WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 07-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T15_01**

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

Local relief (concave, convex, none): concave | Slope: % / 10.6 ° | Elevation: 953

Subregion : Interior Alaska Mountains | Lat.: 63.3476082031 | Long.: -148.674445279 | 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 ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks: Sdet or possibly Sdev, light photo tone from lichen, not bare ground

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	45	☑	FAC
2. Cassiope tetragona	20	☑	FACU
3. Empetrum nigrum	10	☐	FAC
4. Rhododendron tomentosum	8	☐	FACW
5. Vaccinium vitis-idaea	2	☐	FAC
6. Betula nana	2	☐	FAC
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	87		

50% of Total Cover: 43.5 | 20% of Total Cover: 17.4

Herb Stratum			
1. Cornus canadensis	8	☑	FACU
2. Carex microchaeta	1	☐	FAC
3. Anthoxanthum monticola ssp. alpinum	1	☐	UPL
4. Lycopodium clavatum	0.1	☐	FACU
5. Pedicularis labradorica	0.1	☐	FACW
6. Bistorta plumosa	0.1	☐	FACU
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	10.3		

50% of Total Cover: 5.15 | 20% of Total Cover: 2.06

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	8.1	x 2 =	16.20
FAC Species	60	x 3 =	180
FACU Species	29.2	x 4 =	116.8
UPL Species	0	x 5 =	0
Column Totals:	97.3 (A)		313.0 (B)

Prevalence Index = B/A = 3.217

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:

SOIL

Sampling Point: SW12_T15_01

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
0-1			100						Fibric Organics	
1-4			90						Hemic Organics	10% roots
4-7	10YR	2/2	100						Silt Loam	organics, few roots, ang gravel
7-10	10YR	3/2	60						Silt Loam	coarse sand to ang and semirounded grave
10-14	10YR	3/3	85						Loam	semirounded and angular gravel and coars
14-18	2.5Y	4/3	90						Sandy Loam	semirounded and angular gravel and coars

[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

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