## WETLAND DETERMINATION DATA FORM - Alaska Region

Projec	t/Site: Susitna-Watana Hydroelectric Project	В	Borough/City:	Matanusk	ca-Susitna Borough Sampling Date: 03-Aug-13		
Applica	ant/Owner: Alaska Energy Authority				Sampling Point: SW13_T173_05		
Investi	gator(s): BAB	ce, hummocks etc.): Hillside					
Local	relief (concave, convex, none): rolling	% / 8.9	9 ° Elevation: 110				
Subre	gion : Interior Alaska Mountains		Long.: -148.263782106 Datum: NAD83				
	ap Unit Name:		63.163816310				
			0 V	No ○	NWI classification: Upland		
Are \	Yegetation ☐ , Soil ☐ , or Hydrology ☐ MARY OF FINDINGS - Attach site map show	significantly naturally pr wing san	y disturbed? roblematic?	Are "N (If nee	(If no, explain in Remarks.)  Normal Circumstances" present? Yes ● No ○  eded, explain any answers in Remarks.)  s, transects, important features, etc.		
	Hydrophytic Vegetation Present? Yes No C		le	the Sam	pled Area		
	Hydric Soil Present? Yes No 6			ithin a W	-		
Rem	Wetland Hydrology Present? Yes O No @	)	W	illilli a vv	retiality 165 5 No 5		
VEGI	ETATION -Use scientific names of plants. Li	st all spe	ecies in the	-	Dominance Test worksheet:		
Tre	e Stratum	% Cover		Status	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)		
1.		0			That are OBL, FACW, or FAC:3 (A)  Total Number of Dominant		
2.		0			Species Across All Strata: 4 (B)		
3.		0			Percent of dominant Species		
4.		0			That Are OBL, FACW, or FAC: 75.0% (A/B)		
5.		0			Prevalence Index worksheet:		
	Total Cover	: <u> </u>			Total % Cover of: Multiply by:		
Sap	oling/Shrub Stratum 50% of Total Cover:	0 20%	of Total Cover	0	OBL Species x 1 =		
1.	Betula nana	60	<b>✓</b>	FAC	FACW Species 15 x 2 = 30		
2.	Vaccinium uliginosum	40	<b>✓</b>	FAC	FAC Species <u>120.2</u> x 3 = <u>360.6</u>		
3.	Rhododendron tomentosum	10		FACW	FACU Species3 x 4 =12		
4.	Spiraea stevenii	1		FACU	UPL Species <u>0</u> x 5 = <u>0</u>		
5.	Empetrum nigrum	10		FAC	Column Totals: <u>138.2</u> (A) <u>402.6</u> (B)		
6.	Vaccinium vitis-idaea	5		FAC			
7.	Salix pulchra	5		FACW	Prevalence Index = B/A = 2.913		
8.		0			Hydrophytic Vegetation Indicators:		
9.		0			✓ Dominance Test is > 50%		
10.		0			✓ Prevalence Index is ≤3.0		
Hei	Total Cover: 50% of Total Cover:		6 of Total Cove	r: <u>26.2</u>	Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)		
1.	Anthoxanthum monticola ssp. alpinum	2	<b>✓</b>	UPL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
2.	Festuca altaica	5	<b>~</b>	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must		
3.	Calamagrostis canadensis	-		FAC	be present, unless disturbed or problematic.		
	Carex podocarpa	-		FAC	Plot size (radius, or length x width)		
		^			% Cover of Wetland Bryophytes		
					(Where applicable)		
					% Bare Ground10		
					Total Cover of Bryophytes		
		<u> </u>					
10.	Total Cover			Hydrophytic Vegetation			
	i otal cover	<u>7.2</u>					
	50% of Total Cover:	3.6 20%	of Total Cover	1.44	Present? Yes • No •		

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SOIL Sampling Point: SW13\_T173\_05

(inches)     Color (moist)     %     Color (moist)     %     Type 1     Loc 2     Texture     Remarks       0-5     Fibric Organics	Profile Description  Depth		the depth no	eeded to docun	nent the ind		nfirm the abs		ators)	_	
S-20 101/R 3/3 80 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 3/3 80 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 5/3 20 M Sit Loam 20% inclusions, seemi ang grovet to cotive S-20 101/R 5/3 20 M Sit Loam 20% inclusions S-20 20% inclusio		Color (mo	oist)	%	Color (m	oist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
¹¹Yyae: C-Concentration. D=Depletion. RM=Reduced Matrix ² Location: PL=Pore Lining. RC=Root Channel. M=Matrix  Hydric Soil Indicators:    Histic Epipedin (A2)	0-5									Fibric Organics	
Hydric Soil Indicators:    Histosoi or Histe (A1)   Alaska Clory Change (TA4)   Alaska Gleyed Without Hue 5Y or Redder Underlying Layer Underlying Layer Underlying Layer Underlying Layer Other (Explain in Remarks)   Alaska Gleyed Nithout Hue 5Y or Redder Underlying Layer Underlying Layer Other (Explain in Remarks)   Alaska Redox (A12)   Alaska Gleyed Rores (A13)   Alaska Gleyed Rores (A15)   Alaska Roleyed Roles (A	5-20	10YR	3/3	80	10YR	5/3	20		М	Silt Loam	20% inclusions. semi ang gravel to cobble
Hydric Soil Indicators:    Histososi or Histe (A1)						-			-	-	
Hydric Soil Indicators:    Histosoi or Histe (A1)   Alaska Clory Change (TA4)   Alaska Gleyed Without Hue 5Y or Redder Underlying Layer Underlying Layer Underlying Layer Underlying Layer Other (Explain in Remarks)   Alaska Gleyed Nithout Hue 5Y or Redder Underlying Layer Underlying Layer Other (Explain in Remarks)   Alaska Redox (A12)   Alaska Gleyed Rores (A13)   Alaska Gleyed Rores (A15)   Alaska Roleyed Roles (A											
Hydric Soil Indicators:    Histososi or Histe (A1)											
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Hydric Soil Indicators:    Histosoi or Histe (A1)   Alaska Clory Change (TA4)   Alaska Gleyed Without Hue 5Y or Redder Underlying Layer Underlying Layer Underlying Layer Underlying Layer Other (Explain in Remarks)   Alaska Gleyed Nithout Hue 5Y or Redder Underlying Layer Underlying Layer Other (Explain in Remarks)   Alaska Redox (A12)   Alaska Gleyed Rores (A13)   Alaska Gleyed Rores (A15)   Alaska Roleyed Roles (A											
Hydric Soil Indicators:    Histososi or Histe (A1)						-					
Hydric Soil Indicators:    Histososi or Histe (A1)											
Histosol or Histel (A1)	¹Type: C=Conc	entration. D	=Depletion	. RM=Reduce	ed Matrix	<sup>2</sup> Location	n: PL=Pore	Lining. RC	=Root Cha	annel. M=Matrix	
Histic Epipedon (A2)	Hydric Soil Inc	dicators:			Indicate	ors for Pr	oblematic	: Hydric So	oils:		
Histic Epipedon (A2)	Histosol or H	Histel (A1)			Alask	ka Color Ch	nange (TA4	4		Alaska Gleved Without H	ue 5Y or Redder
Hydrogen Sulfide (A4)		. ,						-			
Thick Dark Surface (A12)   Alaska Gleyed (A13)   Alaska Gleyed (A13)   Alaska Redox (A14)   Alaska Redox (A14)   Alaska Redox (A14)   Alaska Redox (A14)   Alaska Redox (A15)   Alaska Gleyed Pores (A15)   Alask						•	•	•		Other (Explain in Remark	rs)
Alaska Gleyed (A13)   Alaska Gleyed (N14)   4 Give details of color change in Remarks		. ,	)								
Alaska Redox (A14)		•	,								ydrology,
Alaska Gleyed Pones (A15)  Restrictive Layer (if present): Type: Depth (inches):  Remarks: no hydric soil indicators observed  Hydric Soil Present? Yes \ No (*)  No (*)  No (*)  No (*)  No (*)  Hydric Soil Present? Yes \ No (*)  Remarks: no hydric soil indicators observed  HYDROLOGY  Wetland Hydrology Indicators: Define (A15)  Surface Water (A1) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Surface Water (B1) Hydrogen Sulfide Odor (C1) Drift Deposits (B2) Sediment Deposits (B2) Drift Deposits (B3) Oldized Rhires (B10) Drift Deposits (B3) Drift Deposits (B3) Surface Water Table (A2) Surface (B8) Surfac		. ,			and an	appropriat	e landscap	e position r	nust be pr	resent	
Type: Depth (inches):  Remarks: no hydric soil indicators observed  HYDROLOGY  Wettand Hydrology Indicators:		. ,	5)		4 Give d	etails of co	olor change	e in Remark	(S		
Depth (Inches):  Remarks: no hydric soil indicators observed  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (now one is sufficient) Surface Water (A1) High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Sufface Water (A1) High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Marl Deposits (B15) Presence of Reduced Iron (C4) Sediment Deposits (B2) Sport Dirth Deposits (B2) Dirth Deposits (B3) Oditate or Stressed Plants (D1) Sediment Deposits (B3) Dirth Deposits (B3) Surface Soil Cracks (B6) Dirth Deposits (B3) Dirth Deposits (B1) Dirth Deposits (B10) Dirth Deposits	Restrictive Layer	(if present):									
Remarks: no hydric soil indicators observed  HYDROLOGY  Wetland Hydrology Indicators:	Type:									Hydric Soil Present	? Yes ○ No •
HYDROLOGY  Wetland Hydrology Indicators:	Depth (inche	es):								-	
Wetland Hydrology Indicators:    Primary Indicators (any one is sufficient)											
Primary Indicators (any one is sufficient)  Surface Water (A1)											
□ 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) □ Jurion Deposits (B5) □ Microtopographic Relief (D4) □ Surface Soil Cracks (B6) □ FAC-neutral Test (D5) □ Seduration Present? Yes □ No ● Depth (inches): □ De											
High Water Table (A2)			is sufficien	t)							` '
Saturation (A3)		` '						_			
Water Marks (B1)		` ,						cave Surfac	ce (B8)		
□ 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) □ 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): Wetland Hydrology Present? Yes □ No ● Depth (inches): Depth (inches): Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:    Stunted or Stressed Plants (D1) □ Geomorphic Position (D2) □ Stunted or Stressed Plants (D1) □ Stunted or Stressed Plants (D2) □ Stunted or Stunted		. ,			∐ Ma	rl Deposits	s (B15)				. ,
□ Drift Deposits (B3) □ Other (Explain in Remarks) □ Geomorphic Position (D2) □ Algal Mat or Crust (B4) □ 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 ② Depth (inches):  Saturation Present? Yes ○ No ② Depth (inches):  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? Yes ○ No ● Depth (inches): Water Table Present? Yes ○ No ● Depth (inches): Saturation 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 ② Depth (inches):  Saturation Present? Yes ○ No ② Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:		. ,			☐ Otl	ner (Explai	in in Remar	ks)			` '
Surface Soil Cracks (B6)  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:		, ,									
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:		. ,								_	
Surface Water Present? Yes No Pepth (inches):  Water Table Present? Yes No Pepth (inches):  Saturation Present? Yes No Pepth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:	Surface Soi	l Cracks (B6)								☐ FAC-neutra	l Test (D5)
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:	Field Observat	ions:		) (2)							
Saturation Present? (includes capillary fringe)  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:	Surface Water F	Present?			De	pth (inche	s):				
(includes capillary fringe)  Pes No Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:	Water Table Pre	esent?	Yes 🤇	No 💿	De	pth (inche	s):		Wetla	nd Hydrology Presen	t? Yes O No 🖲
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:  Remarks:			Yes C	No 💿	De	pth (inche	s):				
			am gauge	, monitor wel	l, aerial pl	notos, prev	vious inspe	ction) if ava	ailable:		
no wetland hydrology indicators observed			_								
	no wetland hydro	ology indicat	ors observ	ed							

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