WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 01-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T202_02**

Investigator(s): CTS, AMD | Landform (hillside, terrace, hummocks etc.): Hillside

Local relief (concave, convex, none): flat | Slope: % / 24.1 ° | Elevation: 675

Subregion : Interior Alaska Mountains | Lat.: 63.3944960827 | Long.: -148.535275458 | 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:

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

	Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.	Picea glauca	15	☑	FACU
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
	Total Cover:	15		

Sapling/Shrub Stratum — 50% of Total Cover: 7.5 — 20% of Total Cover: 3

1.	Salix glauca	10	☐	FAC
2.	Salix richardsonii	30	☑	FACW
3.	Alnus viridis	15	☑	FAC
4.	Vaccinium uliginosum	10	☐	FAC
5.	Rhododendron groenlandicum	2	☐	FAC
6.	Vaccinium vitis-idaea	0.1	☐	FAC
7.	Cassiope tetragona	10	☐	FACU
8.	Empetrum nigrum	25	☑	FAC
9.	Salix pulchra	3	☐	FACW
10.	Betula nana	8	☐	FAC
	Total Cover:	113		

Herb Stratum — 50% of Total Cover: 56.55 — 20% of Total Cover: 22.62

1.	Petasites frigidus	20	☑	FACW
2.	Bistorta plumosa	2	☐	FACU
3.	Calamagrostis canadensis	1	☐	FAC
4.	Equisetum arvense	25	☑	FAC
5.	Saussurea angustifolia	1	☐	FAC
6.	Tephroseris atropurpurea	0.1	☐	FAC
7.	Tofieldia pusilla	0.1	☐	FAC
8.	Boykinia richardsonii	20	☑	UPL
9.		0	☐	
10.		0	☐	
	Total Cover:	69.2		

50% of Total Cover: 34.6 — 20% of Total Cover: 13.84

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	53	x 2 =	106
FAC Species	97.3	x 3 =	291.9
FACU Species	27	x 4 =	108
UPL Species	20	x 5 =	100
Column Totals:	197.3 (A)		605.9 (B)

Prevalence Index = B/A = 3.071

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: 0

Total Cover of Bryophytes: 75

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: Lichen = 8

SOIL

Sampling Point: SW13_T202_02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4		100					Hemic Organics	
4-13	10YR 2/1	100					Silt Loam	

[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:
Rock slab at 13. 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