WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 06-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T04_08**

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

Local relief (concave, convex, none): flat | Slope: % / 12.7 ° | Elevation: 820

Subregion : Interior Alaska Mountains | Lat.: 63.4528382075 | Long.: -148.66301519 | 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:

VEGETATION - Use scientific names of plants. List all species in the plot.

	Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.	Picea glauca	3	☐	FACU
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
	Total Cover:	3		
	Sapling/Shrub Stratum	50% of Total Cover: 1.5	20% of Total Cover: 0.6	
1.	Alnus viridis	85	☑	FAC
2.	Ribes triste	15	☐	FAC
3.	Salix glauca	3	☐	FAC
4.	Salix barclayi	3	☐	FAC
5.	Picea glauca	3	☐	FACU
6.	Arctous alpinus	2	☐	FACU
7.	Salix reticulata	2	☐	FAC
8.	Empetrum nigrum	1	☐	FAC
9.	Dasiphora fruticosa	1	☐	FAC
10.	Vaccinium uliginosum	1	☐	FAC
	Total Cover:	116		
	Herb Stratum	50% of Total Cover: 58	20% of Total Cover: 23.2	
1.	Chamaenerion angustifolium	10	☑	FACU
2.	Boykinia richardsonii	4	☑	UPL
3.	Anemone parviflora	3	☐	FACU
4.	Equisetum pratense	3	☐	FACW
5.	Carex scirpoidea	2	☐	FACU
6.	Festuca rubra	2	☐	FAC
7.	Solidago canadensis	1	☐	UPL
8.	Mertensia paniculata	1	☐	FACU
9.	Spinulum annotinum	1	☐	FACU
10.	Dryopteris expansa	0.1	☐	FACU
	Total Cover:	27.1		
	50% of Total Cover: 13.55	20% of Total Cover: 5.42		

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	3	x 2 =	6
FAC Species	113	x 3 =	339
FACU Species	25.1	x 4 =	100.4
UPL Species	5	x 5 =	25
Column Totals:	146.1 (A)		470.4 (B)

Prevalence Index = B/A = 3.220

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) 15

% Bare Ground 80

Total Cover of Bryophytes 15

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Bosros, Adoxa moschatellina = 0.1 cover.total tree cover <5% thus no tree species dominant.

SOIL

Sampling Point: SW12_T04_08

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			95%						Fibric Organics	5% roots
1-4			95%						Hemic Organics	5% roots
4-7			100%						Sapric Organics	few roots
7-8	5Y	4/1	100%						Loamy Silt	few angular gravels
8-19	N	3/1	90%	7.5YR	5/8	10%	C	PL	Loamy Silt	few angular gravels

[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. N 3/1 does not appear to be a gleyed soil, rather this is the color of the parent material. Several larger, schist-like pieces have this color. Concentrations are distinct masses, removable by hand/knife, but they are not soft masses. Many concentrations are around gravels with obvious pieces or quartz or schist at center, others hard masses that can be broken open to reveal no gravel interior but instead 7.5YR5/8 throughout. Only these two distinct colors are present, with very sharp boundaries.

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