WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 08-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T128_04**

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

Local relief (concave, convex, none): concave | Slope: % / 12.2 ° | Elevation: 106

Subregion : Southcentral Alaska | Lat.: 62.9408863778 | Long.: -148.861307024 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1/4B**

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: sdev hillside, alpine. high water table and saturated organics

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		

Sapling/Shrub Stratum — 50% of Total Cover: 0 — 20% of Total Cover: 0

1. Vaccinium uliginosum	55	☑	FAC
2. Vaccinium vitis-idaea	10	☐	FAC
3. Cassiope tetragona	10	☐	FACU
4. Empetrum nigrum	25	☑	FAC
5. Salix polaris	5	☐	FACW
6. Salix pulchra	15	☐	FACW
7. Spiraea stevenii	5	☐	FACU
8. Rhododendron tomentosum	2	☐	FACW
9.	0	☐	
10.	0	☐	
Total Cover:	127		

Herb Stratum — 50% of Total Cover: 63.5 — 20% of Total Cover: 25.4

1. Bistorta plumosa	3	☑	FACU
2. Artemisia norvegica	2	☐	FACU
3. Carex bigelowii	5	☑	FAC
4. Carex podocarpa	5	☑	FAC
5. Poa arctica	2	☐	FAC
6. Anthoxanthum monticola ssp. alpinum	1	☐	UPL
7. Festuca altaica	2	☐	FAC
8. Spinulum annotinum	1	☐	FACU
9.	0	☐	
10.	0	☐	
Total Cover:	21		

50% of Total Cover: 10.5 — 20% of Total Cover: 4.2

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	22	x 2 =	44
FAC Species	104	x 3 =	312
FACU Species	22	x 4 =	88
UPL Species	0	x 5 =	0
Column Totals:	148 (A)		444 (B)

Prevalence Index = B/A = 3.000

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 0.1

Total Cover of Bryophytes 60

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

Remarks: hylspl, pticri, neparc, dacarc, cladi 15

SOIL

Sampling Point: SW13_T128_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
0-3		100					Fibric Organics	
3-6		100					Hemic Organics	
6-10		100					Sandy Loam	
10-17	7.5YR 3/3	100					Loamy Sand	grvl getting more abundant and coarse w d

[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:

6 inches of organics over coarse material. below a very steep slope and in a bit of a concavity. Assume hydric soils with low organic-carbon content, located at the base of barren colluvium slope in alpine zone with coarse materials throughout the profile.

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): 9
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 2

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

lots of water. more coarse material as the pit got deeper.