## WETLAND DETERMINATION DATA FORM - Alaska Region

Project/	/Site: Susitna-Watana Hydroelectric Project	В	orough/City:	Matanusk	a-Susitna Borough Sampling Date: 24-Jun-12
Applica	nt/Owner: Alaska Energy Authority				Sampling Point: SW12_T07_05
Investig	gator(s): JGK	ı	Landform (hill	side, terrac	e, hummocks etc.): Bench
Local re	elief (concave, convex, none): hummocky		Slope: 0.0	% / 0.0	° Elevation: 523
Subreg	ion : Interior Alaska Mountains	Lat.: 6	 62.834289908	 38	Long.: -148.259809973 Datum: WGS84
_	p Unit Name:	_			NWI classification: Upland
Are Vo	egetation , Soil , or Hydrology regetation , Soil , or Hydrology regetation research site map show the Hydrophytic Vegetation Present? Yes No C	significantly naturally pro ving sam	disturbed? oblematic? opling point	(If nee	(If no, explain in Remarks.)  lormal Circumstances" present? Yes ● No ○  eded, explain any answers in Remarks.)
	· · · · · · · · · · · · · · · · · · ·			ithin a W	
	Wetland Hydrology Present? Yes ● No C	)			
	TATION - Use scientific names of plants. Li	st all spe  Absolute % Cover	cies in the  Dominant Species?		Dominance Test worksheet:  Number of Dominant Species
	Picea glauca	15	<b>✓</b>	FACU	That are OBL, FACW, or FAC:3(A)
2.		0			Total Number of Dominant Species Across All Strata: 4 (B)
3.		_			Percent of dominant Species
4.		0			That Are OBL, FACW, or FAC: 75.0% (A/B)
5.		0			Prevalence Index worksheet:
	Total Cover:	15			Total % Cover of: Multiply by:
Sapl	ing/Shrub Stratum 50% of Total Cover:	7.5 20%	of Total Cover	3	OBL Species
1.	Betula glandulosa	40	<b>✓</b>	FAC	FACW Species x 2 = 2
2.	Picea glauca	5		FACU	FAC Species <u>85</u> x 3 = <u>255</u>
3.	Vaccinium vitis-idaea	20	<b>✓</b>	FAC	FACU Species 20 x 4 = 80
4.	Vaccinium uliginosum	10		FAC	UPL Species0 x 5 =0
5.	Ledum groenlandicum	5		FAC	Column Totals: <u>106</u> (A) <u>337</u> (B)
6.	Ledum decumbens	1		FACW	
7.		0			Prevalence Index = B/A =3.179
8.		0			Hydrophytic Vegetation Indicators:
		0			✓ Dominance Test is > 50%
10.		0			Prevalence Index is ≤3.0
Herl	Total Cover: 50% of Total Cover:		of Total Cover	16.2	Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
1.	Carex bigelowii	10	<b>✓</b>	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2.					<sup>1</sup> Indicators of hydric soil and wetland hydrology must
					be present, unless disturbed or problematic.
					Plot size (radius, or length x width)
					% Cover of Wetland Bryophytes 3
					(Where applicable)
					% Bare Ground
					Total Cover of Bryophytes
					Hydronhytic
10.	Total Cover:	10			Hydrophytic Vegetation
	50% of Total Cover:		of Total Cover	2	Present? Yes   No
Rem	arks: trace salcom salivish rosasi rubsha and nisma	•			
Rema	arks: trace salcom salix sp. rosaci rubcha and picma	r			<u>.</u>

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SOIL Sampling Point: SW12\_T07\_05

The Process of Color (resist)  O-2	(inches)         Color (moist)         %         Color (moist)         %         Type 1         Loc 2         Texture         Remarks           0-2         100         500         100	
Dez.   100   Fibre Coganies   20% roads	0-2 100 Fibric Organics 20% roots  15% roots	ınd charcoal in la
3-5 107K 3/2 100   Fire Loamy Send   devices downward and found charcoal in   5-8 7.57K 3/4 75 107K 3/3 25   M   Fire Loamy Send   8-15 7.57K 2.5/2 100   Fire Loamy Send	3-5 10YR 3/2 100 Fine Loamy Sand darkens downward and four 5-8 7.5YR 3/4 75 10YR 3/3 25 M Fine Loamy Sand Fine	ind charcoal in la
8-15 7.5YR 3/4 75 10YR 3/3 25 M Fine Learny Sand  8-15 7.5YR 2.5/2 100 Fine Learny Sand  Fine Learny	5-8 7.5YR 3/4 75 10YR 3/3 25 M Fine Loamy Sand  8-15 7.5YR 2.5/2 100 Fine Loamy Sand  1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix 2 Location: PL=Pore Lining. RC=Root Channel. M=Matrix  Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:  4	ınd charcoal in la
8-15 7.5/R 2.5/2 100 Fine Loamy Sand  **Type: C=Concentration. D=Depletion. RM=Reduced Matrix ** **Location: PL=Pore Lining. RC=Root Charmel. M=Matrix **  Hydric Soil Indicators:	8-15 7.5YR 2.5/2 100 Fine Loamy Sand  1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix 2 Location: PL=Pore Lining. RC=Root Channel. M=Matrix  Hydric Soil Indicators: Indicators for Problematic Hydric Soils:  4	
Type: C=Concentration. D=Depletion. RM=Reduced Matrix      Tudicators:	<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix <sup>2</sup> Location: PL=Pore Lining. RC=Root Channel. M=Matrix  Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:  4	
Type: C=Concentration. D=Depletion. RM=Reduced Matrix      Tudicators:	<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix <sup>2</sup> Location: PL=Pore Lining. RC=Root Channel. M=Matrix  Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:  4	
Hydric Soil Indicators:  Histosol or Histel (A1) Histosci Epipedion (A2) Histo	Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:  Indicators for Problematic Hydric Soils:	
Hydric Soil Indicators:  Histosol or Histel (A1) Histosci Epipedion (A2) Histo	Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:  Indicators for Problematic Hydric Soils:	
Histic Epipedon (A2)		
mist cpipetion (x2)		
Thick Dark Surface (A12)   Alaska Geyed (A13)   Alaska Redox (A14)   Alaska Geyed Pores (A15)   Alaska Redox (A14)   Alaska Geyed Pores (A15)   Alaska Redox (A14)   Alaska Redox (A15)   Alaska Redox (A16)   Alaska Redox (A17)   Alaska Redox (A18)   Alaska Re	Insuc Epipedon (Az)	
Alaska Gleyed (A13)	Hydrogen Sulfide (A4)  Alaska Redox With 2.5Y Hue  Other (Explain in Remarks)	
Alaska Gelyedr (A15)	Thick Dark Surface (A12)	
Alaska Gleyed Pores (A15)  Restrictive Layer (if present): Type: ice Depth (inches): 10  Remarks:  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (and one is sufficient) High Water Table (A2) Saturation (A3) Marl Deposits (B15) Saturation (A3) Marl Deposits (B15) Marl Deposits (B2) Sediment Deposits (B2) Dirth Deposits (B2) Dirth Deposits (B3) Marl Deposits (B4) Marl Deposits (B5) Marl Deposits (	Alaska Gleyed (A13) and an appropriate landscape position must be present	
Restrictive Layer (if present): Type: ice Depth (inches): 10  Remarks:  HYDROLOGY  Wetland Hydrology Indicators:	4 Cive details of solar shangs in Domayles	
Type: ice Depth (inches): 10  Remarks:    Hydric Soil Present? Yes		
Remarks:  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (any one is sufficient) Sufface Water (A1) High Water Table (A2) Saturation (A3) Marl Deposits (B15) Sediment Deposits (B2) Sufface Water (A1) Sufface Water (A2) Saturation (A3) Saturation (A3) Sufface Water (A1) Sufface Water (A1) Sufface Water (A1) Sufface Water (A2) Saturation (A3) Saturation (A3) Sufface Water (A1) Sufface Sufface (B8) Sufface Water (A1) Sufface Sufface (B8) Suffac		•
HYDROLOGY  Wetland Hydrology Indicators:	•	2
Wetland Hydrology Indicators: Secondary Indicators (two or more are required)   Primary Indicators (any one is sufficient) Water Stained Leaves (B9)   Surface Water (A1) Inundation Visible on Aerial Imagery (B7) Drainage Patterns (B10)   High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Oxidized Rhizospheres along Living Roots (C3)   ✓ Saturation (A3) Marl Deposits (B15) Presence of Reduced Iron (C4)   Water Marks (B1) Hydrogen Sulfide Odor (C1) Salt Deposits (C5)   Sediment Deposits (B2) Dry-Season Water Table (C2) Stunted or Stressed Plants (D1)   Drift Deposits (B3) Other (Explain in Remarks) Geomorphic Position (D2)   Algal Mat or Crust (B4) Microtopographic Relief (D4)   Surface Soil Cracks (B5) PAC-neutral Test (D5)    Field Observations:  Surface Water Present?  Yes No Depth (inches):  Water Table Present?  Yes No Depth (inches):  Wetland Hydrology Present?  Yes No Depth (inches):  Wetland Hydrology Present?  Yes No No Depth (inches):  Wetland Hydrology Present?  Yes No No Depth (inches):  Wetland Hydrology Present?  Yes No No Depth (inches):  No Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  PREMARKS:		
Primary Indicators (any one is sufficient)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  To Deposits (B5)  Surface Soli Cracks (B6)  Drift Deposits (B5)  Surface Soli Cracks (B6)  Depth (inches):  Water Table Present?  Yes  No  Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Water Stained Leaves (B9)  Drainage Patterns (B10)  Drainage Patterns	HYDROLOGY	
□ Surface Water (A1) □ Inundation Visible on Aerial Imagery (B7) □ Drainage Patterns (B10) □ High Water Table (A2) □ Sparsely Vegetated Concave Surface (B8) □ Oxidized Rhizospheres along Living Roots (C3) □ Saturation (A3) □ Marl Deposits (B15) □ Presence of Reduced Iron (C4) □ Salt Deposits (C5) □ Sediment Deposits (B2) □ Dry-Season Water Table (C2) □ Stunted or Stressed Plants (D1) □ Drift Deposits (B3) □ Other (Explain in Remarks) □ Geomorphic Position (D2) □ Algal Mat or Crust (B4) □ Surface Soil Cracks (B6) □ FAC-neutral Test (D5) □ Surface Soil Cracks (B6) □ FAC-neutral Test (D5) □ Depth (inches): □ Depth (inc		required)
High Water Table (A2)		
✓ Saturation (A3) Marl Deposits (B15) Presence of Reduced Iron (C4)   Water Marks (B1) Hydrogen Sulfide Odor (C1) Salt Deposits (C5)   Sediment Deposits (B2) Dry-Season Water Table (C2) Stunted or Stressed Plants (D1)   Drift Deposits (B3) Other (Explain in Remarks) Geomorphic Position (D2)   Algal Mat or Crust (B4) ✓ Shallow Aquitard (D3)   Iron Deposits (B5) Microtopographic Relief (D4)   Surface Soil Cracks (B6) FAC-neutral Test (D5)    Field Observations:  Surface Water Present?  Yes No Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches): 10  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:  Remarks:		Dt- (C2)
Water Marks (B1)		ROOTS (C3)
Sediment Deposits (B2)		
□ Drift Deposits (B3) □ Other (Explain in Remarks) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ Microtopographic Relief (D4) □ Surface Soil Cracks (B6) □ FAC-neutral Test (D5)  Field Observations: Surface Water Present? Yes ○ No ② Depth (inches): Water Table Present? Yes ○ No ② Depth (inches): Saturation Present? Yes ○ No ○ Depth (inches): 10  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:		
Algal Mat or Crust (B4)  ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6)  FAC-neutral Test (D5)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No Depth (inches):  Saturation Present?  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:		
☐ Iron Deposits (B5) ☐ Microtopographic Relief (D4) ☐ Surface Soil Cracks (B6) ☐ FAC-neutral Test (D5)  Field Observations: Surface Water Present? Yes ○ No ② Depth (inches): Water Table Present? Yes ○ No ② Depth (inches): Saturation Present? Yes ○ No ○ Depth (inches): 10  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:		
Surface Soil Cracks (B6)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches): 10  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:		
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? (includes capillary fringe)  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:  Wetland Hydrology Present? Yes No No Depth (inches): 10		
Water Table Present? Saturation Present? (includes capillary fringe)  Pescribe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:  Wetland Hydrology Present? Yes  No  Depth (inches): 10  No  Depth (inches): 10		
Saturation Present? (includes capillary fringe)  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:	Surface Water Present? Yes No Depth (inches):	
(includes capillary fringe)  Pes Vivo Depth (inches): 10  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:	Water Table Present? Yes O No Depth (inches): Wetland Hydrology Present? Yes No	$\circ$
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:		
	(includes capillary fringe) Yes No Depth (inches): 10	
aquitard within 12" of surface, thus do not need associated water table to meet A3.	(includes capillary fringe)  Tes Pio Depth (inches): 10  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:	
	(includes capillary fringe)  Tes PNO Depth (inches): 10  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:	
	(includes capillary fringe)  Pescribe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:	

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