WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: SPP City/County: Clearwater Sampling Date: 6/3/2014
Applicant/Owner: Enbridge State: MN Sampling Point: CLC5079b3W
Investigator(s): EAB/RAJ Section, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) CC
Slope (%): 0 - 2% Lat.: 47.396203 Long.: -95.253515 Datum:
Soil Map Unit Name: 40B NWI Classification: PSS1C
Are climatic/hydrologic conditions of the site typical for this time of the year? ☑ (If no, explain in remarks)
Are vegetation ☐, soil ☐, or hydrology ☐ significantly disturbed? Are "normal circumstances" present? ☑
Are vegetation ☐, soil ☐, or hydrology ☐ naturally problematic?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? Y
Hydric soil present? Y
Indicators of wetland hydrology present? Y

Is the sampled area within a wetland? Y

If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
The wetland community is a coniferous bog dominated by black spruce. The microtopography consists of hummocks and hollows.

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:
Surface water present? Yes ☐ Depth (inches):
Water table present? Yes ☑ Depth (inches): 0
Saturation present? Yes ☑ Depth (inches): 0
(includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soil is saturated to the surface. Standing water is present in hollows but not on hummocks.

VEGETATION - Use scientific names of plants

Sampling Point: CLC5079b3W

Tree Stratum (Plot Size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1 *Picea mariana*	40	Y	FACW
2 *Larix laricina*	30	Y	FACW
3			
4			
5			
6			
7			
8			
9			
10			
	70	= Total Cover	

Sapling/Shrub Stratum (Plot Size: 15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1 *Alnus incana*	15	Y	FACW
2 *Larix laricina*	10	Y	FACW
3 *Betula pumila*	5	N	OBL
4 *Salix petiolaris*	5	N	FACW
5			
6			
7			
8			
9			
10			
	35	= Total Cover	

Herb Stratum (Plot Size: 5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1 *Ledum groenlandicum*	20	Y	OBL
2 *Alnus incana*	20	Y	FACW
3 *Calamagrostis canadensis*	5	N	OBL
4 *Betula pumila*	5	N	OBL
5 *Chamaedaphne calyculata*	5	N	OBL
6 *Equisetum fluviatile*	5	N	OBL
7 *Iris versicolor*	1	N	OBL
8			
9			
10			
11			
12			
13			
14			
15			
	61	= Total Cover	

Woody Vine Stratum (Plot Size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	14	35
Sapling/Shrub Stratum	7	18
Herb Stratum	12	31
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	46	x 1 =	46
FACW species	120	x 2 =	240
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	166 (A)		286 (B)

Prevalence Index = B/A = 1.72

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

The vegetation is dominated by black spruce and tamarack in the canopy, speckled alder in the shrub layer, and Labrador tea in the understory. Sphagnum species and other mosses carpet the surface.

SOIL **Sampling Point:** CLC5079b3W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (In.)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type*	Loc**	Texture	Remarks
0-20	Hue_5YR	2.5/2	100						P	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ☑ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Suface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA**
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:
The soil profile is peat to 20", meeting indicator A1- Histosol.