WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 06-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T111_04**

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

Local relief (concave, convex, none): concave | Slope: 17.6 % / 10.0 ° | Elevation: 1023

Subregion : Interior Alaska Mountains | Lat.: 62.770025492 | Long.: -148.14399147 | 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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks: multiple caribou trails

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	0		
Sapling/Shrub Stratum	50% of Total Cover: 0	20% of Total Cover: 0	
1. Betula nana	5	☐	FAC
2. Empetrum nigrum	30	☑	FAC
3. Andromeda polifolia (IAM)	8	☐	OBL
4. Vaccinium vitis-idaea	5	☐	FAC
5. Vaccinium uliginosum	20	☑	FAC
6. Loiseleuria procumbens	3	☐	FACU
7. Salix rotundifolia	2	☐	FAC
8. Ledum decumbens	1	☐	FACW
9. Salix fuscescens	2	☐	FACW
10. Cassiope tetragona	1	☐	FACU
Total Cover:	77		
Herb Stratum	50% of Total Cover: 38.5	20% of Total Cover: 15.4	
1. Pedicularis capitata	1	☐	FACU
2. Festuca altaica	5	☑	FAC
3. Gentiana glauca	1	☐	FAC
4. Dodecatheon frigidum	3	☑	FACW
5. Artemisia norvegica	2	☑	FACU
6. Anthoxanthum monticola ssp. alpinum	2	☑	FACU
7. Bistorta vivipara	0.1	☐	FAC
8. Carex bigelowii	1	☐	FAC
9. Carex podocarpa	2	☑	FAC
10. Tofieldia pusilla	2	☑	FAC
Total Cover:	19.1		
50% of Total Cover: 9.55	20% of Total Cover: 3.82		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (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	8	x 1 =	8
FACW Species	6	x 2 =	12
FAC Species	73.1	x 3 =	219.3
FACU Species	9	x 4 =	36
UPL Species	0	x 5 =	0
Column Totals:	96.1 (A)		275.3 (B)

Prevalence Index = B/A = 2.865

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 2

Total Cover of Bryophytes 25

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: anenar 1, sedros 1, antmon 5, arnles 1, cascau 1, masric 2, pyrgra 1,pedlab 1

SOIL

Sampling Point: SW13_T111_04

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
0-1			100						Fibric Organics	
1-3	7.5YR	2.5/2	100						Silt Loam	high organic content
3-9	7.5YR	2.5/2	100						Sandy Loam	gravel
9-18	2.5Y	4/3	100						Fine Sand	w gravel

[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:
probed up to 3ft, no frost. 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.