

**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\_T137\_01  
 Investigator(s): WAD, BAB Landform (hillside, terrace, hummocks etc.): Knob  
 Local relief (concave, convex, none): convex Slope: % / 16.7 ° Elevation: 109  
 Subregion: Southcentral Alaska Lat.: 62.8257855179 Long.: -148.861096977 Datum: NAD83  
 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"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | <b>Is the Sampled Area<br/>within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks: convex ridge   |  |

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

|  | Absolute % Cover | Dominant Species?                   | Indicator Status               |   |
|--|------------------|-------------------------------------|--------------------------------|---|
| <b>Tree Stratum</b>  |                  |                                     |                                |   |
| 1. _____   | 0                | <input type="checkbox"/>            | _____                          | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br>Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</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>  |                  | 0                                   |                                | <b>Prevalence Index worksheet:</b><br>Total % Cover of: Multiply by:<br>OBL Species <u>0</u> x 1 = <u>0</u><br>FACW Species <u>7</u> x 2 = <u>14</u><br>FAC Species <u>81</u> x 3 = <u>243</u><br>FACU Species <u>15</u> x 4 = <u>60</u><br>UPL Species <u>0</u> x 5 = <u>0</u><br>Column Totals: <u>103</u> (A) <u>317</u> (B)<br>Prevalence Index = B/A = <u>3.078</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>   | 25               | <input checked="" type="checkbox"/> | FAC                            |   |
| 2. <u>Salix reticulata</u>   | 25               | <input checked="" type="checkbox"/> | FAC                            |   |
| 3. <u>Betula nana</u>  | 10               | <input type="checkbox"/>            | FAC                            |   |
| 4. <u>Cassiope tetragona</u>   | 10               | <input type="checkbox"/>            | FACU                           |   |
| 5. <u>Vaccinium vitis-idaea</u>  | 5                | <input type="checkbox"/>            | FAC                            |   |
| 6. <u>Loiseleuria procumbens</u>   | 5                | <input type="checkbox"/>            | FACU                           |   |
| 7. <u>Rhododendron tomentosum</u>  | 5                | <input type="checkbox"/>            | FACW                           |   |
| 8. <u>Empetrum nigrum</u>  | 5                | <input type="checkbox"/>            | FAC                            |   |
| 9. _____   | 0                | <input type="checkbox"/>            | _____                          |   |
| 10. _____  | 0                | <input type="checkbox"/>            | _____                          |   |
| <b>Total Cover:</b>  |                  | 90                                  |                                |   |
| <b>Herb Stratum</b>  |                  |                                     |                                |   |
| <b>Sapling/Shrub Stratum</b>   |                  | 50% of Total Cover: <u>45</u>       | 20% of Total Cover: <u>18</u>  | <b>Hydrophytic Vegetation Indicators:</b><br><input checked="" type="checkbox"/> Dominance Test is > 50%<br><input type="checkbox"/> Prevalence Index is ≤ 3.0<br><input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Cornus suecica</u>   | 10               | <input checked="" type="checkbox"/> | FAC                            |   |
| 2. <u>Carex bigelowii</u>  | 1                | <input type="checkbox"/>            | FAC                            |   |
| 3. <u>Pedicularis labradorica</u>  | 1                | <input type="checkbox"/>            | FACW                           |   |
| 4. <u>Anthoxanthum arcticum</u>  | 1                | <input type="checkbox"/>            | FACW                           |   |
| 5. _____   | 0                | <input type="checkbox"/>            | _____                          |   |
| 6. _____   | 0                | <input type="checkbox"/>            | _____                          |   |
| 7. _____   | 0                | <input type="checkbox"/>            | _____                          |   |
| 8. _____   | 0                | <input type="checkbox"/>            | _____                          |   |
| 9. _____   | 0                | <input type="checkbox"/>            | _____                          |   |
| 10. _____  | 0                | <input type="checkbox"/>            | _____                          |   |
| <b>Total Cover:</b>  |                  | 13                                  |                                |   |
| <b>Sapling/Shrub Stratum</b>   |                  | 50% of Total Cover: <u>6.5</u>      | 20% of Total Cover: <u>2.6</u> |   |
| Plot size (radius, or length x width) <u>10m</u><br>% Cover of Wetland Bryophytes (Where applicable) _____<br>% Bare Ground _____<br>Total Cover of Bryophytes <u>55</u> |                  |                                     |                                |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>   |                  |                                     |                                |   |
| Remarks: unk collected cover .1  |                  |                                     |                                |   |

**SOIL**

Sampling Point: **SW13\_T137\_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> |                 |  |
| 0-1            |               | 100   |                |   |                   |                  | Fibric Organics |  |
| 1-3            | 7.5YR         | 2.5/2 | 100            |   |                   |                  | Sandy Loam      |  |
| 3-5            |               | 100   |                |   |                   |                  | Hemic Organics  | sand particles throughout, wavy boundary c |
| 5-12           | 7.5YR         | 4/4   | 100            |   |                   |                  | Sand            | with 80 percent 4 inch angular cobbles, p  |
|                |               |       |                |   |                   |                  |                 |  |
|                |               |       |                |   |                   |                  |                 |  |
|                |               |       |                |   |                   |                  |                 |  |
|                |               |       |                |   |                   |                  |                 |  |

<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)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Alaska Gleyed (A13)<br><input type="checkbox"/> Alaska Redox (A14)<br><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><br><input type="checkbox"/> Alaska Alpine swales (TA5)<br><input type="checkbox"/> Alaska Redox With 2.5Y Hue<br><input type="checkbox"/> Alaska Gleyed Without Hue 5Y or Redder Underlying Layer<br><input type="checkbox"/> 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):<br>Type:<br>Depth (inches): | <b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
|---|---|

Remarks:

**HYDROLOGY**

|  |   |
|--|---|
| <p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (any one is sufficient)</u></p> <input type="checkbox"/> Surface Water (A1)<br><input type="checkbox"/> High Water Table (A2)<br><input type="checkbox"/> Saturation (A3)<br><input type="checkbox"/> Water Marks (B1)<br><input type="checkbox"/> Sediment Deposits (B2)<br><input type="checkbox"/> Drift Deposits (B3)<br><input type="checkbox"/> Algal Mat or Crust (B4)<br><input type="checkbox"/> Iron Deposits (B5)<br><input type="checkbox"/> Surface Soil Cracks (B6) | <p><u>Secondary Indicators (two or more are required)</u></p> <input type="checkbox"/> Water Stained Leaves (B9)<br><input type="checkbox"/> Drainage Patterns (B10)<br><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)<br><input type="checkbox"/> Presence of Reduced Iron (C4)<br><input type="checkbox"/> Salt Deposits (C5)<br><input type="checkbox"/> Stunted or Stressed Plants (D1)<br><input type="checkbox"/> Geomorphic Position (D2)<br><input type="checkbox"/> Shallow Aquitard (D3)<br><input type="checkbox"/> Microtopographic Relief (D4)<br><input type="checkbox"/> FAC-neutral Test (D5) |
|--|---|

|  |   |
|--|---|
| <p><b>Field Observations:</b></p> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches):<br>Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches):<br>Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
|--|---|

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

Remarks:  
no hydrology indicators observed