

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Denali Borough Sampling Date: 03-Aug-13  
 Applicant/Owner: Alaska Energy Authority Sampling Point: **SW13\_T194\_08**  
 Investigator(s): SLI, EAC Landform (hillside, terrace, hummocks etc.): Hillside  
 Local relief (concave, convex, none): flat Slope: % / 13.1 ° Elevation: 833  
 Subregion: Interior Alaska Mountains Lat.: 63.3530337807 Long.: -148.333450437 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 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<br/>within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks: stca on hillside. plot at slope break, characterizing 17% slope. much steeper upslope, approx 60% slope. non-wetland at slope break.   |  |

**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>2</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>50.0%</u> (A/B)  |
| 4. _____                           | 0                                | <input type="checkbox"/>            | _____            |   |
| 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>        |                  | <b>Prevalence Index worksheet:</b>  |
| 1. <u>Alnus incana</u>             | 80                               | <input checked="" type="checkbox"/> | FAC              | Total % Cover of: Multiply by:  |
| 2. <u>Spiraea stevenii</u>         | 1                                | <input type="checkbox"/>            | FACU             | OBL Species <u>0</u> x 1 = <u>0</u>   |
| 3. <u>Ribes triste</u>             | 0.1                              | <input type="checkbox"/>            | FAC              | FACW Species <u>1</u> x 2 = <u>2</u>  |
| 4. <u>Salix pulchra</u>            | 1                                | <input type="checkbox"/>            | FACW             | FAC Species <u>83.3</u> x 3 = <u>249.9</u>  |
| 5. _____                           | 0                                | <input type="checkbox"/>            | _____            | FACU Species <u>5</u> x 4 = <u>20</u>   |
| 6. _____                           | 0                                | <input type="checkbox"/>            | _____            | UPL Species <u>0</u> x 5 = <u>0</u>   |
| 7. _____                           | 0                                | <input type="checkbox"/>            | _____            | Column Totals: <u>89.3</u> (A) <u>271.9</u> (B)   |
| 8. _____                           | 0                                | <input type="checkbox"/>            | _____            | Prevalence Index = B/A = <u>3.045</u>   |
| 9. _____                           | 0                                | <input type="checkbox"/>            | _____            |   |
| 10. _____                          | 0                                | <input type="checkbox"/>            | _____            |   |
| <b>Total Cover:</b> <u>82.1</u>    |                                  |                                     |                  |   |
| <b>Herb Stratum</b>                | 50% of Total Cover: <u>41.05</u> | 20% of Total Cover: <u>16.42</u>    |                  | <b>Hydrophytic Vegetation Indicators:</b>   |
| 1. <u>Equisetum sylvaticum</u>     | 3                                | <input checked="" type="checkbox"/> | FAC              | <input type="checkbox"/> Dominance Test is > 50%  |
| 2. <u>Spinulum annotinum</u>       | 2                                | <input checked="" type="checkbox"/> | FACU             | <input type="checkbox"/> Prevalence Index is ≤ 3.0  |
| 3. <u>Dryopteris expansa</u>       | 2                                | <input checked="" type="checkbox"/> | FACU             | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |
| 4. <u>Polemonium acutiflorum</u>   | 0.1                              | <input type="checkbox"/>            | FAC              | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |
| 5. <u>Calamagrostis canadensis</u> | 0.1                              | <input type="checkbox"/>            | FAC              | <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>5m</u>   |
| 7. _____                           | 0                                | <input type="checkbox"/>            | _____            | % Cover of Wetland Bryophytes (Where applicable) _____  |
| 8. _____                           | 0                                | <input type="checkbox"/>            | _____            | % Bare Ground <u>95</u>   |
| 9. _____                           | 0                                | <input type="checkbox"/>            | _____            | Total Cover of Bryophytes <u>2</u>  |
| 10. _____                          | 0                                | <input type="checkbox"/>            | _____            |   |
| <b>Total Cover:</b> <u>7.2</u>     |                                  |                                     |                  |   |
| 50% of Total Cover: <u>3.6</u>     | 20% of Total Cover: <u>1.44</u>  |                                     |                  | <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>                        |

Remarks: no lichen cover

**SOIL**

Sampling Point: **SW13\_T194\_08**

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            | 5YR           | 2.5/1 | 100 |                |   |                   |                  | Fibric Organics |         |
| 3-13           | 7.5YR         | 4/1   | 100 |                |   |                   |                  | Silty Clay      |         |
| 13-18          | 7.5YR         | 2.5/1 | 100 |                |   |                   |                  | Silt Loam       |         |
|                |               |       |     |                |   |                   |                  |                 |         |
|                |               |       |     |                |   |                   |                  |                 |         |
|                |               |       |     |                |   |                   |                  |                 |         |
|                |               |       |     |                |   |                   |                  |                 |         |
|                |               |       |     |                |   |                   |                  |                 |         |

<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

|  |  |
|--|--|
| <p>Restrictive Layer (if present):<br/>                 Type:<br/>                 Depth (inches):</p> | <p><b>Hydric Soil Present?</b>    Yes <input type="radio"/>    No <input checked="" type="radio"/></p> |
|--|--|

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) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)<br><input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)<br><input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15)<br><input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1)<br><input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Dry-Season Water Table (C2)<br><input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Other (Explain in Remarks)<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> <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?      Yes <input type="radio"/>    No <input checked="" type="radio"/>                      Depth (inches):<br/>                 (includes capillary fringe)</p> | <p><b>Wetland Hydrology Present?</b>    Yes <input type="radio"/>    No <input checked="" type="radio"/></p> |
|--|--|

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

Remarks:  
no wetland hydrology indicators