WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project	Borough/City:	Matanuska-Susitna Borough Sampling Da	ate: 02-Aug-13
Applicant/Owner: Alaska Energy Authority		Sampling Point:	SW13_T177_09
Investigator(s): BAB	Landform (hills	side, terrace, hummocks etc.): Lowland	
Local relief (concave, convex, none): concave	Slope: 3.5	% / 2.0 ° Elevation: 1018	
Subregion : Interior Alaska Mountains Lat.	63.077805619	7 Long.: -148.094515242	Datum: WGS84
Soil Map Unit Name:		NWI classification: PE	M1/SS1F
	ar? Yes on the second s	 No (If no, explain in Remarks.) Are "Normal Circumstances" present? (If needed, explain any answers in Remar 	Yes • No O rks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point	locations, transects, important feature	es, etc.
Hydrophytic Vegetation Present? Yes No	le	the Sampled Area	

Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No 	within a Wetland?	Yes $ullet$ No $igcap$
Remarks: nwi code should be semi n	ermanent flooding		

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

			Abc	olute	Dominant	Indicator	Dominance Test worksheet:
Tre	e Stratum			over	Species?	Status	Number of Dominant Species
1.				0			That are OBL, FACW, or FAC: (A)
2.							Total Number of Dominant
				0			Species Across All Strata: (B)
3.				0			Percent of dominant Species
4.				0			That Are OBL, FACW, or FAC: (A/B)
5.				0			Prevalence Index worksheet:
		Total Cover	: _	0			Total % Cover of: Multiply by:
Sap	ling/Shrub Stratum	50% of Total Cover:	0	20%	of Total Cover:	0	OBL Species x 1 =
1.	Salix pulchra			35	\checkmark	FACW	FACW Species <u>36</u> x 2 = <u>72</u>
2.				0			FAC Species <u>10</u> x 3 = <u>30</u>
3.				0			FACU Species 0 x 4 = 0
4.				0			UPL Species 0 x 5 = 0
5.				0			Column Totals: <u>76</u> (A) <u>132</u> (B)
				0			
				0			Prevalence Index = B/A = <u>1.737</u>
				0			Hydrophytic Vegetation Indicators:
				0			✓ Dominance Test is > 50%
				0			✓ Prevalence Index is ≤3.0
		Total Cover	: _	35			Morphological Adaptations ¹ (Provide supporting data in
Her	b Stratum	50% of Total Cover:	17.5	20%	of Total Cover:	7	Remarks or on a separate sheet)
1.	Carex aquatilis			25		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2.	Calamagrostis canadensis			10	\checkmark	FAC	¹ Indicators of hydric soil and wetland hydrology must
3.	Comarum palustre			5		OBL	be present, unless disturbed or problematic.
4.	Sanguisorba canadensis			1		FACW	Plot size (radius, or length x width)10m
5.				0			% Cover of Wetland Bryophytes
6.				0			(Where applicable)
7.				0			% Bare Ground45
8.				0			Total Cover of Bryophytes 5
				0			
				0			Hydrophytic
		Total Cover		41			Vegetation
		50% of Total Cover:	20.5	20%	of Total Cover:	8.2	Present? Yes No O
Rem	arks: bare ground is open w	ater					

(inches) Color (moist) % Type1 Loc 2 Texture Remarks Image: Color (moist) % Type1 Loc 2 Texture Remarks Image: Color (moist) % Type1 Loc 2 Texture Remarks Image: Color (moist) % Type1 Loc 2 Texture Remarks Image: Color (moist) % Type1 Loc 2 Texture Remarks Image: Color (moist) % Type1 Loc 2 Texture Remarks Image: Color (moist) % Type1 Loc 2 Texture Remarks Image: Color (moist) % Type1 Loc 2 Texture Remarks Image: Color (moist) % % Type1 Loc 2 Texture Remarks Image: Color (moist) % % % % % % % Image: Color (moist) % % % % % % % Image: Color (moist) % % % % % % % % % % </th <th>Depth</th> <th></th> <th>trix</th> <th></th> <th>ment the indicator or co Re</th> <th>dox Featu</th> <th></th> <th></th> <th></th> <th></th>	Depth		trix		ment the indicator or co Re	dox Featu				
Hydric Soll Indicators: Indicators for Problematic Hydric Solls ³ Histosol or Histel (A1) Alaska Color Change (TA4) Alaska Gleyed Without Hue 5Y or Redder Underlying Layer Histo Sol or Histel (A1) Alaska Alpine svales (TA5) Underlying Layer Histosol or Histel (A12) Alaska Alpine svales (TA5) Voter (Explain in Remarks) Thick Dark Surface (A12) 3 One Indicator of hydrophytic vegetation, one primary indicator of wettand hydrology, and an appropriate landscape position must be present Alaska Gleyed (A13) Alaska Gleyed (A15) * Give details of color change in Remarks estrictive Layer (if present): Type: Pepth (inches): ripper Beendicators: Hydric Soil Present? Yes No YDROLOGY Secondary Indicators (two or more are required). Yitmary Indicators (any one is sufficient) Inundation Visible on Aerial Imagery (87) Dranage Patterns (810) Yearsely Vater (A1) Inundation Visible on Aerial Imagery (87) Dranage Patterns (810) Presence of Reduced Iron (C4) Yearsely Vater (A13) Mari Deposits (B15) Presence of Reduced Iron (C4) Saparely Vegetated Concave Surface (88) Doddized Rhicospheres along Living Roots (C3) Saturation (A3) Mari Deposits (B15) Presence of Reduced Iron (C4) Saturation (C4)		Color (moist)	%	Color (moist)	%	Type ¹	2	Texture	Remarks
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Image: Histic Epipedon (A2) Alaska Alpine swales (TA5) Underlying Layer Image: Histic Epipedon (A2) Alaska Redox With 2.5Y Hue Image: Other (Explain in Remarks) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) VPROLOGY Vettand Hydrology Indicators: Image: Alaska Redox (A14) Image: Alaska Redox (A14) Vettand Hydrology Indicators: Image: Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14) Image: Alaska Redox (A14)	Hydric Soil In	dicators:			Indicators for P	roblematic	Hydric S	oils: ³		
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Induction	Histic Epipe	don (A2)			Alaska Alpine s	swales (TA5)			
Alaska Gleyed (A13) ^a One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present Alaska Redox (A14) ^a One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present Yupe: ^b One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, Pope indicator of hydrophytic vegetation and inundation. ^b One indicator of hydrophytic vegetation and inundation. YDROLOGY ^b One indicator of hydrophytic vegetation and inundation. ^b Marx Table (A2) ^b Surface Water (A1) ^b Inundation Visible on Aerial Imagery (B7) ^b Drainage Patterns (B10) ^b Mark Table (A2) ^b Sparsely Vegetated Concave Surface (B8) ^b Oxidized Rhizspheres along Living Roots (C3) ^b Surface Water (A1) ^b Hydrogen Suffice Or (C1) ^b Hydrogen Suffice Or (C1) ^b Other (Explain in Remarks) ^b Geomorphic Position (D2) ^b Shallow Aquitard (D3) ^b Other (Explain in Remarks) ^b FAC-neutral Test (D5) ^b Hydrogen Suffice Or (C1) ^b Surface S(B5) ^b Surface S(B5) ^b Surface S(B) ^b Or or Depth (inches): 8 ^b Surface S(B) ^b Or or Depth (inches): 8 ^b Surface S(B) ^b Present? ^b Yes No Pepth (inches): 8 ^b Surface S(B) ^b Present? ^b Yes No Pepth (inches): 8 ^b Surface S(B) ^b Present? ^b Since S(B) ^b Present? ^b Sinchore Depth (inches): 8 ^b Pepth (in	Hydrogen S	Sulfide (A4)			Alaska Redox V	With 2.5Y H	ue	\checkmark	Other (Explain in Remark	ട)
Alaska Gleyed (A13) and an appropriate landscape position must be present Alaska Redex (A14) 4 Give details of color change in Remarks Alaska Redex (A15) 4 Give details of color change in Remarks estrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes ● No ● emarks: ssume hydric soil due to hydrophytic vegetation and inundation. YDROLOGY Secondary Indicators: remarks: ssume hydric soil due to hydrophytic vegetation and inundation. Surface Water (A1) ✓ Inundation Visible on Aerial Imagery (B7) Surface Water (A1) ✓ Inundation Visible on Aerial Imagery (B7) High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Surface Water (A1) ✓ Inundation Visible on Aerial Imagery (B7) Hydroces along Living Roots (B15) Presence of Reduced Iron (C4) Water Table (A2) Sparsely Vegetated Concave Surface (B8) Oxidized Rhizospheres along Living Roots (C3) Saturation (A3) Mari Deposits (B15) Presence of Reduced Iron (C4) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sati Deposits (C5) Sturation (A3) Other (Explain in Remarks) ✓ Geomorphic Position (D2) Algal Mat or Cruck (B4) Presence	Thick Dark	Surface (A12)			20					
Alaska Redox (A14) 4 Give details of color change in Remarks estrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes ● No ● emarks: emarks: ssume hydric soil due to hydrophytic vegetation and inundation. YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one is sufficient) ✓ Surface Water (A1) ✓ High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Oxidated Rhizospheres along Living Roots (C3) Startation (A3) Mart Papeists (B1) ✓ Hydrogen Sufficient) ✓ Surface Soil Cracks (B6) ✓ Drin age Patterns (B10) ○ Startation (A3) Mart Deposits (B15) ✓ Drin Seence of Reduced Iron (C4) ✓ Hydrogen Suffice Odor (C1) ○ Drin Deposits (B3) ○ Other (Explain in Remarks) ✓ Geomorphic Position (D2) △ Jald Mat or Crust (B4) □ Iron Deposits (B5) Surface Soil Cracks (B6) ✓ Hydropersent? Yes No Depth (inches): 8 Water Table Present? Yes No Depth (inches): De	Alaska Gley	ed (A13)								lydrology,
A data discret for (Inf) Image: Secondary Indicators (two or more are required) Primary Indicators (any one is sufficient) Image: Secondary Indicators (two or more are required) Vettand Hydrology Indicators: Image: Secondary Indicators (two or more are required) Vettand Hydrology Indicators: Image: Secondary Indicators (two or more are required) Vettand Hydrology Indicators: Image: Secondary Indicators (two or more are required) Vettand Hydrology Indicators: Image: Secondary Indicators (two or more are required) Vision and the second seco	Alaska Redo	ox (A14)					-			
Type: Hydric Soil Present? Yes No Depth (inches): emarks: ssume hydric soil due to hydrophytic vegetation and inundation. YDROLOGY Vettand Hydrology Indicators: Primary Indicators (any one is sufficient) @ Water Stained Leaves (B9) @ Surface Water (A1) @ High Water Table (A2) @ Sparsely Vegetated Concave Surface (B8) @ Narl Deposits (B15) @ Hydrogen Sulfide Odor (C1) @ Saturation Resent? Mater Table (A2) @ Surface Water (A1) @ Hydrogen Sulfide Odor (C1) @ Saturation Resent? Yes No @ Dry-Season Water Table (C2) @ Sturface Narls (B1) @ Hydrogen Sulfide Odor (C1) @ Saturation Proposits (B3) @ Other (Explain in Remarks) @ Geomorphic Position (D2) @ Algal Mat or Crust (B4) @ Iron Deposits (B5) @ Surface Water Present? Yes No @ Depth (inches): Sutration Present? Yes Yes No @ Depth (inches): (includes c	Alaska Gleye	ed Pores (A15)			⁴ Give details of c	olor change	in Remark	(S		
Depth (inches):	estrictive Layer	(if present):								
emarks: ssume hydric soil due to hydrophytic vegetation and inundation.	Type:								Hydric Soil Present	? Yes 🖲 No 🔾
Symme hydric soil due to hydrophytic vegetation and inundation. YDROLOGY Vetland Hydrology Indicators: rimary Indicators (any one is sufficient) Imary Indicators (any one is sufficien	Depth (inche	es):								
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escribe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:	SSUME hydric SC Vetland Hydro Primary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Depos Algal Mat o Drift Depos Algal Mat o Iron Depos Surface Soi Field Observat Surface Water F Water Table Pre	GY blogy Indicato ors (any one is s ater (A1) r Table (A2) (A3) (A5	rs: ufficient) Yes • Yes ·	No () No ()	 ✓ Inundation V Sparsely Veg Marl Deposit Hydrogen Su ✓ Dry-Season V Other (Explation Depth (incher Depth (incher 	yetated Con rs (B15) ulfide Odor Water Table in in Remai es): 8	cave Surfa (C1) e (C2)	ce (B8)	Water Stai Drainage F Oxidized R Presence c Salt Depos Stunted or ✓ Geomorph Shallow Ac Microtopog ✓ FAC-neutra	ned Leaves (B9) Patterns (B10) hizospheres along Living Roots (C3) of Reduced Iron (C4) its (C5) Stressed Plants (D1) ic Position (D2) juitard (D3) graphic Relief (D4) al Test (D5)
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