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_T35_04**

Investigator(s): CTS, EKJ | Landform (hillside, terrace, hummocks etc.): Mountainslope

Local relief (concave, convex, none): flat | Slope: 8.7 % / 5.0 ° | Elevation: 1048

Subregion : Southcentral Alaska | Lat.: 62.8994599084 | Long.: -148.66691997 | Datum: WGS84

Soil Map Unit Name: | **NWI classification: PSS1B**

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: Slcw is best call for the polygon even though cover is 65% on plot (open seep on plot reduced cover)

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. Salix pulchra	65	☑	FACW
2. Salix fuscescens	1	☐	FACW
3. Spiraea stevenii	5	☐	FACU
4. Vaccinium uliginosum	2	☐	FAC
5. Empetrum nigrum	2	☐	FAC
6. Vaccinium vitis-idaea	0.1	☐	FAC
7. Salix reticulata	0.1	☐	FAC
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	75.2		

Herb Stratum — 50% of Total Cover: 37.6 — 20% of Total Cover: 15.04

1. Sedum rosea	3	☐	FAC
2. Geranium erianthum	3	☐	FACU
3. Carex bigelowii	3	☐	FAC
4. Swertia perennis	1	☐	FACW
5. Sanguisorba canadensis	20	☑	FACW
6. Aster alpinus var. vierhapperi	1	☐	UPL
7. Senecio triangularis	2	☐	FACW
8. Solidago canadensis	2	☐	FACU
9. Equisetum arvense	10	☑	FAC
10. Chamerion angustifolium	4	☐	FACU
Total Cover:	49		

50% of Total Cover: 24.5 — 20% of Total Cover: 9.8

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	89	x 2 =	178
FAC Species	20.2	x 3 =	60.60
FACU Species	14	x 4 =	56
UPL Species	1	x 5 =	5
Column Totals:	124.2	(A)	299.6 (B)

Prevalence Index = B/A = 2.412

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) 50

% Bare Ground 0

Total Cover of Bryophytes 50

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

Remarks: Calcan, Pyrasa, Luzpar, Valcap, Arnlat = 1 cover, Violan = 3, Caraqu, Eriang, Carrar = 0.1, Compal = 1

SOIL

Sampling Point: SW12_T35_04

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
0-3			100						Fibric Organics	
3-7			90						Hemic Organics	10% roots
7-14	10YR	3/1	95						Sandy Loam	with 5YR 4/1 sand inclusion
14-18	10YR	3/6	70	5Y	3/1	10	D	M	Sandy Loam	5% 10Y 4/1 reduction, thin organic layers
18-21	5Y	3/1	80	N	2.5/1	20	D	M	Loamy Sand	gleyed color only in sand rich portions

[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:

Nearly histic epipedon, but no reduction in upper 12 inches. Due to coarse nature of the layers in the soil profile and strong hydrologic evidence assuming soil does not contain suficient organic carbon.

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): 12
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 1

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: