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_05**

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

Local relief (concave, convex, none): convex | Slope: % / 1.1 ° | Elevation: 102

Subregion : Interior Alaska Mountains | Lat.: 62.77000165 | Long.: -148.142310024 | 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: knob w, large sorted circles, center are sdee with rocks at surface, margins are slcbe

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. Empetrum nigrum	25	☑	FAC
2. Rhododendron tomentosum	20	☑	FACW
3. Betula nana	15	☑	FAC
4. Vaccinium uliginosum	15	☑	FAC
5. Vaccinium vitis-idaea	15	☑	FAC
6. Loiseleuria procumbens	10	☐	FACU
7. Salix pulchra	10	☐	FACW
8. Salix arctica	5	☐	FACU
9. Cassiope tetragona	5	☐	FACU
10. Arctous alpinus	5	☐	FACU
Total Cover:	125		
Herb Stratum (50% of Total Cover: 62.5 / 20% of Total Cover: 25)			
1. Carex bigelowii	5	☑	FAC
2. Calamagrostis canadensis	5	☑	FAC
3. Festuca altaica	3	☑	FAC
4. Carex podocarpa	2	☐	FAC
5. Bistorta vivipara	2	☐	FAC
6. Tofieldia coccinea	2	☐	FAC
7. Arnica lessingii	1	☐	UPL
8. Anthoxanthum arcticum	1	☐	FACW
9. Bistorta plumosa	1	☐	FACU
10. Pedicularis langsdorfii	1	☐	FACW
Total Cover:	23		
50% of Total Cover: 11.5 / 20% of Total Cover: 4.6			

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	32	x 2 =	64
FAC Species	89	x 3 =	267
FACU Species	26	x 4 =	104
UPL Species	1	x 5 =	5
Column Totals:	148 (A)		440 (B)

Prevalence Index = B/A = 2.973

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 5

Total Cover of Bryophytes 45

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: rubcha 1, sedros 1, camlas 0.1 , picgla 1, dacarc 2, pelaph 2, hylspl 20, pticri 10, rholap 1, lichc 5, dryoct 5, anenar 1, salret 2,

SOIL

Sampling Point: SW13_T111_05

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
0-1			100						Fibric Organics	
1-14	2.5Y	4/3	85	10YR	4/4	10	C	M	Sandy Clay Loam	5y 5/2 reduced features and 7.5 yr 3/3 cry
14-20	2.5Y	4/2	100						Coarse Sand	and 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:
no frost. redox features that are about silver dollar sized and cryoturbation! 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): 18
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 14

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:
no wetland hydrology indicators