

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Matanuska-Susitna Borough Sampling Date: 08-Jul-13  
 Applicant/Owner: Alaska Energy Authority Sampling Point: SW13 T128 04  
 Investigator(s): JER Landform (hillside, terrace, hummocks etc.): Alluvial fan  
 Local relief (concave, convex, none): concave Slope: 32.4 % / 18.0 ° Elevation: 1069  
 Subregion: Southcentral Alaska Lat.: 62.940886378 Long.: -148.861307025 Datum: WGS84  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PSS1/4B

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: <u>sdev hillside, alpine. high water table and saturated organics</u>	

**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) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)
2. _____	0	<input type="checkbox"/>	_____	
3. _____	0	<input type="checkbox"/>	_____	
4. _____	0	<input type="checkbox"/>	_____	
5. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>0</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL Species <u>0</u> x 1 = <u>0</u> FACW Species <u>22</u> x 2 = <u>44</u> FAC Species <u>104</u> x 3 = <u>312</u> FACU Species <u>22</u> x 4 = <u>88</u> UPL Species <u>0</u> x 5 = <u>0</u> Column Totals: <u>148</u> (A) <u>444</u> (B) Prevalence Index = B/A = <u>3.000</u>
<b>Sapling/Shrub Stratum</b>	50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>		
1. <u>Vaccinium uliginosum</u>	55	<input checked="" type="checkbox"/>	FAC	
2. <u>Vaccinium vitis-idaea</u>	10	<input type="checkbox"/>	FAC	
3. <u>Cassiope tetragona</u>	10	<input type="checkbox"/>	FACU	
4. <u>Empetrum nigrum</u>	25	<input checked="" type="checkbox"/>	FAC	
5. <u>Salix polaris</u>	5	<input type="checkbox"/>	FACW	
6. <u>Salix pulchra</u>	15	<input type="checkbox"/>	FACW	
7. <u>Spiraea stevenii</u>	5	<input type="checkbox"/>	FACU	
8. <u>Ledum decumbens</u>	2	<input type="checkbox"/>	FACW	
9. _____	0	<input type="checkbox"/>	_____	
10. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>127</u>				
<b>Herb Stratum</b>	50% of Total Cover: <u>63.5</u>	20% of Total Cover: <u>25.4</u>		
1. <u>Bistorta plumosa</u>	3	<input checked="" type="checkbox"/>	FACU	
2. <u>Artemisia norvegica</u>	2	<input type="checkbox"/>	FACU	
3. <u>Carex bigelowii</u>	5	<input checked="" type="checkbox"/>	FAC	
4. <u>Carex podocarpa</u>	5	<input checked="" type="checkbox"/>	FAC	
5. <u>Poa arctica</u>	2	<input type="checkbox"/>	FAC	
6. <u>Anthoxanthum monticola ssp. alpinum</u>	1	<input type="checkbox"/>	FACU	
7. <u>Festuca altaica</u>	2	<input type="checkbox"/>	FAC	
8. <u>Spinulum annotinum</u>	1	<input type="checkbox"/>	FACU	
9. _____	0	<input type="checkbox"/>	_____	
10. _____	0	<input type="checkbox"/>	_____	
<b>Total Cover:</b> <u>21</u>				
50% of Total Cover: <u>10.5</u>	20% of Total Cover: <u>4.2</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 0.1  
 Total Cover of Bryophytes 60

**Hydrophytic Vegetation Present?** Yes  No

Remarks: hylspl, pticri, neparc, dacarc, cladi 15

**SOIL**

Sampling Point: **SW13\_T128\_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>		
0-3		100					Fibric Organics	
3-6		100					Hemic Organics	
6-10		100					Sandy Loam	
10-17	7.5YR	3/3	100				Loamy Sand	grvl getting more abundant and coarse w d

<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:  
 6 inches of organics over coarse material. below a very steep slope and in a bit of a concavity. Assume hydric soils with low organic-carbon content, located at the base of barren colluvium slope in alpine zone with coarse materials throughout the profile.

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one is sufficient)</p> <input 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)	<p>Secondary Indicators (two or more are required)</p> <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)
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<input type="checkbox"/> Water Stained Leaves (B9) <input 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 type="checkbox"/> FAC-neutral Test (D5)
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<p><b>Field Observations:</b></p> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): Water Table Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 9 Saturation Present? (includes capillary fringe)    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 2	<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:  
 lots of water. more coarse material as the pit got deeper.