WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 01-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T41_03**

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

Local relief (concave, convex, none): hummocky | Slope: % / 1.4 ° | Elevation: 818

Subregion : Interior Alaska Mountains | Lat.: 62.801346395 | Long.: -148.013612403 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1/EM1E**

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: carbig tussocks and peaty hummocks with mesic shrubs, intermixed with wet sedge too finely to map seperately. other lakeshore areas have less wet sedge and more tussocks and/or hummocks w mesic shrub community

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			
1. Vaccinium uliginosum	10	☑	FAC
2. Empetrum nigrum	10	☑	FAC
3. Betula nana	15	☑	FAC
4. Salix pulchra	10	☑	FACW
5. Rhododendron tomentosum	10	☑	FACW
6. Vaccinium vitis-idaea	5	☐	FAC
7. Spiraea stevenii	1	☐	FACU
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	61		

50% of Total Cover: 30.5 | 20% of Total Cover: 12.2

Herb Stratum			
1. Carex aquatilis	10	☑	OBL
2. Carex canescens (IAM)	20	☑	FAC
3. Eriophorum viridicarinatum	10	☑	OBL
4. Equisetum arvense	3	☐	FAC
5. Carex bigelowii	10	☑	FAC
6. Arctagrostis latifolia	15	☑	FACW
7. Petasites frigidus	3	☐	FACW
8. Luzula parviflora	1	☐	FAC
9. Cornus canadensis	1	☐	FACU
10. Equisetum fluviatile	1	☐	OBL
Total Cover:	74		

50% of Total Cover: 37 | 20% of Total Cover: 14.8

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (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	21	x 1 =	21
FACW Species	38	x 2 =	76
FAC Species	74	x 3 =	222
FACU Species	2	x 4 =	8
UPL Species	0	x 5 =	0
Column Totals:	135 (A)		327 (B)

Prevalence Index = B/A = 2.422

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) 5m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground 30

Total Cover of Bryophytes 30

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

Remarks: erivir mult heads, no red base, conspicuous leaf. trace rubcha, parnassia palustris, and poa sp. arclat same grass as collected at SW12_T46 on 7/31/12

SOIL

Sampling Point: SW12_T41_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

[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:
assume hydric soils due to standing water and hydrophytic vegetation

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): 4
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:
iron floc and biogenic sheen in standing water