WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 04-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T122_04**

Investigator(s): SLI, SCB | Landform (hillside, terrace, hummocks etc.): Terrace

Local relief (concave, convex, none): hummock | Slope: 3.0 % / 1.7 ° | Elevation: 720

Subregion : Interior Alaska Mountains | Lat.: 62.857427597 | Long.: -148.492508173 | Datum: WGS84

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: Odd site. Robust picgla on small, pronounced hummocks. Hummocks surrounded by salpul, calcan, and open water. Small r2ubh stream runs through communitiy. Few scattered dead spruce along lakeshore. Photo time 12:15, #1182-1188

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Picea glauca	10	☑	FACU
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	10		
Sapling/Shrub Stratum	50% of Total Cover: 5	20% of Total Cover: 2	
1. Salix pulchra	40	☑	FACW
2. Dasiphora fruticosa	5	☐	FAC
3. Picea glauca	2	☐	FACU
4. Betula nana	2	☐	FAC
5. Rosa acicularis	1	☐	FACU
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	50		
Herb Stratum	50% of Total Cover: 25	20% of Total Cover: 10	
1. Calamagrostis canadensis	30	☑	FAC
2. Equisetum arvense	15	☑	FAC
3. Cornus suecica	5	☐	FAC
4. Comarum palustre	2	☐	OBL
5. Carex aquatilis	2	☐	OBL
6. Sanguisorba officinalis	1	☐	FACW
7. Petasites frigidus	1	☐	FACW
8. Valeriana capitata	0.1	☐	FAC
9. Chamerion angustifolium	0.1	☐	FACU
10. Rubus chamaemorus	0.1	☐	FACW
Total Cover:	56.3		
50% of Total Cover: 28.15	20% of Total Cover: 11.26		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	4	x 1 =	4
FACW Species	42	x 2 =	84
FAC Species	57.1	x 3 =	171.3
FACU Species	13	x 4 =	52
UPL Species	0	x 5 =	0
Column Totals:	116.1 (A)		311.3 (B)

Prevalence Index = B/A = 2.681

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 10

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

Remarks: traces of carex loliacea, rubus arctica, acudel, caraqu, comarum around flooded depressions.

SOIL

Sampling Point: SW13_T122_04

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
0-5			100%						Hemic Organics	
5-9	2.5Y	3/2	85%	7.5YR	3/4	15%	C	PL	Silt Loam	w/5% ox rihiz
9-12	5Y	4/2	85%	10YR	4/4	15%	C	PL	Silt Loam	w/2% ox rhiz

[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: frozen

Depth (inches): 12

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): 6
Water Table Present?	Yes ○	No ◉	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): 1

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Numerous pools of water throughout site, avg dpth 6in, appear permanently flooded (unvegetated) with fringe of compal and sedges. 5% ox rhiz in 3-5 in layer, positive rxn to alpha alpha-dipyridyl in top 12 inches.