4/4
17				10YR 3/3
18	SANDY		2.5Y 4/4	
20	LOAM			
22				
24				
26				
29				
30		REFUSAL	AT	29"
40				
50				
60				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric		12"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS SL** Drainage **SWPD/ MWD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-20** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3	SANDY		7.5YR 5/2	
4	LOAM			
5				
6				
7				
8			7.5YR 2.5/3	
9				
10				
12	LOAM			
14				
16			5YR 3/4	
17				
18				
20				
22				
23	SANDY		2.5Y 5/4	
24	LOAM			
26				
		REFUSAL	AT	26"
40				
50				
55				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	0-3	26"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage **ED/ SWED** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-21** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	**SANDY LOAM/**		**7.5YR 6/1**	
3	**LOAMY SAND**			
4				
5			**7.5YR 2.5/3**	
6				
7				
8		**FRIABLE**		
9	**FINE**			
10	**SANDY**		**7.5YR 4/6**	
11	**LOAM**			
13				
15				
16				
19			**2.5Y 5/4**	
20				
23		**REFUSAL**	**AT**	**20"**
27				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	**0-3**	**20"**	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** — Drainage **WD** — HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-22** [X] Test Pit [ ] Boring

8 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3			**7.5YR 5/1**	
4				
5	**FINE**			
6	**SANDY**	**FRIABLE**		
7	**LOAM**			
8				
9				
10			**5YR 2.5/2**	
12				
14				
17				
18		**REFUSAL**	**AT**	**17"**
19				
21				
24				
26				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	**38**	**17"**	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **STONY/BLDRY** **FSL** — Drainage **WD** — HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-23** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	**SANDY LOAM/**			
2	**LOAMY SAND**		**7.5YR 5/2**	
3				
4				
5		**VERY**	**5YR 2.5/2**	
6	**FINE**	**FRIABLE**		
7	**SANDY**			
8	**LOAM**			
9			**5YR 3/4**	
10				
12				
13	**SANDY LOAM/**		**7.5YR 3/4**	
16	**GRAVELLY**			
17	**FINE**			
18	**SANDY**			
20	**LOAM**			
30				
40				
50				
60				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	**8-15**		□ ground water □ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SISK** **BOULDERY SiL** — Drainage **WD** — HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-24** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	**FINE**	**VERY**		
2	**SANDY**	**FRIABLE**	**7.5YR 5/2**	
3	**LOAM**			
4				
5			**5YR 2.5/2**	
6	**GREASY**			
7	**FINE**			
8	**SANDY**	**FRIABLE**	**7.5YR 3/4**	
9	**LOAM**			
11				
12				
14	**FINE**			
16	**SANDY**		**2.5Y 5/4**	
17	**LOAM**			
18				
20		**REFUSAL**	**AT**	**18"**
22				
23				
24				
26				
40				
50				
55				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	**0-3**	**18"**	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** — Drainage **WD/ED** — HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:	
	name:	**DALE A. BREWER**	Lic	**304**

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-B-1** ☐ Test Pit ☒ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE	VERY		
2	SANDY	FRIABLE	7.5YR 5/2	
3	LOAM			
4				
5			5YR 2.5/2	
6	GREASY			
7	FINE			
8	SANDY	FRIABLE	7.5YR 3/4	
9	LOAM			
10				
11				
13	FINE			
15	SANDY		2.5Y 5/4	
18	LOAM			
20				
22		REFUSAL	AT	18"
23				
27				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
☐ non-hydric	0-3	18"	☐ ground water ☐ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **WED/ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-25** ☒ Test Pit ☐ Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			7.5YR 6/2	
2			5YR 2.5/2	
3				
4				
5	FINE		7.5YR 3/4	
6	SANDY			
7	LOAM	FRIABLE		
8				
9				
10			10YR 3/6	
12				
14				
15				
18	FINE SANDY			
19	LOAM/		2.5Y 5/4	
20	SANDY LOAM			
24	BEDROCK	AT	20"	
26				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	
☐ non-hydric	0-3	20"	☐ ground water ☐ restrictive layer ☒ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **WD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-26** ☒ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE		5YR 6/1	
2	SANDY LOAM			
3				
4				
5	LOAM		7,5YR 2.5/3	
6		VERY		
7		FRIABLE		
8				
9				
10				
12	GRAVELLY		7.5YR 3/4	
13	LOAM			
16				
17				
18				
20				
		REFUSAL	AT	20"
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
☐ non-hydric	15-30	20"	☐ ground water ☒ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** **SWED** Drainage **WD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-27** ☒ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	FINE			
3	SANDY			
4	LOAM		7.5YR 3/3	
5		VERY		
6		FRIABLE		
7				
8				
9			10YR 3/6	
10				
12	SANDY			
14	LOAM			
16				
17				
18				
20				7.5YR 2.5/3
22		FIRM	2.5Y 5/6	2.5Y 4/3
23				
24				
25				
		REFUSAL	AT	25"
40				
50				
55				

hydric	Slope %	Limiting factor	
☐ non-hydric	0-3	16"	☒ ground water ☐ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **SL** **MWD/** Drainage **SWPD** HSG **C**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-B-2** ☐ Test Pit ☒ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE			
2	SANDY		5YR 6/1	
3	LOAM			
4	GRAVELLY			
5	FINE		7.5YR 2.5/3	
6	SANDY LOAM			
7				
8				
9			7.5YR 3/4	
10		VERY		
11		FRIABLE		
14	EXTREMELY			
16	GRAVELLY			
17	LOAM			
18				
20			10YR 3/4	
22				
23				
24				
25		REFUSAL	AT	24"
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
☐ non-hydric	0-3	24"	☐ ground water ☐ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-28** ☒ Test Pit ☐ Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	SANDY		5YR 5/1	
3	LOAM			
4				
5			5YR 2.5/2	
6				
7				
8	LOAM			
9			7.5YR 3/4	
10				
12				
14				
16	FINE		10YR 3/6	
18	SANDY LOAM	FRIABLE		
19				
20				
22				
24			2.5Y 5/4	
26				
28				
29	GRAVELLY			
	FINE			
40	SANDY LOAM			
			5Y 4/3	
50				
72				
	LIMIT	OF	TEST PIT	72"

hydric	Slope %	Limiting factor	
☐ non-hydric	20+		☐ ground water ☐ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **BERKSHIRE** **FSL** Drainage **WD** HSG **B**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-29** ☒ Test Pit ☐ Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	EXTREMELY			
2	GRAVELLY			
3	SANDY		7.5YR 6/1	
4	LOAM			
5				
6		VERY		
7		FRIABLE		
8			5YR 3/4	
9	GRAVELLY			
10	LOAM			
12				
13			7.5YR 3/3	
16				
17				
18		REFUSAL	AT	17"
20				
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
☐ non-hydric	8	17"	☐ ground water ☒ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **SWED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-30** ☒ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE			
2	SANDY		5YR 6/1	
3	LOAM			
4	GRAVELLY			
5	FINE		7.5YR 2.5/3	
6	SANDY LOAM			
7				
8				
9			7.5YR 3/4	
10		VERY		
11		FRIABLE		
14	EXTREMELY			
16	GRAVELLY			
17	LOAM			
18				
20			10YR 3/4	
22				
23				
24				
25				
	ASSUMED	BEDROCK	AT	25"
40				
50				
55				

hydric	Slope %	Limiting factor	
☐ non-hydric	0-3	25"	☐ ground water ☒ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **SWED** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-31** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	**SANDY LOAM**	**FRIABLE**	**5YR 5/1**	
3				
4	**BEDROCK**	**AT**	**3"**	
5				
6				
7				
8				
9				
10				
11				
13				
15				
18				
20				
22				
23				
27				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	**0-3**	**3"**	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **ABRAM** **SL** Drainage **ED** HSG **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-32** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0	**FINE**	**VERY**		
1	**SANDY**	**FRIABLE**	**5YR 5/1**	
2	**LOAM**			
3				
4	**LOAMY**		**5YR 2.5/2**	
5				
6		**FRIABLE**		
8	**FINE**		**7.5YR 4/6**	
9	**SANDY**			
10	**LOAM**			
12				**7.5YR 5/6**
14			**2.5Y 5/4**	**7.5YR 6/1**
16				
18		**REFUSAL**	**AT**	**18"**
19				
20				
24				
25				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	**3-8**	**12"**	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **SL** Drainage **SWPD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-33** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	**SANDY**		**5YR 5/2**	
2	**LOAM**			
3				
4				
5		**FRIABLE**		
7			**5YR 3/3**	
8	**LOAM**			
9				
10				
12				
13			**7.5YR 4/6**	
16				
17	**BEDROCK**	**AT**	**17"**	
18				
20				
22				
23				
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	**3-8**	**17"**	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-34** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0		**VERY FRIABLE**	**7.5YR 5/1**	
1				
2				
3				
4			**7.5YR 4/6**	
5				
6				
7	**SILT**	**FRIABLE**		
8	**LOAM**			
9				
10				
11				
14			**10YR 4/6**	
16				
17				
18				
20	**FINE**			
22	**SANDY**	**FIRM**	**2.5Y 4/4**	**10YR 4/6**
23	**LOAM**			
24		**REFUSAL**	**AT**	**24"**
25				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	**15-30**	**20"**	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **CHESUNCOOK** **SiL** Drainage **MWD** HSG **C**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	**DALE A. BREWER**	Lic **304**

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-35** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			5YR 5/1	
2				
3			7.5YR 2.5/2	
4	SANDY			
5	LOAM			
6				
7			7.5YR 3/4	
8		FRIABLE		
9				
10				
11				
13	LOAMY		2.5Y 4/4	5Y 6/1
15	SAND			7.5YR 3/3
18				
20				
22	LIMIT	OF	TEST PIT	20"
23				
27				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	0-3	9"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **SL** Drainage: **SWPD** HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-36** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			5YR 4/1	
3	SANDY		5YR 6/1	
4	LOAM	FRIABLE		
5				
6			5YR 4/2	
7				
8	BEDROCK	AT	7"	
9				
10				
12				
14				
16				
18				
19				
20				
24				
25				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	15	7"	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **ABRAM** **SL** Drainage: **ED** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-37** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5			7.5YR 5/2	
6				
7	FINE	VERY		
8	SANDY	FRIABLE		
9	LOAM			
10				
12			2.5YR 2.5/1	
13				
16				
17				
18			7.5YR 2.5/3	
20				
22	BEDROCK	AT	20"	
23				
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	35	20"	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage: **ED** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-38** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SANDY			
2	LOAM		5YR 5/1	
3				
4				
5	LOAM		5YR 2.5/2	
6				
7				
8	LOAM/			
9	FINE	FRIABLE	7.5YR 3/3	
10	SANDY			
11	LOAM			
13				
16	FINE			
17	SANDY		2.5Y 4/4	
18	LOAM			
19				
22	REFUSAL	AT	19"	
23				
24				
25				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-6	19"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SISK** **SiL** Drainage: **WD** HSG: **C**

Professional Endorsements *(as applicable)*

C.S.S. signature: Date:

name: **DALE A. BREWER** Lic: **304**

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-39** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			7.5YR 3/2	
2				
3				
4	LOAM			
5			7.5YR 3/4	
6				
7		FRIABLE		
8				
9				
10	FINE		10YR 3/4	
11	SANDY			
13	LOAM			
15			2.5Y 4/4	
17				
20	REFUSAL	AT	17"	
22				
23				
27				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	15	17"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage: **ED** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-40** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	SANDY		7.5YR 7/1	
3	LOAM			
4				
5			7.5YR 2.5/3	
6				
7		FRIABLE		
8			7.5YR 4/4	
9	FINE			
10	SANDY			
12	LOAM			
14			10YR 4/4	
16				
18				
19		FIRM	2.5Y 5/4	2.5Y 6/2
20				7.5YR 4/4
21				
25	REFUSAL	AT	21"	
30				
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	1	16"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage: **MWD** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-41** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	SANDY		7.5YR 6/1	
3	LOAM			
4			7.5YR 2.5/3	
5				
6				
7	FINE	FRIABLE		
8	SANDY			
9	LOAM		10YR 4/4	
10				
12				
13				
16			2.5Y 5/6	
17	BEDROCK	AT	16"	
18				
20				
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	1	16"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK STONEY FSL** Drainage: **ED** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-42** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3			5YR 4/2	
4				
5				
6	FINE			
7	SANDY			
8	LOAM		7.5YR 2.5/2	
9		FRIABLE		
10				
12				
13				
16			7.5YR 3/3	
17				
18	SANDY			
19	LOAM		2.5Y 5/4	
22				
23	BEDROCK	AT	22"	
24				
25				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	15	22"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage: **ED** HSG: **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic: 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-43** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	SANDY		7.5YR 5/2	
3	LOAM			
4				
5				
6			7.5YR 2.5/3	
7				
8	FINE	FRIABLE		
9	SANDY		7.5YR 3/4	
10	LOAM			
12				
13				
14			2.5Y 5/6	
15				
16				
22	BEDROCK	AT	16"	
23				
27				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	8	16"	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-44** [X] Test Pit [ ] Boring

14 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1		INTERMEDIATE		
2		DECOMPOSITION		
3				
4				
5				
6		HIGHLY	10YR 2/1	
7		DECOMPOSED		
8				
9				
10				
12				
14				
16	REFUSAL	AT	14"	
18				
19				
20				
24				
25				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	30	14"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **MAHOOSUC MP** Drainage **SWED** HSG **A**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-B-3** [ ] Test Pit [X] Boring

12 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1		SLIGHTLY		
2		DECOMPOSED		
3				
4				
5			10YR 2/1	
6		INTERMEDIATE		
7		DECOMPOSITION		
8				
9				
10				
12				
13	BOULDERS	AT	12"	
16				
17				
18				
20				
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	35	12"	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **MAHOOSUC MP** Drainage **SWED** HSG **A**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-45** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SANDY		7.5YR 5/2	
2	LOAM			
3				
4	FSL/LOAM		7.5YR 2.5/3	
5				
6				
7		VERY		
8		FRIABLE		
9	LOAM		10YR 3/4	
10				
11				
13	GRAVELLY			
14	SANDY LOAM/		2.5Y 5/4	
15	LOAMY SAND			
16				
19	BEDROCK	AT	16"	
22				
23				
24				
25				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	10	16"	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage **ED** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S. signature: Date:

name: **DALE A. BREWER** Lic **304**

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-46** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	**SANDY**		**5YR 5/1**	
2	**LOAM**			
3				
4			**5YR 3/2**	
5				
6	**FINE**			
7	**SANDY**			
8	**LOAM**			
9		**FRIABLE**	**7.5YR 3/4**	
10				
12				
14				
16				
18	**FINE SANDY**			
20	**LOAM/**		**2.5Y 5/4**	
22	**SANDY LOAM**			
24				
27	**REFUSAL**	**AT**	**24"**	
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	**15+**	**24"**	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **ChVFSL** Drainage **WD** HSG **B**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-47** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	**SANDY**		**7.5YR 5/2**	
3	**LOAM**			
4				
5				
6			**7.5YR 2.5/3**	
7				
8				
9		**VERY**	**7.5YR 3/4**	
10		**FRIABLE**		
12				
14	**FINE**			
16	**DANDY**			
18	**LOAM**		**10YR 4/6**	
19				
20				
23				
25				
27			**2.5Y 5/4**	
31				
	BEDROCK	**AT**	**31"**	
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	**10**	**31"**	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **ENCHANTED** **ChVFSL** Drainage **WD** HSG **B**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-48** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	**SANDY**		**7.5YR 5/2**	
3	**LOAM**			
4				
5				
6			**7.5YR 2.5/3**	
7				
8				
9		**VERY**	**7.5YR 3/4**	
10		**FRIABLE**		
12				
14	**FINE**			
16	**DANDY**			
18	**LOAM**		**10YR 4/6**	
19				
20				
23				
24			**2.5Y 5/4**	
25				
26	**BEDROCK**	**AT**	**25"**	
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	**3**	**25"**	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **ChVFSL** Drainage **WD** HSG **B**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-49** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	**SANDY**		**5YR 4/2**	
3	**LOAM**			
4				
5				
6				
7				
8	**LOAM/**	**VERY**	**5YR 2.5/2**	
9	**SILT LOAM**	**FRIABLE**		
10				
12				
13			**5YR 3/3**	
15				
17			**7.5YR 3/3**	
18	**FINE**			
19	**SANDY LOAM**		**2.5Y 5/6**	
20				
23	**BEDROCK**	**AT**	**20"**	
24				
25				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	**35**	**20"**	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **ED** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	**DALE A. BREWER**	Lic **304**

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-50** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	**SANDY**		**7.5YR 5/2**	
3	**LOAM**			
4				
5				
6			**7.5YR 2.5/3**	
7				
8				
9		**VERY**	**7.5YR 3/4**	
10		**FRIABLE**		
12				
14	**FINE**			
16	**DANDY**			
18	**LOAM**		**10YR 4/6**	
19				
20				
23				
25				
27			**2.5Y 5/4**	
31				
	BEDROCK	**AT**	**31"**	
40				
47				
50				
60				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	**5**	**31"**	□ ground water ■ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **ENCHANTED** **ChVFSL** — Drainage **WD** — HSG **B**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-51** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			**7.5YR 3/2**	
3				
4				
5	**FINE**		**7.5YR 2.5/2**	
6	**SANDY**	**VERY**		
8	**LOAM**	**FRIABLE**		
10			**7.5YR 3/3**	
12				
13				
14			**10YR 4/4**	
16				
17			**2.5Y 5/4**	
18				
19	**REFUSAL**	**AT**	**18"**	
20				
24				
25				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	**15**	**18"**	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** — Drainage **ED** — HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-52** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			**7.5YR 3/2**	
3				
4				
5	**FINE**		**7.5YR 2.5/2**	
6	**SANDY**	**VERY**		
8	**LOAM**	**FRIABLE**		
10			**7.5YR 3/3**	
12				
13				
14			**10YR 4/4**	
16				
17			**2.5Y 5/4**	
18				
19				
20	**REFUSAL**	**AT**	**19"**	
30				
40				
50				
60				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	**3-8**	**19"**	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** — Drainage **ED** — HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-53** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	**SANDY**			
2	**LOAM**		**7.5YR 5/2**	
3				
4			**7.5YR 2.5/2**	
5				
6				
7	**FINE**		**5YR 4/4**	
8	**SANDY**			
9	**LOAM**			
10				
12		**VERY**	**7.5YR 3/4**	
14		**FRIABLE**		
16				
17				
18				
20				
22	**SANDY**		**2.5Y 5/4**	
23	**LOAM**			
24				
25				
26				
	REFUSAL	**AT**	**26"**	
40				
50				
55				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	**1**	**26"**	□ ground water ■ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** — Drainage **ED** — HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	**DALE A. BREWER**	Lic **304**

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-54** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	GRAVELLY			
3	SANDY		7.5YR 5/2	
4	LOAM			
5				
6				
7	SANDY		7.5YR 2.5/2	
8	LOAM	FRIABLE		
9				
10				
11	FINE			
13	SANDY		7.5YR 3/4	
15	LOAM			
18				
20				
22	REFUSAL	AT	20"	
23				
27				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	5	20"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-B-4** [ ] Test Pit [X] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SANDY			
2	LOAM		7.5YR 5/2	
3				
4			7.5YR 2.5/2	
5				
6				
7	FINE		5YR 4/4	
8	SANDY			
9	LOAM			
10				
12		VERY	7.5YR 3/4	
14		FRIABLE		
16				
17				
18	SANDY		2.5Y 5/4	
20	LOAM			
22				
23	REFUSAL	AT	22"	
24				
25				
26				
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	25	22"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-55** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			7.5YR 6/1	
3				
4			5YR 2.5/2	
5	FINE			
6	SANDY			
7	LOAM			
8			5YR 3/4	
10		FRIABLE		
11				
12				
14			10YR 4/4	
16				
18				
20	GRAVELLY			
22	FSL		2.5Y 5/6	
24				
26				
	REFUSAL	AT	26"	
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	22	26"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-56** [X] Test Pit [ ] Boring

6 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3	LOAM		5YR 5/1	
4				
5				
6				
7				
8	SILT		5YR 2.5/2	
9	LOAM	FRIABLE		
10				
11			7.5YR 3/4	
13				
16	LOAM/			
17	FSL		7.5YR 4/6	
18				
19	BEDROCK	AT	18"	
22				
23				
24				
25				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	30	18"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **ED** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-57** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	**FSL**		**7.5YR 5/2**	
2				
3	**LOAM**		**7.5YR 3/3**	
4				
5				
6	**FINE**			
7	**SANDY LOAM/**			
8	**LOAM**		**10YR 3/4**	
9				
10		**FIRM**		
11				
12	**FINE**			
14	**SANDY LOAM**		**2.5Y 5/6**	
16				
17				**10YR 4/4**
22				
24	**SANDY LOAM**		**2.5Y 5/3**	
26				
28				
30	**ASSUMED**	**BEDROCK**	**AT**	**27"**
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
☐ non-hydric	**8**	**16"**	☐ ground water ■ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-58** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			**7.5YR 6/1**	
3				
4			**5YR 2.5/2**	
5	**FINE**			
6	**SANDY**			
7	**LOAM**			
8			**5YR 3/4**	
10		**FRIABLE**		
11				
12				
14			**10YR 4/4**	
16				
18				
20	**GRAVELY**			
22	**FSL**		**2.5Y 5/6**	
24				
26				
	REFUSAL	**AT**	**26"**	
30				
42				
48				
52				

hydric	Slope %	Limiting factor	
☐ non-hydric	**10**	**26"**	☐ ground water ■ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-59** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0	**FINE**			
1	**SANDY LOAM**		**7.5YR 5/2**	
2				
3			**7.5YR 2.5/2**	
4				
6				
7				
8	**LOAM**			
9		**FRIABLE**	**7.5YR 3/3**	
10				
12				
14				
15				
17				
18	**GRAVELLY**		**2.5Y 4/4**	
19	**SANDY LOAM**			
21				
23				
24				
26				
	BEDROCK	**AT**	**26"**	
40				
50				
60				

hydric	Slope %	Limiting factor	
☐ non-hydric	**8**	**26"**	☐ ground water ☐ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage **ED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-60** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0	**FINE**			
1	**SANDY LOAM**		**7.5YR 5/2**	
2				
3			**7.5YR 2.5/2**	
4				
6				
7				
8	**LOAM**			
9		**FRIABLE**	**7.5YR 3/3**	
10				
12				
14				
15				
17				
18	**GRAVELY**		**2.5Y 4/4**	
19	**SANDY LOAM**			
21				
23				
24				
25				
	REFUSAL	**AT**	**21"**	
40				
50				
55				

hydric	Slope %	Limiting factor	
☐ non-hydric	**20**	**21"**	☐ ground water ■ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage **ED** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.				
	signature:		Date:	
	name:	**DALE A. BREWER**	Lic	**304**

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-61** [X] Test Pit [ ] Boring

6 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE		5YR 3/1	
2	SANDY LOAM	FRIABLE	5YR 6/1	
3				
4	BEDROCK	AT	3"	
5				
6				
7				
8				
9				
10				
11				
13				
15				
18				
20				
22				
23				
27				
28				
30				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
■ non-hydric	30	3"	☐ ground water ☐ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **ABRAM** **SL** Drainage: **SWED** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-62** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE		7.5YR 4/1	
2	SANDY LOAM		2.5YR 2.5/1	
3				
4				
5		VERY		
6	LOAM	FRIABLE	5YR 2.5/2	
7				
8				
9				
10				
12				
14	BEDROCK	AT	12"	
16				
18				
19				
20				
24				
25				
30				
42				
48				
52				

hydric	Slope %	Limiting factor	
■ non-hydric	30	12"	☐ ground water ☐ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage: **SWED** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-63** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			7.5YR 5/2	
3				
4	VERY			
5	FINE			
6	SANDY			
7	LOAM			
8		FRIABLE	7.5YR 4/6	
9				
10				
12				
14	LOAM		10YR 4/4	
16				
18	GRAVELLY		2.5Y 5/3	
20	SANDY LOAM			
22	BEDROCK	AT	20"	
24				
26				
28				
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
■ non-hydric	3/20	20"	☐ ground water ☐ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage: **SWED** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-64** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			7.5YR 4/1	
2			7.5YR 3/3	
3				
4			7.5YR 3/4	
5				
6	LOAM			
7				
8				
9		FRIABLE	10YR 4/4	
10				
12				
14				
16			2.5Y 5/4	
18	SILT			
20	LOAM			7.5YR 4/4 &
22			2.5Y 4/4	2.5Y 3/1
24				
26	BEDROCK	AT	24"	
28				
30				
40				
50				
55				

hydric	Slope %	Limiting factor	
■ non-hydric	+25	18"	■ ground water ☐ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage: **MWD** HSG: **C//D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic: 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-65** [X] Test Pit [ ] Boring

6 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FSL		7.5YR 4/1	
2			5YR 2.5/2	
3				
4				
5	LOAM			
6			7.5YR 3/3	
7				
8				
9				
10		FRIABLE		
12	SANDY LOAM		10YR 3/4	
14				
16				
18				
20				
22	GRAVELLY			
24	FINE		2.5Y 4/4	
26	SANDY LOAM			
28				
30				
	REFUSAL	AT	30"	
40				
47				
50				
60				

hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ] non-hydric	south 27/north 40	30"	[■]	[■]	[ ]

C.S.S. Soil Series / phase name: **SADDLEBACK FSL** Drainage: **WD** HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-66** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			5Y 6/1	7.5YR 4/6 &
3				2.5Y 5/3
4				
5				
6				2.5Y 5/6 &
7			2.5Y 5/2	5Y 6/1
8				
9				
10	SILTY	FIRM		
12	LOAM			
14				
16				
18			5Y 4/2	5Y 5/1 &
20				2.5Y 4/3
22				
24				
26				
28				
30				
		VERY	5Y 3/2	2.5Y 5/6 &
		FIRM		2.5Y 4/3
40				
	LIMIT	OF	TEST PIT	40"

hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[■] non-hydric	7	3"	[■]	[ ]	[ ]

C.S.S. Soil Series / phase name: **MONARDA SiL** Drainage: **PD/DWPD** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **A 06-TP-67** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SILT LOAM		10YR 2/1	
2	FIINE		7.5YR 5/2	
3	SANDY LOAM			
4	LOAM		7.5YR 2.5/2	
5		VERY		
6	LOAM/	FRIABLE	10YR 3/4	
7	SILT LOAM			
8				
9	SILT		2.5Y 4/3	
10	LOAM			
11				
12				
14		FIRM	5Y 4/3	7.5YR 4/4 &
16	SANDY			2.5Y 4/3
18	LOAM			
20				
22		VERY FIRM	5Y 4/2	10Y 5/1 &
24				2.5Y 4/3
26	GRAVELLY			
	LOAMY SAND/			
	GRAVELLY	FRIABLE	2.5Y 4/2	
	SANDY LOAM			
40				
	LIMIT	OF	TEST PIT	40"
50				
60				

hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[■] non-hydric	8	11"	[ ]	[ ]	[ ]

C.S.S. Soil Series / phase name: **MONARDA SiL** Drainage: **SWPD** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ [ ] Test Pit [ ] Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
13				
16				
17				
18				
19				
22				
23				
24				
25				
40				
50				
55				

hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ] non-hydric	_____	_____	[ ]	[ ]	[ ]

C.S.S. Soil Series / phase name: Drainage: HSG:

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:	
	name: DALE A. BREWER	Lic	304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-1** [X] Test Pit [ ] Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			10YR 2/2	
2	LOAM			
3	FSL		10YR 4/2	
4				
5			7.5YR 3/3	
6	GRAVELLY	FRIABLE		
7	LOAM			
8			7.5YR 3/4	
9				
10				
12				
14				
16				
18	LOAM	FIRM	10YR 4/3	
20				
25				10YR 4/4
	SANDY	VERY		CF
28	LOAM	FIRM	2.5YR 4/4	
30	REFUSAL	AT	28"	
40				
47				
50				
60				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	8-15	10"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **LOAM** — Drainage: **MWD** — HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-2** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3	GRAVELLY			
4	SANDY		10YR 4/2	
5	LOAM			
6				
7		FRIABLE		
8				
9			7.5YR 3/3	
10	SILT			
12	LOAM			
14			7.5YR 2.5/2	
16				
18				
20	LOAM	FIRM	10YR 4/4	
	BEDROCK	AT	20"	
30				
42				
48				
52				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	0-3	20"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **GRAVELLY SL** — Drainage: **WD** — HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-3** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SILT LOAM		10YR 3/3	
2	SANDY			
3	LOAM		2.5Y 6/1	2.5Y 6/4
4				CMD
5				
6	LOAM		7.5YR 4/4	
7				
8		FRIABLE		
9				
10				
12	SANDY		10YR 4/4	
14	LOAM			
16				
18				
20		VERY FIRM	2.5Y 5/4	2.5Y 4/2
30				
40				
50				
60				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	15-30	18"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **SiL** — Drainage: **MWD** — HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-4** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5	MUCKY			
6	LOAM		10YR 3/1	
7				
8		FRIABLE		
9				
10				
12				
14				
16	COBBLY			
18	LOAM		10YR 3/2	10YR 4/2
19				CF
	REFUSAL	AT	19"	
30				
40				
50				
55				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	3-8	19"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **MONARDA** **ML** — Drainage: **VPD** — HSG: **D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:	
	name:	DALE A. BREWER	Lic	304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-5** [X] Test Pit [ ] Boring

6" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4			10YR 4/3	
5	COBBLY			
6	FINE	FRIABLE		
7	SANDY			
8	LOAM			
9				
10			10YR 5/3	
12				
14				
16				
18				
20				2.5Y 5/2
	SANDY		2.5Y 5/3	CMF
25	LOAM	FIRM		
28				
30		VERY		7.5YR 4/4 CMP
32		FIRM	2.5Y 5/3	2.5Y 5/2 CMF
	LIMIT	OF	TEST PIT	
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	8-15	14"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **FSL** Drainage **SPD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-6** [X] Test Pit [ ] Boring

1" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	LOAM		10YR 4/1	
2				
3				
4				
5				
6	VERY		7.5YR 3/4	
7	FINE			
8	SANDY	FRIABLE		
9	LOAM			
10				
12				
14				
16			10YR 3/4	
18				
20				2.5Y 4/2 FMF
23		FIRM	2.5Y 4/3	10YR 4/4 CMD
	SANDY	VERY		
	LOAM	FIRM	2.5Y 4/2	10YR 4/3
30				CFF
36				
	LIMIT	OF	TEST PIT	
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	8-15	18"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **FSL** Drainage **MWD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-7** [X] Test Pit [ ] Boring

3" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			10YR 5/2	
3				
4	GRAVELLY		5YR 3/1	
5	FINE			
6	SANDY			
7	LOAM		7.5YR 3/3	
8		FRIABLE		
9				
10				
12				
14			5YR 3/2	
16	GRAVELLY			
17	SANDY		7.5YR 3/4	
18	LOAM			
20		FIRM	2.5Y 5/3	
21				
	LIMIT	OF	TEST PIT	
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-8	17"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **GFSL** Drainage **WD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-8** [X] Test Pit [ ] Boring

13" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3	MUCKY		10YR 3/2	
4	PEAT			
5				
6				
7		FRIABLE		
8				
9				
10	MUCK		10YR 2/1	
12				
13				
16	REFUSAL	AT	13"	
18				
19				
30				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	15-30	13"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **MAHOOSUC** **MP** Drainage **SWED** HSG **A**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:	
	name:	DALE A. BREWER	Lic	304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-9** [X] Test Pit [ ] Boring

5" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY			
SAND	FRIABLE	10YR 6/2	
BEDROCK	AT	6"	

hydric	Slope %	Limiting factor	
■ non-hydric	0-3	6"	□ ground water □ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **ABRAM** **SL** Drainage **ED** HSG **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-10** [X] Test Pit [ ] Boring

1" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM		10YR 4/1	
		7.5YR 2.5/2	
LOAM		7.5YR 3/3	
	FRIABLE		
		7.5YR 3/4	
FINE SANDY LOAM		10YR 3/4	
BEDROCK	AT	18"	

hydric	Slope %	Limiting factor	
■ non-hydric	8-15	18"	□ ground water □ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **LYMAN** **SL** Drainage **SED** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-11** [X] Test Pit [ ] Boring

2" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		10YR 4/2	
LOAM	FRIABLE		
		5YR 3/4	
FINE			
SANDY		7.5YR 3/4	
LOAM			
	FIRM		
SANDY		10YR 3/3	
LOAM			10YR 4/4
		2.5Y 5/4	CM
BEDROCK	AT	30"	

hydric	Slope %	Limiting factor	
■ non-hydric	8-15	12"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **TUNBRIDGE** **L** Drainage **WD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-12** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY		10YR 4/1	
LOAM			
		7.5YR 2.5/2	
	FRIABLE		
FINE		7.5YR 3/2	
SANDY			
LOAM			
	FIRM	7.5YR 3/4	
			10YR 2/1
LOAM		10YR 4/3	CMP
BEDROCK	AT	25"	

hydric	Slope %	Limiting factor	
■ non-hydric	45	12"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **SL** Drainage **WD** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:	
	name:	DALE A. BREWER	Lic	304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-13** [X] Test Pit [ ] Boring

5" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE SANDY			
2	LOAM		7.5YR 5/2	
3				
4			5YR 3/2	
5	VERY			
6	FINE			
7	SANDY			
8	LOAM	FRIABLE	5YR 3/3	
9				
10				
11				
14	GRAVELLY			
16	SANDY LOAM		7.5YR 3/4	
18				
20	GRAVELLY		10YR 4/3	
24	COARSE			
	SANDY LOAM			
26		FIRM	2.5Y 4/3	
28	BEDROCK	AT	26"	
30				
32				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	15-30	24"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **WD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-14** [X] Test Pit [ ] Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1			10YR 2/2	
2				
3				
4				
5				
6				
7		FRIABLE		
8				
9				
10	SILT			
12	LOAM		7.5YR 3/4	
14				
16				
17				
20				
23				
		FIRM		
30				
36	VERY			
	GRAVELLY	VERY FIRM	10YR 4/3	
	SANDY LOAM			
42				
48				
52				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	15-30	17"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SISK** **SiL** Drainage **WD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-15** [X] Test Pit [ ] Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	HEMIC		7.5YR 2.5/2	
3				
4				
5				
6				
7	FLAGGY			
8				
9				
10				
12	FLAGGERS	&	CHANNERS	
14				
16				
17				
18				
20				
25				
30				
40				
50				
60				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	35	10"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **MAHOOSUC** **PEAT** Drainage **SWED** HSG **A**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-16** [X] Test Pit [ ] Boring

3" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3	LOAM		7.5YR 2.5/2	
4				
5				
6		FRIABLE	10YR 6/2	
7	FINE			
8	SANDY			
9	LOAM			
10			7.5YR 3/3	
12				
14				
16	GRAVELLY	FIRM		
18	SANDY LOAM		7.5YR 2.5/1	
19				
20	VERY GRAVELLY			
24	LCS		10YR 3/3	
		VERY		
	SANDY	FIRM		
30	LOAM		2.5Y 5/3	
31				
	LIMIT	OF	TEST PIT	
40				
50				
55				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	15-30	12"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **LOAM** Drainage **WD** HSG **C**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:	
	name:	DALE A. BREWER	Lic	304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-17** [X] Test Pit [ ] Boring

7" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5		VERY		
6		FRIABLE	10YR 2/1	
7				
8				
9				
10				
11				
14				
16				
18		VERY		
19	LOAM	FIRM	10YR 4/3	
20	BEDROCK	AT	19"	
26				
28				
30				
32				
40				
47				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	35	16"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **RICKER** **PEAT** Drainage: **SWED** HSG: **A**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-18** [X] Test Pit [ ] Boring

5" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SANDY LOAM	FRIABLE	10YR 6/2	
2	BEDROCK	AT	1"	
3				
4				
5				
6				
7				
8				
9				
10				
12				
14				
16				
17				
20				
23				
30				
36				
42				
48				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-8	1"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **ABRAM** **SL** Drainage: **ED** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-19** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FLAGGY LOAM		7.5YR 5/2	
2				
3			5YR 3/2	
4				
5				
6	LOAM			
7		FRIABLE	7.5YR 3/4	
8				
9				
10				
12	GRAVELLY			
14	COARSE		7.5YR 2/2	
16	SANDY LOAM			
17	BEDROCK	AT	16"	
18				
20				
25				
30				
40				
50				
60				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-15	16"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **LOAM** Drainage: **WD** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-20** [X] Test Pit [ ] Boring

5" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4	LOAM	FRIABLE	10YR 5/2	
5				
6				
7				
8				
9	LOAMY	VERY		2.5Y 5/2
10	SAND	FRIABLE	7.5YR 3/3	5% MD
12				
14				
16				
18		VERY	2.5Y 5/3	7.5YR 5/8
19		FIRM		5% MP
20				
24				
30				
31				
40				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-8	8"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **LOAM** Drainage: **SWPD** HSG: **C**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic: 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-21** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SANDY			
2	LOAM		10YR 4/2	
3				
4			7.5YR 3/4	
5		FRIABLE		
6				
7			7.5YR 4/3	
8				
9				
10			10YR 4/3	
11	LOAM			
14				
16				
18		FIRM	10YR 5/3	
19				
20				
24				
28				
30				
32	FINE			
	SANDY	VERY	2.5YR 5/2	
	LOAM	FIRM		
40				
42				
	LIMIT	OF	TEST PIT	
50				
60				

hydric	Slope %	Limiting factor	
■ non-hydric	8-15	10"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SISK** **SL** Drainage **WD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-22** [X] Test Pit [ ] Boring

3" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			7.5YR 3/4	
3				
4				
5	LOAM	FRIABLE		
6			7.5YR 3/3	
7				
8				
9				
10				
12				
14		FIRM	10YR 4/3	
16				
17				
20				
23	SANDY			
	LOAM			
		VERY		
		FIRM	2.5Y 4/3	
30				
				CMP 10YR 3/2
				FFP 10YR 4/4
38				
	LIMIT	OF	TEST PIT	
42				
48				
52				

hydric	Slope %	Limiting factor	
■ non-hydric	8-15	8"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **LOAM** Drainage **MWD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-23** [X] Test Pit [ ] Boring

2" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE		5YR 5/2	
2	SANDY			
3	LOAM		5YR 3/3	
4				
5				
6	FINE			
7	SANDY	FRIABLE	7.5YR 3/4	
8	LOAM			
9				
10				
12				
14	SANDY			
16	LOAM		10YR 4/4	
17				
18				
20				
25				CMD 7.5YR 3/4
		FIRM	2.5Y 5/3	
30	GRAVELLY			
	SANDY			
32	LOAM			
40		VERY		
		FIRM	2.5Y 4/3	FMD 7.5YR 3/4
50				
62				

hydric	Slope %	Limiting factor	
■ non-hydric	15	17"	■ ground water □ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **VFSL** Drainage **MWD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-24** [X] Test Pit [ ] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SANDY			
2	LOAM		7.5YR 4/1	
3	FINE SANDY LOAM		5YR 2.5/2	
4				
5				
6				
7	VERY	FRIABLE		
8	COBBLY		7.5YR 3/4	
9	LOAM		10YR 4/4	
10				
12				
14				
15				
18				
19				10YR 3/3
20		FIRM	10YR 4/4	MCD
21				
	SANDY			
30	LOAM			
31		VERY		10YR 4/4
		FIRM	2.5Y 5/3	CFP
46				
	LIMIT	OF	TEST PIT	
50				
55				

hydric	Slope %	Limiting factor	
■ non-hydric	3-8	15"	■ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **SL** Drainage **SWPD** HSG **C**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:	
	name:	DALE A. BREWER	Lic	304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-25** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2		FRIABLE	10YR 4/4	
3				
4				
5	LOAM			
6		FIRM	2.5Y 5/4	
7		IN PLACE		
8				
9				
10				
11				
14				
16				
18				
19				
20				
	GRAVELLY			10YR 5/6
24	SANDY	VERY		CMP
28	LOAM	FIRM	5Y 5/3	
30				
32				
40				
42				
50				
52				
	LIMIT	OF	TEST PIT	

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	3-8	2"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SURPLUS LOAM** — Drainage: **SWPD** — HSG: **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-26** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	FINE			
3	SANDY LOAM		7.5YR 5/2	
4				
5				
6			5YR 3/3	
7				
8		FRIABLE		
9	VERY			
10	FINE		7.5YR 4/4	
12	SANDY			
14	LOAM			
16				
17		FIRM	10YR 4/4	
20				
23				
	FINE			
	SANDY	VERY		
30	LOAM	FIRM	2.5Y 4/4	
36				
	LIMIT	OF	TEST PIT	
42				
48				
52				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	15-30	14"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK GFSL** — Drainage: **WD** — HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-27** [X] Test Pit [ ] Boring

3" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE			
2	SANDY LOAM		7.5YR 5/2	
3				
4			7.5YR 3/4	
5				
6		FRIABLE		
7	LOAM			
8				
9			7.5YR 4/4	
10				
12				
14	SANDY			
15	LOAM	FIRM	10YR 4/3	
17	BEDROCK	AT	15"	
18				
20				
25				
30				
32				
40				
50				
62				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	42	12"	□ ground water ■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK VFSL** — Drainage: **WD** — HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-28** [X] Test Pit [ ] Boring

12" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			10YR 5/2	
3				
4				
5	VERY		7.5YR 2.5/3	
6	FINE			
7	SANDY	FRIABLE		
8	LOAM			
9			7.5YR 3/4	
10				
11				
14	LOAMY VERY			
15	FINE SAND		10YR 4/4	
18				
19	LOAMY			
20	SAND	LOOSE	2.5Y 4/3	
23				
				7.5YR 4/6
				CMD @ 17"
30		VERY		
31		FIRM	2.5Y 5/3	
32				
37				
	BEDROCK	AT	37"	
46				
50				
55				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	0-3	17"	■ ground water □ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK GVFSL** — Drainage: **SWPD** — HSG: **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic: 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-29** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	VERY FINE			
3	SANDY LOAM	FRIABLE	7.5YR 5/2	
4				
5	FINE			
6	SANDY	CEMENTED	5YR 3/2	
7	LOAM			
8				
9	LOAMY			7.5YR 4/6
10	SAND		10YR 4/4	MMD
11				
14		FIRM		
16		IN		
18	LOAMY	PLACE		7.5YR 4/6
19	FINE		10YR 4/3	CFD
20	SAND			
21				
	LIMIT	OF	TEST PIT	
28				
30				
32				
40				
42				
50				
52				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	2	4"	■ restrictive layer

C.S.S. Soil Series / phase name: SURPLUS SL — Drainage: SWPD — HSG: C

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-30** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE			
2	SANDY LOAM		7.5YR 6/2	
3				
4			2.5YR 3/2	
5				
6	LOAM			
7		FRIABLE	7.5YR 3/3	
8				
9				
10	VERY FINE			
12	SANDY		10YR 3/4	
13	LOAM			
16				
17	SANDY	FIRM		
20	LOAM	IN PLACE	2.5Y 5/3	CMD 7.5YR 4/6
22				AT 19"
	LOAMY			
	FINE	LOOSE	2.5Y 5/3	
28	SAND			
30	BEDROCK	AT	28"	
36				
42				
48				
52				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	2	13"	■ restrictive layer

C.S.S. Soil Series / phase name: SADDLEBACK CVFSL — Drainage: MD — HSG: C/D

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-31** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			7.5YR 6/2	
3				
4			2.5YR 2.5/2	
5	VERY			
6	FINE			
7	SANDY	FRIABLE	5YR 3/3	
8	LOAM			
9				
10				
12			10YR 4/6	
14				
15				
17	FINE	FIRM		
18	SANDY	IN		
20	LOAM	PLACE	10YR 4/3	
22				
	BEDROCK	AT	22"	
30				
32				
40				
50				
62				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	8-15	14"	■ restrictive layer

C.S.S. Soil Series / phase name: SADDLEBACK CVFSL — Drainage: WD — HSG: C/D

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-32** [X] Test Pit [ ] Boring

5" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE			
2	SANDY LOAM		10YR 5/2	
3			7.5YR 3/2	
4				
5				
6			5YR 3/3	
7		FRIABLE		
8	LOAM			
9				
10			10YR 3/4	
11				
13				
15	VERY FINE			
18	SANDY	FIRM	2.5Y 4/4	
19	LOAM			
20				
23				
	SANDY	VERY		10YR 5/4
	LOAM	FIRM	2.5Y 5/3	FFD @ 22"
30				
31				
	VERY	VERY		
37	FINE	FIRM		
	SANDY	IN	2.5Y 4/3	
43	LOAM	PLACE		
	LIMIT	OF	TEST PIT	
50				
55				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	3-8	13"	■ restrictive layer

C.S.S. Soil Series / phase name: SURPLUS VFSL — Drainage: MWD — HSG: C

Professional Endorsements *(as applicable)*

C.S.S. signature: — Date:

name: DALE A. BREWER — Lic: 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-33** [X] Test Pit [ ] Boring

5" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3			10YR 5/2	
4				
5				
6	LOAMY		5YR 3/2	
7	VERY	VERY		
8	FINE	FRIABLE		
9	SAND			
10			7.5YR 3/4	
12				
14				
16				10YR 4/6
18			10YR 4/4	MMF
19				
20	LOAMY			
21	FINE	LOOSE	2.5Y 5/3	
25	SAND			
28	BEDROCK	AT	25"	
30				
32				
40				
42				
50				
52				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	3-8	12"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **LVFS** Drainage **SWPD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-34** [X] Test Pit [ ] Boring

1" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FINE SANDY LOAM		10YR 4/2	
2			7.5YR 2.5/2	
3				
4				
5				
6				
7	LOAM			
8		FRIABLE	7.5YR 3/4	
9				
10				
12				
15				
16	FINE			
17	SANDY LOAM	FIRM	10YR 4/3	
19				
20				
28				
30	SANDY	VERY		
	LOAM	FIRM	2.5Y 4/3	
36				
42				
49				
52	LIMIT	OF	TEST PIT	

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	8-15	15"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **FSL** Drainage **MWD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-35A** [X] Test Pit [ ] Boring

7 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SANDY			
2	LOAM		10YR 4/2	
3				
4				
5				
6		FRIABLE		
7	LOAM		5YR 2.5/2	
8				
9				
10				
11				
14	BEDROCK	AT	11"	
15				
17				
18				
20				
22				
30				
32				
40				
50				
62				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	42	11"	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **WD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-35B** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	FSL		10YR 5/1	
2				
3				
4	LOAM		7.5YR 2.5/3	
5				
6	LOAMY	FRIABLE		
7	FINE		2.5Y 4/3	
8	SAND			
9	FINE			
10	SANDY		7.5YR 3/3	
11	LOAM			
13				
15	SANDY	FIRM	2.5Y 5/3	
18	LOAM			
19				
20				
23				
30				
31				
37				
43				
50				
55				

hydric	Slope %	Limiting factor	Drainage
[ ] non-hydric	42	11"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **WD** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-36** [X] Test Pit [ ] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			10YR 2/2	
3				
4				
5				
6				
7				
8		VERY		
9		FRIABLE		
10			10YR 2/1	
12				
14				
16				
18				
19				
20	SILT		10YR 4/1	CFD 2.5Y 6/2
22	LOAM	FIRM		
25	SANDY LOAM		2.5Y 3/1	CMF 2.5Y 5/1
28	BEDROCK	AT	25"	
30				
32				
40				
42				
50				
52				

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
■	□	0-3	19"	□	□	□

C.S.S. Soil Series / phase name: **BURNHAM** **MUCK** Drainage: **VPD** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-37** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3			7.5YR 6/2	
4				
5	VERY		2.5YR 2.5/2	
6	FINE			
7	SANDY			
8	LOAM		5YR 3/3	
9		FRIABLE		
10				
12			7.5YR 3/4	
15				
16				
17			10YR 3/4	
18	SANDY			
20	LOAM			
		FIRM	10YR 4/4	
23				
28	BEDROCK	AT	23"	
30				
36				
42				
49				
52				

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
□	■	8-15	18"	□	■	□

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage: **MWD** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-38** [X] Test Pit [ ] Boring

3" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VFSL		7.5YR 4/2	
2			7.5YR 2.5/3	
3				
4				
5				
6				
7				
8		FRIABLE	7.5YR 3/4	
9	LOAM			
10				
11				
14				
16				
17				
18			10YR 3/4	
20				
	BEDROCK	AT	20"	
22				
30				
32				
40				
50				
62				

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
□	■	43	20"	□	□	■

C.S.S. Soil Series / phase name: **SADDLEBACK** **VFSL** Drainage: **WD** HSG: **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-39** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3		FRIABLE	7.5YR 2.5/3	
4				
5				
6				
7	LOAM			
8				
9		FIRM		
10			7.4YR 3/4	
11				
12				
15				
17			10YR 4/3	
19				
20				
23				FMD 10YR 4/1
				AT 15"
	SILT	VERY		
30	LOAM	FIRM	5Y 4/2	
31				
37				
47				
50				
55				

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
□	■	0-3	4"	□	■	□

C.S.S. Soil Series / phase name: **SURPLUS** **SL** Drainage: **SPD** HSG: **C**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:	
	name:	DALE A. BREWER	Lic	304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-40** [X] Test Pit [ ] Boring

3" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2			2.5YR 2.5/2	
3	VERY			
4	FINE			
5	SANDY			
6	LOAM		5YR 3/2	
7				
8		FRIABLE		
9				
10				
12			7.5YR 3/4	
14				
16				
18				
19				
20	SANDY	FIRM	10YR 4/3	
23	LOAM			
25				7.5YR 4/7
28				MMD @ 18"
30				
32		VERY		
		FIRM	2.5Y 4/3	
40				
44				
	LIMIT	OF	TEST PIT	
50				
52				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	8-15	16"	☐ ground water ■ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **VFSL** Drainage **MWD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-41** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE	VERY		
2	SANDY	FRIABLE	10YR 4/1	
3	LOAM			
4				
5				
6				
7		FRIABLE	7.5YR 2.5/3	
8				
9				
10	LOAM			
11				
15				
16				
17			7.5YR 3/4	
18				
20		FIRM		
23				
28	VERY FINE			
30	SANDY		2.5Y 4/3	
	LOAM			
32				
36				
42				
44				
49				
52				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	9	11"	☐ ground water ■ restrictive layer ☐ bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **VFSL** Drainage **WD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-42** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	COBBLY			
2	VERY			
3	FINE	FRIABLE	7.5YR 5/2	
4	SANDY			
5	LOAM			
6	BEDROCK	AT	5"	
7				
8				
9				
10				
11				
14				
16				
17				
18				
20				
22				
30				
32				
40				
50				
62				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	15	5"	☐ ground water ☐ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **RICKER** **CP** Drainage **ED** HSG **A**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-43** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3	VERY			
4	FINE		10YR 5/1	
5	SANDY	FRIABLE		
6	LOAM			
7				
8				
9			7.5YR 4/4	
10				
11	BEDROCK	AT	10"	
12				
15				
17				
19				
20				
23				
30				
31				
37				
47				
50				
55				

hydric	Slope %	Limiting factor	Drainage
■ non-hydric	12	10"	☐ ground water ☐ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: **ABRAM** **VFSL** Drainage **ED** HSG **D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-44** [X] Test Pit [ ] Boring

8" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4			7.5YR 3/4	
5				
6				
7				
8				
9				
10				
12	LOAM	FRIABLE		
14				
16				
18				
19				
20				
23			5YR 2.5/2	
25				
28				
30				
32				
34				
36				
38	SANDY LOAM	FIRM	10YR 3/3	
44	BEDROCK	AT	38"	
50				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	48	36"	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **MD** Drainage **WD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-45** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	SANDY LOAM		7.5YR 5/2	
2				
3			5YR 3/3	
4				
5				
6	VERY			
7	FINE	FRIABLE	7.5Y 4/4	
8	SANDY			
9	LOAM			
10				
11				
15			10YR 4/4	
16				
17				
18				
20				10YR 5/6
22	SANDY	FIRM	2.5Y 5/3	CCP @ 18"
23	LOAM			
28				
30	BEDROCK	AT	26"	
32				
36				
42				
44				
49				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-8	18"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **SL** Drainage **MWD** HSG **C/D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-46** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE			
2	SANDY		10YR 5/2	
3	LOAM			
4	LOAMY		7.5YR 4/2	
5	SAND	FRIABLE		
6				
7				
8	FINE		5YR 3/2	
9	SANDY			
10	LOAM			
11				
13				
16				7.5YR 5/8
17	SANDY	VERY	10YR 4/3	5YR 3/4
18	LOAM	FIRM		MMP @ 13"
20				
	LIMIT	OF	TEST PIT	
22				
30				
32				
40				
50				
62				

hydric	Slope %	Limiting factor	
[ ] non-hydric	16	13"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SURPLUS** **VFSL** Drainage **SWPD** HSG **C**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-47** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	VERY FINE			
2	SANDY		7.5YR 4/1	
3	LOAM			
4				
5				
6		FRIABLE	7.5YR 2.5/3	
7	LOAM			
8				
9				
10				
11			7.5YR 3/4	
12				
14		FIRM		
17				
19				
20				7.5YR 3/4
22	SANDY		10YR 4/3	CMD @18
	LOAM			
		VERY		
30		FIRM		
31				
32	BEDROCK	AT	31"	
37				
47				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	0-3	9"	[ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **SADDLEBACK** **FSL** Drainage **MWD** HSG **C/D**

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic 304

FORM F

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

Project Name:	Applicant Name:	Project Location (municipality)
KIBBY WIND-POWER PROJECT	TRANS-CANADA-AMEC	KIBBY TOWNSHIP

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-48** [X] Test Pit [ ] Boring

2" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1	MUCK	FRIABLE	7.5YR 2.5/1	
2	SILT		10YR 6/1	
3	LOAM	FIRM		
4	VERY FINE		7.5YR 3/2	
5	SANDY LOAM			
6	BEDROCK	AT	5"	
7				
8				
9				
10				
12				
14				
16				
18				
19				
20				
23				
25				
28				
30				
32				
34				
36				
38				
44				
50				
52				

hydric	Slope %	Limiting factor	
[ ] non-hydric	3-8	5"	[ ] ground water [ ] restrictive layer [■] bedrock

C.S.S. Soil Series / phase name: **ABRAM** **SiL** Drainage: **ED** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-49** [X] Test Pit [ ] Boring

4" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2	VERY			
3	FINE		10YR 4/1	10YR 4/4
4	SANDY			10YR 6/1
5	LOAM			C,F,F
6		FRIABLE		
7	MUCK		10YR 2/1	
8				
9				
10	SANDY			10YR 4/4
11	LOAM		2.5Y 5/2	M,F,P
15				
16				
17				
18				
20	LOAM	VERY	10YR 4/1	10YR 3/3
22		FIRM		M,MD
23				
24				
30				
32				
36				
42				
44				
49				
52				

hydric	Slope %	Limiting factor	
[■] non-hydric	0-3	0"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **BURNHAM** **VFSL** Drainage: **VPD** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **B06-TP-50** [X] Test Pit [ ] Boring

11" " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				MCP 7.5Y 4/4
2			5Y 5/2	MMD 5Y 6/1
3				
4				
5	GRAVELLY	FIRM		
6	SANDY			
7	LOAM			
8			5BG 4/1	2.5Y 5/4
9				MCP
10				
11				
14				
16	STONY	VERY	N3	
17	SANDY	FIRM		
18	LOAM			
20				
22				
30				
32				
40				
50				
62				

hydric	Slope %	Limiting factor	
[■] non-hydric	10	0"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: **BURNHAM** **MUCK** Drainage: **VPD** HSG: **D**

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ [ ] Test Pit [ ] Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
14				
17				
19				
20				
22				
30				
31				
37				
47				
50				
55				

hydric	Slope %	Limiting factor	
[ ] non-hydric	_____	_____	[ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: Drainage: HSG:

Professional Endorsements *(as applicable)*

C.S.S.	signature:		Date:
	name:	DALE A. BREWER	Lic: 304

APPENDIX F

CLASS C MEDIUM HIGH-INTENSITY SOIL MAP

APPENDIX G

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