WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 11-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T139_08**

Investigator(s): WAD, BAB | Landform (hillside, terrace, hummocks etc.): Hillside

Local relief (concave, convex, none): convex | Slope: 8.7 % / 5.0 ° | Elevation: 417

Subregion : Southcentral Alaska | Lat.: 62.819589972 | Long.: -149.61817646 | Datum: WGS84

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

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: small patch of mixed forest within sloping peatland complex.

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Picea mariana	35	☑	FACW
2. Picea glauca	10	☐	FACU
3. Betula papyrifera var. kenaica	10	☐	UPL
4.	0	☐	
5.	0	☐	
Total Cover:	55		
Sapling/Shrub Stratum	50% of Total Cover: 27.5	20% of Total Cover: 11	
1. Vaccinium alaskaense	35	☑	FAC
2. Rubus pubescens	15	☑	FACW
3. Vaccinium vitis-idaea	5	☐	FAC
4. Empetrum nigrum	5	☐	FAC
5. Alnus viridis ssp. sinuata	5	☐	FAC
6. Sorbus scopulina	3	☐	FACU
7. Betula papyrifera var. kenaica	2	☐	UPL
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	70		
Herb Stratum	50% of Total Cover: 35	20% of Total Cover: 14	
1. Dryopteris expansa	10	☑	FACU
2. Cornus suecica	10	☑	FAC
3. Equisetum sylvaticum	8	☑	FAC
4. Equisetum arvense	5	☐	FAC
5. Carex aquatilis	5	☐	OBL
6. Calamagrostis canadensis	4	☐	FAC
7. Sanguisorba canadensis	3	☐	FACW
8. Spinulum annotinum	2	☐	FACU
9.	0	☐	
10.	0	☐	
Total Cover:	47		
50% of Total Cover: 23.5	20% of Total Cover: 9.4		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	5	x 1 =	5
FACW Species	53	x 2 =	106
FAC Species	77	x 3 =	231
FACU Species	25	x 4 =	100
UPL Species	12	x 5 =	60
Column Totals:	172 (A)		502 (B)

Prevalence Index = B/A = 2.919

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

Total Cover of Bryophytes 10

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

SOIL

Sampling Point: SW13_T139_08

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-3			100						Fibric Organics	
3-5			100						Hemic Organics	
5-7			100						Sapric Organics	
7-12	10YR	3/3	90	7.5YR	4/6	10	RM	PL	Sandy Loam	

[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: none present
Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

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):
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 4

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
surface water limited to one small patch, pit not deep enough to intercept water table but assume saturation is related.