WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 07-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T181_05**

Investigator(s): JER | Landform (hillside, terrace, hummocks etc.): peat plateau

Local relief (concave, convex, none): hummocky | Slope: % / 0.9 ° | Elevation: 751

Subregion : Interior Alaska Mountains | Lat.: 62.7923353914 | Long.: -147.914541245 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1E**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks: shrub fen, mosaic of slobb and hgwsll, shrub bog dominant, perched peatland

VEGETATION - Use scientific names of plants. List all species in the plot.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	0		
Sapling/Shrub Stratum	50% of Total Cover: 0	20% of Total Cover: 0	
1. Betula nana	30	☑	FAC
2. Rhododendron tomentosum	35	☑	FACW
3. Vaccinium uliginosum	25	☑	FAC
4. Vaccinium vitis-idaea	15	☐	FAC
5. Salix pulchra	3	☐	FACW
6. Empetrum nigrum	15	☐	FAC
7. Dasiphora fruticosa	10	☐	FAC
8. Vaccinium oxycoccos	1	☐	OBL
9. Picea glauca	1	☐	FACU
10.	0	☐	
Total Cover:	135		
Herb Stratum	50% of Total Cover: 67.5	20% of Total Cover: 27	
1. Rubus chamaemorus	5	☑	FACW
2. Carex aquatilis	8	☑	OBL
3. Eriophorum angustifolium	10	☑	OBL
4. Eriophorum vaginatum	1	☐	FACW
5. Eriophorum russeolum	2	☐	FACW
6. Carex canescens (IAM)	5	☑	FAC
7. Calamagrostis canadensis	2	☐	FAC
8. Epilobium palustre	1	☐	OBL
9. Carex limosa	1	☐	OBL
10. Equisetum arvense	1	☐	FAC
Total Cover:	36		
50% of Total Cover: 18	20% of Total Cover: 7.2		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	21	x 1 =	21
FACW Species	46	x 2 =	92
FAC Species	103	x 3 =	309
FACU Species	1	x 4 =	4
UPL Species	0	x 5 =	0
Column Totals:	171 (A)		426 (B)

Prevalence Index = B/A = 2.491

Hydrophytic Vegetation Indicators:

☑ Dominance Test is > 50%

☑ Prevalence Index is ≤3.0

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Plot size (radius, or length x width) 10m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground 0

Total Cover of Bryophytes 55

Hydrophytic Vegetation Present? **Yes ◉ No ○**

Remarks: sphag, plesch

SOIL

Sampling Point: SW13_T181_05

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc [2]	Texture	Remarks

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix [2] Location: PL=Pore Lining. RC=Root Channel. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☑ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils:[3]

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3] One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present

[4] Give details of color change in Remarks

Restrictive Layer (if present):

Type: frost

Depth (inches): 9

Hydric Soil Present? Yes ◉ No ○

Remarks:

No pit dug, surface water throughout site.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one is sufficient)

- ☑ 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)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☑ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (two or more are required)

- ☐ Water Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☑ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches): 1
Water Table Present?	Yes ◉	No ○	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 2

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:

Remarks:

water pooling in areaas up to 1"