WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 08-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T146_08**

Investigator(s): SLI, EAC | Landform (hillside, terrace, hummocks etc.): Hillside

Local relief (concave, convex, none): flat | Slope: % / 0.9 ° | Elevation: 685

Subregion : Interior Alaska Mountains | Lat.: 63.3835206027 | Long.: -148.760425447 | 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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks: several large picgla stumps cleanly cut by chainsaw. hiking from R2UBH at SW13-T146-V07 to here, the yellowish photosig was nearly identical to that mapped at SW13-T146-07.

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Picea glauca	20	☑	FACU
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	20		

50% of Total Cover: 10 | 20% of Total Cover: 4

Sapling/Shrub Stratum			
1. Picea glauca	7	☐	FACU
2. Dasiphora fruticosa	10	☐	FAC
3. Betula glandulosa	15	☑	FAC
4. Salix barclayi	30	☑	FAC
5. Vaccinium vitis-idaea	2	☐	FAC
6. Vaccinium uliginosum	3	☐	FAC
7. Salix reticulata	10	☐	FAC
8. Arctous ruber	0.1	☐	FAC
9.	0	☐	
10.	0	☐	
Total Cover:	77.1		

50% of Total Cover: 38.55 | 20% of Total Cover: 15.42

Herb Stratum			
1. Petasites frigidus	7	☐	FACW
2. Mertensia paniculata	1	☐	FACU
3. Festuca altaica	1	☐	FAC
4. Saussurea angustifolia	1	☐	FAC
5. Gentianella propinqua	0.1	☐	FACU
6. Chamaenerion angustifolium	0.1	☐	FACU
7. Oxyria digyna	5	☐	FACU
8. Equisetum arvense	30	☑	FAC
9. Valeriana sitchensis	0.1	☐	FAC
10. Calamagrostis canadensis	3	☐	FAC
Total Cover:	48.3		

50% of Total Cover: 24.15 | 20% of Total Cover: 9.66

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	7	x 2 =	14
FAC Species	105.2	x 3 =	315.6
FACU Species	33.2	x 4 =	132.8
UPL Species	0	x 5 =	0
Column Totals:	145.4 (A)		462.4 (B)

Prevalence Index = B/A = 3.180

Hydrophytic Vegetation Indicators:

☑ Dominance Test is > 50%

☐ Prevalence Index is ≤3.0

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] 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 15

Total Cover of Bryophytes 80

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: 3% carbig-like carex w long sheath (carvag?). trace equsci, viola sp, solidago multiradiata

SOIL

Sampling Point: SW13_T146_08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	2.5YR	2/2	100					Fibric Organics	
2-4	2.5YR	2.5/1	100					Hemic Organics	Burned layer at bottom of this horizon.
4-18	10YR	3/1	100					Loam	Banded horizon -see remarks

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix [2] Location: PL=Pore Lining. RC=Root Channel. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils:[3]

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3] One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present

[4] Give details of color change in Remarks

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

Horizon 3 comprises alternating bands of loam and fine sandy loam. Bands range from 1/2 to 1 in thick. Some bands contain relict oxidation features (sharp, distinct boundaries). Burned layer at 7 inches depth. No hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (two or more are required)

- ☐ Water Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

no wetland hydrology indicators