

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Denali Borough Sampling Date: 07-Aug-12  
 Applicant/Owner: Alaska Energy Authority Sampling Point: SW12\_T15\_01  
 Investigator(s): CTS, EKJ Landform (hillside, terrace, hummocks etc.): Mountainslope  
 Local relief (concave, convex, none): concave Slope: 10.5 % / 6.0 ° Elevation: 985  
 Subregion: Interior Alaska Mountains Lat.: 63.3476099079 Long.: -148.674469969 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 type="radio"/> No <input checked="" 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 within a Wetland?</b><br>Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks: <u>Sdet or possibly Sdev, light photo tone from lichen, not bare ground</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>1</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>33.3%</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><br>Total % Cover of: _____ Multiply by:<br>OBL Species <u>0</u> x 1 = <u>0</u><br>FACW Species <u>8.1</u> x 2 = <u>16.20</u><br>FAC Species <u>60</u> x 3 = <u>180</u><br>FACU Species <u>29.2</u> x 4 = <u>116.8</u><br>UPL Species <u>0</u> x 5 = <u>0</u><br>Column Totals: <u>97.3</u> (A) <u>313.0</u> (B)<br>Prevalence Index = B/A = <u>3.217</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>  | 45                              | <input checked="" type="checkbox"/> | FAC              |  |
| 2. <u>Betula nana</u>   | 2                               | <input type="checkbox"/>            | FAC              |  |
| 3. <u>Empetrum nigrum</u>   | 10                              | <input type="checkbox"/>            | FAC              |  |
| 4. <u>Ledum decumbens</u>   | 8                               | <input type="checkbox"/>            | FACW             |  |
| 5. <u>Vaccinium vitis-idaea</u>   | 2                               | <input type="checkbox"/>            | FAC              |  |
| 6. <u>Cassiope tetragona</u>  | 20                              | <input checked="" type="checkbox"/> | FACU             |  |
| 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>87</u>   |                                 |                                     |                  |  |
| <b>Herb Stratum</b>   | 50% of Total Cover: <u>43.5</u> | 20% of Total Cover: <u>17.4</u>     |                  |  |
| 1. <u>Anthoxanthum monticola ssp. alpinum</u>   | 1                               | <input type="checkbox"/>            | FACU             |  |
| 2. <u>Carex microchaeta</u>   | 1                               | <input type="checkbox"/>            | FAC              |  |
| 3. <u>Cornus canadensis</u>   | 8                               | <input checked="" type="checkbox"/> | FACU             |  |
| 4. <u>Lycopodium clavatum</u>   | 0.1                             | <input type="checkbox"/>            | FACU             |  |
| 5. <u>Pedicularis labradorica</u>   | 0.1                             | <input type="checkbox"/>            | FACW             |  |
| 6. <u>Bistorta plumosa</u>  | 0.1                             | <input type="checkbox"/>            | FACU             |  |
| 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>10.3</u>   |                                 |                                     |                  |  |
| 50% of Total Cover: <u>5.15</u>   | 20% of Total Cover: <u>2.06</u> |                                     |                  |  |
| Remarks: _____  |                                 |                                     |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input 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)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| Plot size (radius, or length x width) <u>10m</u><br>% Cover of Wetland Bryophytes (Where applicable) <u>50</u><br>% Bare Ground <u>0</u><br>Total Cover of Bryophytes <u>50</u> |                                 |                                     |                  |  |
| <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |                                 |                                     |                  |  |

**SOIL**

Sampling Point: **SW12\_T15\_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> |         |  |
| 0-1            |               |     | 100 |                |   |                   |         | Fibric Organics  |
| 1-4            |               |     | 90  |                |   |                   |         | Hemic Organics<br>10% roots                            |
| 4-7            | 10YR          | 2/2 | 100 |                |   |                   |         | Silt Loam<br>organics, few roots, ang gravel           |
| 7-10           | 10YR          | 3/2 | 60  |                |   |                   |         | Silt Loam<br>coarse sand to ang and semirounded grave  |
| 10-14          | 10YR          | 3/3 | 85  |                |   |                   |         | Loam<br>semirounded and angular gravel and coars       |
| 14-18          | 2.5Y          | 4/3 | 90  |                |   |                   |         | Sandy Loam<br>semirounded and angular gravel and coars |

<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:  
no hydric soil indicators

**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 wetland hydrology indicators