WETLAND DETERMINATION DATA FORM - Alaska Region

Project/	Site: Susitna-Watana Hydroelectric Project	Во	orough/City:	Matanusk	xa-Susitna Borough Sampling Date: 26-Jun-12
Applica	nt/Owner: Alaska Energy Authority				Sampling Point: SW12_T20_04
Investig		l	_andform (hill	side, terrac	e, hummocks etc.): Flat
Local re	lief (concave, convex, none): hummocky		Slope: 0.0	% / 0.0) ° Elevation: 589
Subregi	on : Southcentral Alaska	Lat.: 6	32.725929908	 35	Long.: -148.821869969 Datum: WGS84
_	Unit Name:				NWI classification: PSS3/1B
	atic/hydrologic conditions on the site typical for this ti	ime of vear?	Yes	No ○	(If no, explain in Remarks.)
		significantly			lormal Circumstances" present? Yes ● No ○
Are Ve		naturally pro			eded, explain any answers in Remarks.)
SUMN	ARY OF FINDINGS - Attach site map sho				
	Hydrophytic Vegetation Present? Yes ● No		J 3 Po		,,
			Is	the Sam	pled Area
	, ·		wi	thin a W	etland? Yes ● No ○
	, 0,				
Rema	rks: pronounced microtopography, ice-cored humm	ocks 1m hig	h. Soil pit in r	micro-low.	
√EGE	TATION - Use scientific names of plants. L	ist all spe	cies in the	plot.	
		Absolute	Dominant	Indicator	Dominance Test worksheet:
	Stratum	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)
-	Picea mariana		V	FACW	Total Number of Dominant
2.					Species Across All Strata: (B)
3. 4.					Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
5.					That Are OBE, FACW, OF FAC. 100.0% (A/B)
J	Total Cover				Prevalence Index worksheet:
Sanl	ing/Shrub Stratum 50% of Total Cover:		of Total Cover:	2	Total % Cover of: Multiply by:
			_		OBL Species 0 x1 = 0 FACW Species 37 x2 = 74
-	Picea mariana		✓	FACW	FACW Species 37 x 2 = 74 FAC Species 40 x 3 = 120
-	Vaccinium uliginosum	15	✓	FAC FAC	FACU Species 0 x 4 = 0
-	Vaccinium vitis-idaea Ledum decumbens	10	✓	FACW	UPL Species 0 x 5 = 0
-	Empetrum nigrum			FAC	
-	Betula glandulosa	10	<u>~</u>	FAC	Column Totals:
7.		0			Prevalence Index = B/A = 2.519
8.		0			Hydrophytic Vegetation Indicators:
9.					✓ Dominance Test is > 50%
10.		0			✓ Prevalence Index is ≤3.0
Herb	Total Cover Stratum 50% of Total Cover:		of Total Cover	: 12	☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
_	Rubus chamaemorus	7	✓	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
	Trades Grandeniolds				Indicators of hydric soil and wetland hydrology must
					be present, unless disturbed or problematic.
					Plot size (radius, or length x width) 10m
					Plot size (radius, or length x width)
6.		0			(Where applicable)
					% Bare Ground
					Total Cover of Bryophytes
		0			Hydrophytic
	Tatal Cavan				
	Total Cover 50% of Total Cover:		of Total Cover	1.4	Vegetation Present? Yes No

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SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

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O-B 100	Depth	Matrix		to document the indicator or confirm the absence of indicators Redox Features				_		
Tolicators for Problematic Hydric Solls Tolicators Tolicators Tolicators for Problematic Hydric Solls Alaska Gleyed Mithout Hue SV or Redder Indextyring Layer Indicator for Problematic Hydric Solls Alaska Gleyed Mithout Hue SV or Redder Indextyring Layer Indicator for Problematic Hydric Solls Alaska Gleyed Mithout Hue SV or Redder Indextyring Layer Indicator for Hydrophyring Layer Indicator of Hydrophyring Layer Indicator Indicator of Hydrophyring Layer Indicator Indicator	(!i \	olor (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
Hydric Soil Indicators: Histosol or Histel (A1) Alaska Alpine swales (TA5) Alaska Gleyed (A13) Alaska Redox With 2.5Y Hue Other (Explain in Remarks) Tothic Dark Surface (A12) Alaska Gleyed Pores (A15) Alaska Gleyed Without Hue SY or Redder Underlying Layer Underlying Layer Other (Explain in Remarks) Hydric Soil Present? Yes No No No No Depth (Inches): No No No Depth (Inches): No No Depth (Inches): No No Depth (Inches): No No Depth (Inches): No No No Depth (Inches): No No No Depth (Inches): No No No No No No No No No N	0-8		100					Hemic Organics	_	
Hydric Soil Indicators: Histosol or Histel (A1)										
Hydric Soil Indicators: Histosol or Histel (A1) Alaska Color Change (TA9 ⁴ Alaska Alpine swales (TA5) Alaska Alpine water (TA5) Depth (Inches): 8 Wetland Hydrology Indicator of wetland hydrology, and an appropriate landscape position must be present Hydric Soil Present? Yes No Presence of Reduced Inches): 8 Hydric Soil Present? Yes No Depth (Inches): 8 Hydric Soil Present? Yes No Depth (Inches): 8 Hydric Soil Present? Yes No Depth (Inches): 8 Wetland Hydrology Indicators: Indicators for Problematic Hydric Soils? Alaska Gleyed Mithout Hue 5Y or Redder Underlying Layer (Underlying Layer (Underlying Layer (Inches): 8 Hydric Soil Present? Yes No										
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Histosol or Histel (A1)	¹ Type: C=Concentra	tion. D=Depletion	. RM=Reduc	ced Matrix ² Location	: PL=Por	e Lining. RC	=Root Cha	nnel. M=Matrix		
Histic Epipedon (A2)	Hydric Soil Indicate	ors:		Indicators for Pro	oblemati	Hydric S	oils: ³			
Hydrogen Suffice (A4)	Histosol or Histel	(A1)								
Trick Dark Surface (A12) Alaska Gleyed (A13) Alaska Gleyed (Pores (A15) Alaska Gleyed Pores (A15) Alaska Gleyed (A13) Alaska Gleyed (A13) Alaska Gleyed (A13) Alaska Gleyed (A15) Alaska Gleyed (Foresont) Alaska Gleyed (Histic Epipedon (A2)			Alaska Alpine sv	wales (TA	5)		1		
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Alaska Gelyed (A13) Alaska Redox (A14) Alaska Redox (A14) Alaska Redox (A14) Alaska Redox (A14) Alaska Redox (A15) Restrictive Layer (if present): Type: active layer (frozen) Depth (inches): 8 Remarks: Hydric Soil Present? Yes No Depth (Inches): 8 No		` '		3 One indicator of	by dranky d	ia vaaatatia		nam, indicator of watland	o dvology	
Alaska Gleyed Pores (A15) Restrictive Layer (if present): Type: active layer (frozen) Depth (inches): 8 Remarks: Hydric Soil Present? Yes No									lydrology,	
Restrictive Layer (if present): Type: active layer (frozen) Depth (inches): 8 Remarks: Hydric Soil Present? Yes No No	_ `	•		4 Give details of co	lor chang	a in Domark	· ·			
Type: active layer (frozen) Depth (inches): 8 Hydric Soil Present? Yes No	Alaska Gleyed Po	res (A15)		GIVE details of co	nor charig	e iii Keiliair				
PAPENCOGY Wetland Hydrology Indicators: Secondary Indicators (two or more are required)	Restrictive Layer (if pr	resent):								
IVDROLOGY	Type: active layer	r (frozen)						Hydric Soil Present? Yes ● No ○		
IVDROLOGY	Depth (inches): 8									
Wetland Hydrology Indicators: Primary Indicators (any one is sufficient) Surface Water (A1) High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Water Stained Leaves (B9) Oxidized Rhizospheres along Living Roots (C3 Saturation (A3) Marl Deposits (B15) Marl Deposits (B15) Sediment Deposits (B2) Drift Deposits (B3) Marl Oxidized Rhizospheres along Living Roots (C1) Sult Deposits (B3) Other (Explain in Remarks) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available: Secondary Indicators (two or more are required) Water Stained Leaves (B9) Water Stained Leaves (B9) Water Stained Leaves (B9) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Oxidized Rhizospheres along Living Roots (C3 Sparsely Vegetated Concave Surface (B8) No idized Rhizospheres along Living Roots (C3 Sparsely Vegetated Concave Surface (B8) Oxidized Rhizospheres along Living Roots (C3 Sparsely Vegetated Concave Surface (B8) Oxidized Rhizospheres along Living Roots (C3 Sparsely Vegetated Concave Surface (B8) Oxidized Rhizospheres along Living Roots (C3 Presence of Reduced Iron (C4) Salt Deposits (B5) Salt Deposits (B5) Stunted or Stressed Plants (D1) Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No No No No Depth (inches): Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:										
Primary Indicators (any one is sufficient) Surface Water (A1) High Water Table (A2) Saturation (A3) Marl Deposits (B15) Drainage Patterns (B10) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Drift Deposits (B3) Iron Deposits (B5) Surface Soil Cracks (B6) Water Abel (A2) Sufface Water (B3) Depth (inches): Water Marks: Water Marks: Water Marks (B1) Water Marks (B1) Hydrogen Sulfide Odor (C1) Salt Deposits (C5) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Microtopographic Relief (D4) FAC-neutral Test (D5) Wetland Hydrology Present? Yes No Depth (inches): Depth (inches): Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:	IYDROLOGY									
Surface Water (A1)										
High Water Table (A2)			t)						` '	
Saturation (A3)										
Water Marks (B1)										
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) □ FAC-neutral Test (D5) □ Surface Soil Cracks (B6) □ PFAC-neutral Test (D5) □ Surface Water Present? Yes ○ No ● Depth (inches): □ Depth (inches):									` '	
□ Drift Deposits (B3) □ Other (Explain in Remarks) □ Geomorphic Position (D2) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Microtopographic Relief (D4) □ Surface Soil Cracks (B6) □ PAC-neutral Test (D5) Field Observations: Surface Water Present? Yes ○ No ● Depth (inches): Water Table Present? Yes ○ No ● Depth (inches): Saturation Present? Yes ○ No ● Depth (inches): Observations Present? Yes ○ No ● Depth (inches): Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:		-		_ ′ ′		` '				
□ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ 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) 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) ☐ 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 ③ Depth (inches): Cleascribe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available: Remarks:				U Other (Explain	ii iii Keiiia	iks)			` '	
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Remarks:	(includes capillary fri	nge) Yes	NO S	Depth (inches	5):					
	Describe Recorded Da	ta (stream gauge,	monitor we	ell, aerial photos, prev	ious inspe	ction) if ava	ailable:			
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