

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Matanuska-Susitna Borough Sampling Date: 20-Jun-12  
 Applicant/Owner: Alaska Energy Authority Sampling Point: SW12\_T06\_01  
 Investigator(s): SLI, EKJ Landform (hillside, terrace, hummocks etc.): Lowland  
 Local relief (concave, convex, none): hummocky Slope: 8.7 % / 5.0 ° Elevation: 476  
 Subregion: Interior Alaska Mountains Lat.: 62.8301499088 Long.: -148.60705997 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 <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 checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: PSS1E wetland at toe of slope. channelized flow through western portion of wetland, abundant standing water throughout. scattered pigla shrub snags, well developed hummocks dominated by vacuoli w stressed pigla dwarf trees. inter-hummocks w standing water, dominated by <del>caral and carex</del>	

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
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>4</u> (B)
3. _____	0	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/>	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL Species <u>16</u> x 1 = <u>16</u> FACW Species <u>1</u> x 2 = <u>2</u> FAC Species <u>43</u> x 3 = <u>129</u> FACU Species <u>4</u> x 4 = <u>16</u> UPL Species <u>0</u> x 5 = <u>0</u> Column Totals: <u>64</u> (A) <u>163</u> (B) Prevalence Index = B/A = <u>2.547</u>
5. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>0</u>				
<b>Sapling/Shrub Stratum</b>	50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>		
1. <u>Picea glauca</u>	3	<input type="checkbox"/>	FACU	
2. <u>Vaccinium uliginosum</u>	25	<input checked="" type="checkbox"/>	FAC	
3. <u>Salix barclayi</u>	10	<input checked="" type="checkbox"/>	FAC	
4. <u>Andromeda polifolia (IAM)</u>	1	<input type="checkbox"/>	OBL	
5. <u>Betula nana</u>	1	<input type="checkbox"/>	FAC	
6. <u>Ledum groenlandicum</u>	1	<input type="checkbox"/>	FAC	
7. _____	0	<input type="checkbox"/>	_____	
8. _____	0	<input type="checkbox"/>	_____	
9. _____	0	<input type="checkbox"/>	_____	
10. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>41</u>				
<b>Herb Stratum</b>	50% of Total Cover: <u>20.5</u>	20% of Total Cover: <u>8.2</u>		
1. <u>Comarum palustre</u>	10	<input checked="" type="checkbox"/>	OBL	
2. <u>Equisetum fluviatile</u>	5	<input checked="" type="checkbox"/>	OBL	
3. <u>Rumex arcticus</u>	3	<input type="checkbox"/>	FAC	
4. <u>Eriophorum russeolum</u>	1	<input type="checkbox"/>	FACW	
5. <u>Carex gmelinii</u>	3	<input type="checkbox"/>	FAC	
6. <u>Carex aenae</u>	1	<input type="checkbox"/>	NI	
7. <u>Carex albonigra</u>	1	<input type="checkbox"/>	FACU	
8. _____	0	<input type="checkbox"/>	_____	
9. _____	0	<input type="checkbox"/>	_____	
10. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>24</u>				
50% of Total Cover: <u>12</u>	20% of Total Cover: <u>4.8</u>			

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is > 50%  
 Prevalence Index is ≤ 3.0  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup> 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 10  
 Total Cover of Bryophytes 88

**Hydrophytic Vegetation Present?** Yes  No

Remarks: Total of 1% cover between all eriophorum. Bryophytes predominantly sphagnum spp. Carex keys out, but midrib scale not pale, and not in this area - pressed. Two other carex species pressed, recorded as caralb and careaen. Trace unid grass.

**SOIL**

**Sampling Point: SW12\_T06\_01**

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>		

<sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix    <sup>2</sup> Location: PL=Pore Lining. RC=Root Channel. M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol or Histel (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Alaska Gleyed (A13) <input type="checkbox"/> Alaska Redox (A14) <input type="checkbox"/> Alaska Gleyed Pores (A15)	<p><b>Indicators for Problematic Hydric Soils:<sup>3</sup></b></p> <input type="checkbox"/> Alaska Color Change (TA4) <sup>4</sup> <input type="checkbox"/> Alaska Alpine swales (TA5) <input type="checkbox"/> Alaska Redox With 2.5Y Hue <input type="checkbox"/> Alaska Gleyed Without Hue 5Y or Redder Underlying Layer <input checked="" type="checkbox"/> Other (Explain in Remarks)
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<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):	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks:  
 no soil pit due to standing water throughout site. assume hydric soil due to primary hydrology indicators and hydrophytic vegetation.

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one is sufficient)</p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (two or more are required)</p> <input type="checkbox"/> Water Stained Leaves (B9) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Salt Deposits (C5) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<p><b>Field Observations:</b></p> Surface Water Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 4 Water Table Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0 Saturation Present? (includes capillary fringe)    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:

Remarks:  
 wetland at toe of slope. stunted / stressed picgla in wetland, robust picgla in adjacent upland. water depth ranges from 2-6in, with channelized flow through western portion of site. channelized flow has moderate velocity, 12in deep, 10in bankfull width, fine substrates, overhanging veg, predominantly glide.