WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 27-Jun-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T24_09**

Investigator(s): SLI, LMF | Landform (hillside, terrace, hummocks etc.): Hillside

Local relief (concave, convex, none): hummocky | Slope: % / 2.5 ° | Elevation: 805

Subregion : Copper River Basin | Lat.: 62.6690179467 | Long.: -147.397835842 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1/3B**

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: mesic birch community on gentle hillside, with scattered picgla.

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Picea mariana	5	☑	FACW
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	5		

50% of Total Cover: 2.5 | 20% of Total Cover: 1

Sapling/Shrub Stratum			
1. Betula nana	15	☐	FAC
2. Picea glauca	1	☐	FACU
3. Vaccinium uliginosum	30	☑	FAC
4. Rhododendron tomentosum	20	☑	FACW
5. Vaccinium vitis-idaea	10	☐	FAC
6. Empetrum nigrum	20	☑	FAC
7. Arctous ruber	5	☐	FAC
8. Dasiphora fruticosa	1	☐	FAC
9. Salix pulchra	3	☐	FACW
10. Andromeda polifolia (CRB)	1	☐	OBL
Total Cover:	106		

50% of Total Cover: 53 | 20% of Total Cover: 21.2

Herb Stratum			
1. Equisetum sylvaticum	5	☑	FAC
2. Bistorta plumosa	1	☐	FACU
3. Petasites frigidus	2	☐	FACW
4. Chamaenerion angustifolium	1	☐	FACU
5. Carex bigelowii	10	☑	FAC
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	19		

50% of Total Cover: 9.5 | 20% of Total Cover: 3.8

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (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	1	x 1 =	1
FACW Species	30	x 2 =	60
FAC Species	96	x 3 =	288
FACU Species	3	x 4 =	12
UPL Species	0	x 5 =	0
Column Totals:	130 (A)		361 (B)

Prevalence Index = B/A = 2.777

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 5

Total Cover of Bryophytes 80

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

Remarks: trace sauang and pedicularis sp

SOIL

Sampling Point: SW12_T24_09

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									Fibric Organics	
3-6	10YR	3/2	90	10YR	3/3	10%	C	M	Sandy Clay	
6-10	5Y	4/2	60	10YR	4/6	35	C	PL	Sandy Clay	2% of Con in rhizosphere of live roots. 5%
10-16	2.5Y	4/3	100						Sandy Clay	

[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): 2

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

soils saturated at surface from recent precipitation -bottom of soil pit is moist, but not saturated. positive rxn to a,a-dipyridol and oxidized rhizospheres of living roots (>2%) in upper 12in. mesic site meets wetland hydrology parameter.