WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site:	Susitna-Watana Hydroeleo	ctric Project		Borough/C	City: Matanus	ka-Susitna Borough	Sampling Da	te: 24	-Aug-15
Applicant/Owne	er: Alaska Energy Author	ity				Sam	pling Point:	SW15_	T350_05
Investigator(s):	ERT, TXC			Landforr	n (hillside, terra	ce, hummocks etc.):	Footslope		
Local relief (cor	ncave, convex, none): tu	issocks		Slope:	17.6 %/ 10	.0 ° Elevation:	-		
Subregion : In	terior Alaska Mountains		Lat.:			Long.:		Datum:	WGS84
Soil Map Unit N	ame:					NWI cla	ssification: PS	S4B	
Are Vegetation Are Vegetation		Hydrology	significan naturally	tly disturbe problemati	c? (If ne	Normal Circumstance eded, explain any an	swers in Remark	<s.)< td=""><td>No ()</td></s.)<>	No ()
Hydric S	iytic Vegetation Present? Soil Present? I Hydrology Present?	Yes No Yes No Yes No Yes No	C		Is the Sar within a V	npled Area Vetland?	Yes $ullet$ No $igcap$		
	n black spruce forest, borde		ist all sn	oecies in	the plot				
Tree Stratun	n		Absolute % Cove	e Domin er Specie	ant Indicator	Dominance Test v Number of Dominar That are OBL, FAC	nt Species	5	(A)
1. Picea m 2.	nariana		<u>10</u>		FACW	Total Number of Do Species Across All		5	(B)

2.			0		-	Total Number of Dominant Species Across All Strata: 5 (B)	
3.			0			Percent of dominant Species	
4.			0			That Are OBL, FACW, or FAC:100.0% (A/B))
5.			0			Prevalence Index worksheet:	
		Total Cover:	10			Total % Cover of: Multiply by:	
Sap	ling/Shrub Stratum 50% of ⁻	Total Cover: <u>5</u>	_ 20%	of Total Cover:	2	OBL Species $0 \times 1 = 0$	
1	Picea mariana		15	\checkmark	FACW	FACW Species $49 \times 2 = 98$	
••						FAC Species $35 \times 3 = 105$	
2.					FAC		
3.			8		FAC		
4.	Vaccinium vitis-idaea				FAC	UPL Species x 5 =	
5.	Rhododendron tomentosum				FACW	Column Totals: <u>86.1</u> (A) <u>211.4</u> (E	3)
6.	Betula nana		5		FAC		
7.	Alnus viridis ssp. crispa		2		FAC	Prevalence Index = B/A = 2.455	
8.	Salix pulchra		1		FACW	Hydrophytic Vegetation Indicators:	
9.			0			✓ Dominance Test is > 50%	
10.			0			✓ Prevalence Index is ≤ 3.0	
		Total Cover:	57			Morphological Adaptations (Provide supporting data in	
Her	b Stratum 50% of	Total Cover: 28.5	20%	6 of Total Cover:	11.4	Remarks or on a separate sheet)	
1.	Eriophorum vaginatum		16	\checkmark	FACW	Problematic Hydrophytic Vegetation (Explain)	
2.			2		FACU	¹ Indicators of hydric soil and wetland hydrology must	
3.	Equipatum autoriaum		1		FAC	be present, unless disturbed or problematic.	
4.	Orthilia secunda		0.1		FACU		
5.			0			Plot size (radius, or length x width) <u>10m</u>	
			0			% Cover of Wetland Bryophytes	
			0			% Bare Ground	
8.			0			Total Cover of Bryophytes85	
9.			0				
			0			Hydrophytic	
			19.1			Vegetation	
	50% of ⁻	Total Cover: 9.55		of Total Cover:	3.82	Present? Yes \bullet No \bigcirc	

Remarks: Borderline open canopy/woodland. bryophytes include sphagnum. understory is shrub tussock tundra with 1% standing water between tussocks.

I Histosol or Histel (A1) Alaska Color Change (TA4) ⁴ Alaska Gleyed Without Hue SY or Redder Underlying Layer I Histoc Epipedon (A2) Alaska Alpine swales (TA5) Underlying Layer I Hydrogen Sulfide (A4) Alaska Alpine swales (TA5) Other (Explain in Remarks) Thick Dark Sulfide (A4) Alaska Redox With 2.5Y Hue Other (Explain in Remarks) Alaska Gleyed (A13) ³ One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present Alaska Gleyed Pores (A15) ⁴ Give details of color change in Remarks estrictive Layer (if present): Type: Type: Peth (inches): emarks: Improve the second and thydrology Indicators: imary Indicators (any one is sufficient) Inundation Visible on Aerial Imagery (B7) Surface Water (A1) Inundation Visible on Aerial Imagery (B7) VHigh Water Table (A2) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Mari Deposits (B15) Vater Marks (B1) Hydrogen Sulfide Odor (C1) Saturation (C4) Water Marks (B1) Hydrogen Sulfide Odor (C1) Saturation (C2) Sufface (B4) Other (Explain in Remarks) Geomorphic Positin (D2) Alaska Bible Oposit		M	he depth neede fatrix		ent the indi		ox Featu		ators)					
5-8		Color (moist) %		%	Color (moist)				Loc ²	Text	ure	Remarks		
8-10 Muck Os 10-18 2.5YR 4/2 75 7.5YR 3/4 25 C PL Loam Bgij.gravely Type: C=Concentration. D=Depletion. RM=Reduced Matrix * Location: PL=Pore Lining. RC=Root Channel. M=Matrix ydric Soil Indicators: Indicators for Problematic Hydric Soils. ³ Alaska Gleyed Without Hue 5V or Redder Histosc Or Vistel (A1) Alaska Color Change (TA) Ladseta Alpire walks: (TA5) Underlying Layer Hydrogen Sulfide (A4) Alaska Redox With 2.5Y Hue Other (Explain in Remarks) Thick Dark Surface (A12) Alaska Redox (A14) Alaska Redox With 2.5Y Hue Other (Explain in Remarks) Alaska Redox (A14) Alaska Redox (A13) ^a One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present Hydric Soil Present? Yes Image Not Cology Maska Redox (A14) * Give details of color change in Remarks Hydric Soil Present? Yes Image Not Cology Indicators (any one is sufficient) Inundation Visible on Aerial Imagery (B7) Uhariage Patterns (B10) Water Staned Leaves (B9) Surface Water (A1) Inundation Visible Odor (C1) Satt Deposits (C5) Surface Mark (B1) Hydrogen Sufface Odor (C1)<	0-5									Peat				
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Type: C=Concentration. D=Depletion. RM=Reduced Matrix ² Location: PL=Pore Lining. RC=Root Channel. M=Matrix ydric Soil Indicators: Indicators for Problematic Hydric Soils ² Histics of ristel (A1) Alaska Color Change (TA4) Underlying Layer Hydrogen Suffide (A4) Alaska Redox With 2.5Y Hue Other (Explain in Remarks) Thick Dark Surface (A12) Alaska Redox With 2.5Y Hue Other (Explain in Remarks) 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) Alaska Redox (A14) Alaska Redox (A14) *Give details of color change in Remarks strictive Layer (if present): Type: Type: Hydric Soil Present? Yers: Hydric Soil Present? Yers: Water Stained Lawes (B9) Depth (inches): Sparsely Vegetate Concave Surface (B8) Mark (B1) Inundation Visible on Aerial Imagery (B7) Ø High Water Table (A2) Sparsely Vegetate Concave Surface (B8) Sturber Water Table (A2) Sparsely Vegetate Concave Surface (B8) Geidment Deposits (B1) Hydrogen Sulfide Odor (C1) Hydrogen Sulfide Color: Satuted or Stressed Plants (D1) <t< td=""><td>8-10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Muck</td><td>Oa</td><td>a</td><td></td></t<>	8-10									Muck	Oa	a		
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Instact Anjune swales (1/2) □ Alaska Redox With 2.5Y Hue ○ Other (Explain in Remarks) Hydrogen Sulfide (A4) □ Alaska Redox With 2.5Y Hue ○ Other (Explain in Remarks) □ Alaska Gleyed (A13) □ One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present □ Alaska Redox (A14) □ Grie indicator of color change in Remarks ■ Alaska Gleyed Pores (A15) ■ Give details of color change in Remarks estrictive Layer (if present): Type: Type: □ Peth (inches): emarks: ery cold soil. Possible Gellsol. YDROLOGY ////////////////////////////////////	Histosol or	r Histel (A1)			Alask	a Color Cha	inge (TA4	4				5Y or Redder		
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Alaska Gleyed (A13) and an appropriate landscape position must be present Image: Constraint of the present Alaska Gleyed Pores (A15) 4 Give details of color change in Remarks estrictive Layer (if present): Type: Type: Hydric Soil Present? Depth (inches): Present? emarks: Image: Constraint of the present fery cold soil. Possible Gelisol. Image: Constraint of the present YDROLOGY Image: Constraint of the present // Kettand Hydrology Indicators: Secondary Indicators (two or more are requested for the present of the present o		. ,			3 ()ne in	dicator of b	vdronhvti	c venetatio	n one prin	nary indicator	of wetland hyd	rology		
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Very cold soil. Possible Gelisol. YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one is sufficient) Surface Water (A1) Inundation Visible on Aerial Imagery (B7) Water Table (A2) Sparsely Vegetated Concave Surface (B8) Oxidized Rhizospheres along Living Roc Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Dry-Season Water Table (C2) Drift Deposits (B3) Other (Explain in Remarks) Algal Mat or Crust (B4) Shallow Aquitard (D3) Iron Deposits (B5) Microtopographic Relief (D4)	Depth (Inch	ies):												
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	 High Wate Saturation 					5					-		D1)	
ield Observations:	 High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo 	rks (B1) Deposits (B2) osits (B3) or Crust (B4)] Geomorphic F] Shallow Aquit] Microtopograj	Position (D2) ard (D3) phic Relief (D4		
Surface Water Present? Yes O No 🖲 Depth (inches): 0	High Wate Saturation Water Mai Sediment Drift Depc Algal Mat Iron Depo Surface Sc	rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) oil Cracks (B6)] Geomorphic F] Shallow Aquit] Microtopograj	Position (D2) ard (D3) phic Relief (D4		
Water Table Present? Yes No Depth (inches): 12 Wetland Hydrology Present? Yes No	High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Surface So Sield Observa	rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) oil Cracks (B6) ations:	Yes 〇		Oth	er (Explain	in Remar] Geomorphic F] Shallow Aquit] Microtopograj	Position (D2) ard (D3) phic Relief (D4		
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