WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 10-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T135_03**

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

Local relief (concave, convex, none): | Slope: % / 2.1 ° | Elevation: 101

Subregion : Southcentral Alaska | Lat.: 62.8872163298 | Long.: -148.88653767 | 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 ○

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? **Yes** ○ **No** ◉

Remarks: water table appears perched above normal 9-11 in. rocky depressions have stereocaulon and other fruticose lichens underwater. saturated upland soils. relief is soil covered rocky mounds

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

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

50% of Total Cover: 0 | 20% of Total Cover: 0

Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Vaccinium uliginosum	25	☑	FAC
2. Vaccinium vitis-idaea	10	☐	FAC
3. Empetrum nigrum	25	☑	FAC
4. Salix pulchra	7	☐	FACW
5. Cassiope tetragona	3	☐	FACU
6. Salix fuscescens	3	☐	FACW
7. Loiseleuria procumbens	5	☐	FACU
8. Spiraea stevenii	2	☐	FACU
9. Betula nana	3	☐	FAC
10. Arctous alpinus	2	☐	FACU
Total Cover:	85		

50% of Total Cover: 42.5 | 20% of Total Cover: 17

Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Anthoxanthum monticola ssp. alpinum	2	☐	UPL
2. Anemone narcissiflora	1	☐	FACU
3. Huperzia selago	0.1	☐	UPL
4. Carex bigelowii	8	☑	FAC
5. Arctagrostis latifolia	1	☐	FACW
6. Festuca altaica	2	☐	FAC
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	14.1		

50% of Total Cover: 7.05 | 20% of Total Cover: 2.82

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (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	11	x 2 =	22
FAC Species	73	x 3 =	219
FACU Species	15	x 4 =	60
UPL Species	0.1	x 5 =	0.500
Column Totals:	99.1 (A)		301.5 (B)

Prevalence Index = B/A = 3.042

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 1

Total Cover of Bryophytes 10

Hydrophytic Vegetation Present? **Yes** ◉ **No** ○

Remarks: standing water 3, fruticose lichens 50, claste, cetisl, bare grnd is rock,

SOIL

Sampling Point: SW13_T135_03

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
0-2			100						Fibric Organics	
2-4			100						Hemic Organics	w some silt and sand
4-7	7.5YR	2.5/2	100						Sand	
7-17	10YR	3/4	80						Sand	some org inclsn and 7.5yr 3/3. pretty jumbl

[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: frost or rock

Depth (inches): 24

Hydric Soil Present? Yes ○ No ◉

Remarks:

thixotropic layers after 7 got pretty jumbled. super saturated sands. 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): 3
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

super wet. lichens submerged in the little pubh's. looks like water table is 9to11inches higher than norm.