WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 20-Jun-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T06_05**

Investigator(s): SLI, EKJ | Landform (hillside, terrace, hummocks etc.): Gulch or Gully

Local relief (concave, convex, none): undulating | Slope: % / 8.9 ° | Elevation: 459

Subregion : Interior Alaska Mountains | Lat.: 62.8274981616 | Long.: -148.619735707 | 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 ◉

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks: at base of steep upland slope, transitions to picea community further downslope.

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Picea glauca	10	☑	FACU
2. Betula neoalaskana	7	☑	FACU
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	17		

Sapling/Shrub Stratum — 50% of Total Cover: 8.5 — 20% of Total Cover: 3.4

1. Rosa acicularis	20	☑	FACU
2. Vaccinium vitis-idaea	10	☑	FAC
3. Linnaea borealis	10	☑	FACU
4. Viburnum edule	7	☐	FACU
5. Betula neoalaskana	5	☐	FACU
6. Ribes bracteosum	5	☐	FAC
7. Vaccinium uliginosum	2	☐	FAC
8. Picea glauca	1	☐	FACU
9.	0	☐	
10.	0	☐	FACU
Total Cover:	60		

Herb Stratum — 50% of Total Cover: 30 — 20% of Total Cover: 12

1. Arctagrostis latifolia	20	☑	FACW
2. Cornus suecica	7	☑	FAC
3. Equisetum sylvaticum	5	☐	FAC
4. Rubus arcticus (IAM)	3	☐	FACU
5. Equisetum arvense	2	☐	FAC
6. Trientalis europaea	2	☐	FACU
7. Mertensia paniculata	1	☐	FACU
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	40		

50% of Total Cover: 20 — 20% of Total Cover: 8

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	0	x 1 =	0
FACW Species	20	x 2 =	40
FAC Species	31	x 3 =	93
FACU Species	66	x 4 =	264
UPL Species	0	x 5 =	0
Column Totals:	117 (A)		397 (B)

Prevalence Index = B/A = 3.393

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)

% Bare Ground 10

Total Cover of Bryophytes 70

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: arclat id based on last season inflorescence. many snags and dead down trees.

SOIL

Sampling Point: SW12_T06_05

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
0-2			100						Hemic Organics	
2-9	2.5Y	4/2	95	7.5YR	3/2	3	C	PL	Silty Clay Loam	2% fine roots
9-10	2.5Y	5/2	80			20	C	PL	Silty Clay Loam	concentrations too faint to accurately color
10-16	2.5Y	3+/2	100						Silty Clay Loam	

[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:

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