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_03**

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

Local relief (concave, convex, none): concave | Slope: 0.0 % / 0.0 ° | Elevation: 1271

Subregion : Southcentral Alaska | Lat.: 62.8965365783 | Long.: -148.692616645 | 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: nivation hollow, one of several along the slope at this elevation.

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.	Empetrum nigrum	2	☐	FAC
2.	Salix rotundifolia	10	☐	FAC
3.	Luetkea pectinata	20	☑	UPL
4.	Loiseleuria procumbens	5	☐	FACU
5.	Harrimanella stelleriana	20	☑	FACW
6.	Cassiope tetragona	1	☐	FACU
7.		0	☐	
8.		0	☐	
9.		0	☐	
10.		0	☐	
	Total Cover:	58		

Herb Stratum — 50% of Total Cover: 29 — 20% of Total Cover: 11.6

1.	Sibbaldia procumbens	7	☑	FACU
2.	Diphasiastrum alpinum	3	☐	FACU
3.	Carex microchaeta	5	☑	FAC
4.	Sedum rosea	1	☐	FAC
5.	Gentiana glauca	1	☐	FAC
6.	Juncus biglumis	1	☐	OBL
7.	Anthoxanthum monticola ssp. alpinum	3	☐	FACU
8.	Luzula arcuata	5	☑	FACU
9.	Trisetum spicatum	5	☑	FAC
10.	Antennaria monocephala	5	☑	UPL
	Total Cover:	36		

50% of Total Cover: 18 — 20% of Total Cover: 7.2

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 42.9% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	1	x 1 =	1
FACW Species	20	x 2 =	40
FAC Species	24	x 3 =	72
FACU Species	24	x 4 =	96
UPL Species	25	x 5 =	125
Column Totals:	94 (A)		334 (B)

Prevalence Index = B/A = 3.553

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): 2m x 5m

% Cover of Wetland Bryophytes (Where applicable):

% Bare Ground: 5

Total Cover of Bryophytes: 60

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: trace pedicularis sp.

SOIL

Sampling Point: SW12_T34_03

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-.25									Fibric Organics	
.25-.75	5YR	4/2	100						Silt Loam	eolian?
.75-2									Sapric Organics	
2-3	5YR	2.5/2	100						Silt Loam	
3-15	5YR	4/4	60						Coarse Sandy Loam	40% subang-ang gravel-cobbles

[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 hydric soil indicators. refusal at 15in.

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