

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Matanuska-Susitna Borough Sampling Date: 22-Jun-12  
 Applicant/Owner: Alaska Energy Authority Sampling Point: SW12\_T18\_04  
 Investigator(s): SLI, EKJ Landform (hillside, terrace, hummocks etc.): Levee  
 Local relief (concave, convex, none): concave Slope: 3.5 % / 2.0 ° Elevation: 813  
 Subregion: Southcentral Alaska Lat.: 62.8505499089 Long.: -149.205929968 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 <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: site on esker, centered locally on a concave feature. No ELSWET data.	

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

<u>Tree Stratum</u>	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	0	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)
2. _____	0	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. _____	0	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
4. _____	0	<input type="checkbox"/>	_____	
5. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>0</u>				
<u>Sapling/Shrub Stratum</u>	50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>		<b>Prevalence Index worksheet:</b>
1. <u>Betula nana</u>	25	<input checked="" type="checkbox"/>	FAC	Total % Cover of: Multiply by:
2. <u>Betula glandulosa</u>	5	<input type="checkbox"/>	FAC	OBL Species <u>0</u> x 1 = <u>0</u>
3. <u>Vaccinium uliginosum</u>	10	<input checked="" type="checkbox"/>	FAC	FACW Species <u>8</u> x 2 = <u>16</u>
4. <u>Vaccinium vitis-idaea</u>	7	<input type="checkbox"/>	FAC	FAC Species <u>52</u> x 3 = <u>156</u>
5. <u>Ledum decumbens</u>	7	<input type="checkbox"/>	FACW	FACU Species <u>13</u> x 4 = <u>52</u>
6. <u>Arctostaphylos alpina</u>	10	<input checked="" type="checkbox"/>	FACU	UPL Species <u>0</u> x 5 = <u>0</u>
7. _____	0	<input type="checkbox"/>	_____	Column Totals: <u>73</u> (A) <u>224</u> (B)
8. _____	0	<input type="checkbox"/>	_____	Prevalence Index = B/A = <u>3.068</u>
9. _____	0	<input type="checkbox"/>	_____	
10. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>64</u>				
<u>Herb Stratum</u>	50% of Total Cover: <u>32</u>	20% of Total Cover: <u>12.8</u>		<b>Hydrophytic Vegetation Indicators:</b>
1. <u>Carex bigelowii</u>	3	<input checked="" type="checkbox"/>	FAC	<input checked="" type="checkbox"/> Dominance Test is > 50%
2. <u>Spinulum annotinum</u>	1	<input type="checkbox"/>	FACU	<input type="checkbox"/> Prevalence Index is ≤ 3.0
3. <u>Cornus suecica</u>	2	<input checked="" type="checkbox"/>	FAC	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. <u>Anthoxanthum monticola ssp. alpinum</u>	2	<input checked="" type="checkbox"/>	FACU	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. <u>Rubus chamaemorus</u>	1	<input type="checkbox"/>	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	0	<input type="checkbox"/>	_____	Plot size (radius, or length x width) <u>10m</u>
7. _____	0	<input type="checkbox"/>	_____	% Cover of Wetland Bryophytes (Where applicable) _____
8. _____	0	<input type="checkbox"/>	_____	% Bare Ground <u>7</u>
9. _____	0	<input type="checkbox"/>	_____	Total Cover of Bryophytes <u>50</u>
10. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>9</u>				
50% of Total Cover: <u>4.5</u>	20% of Total Cover: <u>1.8</u>			<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: Approx 40% fruticose and crustose lichens.

**SOIL**

Sampling Point: **SW12\_T18\_04**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks		
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>				
0-1		100					Hemic Organics			
1-3	10YR	4+/2	100				Loamy Sand			
3-5	5YR	2.5/1	100				Loamy Sand	Fe/Mn nodules and concretions		
5-7	7.5YR	2.5/2	100				Loamy Sand			
7-9	5Y	4+/1+	80	2.5Y	5/6	20	C	PL	Sandy Loam	few angular gravels
9-13	10YR	3/6	70							30% rounded cobbles

<sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix <sup>2</sup> 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:<sup>3</sup>**

- Alaska Color Change (TA4)<sup>4</sup>
- Alaska Alpine swales (TA5)
- Alaska Redox With 2.5Y Hue
- Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- Other (Explain in Remarks)

<sup>3</sup> One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present

<sup>4</sup> Give details of color change in Remarks

Restrictive Layer (if present):

Type:  
Depth (inches):

**Hydric Soil Present?** Yes  No

Remarks:

the 7-9in layer meets A14, these may be relict features.

**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):

Water Table Present? Yes  No  Depth (inches):

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

**Wetland Hydrology Present?** Yes  No

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

Remarks:

no wetland hydrology indicators