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_07**

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

Local relief (concave, convex, none): hummocky | Slope: % / 3.9 ° | Elevation: 777

Subregion : Copper River Basin | Lat.: 62.6648279471 | Long.: -147.399955845 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS4B**

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:

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.	Picea mariana	40	☑	FACW
2.	Betula nana	10	☐	FAC
3.	Vaccinium uliginosum	10	☐	FAC
4.	Rhododendron tomentosum	5	☐	FACW
5.	Empetrum nigrum	7	☐	FAC
6.	Salix pulchra	5	☐	FACW
7.	Andromeda polifolia (CRB)	1	☐	OBL
8.		0	☐	
9.		0	☐	
10.		0	☐	
	Total Cover:	78		

50% of Total Cover: 39 | 20% of Total Cover: 15.6

	Herb Stratum			
1.	Carex bigelowii	30	☑	FAC
2.	Rubus chamaemorus	3	☐	FACW
3.	Petasites frigidus	1	☐	FACW
4.	Equisetum arvense	5	☐	FAC
5.	Carex canescens(CRB)	1	☐	FAC
6.	Eriophorum russeolum	2	☐	FACW
7.	Carex rotundata	1	☐	OBL
8.	Caltha palustris	1	☐	OBL
9.		0	☐	
10.		0	☐	
	Total Cover:	44		

50% of Total Cover: 22 | 20% of Total Cover: 8.8

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (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	3	x 1 =	3
FACW Species	61	x 2 =	122
FAC Species	63	x 3 =	189
FACU Species	0	x 4 =	0
UPL Species	0	x 5 =	0
Column Totals:	127 (A)		314 (B)

Prevalence Index = B/A = 2.472

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

Total Cover of Bryophytes

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

Remarks: trace pinguicula villosa, pyrola secunda, and juncus sp.

SOIL

Sampling Point: SW12_T24_07

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
0-7	2.5Y	3/2	95	7.5YR	3/3+	5	C	PL	Loamy Sand	
7-10	2.5Y	4/3	60	10YR	4/4	2	C	PL	Loamy Sand	2.5Y3/2 also ca. 38%
10-16	5Y	4/2	40	10YR	4/4	40	C	PL	Loamy Sand	20% incl of 2.5y 4/3 and 2.5y 3/2. con PL &

[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:
a,a,-dipyridol positive rxn.

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): 3
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
no water table documented w saturation, thus do not meet A3. small areas of ponded water and obl vegetation, water ~3in deep. positive rxn to a,a-dipyridol in soils from 7-16in bgs.