WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 05-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T34_05**

Investigator(s): SLI, KMK | Landform (hillside, terrace, hummocks etc.): Toeslope

Local relief (concave, convex, none): hummocky | Slope: % / 4.9 ° | Elevation: 110

Subregion : Southcentral Alaska | Lat.: 62.8934881769 | Long.: -148.684625653 | 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: eastern aspect toeslope, adjacent to emergent wetland characterized by SW12_T34_06.

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	20	☑	FAC
2. Vaccinium vitis-idaea	3	☐	FAC
3. Empetrum nigrum	20	☑	FAC
4. Salix pulchra	7	☐	FACW
5. Cassiope tetragona	2	☐	FACU
6. Rhododendron tomentosum	1	☐	FACW
7. Luetkea pectinata	3	☐	UPL
8. Spiraea stevenii	1	☐	FACU
9.	0	☐	
10.	0	☐	
Total Cover:	57		

Herb Stratum — 50% of Total Cover: 28.5 — 20% of Total Cover: 11.4

1. Carex atrofusca	5	☑	FACW
2. Anthoxanthum monticola ssp. alpinum	3	☑	UPL
3. Aster alpinus var. vierhapperi	1	☐	UPL
4. Diphasiastrum alpinum	2	☐	FACU
5. Artemisia norvegica	3	☑	FACU
6. Rhodiola integrifolia	1	☐	FAC
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	15		

50% of Total Cover: 7.5 — 20% of Total Cover: 3

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	13	x 2 =	26
FAC Species	44	x 3 =	132
FACU Species	11	x 4 =	44
UPL Species	4	x 5 =	20
Column Totals:	72 (A)		222 (B)

Prevalence Index = B/A = 3.083

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 70

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: salpul 5% tall, 2% dwarf.

SOIL

Sampling Point: SW12_T34_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-.5								Fibric Organics	
.5-2								Hemic Organics	
2-6.5	5YR	4/3	100					Silt	
6.5-7								Sapric Organics	
7-14	5YR	4/3	100					Silt	
14-16								Sapric Organics	
16-18	7.5YR	4/3	100						

[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:
disturbed, buried organics throughout. high chroma red soils do not mert any 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): 15
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 8

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: