## WETLAND DETERMINATION DATA FORM - Alaska Region

6. Betula nana	Project	t/Site: Susitna-Watana Hydroelectric Project	В	orough/City:	Matanusk	a-Susitna Borough Sampling Date: 08-Jul-13
Investigator(s): SLI, SCB	Applica	ant/Owner: Alaska Energy Authority				
Local relief (concave, convex, none):   hummocky				Landform (hil	side, terrac	
Lat:   62.9729735849   Long:   148.278418778   Datum:   NADB3   NADB				`		,
NWi classification: PEMIE		,,	lat: (			
Are climatichydrologic conditions on the site typical for this time of year? Yes ® No			Lat	32.912913304	+9	
Are Vegetation					<u> </u>	<del></del>
Hydric Soil Present?	Are V	/egetation ☐ , Soil ☐ , or Hydrology ☐ /egetation ☐ , Soil ☐ , or Hydrology ☐ MARY OF FINDINGS -Attach site map sho	significantly naturally pro owing sam	disturbed?	Are "N (If nee	lormal Circumstances" present? Yes  No Oeded, explain any answers in Remarks.)
Wetland Hydrology Present?   Yes		.,,,		lo	the Com	nlad Araa
Wetland Hydrology Present?   Yes (		Hydric Soil Present? Yes ● No	$\supset$			-
Tree Stratum		Wetland Hydrology Present? Yes   No	$\bigcirc$	W	itnin a w	etiand? Tes © NO C
Number of Dominant Species   Number of Domi		· · · ·	List all spe	cies in the	plot.	
That are OBL, FACW, or FAC: 3 (A)			Absolute	Dominant	Indicator	
1		e Stratum		Species?	Status	
2						
A						Species Across All Strata:3 (B)
Total Covers						
Total Cover   Sapling/Shrub Stratum						That Are OBL, FACW, or FAC: 100.0% (A/B)
Sapiling/Shrub Stratum   S0% of Total Cover:   0   20% of Total Cover:   3.5   20% of	5.					
1. Salix pulchra 2. Vaccinium uliginosum 3. Salix reticulata 2.				-f T-t-1 C	_	
2. Vaccinium uliginosum	Sap	oling/Shrub Stratum 50% of Total Cover:	0 20%	of Total Cover	0	1012
Salix reticulata   2	1.	Salix pulchra	10	✓	FACW	
4. Andromeda polifolia (IAM)  5. Rhododendron tomentosum  6. Betula nana  7. Salix richardsonii  8. Empetrum nigrum  9. 0.1	2.	Vaccinium uliginosum		<b>✓</b>	FAC	
5. Rhododendron tomentosum         0.1         FACW         Column Totals: 57.6 (A)         82.2 (B)           6. Betula nana         0.1         FAC         Prevalence Index = B/A = 1.427           7. Salix richardsonii         0.1         FACW         Prevalence Index = B/A = 1.427           8. Empetrum nigrum         0.1         FAC         Hydrophytic Vegetation Indicators:           9.         0         Dominance Test is > 50%           10.         Total Cover: 17.5 (Dominance Test is > 50%         Prevalence Index is ≤3.0 (Dominance Test is > 50%           1. Carex aquatilis         40         OBL         Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation (Explain)         1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.           4.         0         Dominance Test is > 50%         Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic vegetation (Explain)         1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.           4.         0         Dominance Test is > 50%         Plot size (radius, or length x width)         10m           5.         0         Dominance Test is > 50%         Plot size (radius, or length x width)	3.	Salix reticulata	2		FAC	
6. Betula nana 7. Salix richardsonii 8. Empetrum nigrum 9.		Andromeda polifolia (IAM)				UPL Species 0 x 5 = 0
7. Salix richardsonii         0.1         FACW         Prevalence Index = B/A = 1.427           8. Empetrum nigrum         0.1         FAC         Hydrophytic Vegetation Indicators:           9.	5.	Rhododendron tomentosum			-	Column Totals: <u>57.6</u> (A) <u>82.2</u> (B)
Salix richardsonii	6.	Betula nana				Prevalence Index = B/A = 1 427
9.						
Total Cover: 17.5   Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)  1. Carex aquatilis   40   ✓ OBL   Problematic Hydrophytic Vegetation 1 (Explain)  2. Trichophorum caespitosum   0.1   OBL   Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  4.   0   O   Problematic Hydrophytic Vegetation 1 (Explain)  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  4.   O   Problematic Hydrophytic Vegetation 1 (Explain)  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  4.   O   Problematic Hydrophytic Vegetation 1 (Explain)  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  4.   O   Problematic Hydrophytic Vegetation 1 (Explain)  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  4.   Plot size (radius, or length x width) 10m   % Cover of Wetland Bryophytes (Where applicable)  7.   O   Problematic Hydrophytic Negetation 1 (Explain)  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  4.   Plot size (radius, or length x width) 10m   % Cover of Wetland Bryophytes (Where applicable)  7.   O   Problematic Hydrophytic Hydrophytic Hydrophytic					FAC	
Total Cover: 17.5   Solve of Total Cover: 20% of Total Cover: 3.5   Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  1. Carex aquatilis						
Herb Stratum       50% of Total Cover: 8.75 20% of Total Cover: 3.5       Not prolingical Adaptations (Provide supporting data in Remarks or on a separate sheet)         1. Carex aquatilis       40       ✓       OBL       □ Problematic Hydrophytic Vegetation ¹ (Explain)         2. Trichophorum caespitosum       0.1       □ OBL       ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.         4. □       0       □       □ Plot size (radius, or length x width)       10m         5. □       0       □       % Cover of Wetland Bryophytes (Where applicable)         7. □       0       □       % Bare Ground       40         8. □       0       □       Total Cover of Bryophytes       30         9. □       0       □       Hydrophytic	10.					
2. Trichophorum caespitosum  3.	Her	=00/ C= . LO			3.5	Remarks or on a separate sheet)
3.       0       be present, unless disturbed or problematic.         4.       0       Plot size (radius, or length x width)       10m         5.       0       % Cover of Wetland Bryophytes (Where applicable)         7.       0       % Bare Ground       40         8.       0       Total Cover of Bryophytes       30         9.       0       Hydrophytic		·				
S.		<u> </u>			OBL	
Plot size (radius, or length x width)   10m						be present, unless disturbed of problematic.
6.						Plot size (radius, or length x width)
7.						
8.						, , ,
9						
10 O Hydrophytic						Total Cover of Bryophytes 30
10 Hydropnytic						Undrankutia
Total Cover: 40.1 Vegetation	10.	Total Cove		_		Vegetation
50% of Total Cover: 20.05 20% of Total Cover: 8.02 Present? Yes No				of Total Cover	8.02	

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SOIL Sampling Point: SW13\_T131\_01

Depth -	Matrix		Re	dox Featu	11.62			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-14							Sapric Organics	-
							-	
								-
								-
				-				
LTurney C. Cone	entration. D=Depletion		and Matrix 2 Lagatic		- Lining DC		anal M. Matrix	-
		on. RM=Reduc					innei. M=Matrix	
lydric Soil Ind			Indicators for P		4	oils:	1	
☐ Histosol or H	• ,		Alaska Color C		•		Alaska Gleyed Without F Underlying Layer	lue 5Y or Redder
Histic Epipe			☐ Alaska Alpine ☐ Alaska Redox	•	,		Other (Explain in Remar	ks)
☐ Hydrogen Si ☐ Tivid Bod 6	` ,		☐ Alaska Redox	WITH 2.5Y F	iue		Other (Explain in Remai	N3)
_	Surface (A12)		<sup>3</sup> One indicator o	f hydrophyt	ic vegetatio	n, one prin	nary indicator of wetland	hydrology,
<ul><li>✓ Alaska Gleye</li><li>✓ Alaska Redo</li></ul>			and an appropria	ate landscap	e position i	must be pre	esent	
_	ed Pores (A15)		4 Give details of	color chang	e in Remark	s		
estrictive Layer Type:	(ii present).						Hydric Soil Present	t? Yes   No
							nyunc son Present	ir res 🙂 NO 🔾
Depth (inche	s): ubangular cobbles.							
Depth (inche								
Depth (inche emarks: fusal at 14in, su	ubangular cobbles.							
Depth (inche emarks: fusal at 14in, su	ubangular cobbles.  BY  logy Indicators:	ant)						icators (two or more are required)
Depth (inche emarks: fusal at 14in, so YDROLOG Vetland Hydro trimary Indicato	ubangular cobbles.  SY  logy Indicators: ors (any one is sufficie	ent)	Toundation	Visible on A	avial Imaga	m. (B7)	Water Sta	ined Leaves (B9)
Depth (inche emarks: fusal at 14in, so your properties of the prop	ubangular cobbles.  SY blogy Indicators: ors (any one is sufficient (A1)	ent)	☐ Inundation \		_		Water Sta	ined Leaves (B9) Patterns (B10)
Depth (inche emarks: fusal at 14in, so yellow)  YDROLOG  Yetland Hydro  rimary Indicate  Surface Wa  High Water	ubangular cobbles.  SY  blogy Indicators:  ors (any one is sufficient (A1)  Table (A2)	ent)	Sparsely Ve	getated Cor	_		Water Sta Drainage Oxidized F	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3
Depth (inche emarks: fusal at 14in, so fusal at	ubangular cobbles.  SY  logy Indicators: ors (any one is sufficient (A1) Table (A2) (A3)	ent)	Sparsely Ve	getated Cor ts (B15)	ncave Surfa		Water Sta Drainage Oxidized F Presence	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4)
Depth (inche emarks: fusal at 14in, so fusal at	ubangular cobbles.  SY  logy Indicators: ors (any one is sufficient (A1)) Table (A2) (A3) (A3) (A3) (A3)	ent)	Sparsely Ve	getated Cor ts (B15) ulfide Odor	ncave Surfac		Water Sta Drainage Oxidized I Presence Salt Depo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4)
Depth (inche emarks:  Ifusal at 14in, so  YDROLOG  Vetland Hydro  Verliand Hyd	ubangular cobbles.  By  logy Indicators: ors (any one is sufficienter (A1)  Table (A2) (A3) (A3) (A5) (B1) (B2)	ent)	Sparsely Ver Marl Deposi Hydrogen S Dry-Season	getated Cor ts (B15) ulfide Odor Water Tabl	ncave Surfac (C1) e (C2)		Water Sta Drainage Oxidized I Presence Salt Depo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4) sits (C5)
Depth (inche emarks:  fusal at 14in, su  YDROLOG  /etland Hydro  rimary Indicato  Y Surface Wa  High Water  Saturation (  Water Mark  Sediment D	blogy Indicators: ors (any one is sufficienter (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	ent)	Sparsely Ve	getated Cor ts (B15) ulfide Odor Water Tabl	ncave Surfac (C1) e (C2)		Water Sta Drainage Oxidized F Presence Salt Depo Stunted o Geomorph	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4) sits (C5) r Stressed Plants (D1)
Depth (inche emarks:  fusal at 14in, su  YDROLOG  Yetland Hydro  Irimary Indicato  ✓ Surface Wa  ✓ High Water  ✓ Saturation (  Water Mark  Sediment D  Drift Depos	blogy Indicators: ors (any one is sufficient (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	ent)	Sparsely Ver Marl Deposi Hydrogen S Dry-Season	getated Cor ts (B15) ulfide Odor Water Tabl	ncave Surfac (C1) e (C2)		Water Sta Drainage Oxidized F Presence Salt Depo Stunted o Geomorph Shallow A	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) nic Position (D2)
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Depth (inche emarks:  Ifusal at 14in, so  YDROLOG  Yetland Hydro  Verimary Indicate  ✓ Surface Wa  ✓ High Water  ✓ Saturation (  Water Mark  Sediment D  Drift Deposi  Algal Mat or  Iron Deposi  Surface Soil	ubangular cobbles.  SY  blogy Indicators:  ors (any one is sufficient (A1)  Table (A2)  (A3)  os (B1)  reposits (B2)  its (B3)  r Crust (B4)  its (B5)  I Cracks (B6)  ions:		Sparsely Ver Marl Deposi Hydrogen S Dry-Season	getated Cor ts (B15) ulfide Odor Water Tabl	ncave Surfac (C1) e (C2)		Water Sta Drainage Oxidized F Presence Salt Depo Stunted o Geomorph Shallow A	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) nic Position (D2) quitard (D3) graphic Relief (D4)
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