## WETLAND DETERMINATION DATA FORM - Alaska Region

Project	/Site: Susitna-Watana Hydroelectric Project		Borough/City:	Matanusk	a-Susitna Borough Sampling Date: 21-Jun-12	
Applica	nt/Owner: Alaska Energy Authority			•	Sampling Point: SW12_T33_03	3
	gator(s): SLI, EKJ		Landform (hi	llside, terrac	e, hummocks etc.): Hillside	
	elief (concave, convex, none): flat		Slope:	% / 21.4		
	ion: Interior Alaska Mountains	l at ·	 62.78044811		Long.: -148.366865744 Datum: NAD83	3
-	p Unit Name:	Lut	02.70044011	<u> </u>		
			. O Voc	• No O	NWI classification: Upland	
	natic/hydrologic conditions on the site typical for this tin egetation $\Box$ , Soil $\Box$ , or Hydrology $\Box$ s	•	tly disturbed?		(If no, explain in Remarks.)  formal Circumstances" present? Yes ● No ○	
		-	problematic?		ornar orreamstarioes present:	
	, , , , , , , , , , , , , , , , , , , ,				ded, explain any answers in Remarks.)	
SUMN	MARY OF FINDINGS - Attach site map show		mpling poin	t locations	s, transects, important features, etc.	
	Hydrophytic Vegetation Present? Yes O No •		le	the Sam	pled Area	
	Hydric Soil Present? Yes ○ No ●			ithin a W		
	Wetland Hydrology Present? Yes ○ No ●		l l		Citaria	
Rema	irks: upland alder community. immediately downslope at its northern (downslope) bound.	the grad	e levels and ve	g becomes a	a low betnan/vaculi community, which transitions to pio	cgla
	at its northern (downslope) bound.					
VEGE	TATION - Use scientific names of plants. Lis	st all sp	ecies in the	plot.		
	•	Absolute		Indicator	Dominance Test worksheet:	
Tree	e Stratum	% Cove		Status	Number of Dominant Species	
1.		0			That are OBL, FACW, or FAC:  1 (A)	
2.		0			Total Number of Dominant Species Across All Strata: 3 (B)	J
3.		0			Percent of dominant Species	
4.		0			That Are OBL, FACW, or FAC: 33.3% (A/I	B)
5.		0			Prevalence Index worksheet:	
	Total Cover:		_		Total % Cover of: Multiply by:	
Sap	ling/Shrub Stratum 50% of Total Cover:	0 20	% of Total Cove	r: <u>0</u>	OBL Species 0 x 1 = 0	
1	Linnaea borealis	5		FACU	FACW Species 0 x 2 = 0	
	Pihas trista	1	-	FAC	FAC Species 82 x 3 = 246	
	Spiraea stevenii	2		FACU	FACU Species 22 x 4 = 88	
4.	Alnus viridis	80	<b>✓</b>	FAC	UPL Species <u>1</u> x 5 = <u>5</u>	
5.		0			Column Totals: <u>105</u> (A) <u>339</u>	(B)
6.		0				(2)
7.		0			Prevalence Index = B/A = 3.229	
8.		0			Hydrophytic Vegetation Indicators:	
9.		0			Dominance Test is > 50%	
10.		0			Prevalence Index is ≤3.0	
	Total Cover:				☐ Morphological Adaptations <sup>1</sup> (Provide supporting data i	in
Her	b Stratum 50% of Total Cover:	44 20	)% of Total Cove	er: <u>17.6</u>	Remarks or on a separate sheet)	
	Cornus suecica			FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
	Trientalis europaea		_	FACU	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
٠.	Spinulum annotinum	7		FACU	be present, unless disturbed or problematic.	
	Polemonium pulcherrimum		-	UPL	Plot size (radius, or length x width)	
0.	Dryopteris expansa		-	FACU	% Cover of Wetland Bryophytes	
			-		(Where applicable)	
			-		% Bare Ground	
			-		Total Cover of Bryophytes	
			-			
10.		_				
			_	r: 3.4	Present? Yes No •	
					I	
8. 9. 10.	Total Cover:8 arks:	0 0 0 17			Total Cover of Bryophytes 25  Hydrophytic Vegetation	

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SOIL Sampling Point: SW12\_T33\_03

Color (molet)   Se   Color (molet)   Se   Type   Loc   Texture   Remarks	Profile Descripti  Depth	on: (Describe to	o the depth r <b>Matrix</b>	eeded to docu	ment the indicator or c	onfirm the ab		cators)			
2-4 4-8 7-57R 2-5/2 90 Loam 10% angular gravels 11-15 7-57R 2-5/2 40 Loam 10% angular gravels 11-15 1-5/57R 2-5/2 40 Loam 10% angular gravels 11-15 1-5/57R 2-5/2 40 Loam 10% angular gravels 10% coarse sand to angular coabtes 11-15 1-5/57R 2-5/2 40 Loam 10% angular gravels 10% coarse sand to angular gravels 11-15 1-5/57R 2-5/2 40 Loam 10% coarse sand to angular gravels 10% coarse sand to angular gravels 11-15 1-6/57R 1-6		Color (m	oist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
4-8 7.57R 2.5/2 90 Loam 10% angular graves 8-11 57R 2.5/1 90 Loam 10% angular graves 11-15 7.57R 2.5/2 40 Loam 10% angular graves and cololes angular graves angular	0-2			100					Fibric Organics		
8-11 5YR 2.5/1 90   Loam 10% angular gravels and coboles   11-15 7.5YR 2.5/2 40   Loam 50% coarse send to angular coables   1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix 2 Location: PL=Pore Lining, RC=Root Channel, M=Matrix   1 Mydric Soil Indicators:   Indicators for Problematic Hydric Soils?     Alaska Gleyed Without Hue 5Y or Redder   1 Histosol or Histol (A)     Alaska Redow With 25H use   Other (Explain in Remarks)   1 Histosol or Histol (A1)     Alaska Redow With 25H use   Other (Explain in Remarks)   1 Hydric Soil Indicators   Other (Explain in Remarks)   2 One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present   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):   Restrictive Layer (if present):   Water Stained Leeves (89)	2-4			100					Hemic Organics		
11-15 7.5YR 2.5/2 40	4-8	7.5YR	2.5/2	90					Loam	10% angular gravels	
11-15 7.5YR 2.5/2 40	8-11	5YR	2.5/1	90					Loam	-	
**Type: C=Concentration. D=Depletion. RM=Reduced Matrix ** Location: PL=Pore Lining, RC=Root Channel. M=Matrix  **Hydric Soil Indicators:	11-15								Loam	-	
Hydric Soil Indicators:    Histosol or Histel (A1)		7.5110								ou // coarse sand to angular cobbles	
Hydric Soil Indicators:    Histosol or Histel (A1)		-						-	-		
Hydric Soil Indicators:    Histosol or Histel (A1)											
Histosol or Histel (A1)	¹Type: C=Cor	ncentration. D	=Depletion	n. RM=Reduc	ed Matrix <sup>2</sup> Location	on: PL=Por	e Lining. RO	=Root Cha	nnel. M=Matrix		
Histic Epipedon (A2)	Hydric Soil I	ndicators:			Indicators for P	roblemati	c Hydric S	oils: <sup>3</sup>			
Histic Epipedon (A2)							4		Alaska Gleyed Without H	ue 5Y or Redder	
Thick Dark Surface (A12)					Alaska Alpine	swales (TA	5)		Underlying Layer		
Alaska Gileyed (A13)   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	Hydrogen	Sulfide (A4)			Alaska Redox	With 2.5Y I	Hue		Other (Explain in Remark	(S)	
Alaska Redox (AI4) Alaska Gleyed Pores (AI5)  Restrictive Layer (if present): Type: Depth (inches):  Remarks:  R	☐ Thick Dark	Surface (A1	2)		2						
Alaska Gleyed Pores (A15)  Alaska Gleyed Pores (A15)  Restrictive Layer (if present): Type: Depth (inches):  Remarks: No hydric soil indicators  AYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (any one is sufficient)	Alaska Gle	yed (A13)								nydrology,	
Restrictive Layer (if present): Type: Depth (inches):  Remarks: no hydric soil indicators    Hydric Soil Present? Yes	Alaska Red	lox (A14)				·	•	•			
Type: Depth (inches):  Remarks: No hydric soil indicators    Hydric Soil Present? Yes	Alaska Gle	yed Pores (A	15)		Give details of	color chang	e in Kemari	(S			
PATT Deposits (B3) Setiment Deposits (B2) Sediment Deposits (B3) Sediment Deposits (B3) Surface Water Present? Sediment Deposits (B5) Surface Soli Cracks (B6) Surface Water (A1) Surface Water (A2) Surface Water (A2) Surface Water (A3) Surface Water (A1) Surface Water (A1) Surface Water (A2) Surface Water (A2) Surface Water (A1) Surface Water (A2) Surface Water (A1) Surface Water Marks (B1) Surface Water Marks (B1) Surface Water Marks (B1) Surface Soli Cracks (B6) Surface Water Present? Surface Wat		er (if present)	:								
AYDROLOGY  Wetland Hydrology Indicators  Wetland Hydrology Indicators (two or more are required)    Water Stained Leaves (B9)									Hydric Soil Present	? Yes ○ No ●	
Wetland Hydrology Indicators:  Wetland Hydrology Indicators:  Wetland Hydrology Indicators:    Water Stained Leaves (B9)	рерит (пист	ies):									
Wetland Hydrology Indicators:    Primary Indicators (any one is sufficient)											
Primary Indicators (any one is sufficient)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Marl Deposits (B15)  Sediment Deposits (B2)  Drinage Patterns (B10)  Drainage Patterns (B10)  Presence of Reduced Iron (C4)  Saturation (A3)  Marl Deposits (B15)  Sediment Deposits (B2)  Drift Deposits (B3)  Other (Explain in Remarks)  Surface Soil Cracks (B6)  Field Observations:  Surface Water Present?  Yes  No  Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Water Stained Leaves (B9)  Water Stained Leaves (B9)  Drainage Patterns (B10)  Dr	HYDROLO	GY									
□ 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) □ Shallow Aquitard (D3) □ Iron Deposits (B5) □ Microtopographic Relief (D4) □ Shallow Aquitard (D3) □ Iron Deposits (B5) □ FAC-neutral Test (D5) □ Sediment Deposits (B5) □ Depth (inches): □ Dept	=								Secondary Indi	cators (two or more are required)	
High Water Table (A2)			is sufficier	nt)					Water Stai	ned Leaves (B9)	
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) □ Shallow Aquitard (D3) □ 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 ③ Depth (inches):  Observible Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:		. ,							` ,		
□ Drift Deposits (B3) □ Other (Explain in Remarks) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ Iron Deposits (B5) □ Microtopographic Relief (D4) □ Surface Soil Cracks (B6) □ FAC-neutral Test (D5) □ Surface Water Present? Yes □ No ● Depth (inches):  Water Table Present? Yes □ No ● Depth (inches):  Saturation Present? Yes □ No ● Depth (inches):  Consider 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)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Security Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:			)							` '	
☐ Iron Deposits (B5) ☐ Microtopographic Relief (D4) ☐ Surface Soil Cracks (B6) ☐ FAC-neutral Test (D5) ☐ FAC-neutral Test (D5		. ,			Utner (Expl	ain in Rema	irks)			` '	
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? Yes No Depth (inches):  Cincludes capillary fringe)  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:		, ,								. ,	
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:		. ,	3)							, ,	
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:		•	'/							11 1000 (100)	
Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:			Yes	No ●	Depth (inch	nes):					
Saturation Present? (includes capillary fringe)  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:					, ,	,		Wetla	nd Hvdrology Presen	t? Yes ○ No •	
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:						•			,,,	100 - 110 -	
Remarks:											
	Describe Recor	ded Data (str	eam gauge	e, monitor we	ell, aerial photos, pro	evious inspe	ection) if ava	ailable:			
no wetland hydrology indicators	Remarks:										
	no wetland hyd	Irology indica	tors								

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