## WETLAND DETERMINATION DATA FORM - Alaska Region

Soll Map Unit Name:  Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation	_	Susitna-Watana Hydro			Borough	n/City:	Matanusk	a-Susitna Borough Sampling Date:	05-Jul-13
Local relief (concave, convex, none):   hummocky   Slope:   % /   ° Elevation:   654	Applicant/Owner:	Alaska Energy Aut	thority						W13_T129_04
Southentral Alaska	nvestigator(s):	JGK			_ Landfo	rm (hill:		·	
Soil Map Unit Name:  Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation	Local relief (cond	cave, convex, none):	hummocky		_ Slope:		_% /	_° Elevation: 654	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)  Are Vegetation Soil On, or Hydrology Instinantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation On Soil On On Hydrology Instinantly disturbed? Are "Normal Circumstances" present? Yes No One within a Wetland any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No Vegetation Present Present? Yes No Vegetation Present? Yes No Vegetati	Subregion : Sou	uthcentral Alaska		Lat.:	62.844	977736	<u> </u>	Long.:149.0354532	Datum: WGS84
Are Vegetation	Soil Map Unit Nar	me:						NWI classification: PSS1	В
Hydric Soil Present? Yes No No within a Wetland? Yes No No within a Wetland? Yes No No within a Wetland? Yes No	Are Vegetation Are Vegetation	, Soil , , Soil , , , , , , , , , , , , , , , , , , ,	, or Hydrology	significar naturally	ntly distur problema	bed? atic?	Are "N (If nee	ormal Circumstances" present? Yes	)
Number of Dominant Species   Number of Domi	Hydric So Wetland F	il Present? Hydrology Present?	Yes  No  Yes  No	$\supset$					
Absolute   Species   Indicator   Species   Status   Number of Dominant   Species   That are OBL, FACW, or FAC:	/EGETATION	<b>V -</b> Use scientific n	ames of plants. L	ist all s <sub>l</sub>	pecies i	n the	plot.		
That are OBL, FACW, or FAC:	Two - Ct.								
2.		_				cies?	Status		4(A)
3.									(5)
4.	3				_			'	4(B)
Total Cover:       Total Cover:       O       Prevalence Index worksheet:         Sapling/Shrub Stratum       50% of Total Cover:       0       Prevalence Index worksheet:         1. Salix pulchra       15       ✓       FACW       FACW Species       17       x 1 = 17         2. Vaccinium uliginosum       30       ✓       FAC       FAC Species       47       x 3 = 141         3. Dasiphora fruticosa       5       FAC       FAC       FACU Species       0       x 4 = 0         4.       0       UPL Species       0       x 5 = 0         5.       0       Column Totals:       79       (A)       188         6.       0       Hydrophytic Vegetation Indicators:					_				100.0% (A/B)
Total Cover:O				0	1			Ducyalanas Index yyaylahaati	
Sapling/Shrub Stratum         50% of Total Cover:         0         20% of Total Cover:         0         OBL Species         17         x 1 =         17           1. Salix pulchra         15         ✓         FACW         FACW Species         15         x 2 =         30           2. Vaccinium uliginosum         30         ✓         FAC         FAC Species         47         x 3 =         141           3. Dasiphora fruticosa         5         FAC         FAC         FACU Species         0         x 4 =         0           4.         0         UPL Species         0         x 5 =         0           5.         0         0         Column Totals:         79         (A)         188         (           6.         0         0         Prevalence Index = B/A =         2.380           8.         0         Hydrophytic Vegetation Indicators:			Total Cove	r: <u>0</u>					v bv:
1. Salix pulchra       15       ✓       FACW       FACW Species       15       x 2 = 30         2. Vaccinium uliginosum       30       ✓       FAC       FAC Species       47       x 3 = 141         3. Dasiphora fruticosa       5       FAC       FACU Species       0       x 4 = 0         4.       0       UPL Species       0       x 5 = 0         5.       0       Column Totals: 79       (A) 188       (Column Totals: 79       (A) 188         6.       0       Prevalence Index = B/A = 2.380         8.       0       Hydrophytic Vegetation Indicators:	Sapling/Shrub	b Stratum 5	50% of Total Cover:	0 20	0% of Tota	l Cover:	0	0.00	•
2. Vaccinium uliginosum 30	1 Saliv nuk	chra		11	5	<b>✓</b>	FΔCW		
3. Dasiphora fruticosa       5       FAC       FAC Species 0 x 4 = 0 UPL Species 0 x 5 = 0         4. 0       UPL Species 0 x 5 = 0         5. 0       Column Totals: 79 (A) 188 (Prevalence Index = B/A = 2.380         7. 0       Hydrophytic Vegetation Indicators:	-				_			FAC Species 47 x 3 =	
4.     0     UPL Species     0     x 5 =     0       5.     0     Column Totals:     79     (A)     188     (Column Totals:     188     (Colum	-	o frutione			_			FACU Species 0 x 4 =	0
5.				_	<u> </u>			UPL Species 0 x 5 =	0
6.	l _			_	)			Column Totals: 79 (A)	188 (E
7. 0 Prevalence Index = B/A = 2.380  8. 0 Hydrophytic Vegetation Indicators:					)				
					)			Prevalence Index = B/A =	2.380
9. 0 Dominance Test is > 50%	8			0	<u> </u>			Hydrophytic Vegetation Indicators:	
	9			0	<u> </u>			✓ Dominance Test is > 50%	
10 0	10			0	<u> </u>			✓ Prevalence Index is ≤3.0	
Total Cover: 50 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	Herb Stratum	_ !					:10	Remarks or on a separate sheet)	
1. Carex aquatilis OBL Problematic Hydrophytic Vegetation (Explain)	1. Carex ad	quatilis				<b>✓</b>	OBL		
2. Comarum palustre5		•			_			<sup>1</sup> Indicators of hydric soil and wetland hyd	rology must
3. Equisetum fluviatile 2 OBL be present, unless disturbed or problematic.	·				_			pe present, unless disturbed or problema	tic.
4. Cornus suecica  2 FAC Plot size (radius, or length x width)  10m				_	_			Plot size (radius, or length x width)	_10m
5. Calamagrostis canadensis 10 FAC % Cover of Wetland Bryophytes 30	J				_		FAC		30
6 (Where applicable) 7 (Where applicable)					_			` ' '	
7					_				
Total cover of Bryophiytes 50					_			Total Cover of Bryophytes	_50
					_			Hydronhytic	
Total Cover: 20 Vegetation					_	_		Vegetation	
50% of Total Cover: 14.5 20% of Total Cover: 5.8 Present? Yes No		5		_		l Cover:	5.8	Present? Yes   No	)

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SOIL Sampling Point: SW13\_T129\_04

Depth (inches) Co	lor (moist)	%	Color (moist)	% Typ	e <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0-8						Fibric Organics	
8-9 10	YR 2/2					Sandy Silt Loam	
		· — — —					
						-	
Type: C=Concentral	ion. D=Depletio	n. RM=Reduce	ed Matrix <sup>2</sup> Location	on: PL=Pore Linir	ng. RC=Root Cha	annel. M=Matrix	
ydric Soil Indicate	rs:		Indicators for P	roblematic Hyd	ric Soils:		
Histosol or Histel	A1)		Alaska Color C	Change (TA4)		Alaska Gleyed Without H	ue 5Y or Redder
Histic Epipedon (A	.2)		Alaska Alpine	swales (TA5)		Underlying Layer	
Hydrogen Sulfide	(A4)		Alaska Redox	With 2.5Y Hue		Other (Explain in Remark	(S)
Thick Dark Surfac	e (A12)		3 One indicator o	f budrophytic voc	atatian ana nyir	mary indicator of wetland h	nudrologu.
☐ Alaska Gleyed (A1				ate landscape pos			iyurology,
☐ Alaska Redox (A1	•		4 Give details of (	color change in R	emarks		
☐ Alaska Gleyed Por	es (A15)			color change in to	cinario		
strictive Layer (if pr	:sent):						
Type: Ice						Hydric Soil Present	? Yes 💿 No 🔾
Depth (inches): 9 emarks:							
Depth (inches): 9 emarks:							
emarks:							
emarks:  YDROLOGY  Vetland Hydrology							cators (two or more are required)
YDROLOGY (etland Hydrology	y one is sufficie	nt)				Water Stai	ned Leaves (B9)
YDROLOGY  YDROLOGY  Yetland Hydrology  rimary Indicators (ar	y one is sufficie 1)	nt)		Visible on Aerial I		Water Stai	ned Leaves (B9) Patterns (B10)
YDROLOGY  Yetland Hydrology rimary Indicators (ar  Surface Water (A	y one is sufficie 1)	nt)	Sparsely Ve	getated Concave		Water Stai Drainage F Oxidized R	ned Leaves (B9) Patterns (B10) hizospheres along Living Roots (C
YDROLOGY etland Hydrology rimary Indicators (ar Surface Water (A High Water Table Saturation (A3)	y one is sufficie 1) (A2)	nt)	Sparsely Veg	getated Concave ts (B15)		Water Stai Drainage F Oxidized R Presence of	ned Leaves (B9) Patterns (B10) hizospheres along Living Roots (C of Reduced Iron (C4)
PROLOGY etland Hydrology imary Indicators (ar Surface Water (A High Water Table Saturation (A3) Water Marks (B1)	y one is sufficie 1) (A2)	nt)	Sparsely Ved Marl Deposit Hydrogen St	getated Concave ts (B15) ulfide Odor (C1)	Surface (B8)	Water Stai Drainage F Oxidized R Presence c Salt Depos	ned Leaves (B9) Patterns (B10) Inizospheres along Living Roots (Ci of Reduced Iron (C4) Sits (C5)
YDROLOGY  YDROLOGY  Yetland Hydrology rimary Indicators (ar  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1)  Sediment Deposi	y one is sufficie 1) (A2) s (B2)	nt)	Sparsely Ved Marl Deposit Hydrogen St Dry-Season	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2)	Surface (B8)	Water Stai Drainage F Oxidized R Presence c Salt Depos Stunted or	ned Leaves (B9) Patterns (B10) Inizospheres along Living Roots (Ci of Reduced Iron (C4) Sits (C5) Stressed Plants (D1)
YDROLOGY  Yetland Hydrology rimary Indicators (ar  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1)  Sediment Deposit  Drift Deposits (B3)	y one is sufficie 1) (A2) s (B2)	nt)	Sparsely Ved Marl Deposit Hydrogen St Dry-Season	getated Concave ts (B15) ulfide Odor (C1)	Surface (B8)	Water Stai Drainage F Oxidized R Presence c Salt Depos Stunted or Geomorph	ned Leaves (B9) Patterns (B10) hizospheres along Living Roots (Confederation (C4) sits (C5) Stressed Plants (D1) ic Position (D2)
YDROLOGY  Yetland Hydrology  Ye	y one is sufficie 1) (A2) s (B2) b) t (B4)	nt)	Sparsely Ved Marl Deposit Hydrogen St Dry-Season	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2)	Surface (B8)	Water Stai     Drainage F     Oxidized R     Presence c     Salt Depos     Stunted or     Geomorph     ✓ Shallow Ac	ned Leaves (B9) Patterns (B10) hizospheres along Living Roots (C: of Reduced Iron (C4) sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3)
PROLOGY etland Hydrology rimary Indicators (ar Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3)	y one is sufficie  1)  (A2)  s (B2)  t (B4)  )	nt)	Sparsely Ved Marl Deposit Hydrogen St Dry-Season	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2)	Surface (B8)	Water Stai □ Drainage F □ Oxidized R □ Presence c □ Salt Depos □ Stunted or □ Geomorph ☑ Shallow Ac □ Microtopog	ned Leaves (B9) Patterns (B10) chizospheres along Living Roots (Ci of Reduced Iron (C4) sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3) graphic Relief (D4)
PROLOGY etland Hydrology rimary Indicators (ar Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B3) Surface Soil Crac	y one is sufficie  1)  (A2)  s (B2)  t (B4)  )	ent)	Sparsely Ved Marl Deposit Hydrogen St Dry-Season	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2)	Surface (B8)	Water Stai     Drainage F     Oxidized R     Presence c     Salt Depos     Stunted or     Geomorph     ✓ Shallow Ac	ned Leaves (B9) Patterns (B10) chizospheres along Living Roots (Ci of Reduced Iron (C4) sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3) graphic Relief (D4)
PROLOGY etland Hydrology imary Indicators (ar Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B2) Algal Mat or Crus Iron Deposits (B3) Surface Soil Craceld Observations:	y one is sufficie  1)  (A2)  s (B2)  t (B4) ) ss (B6)	ent)	Sparsely Ved Marl Deposit Hydrogen St Dry-Season	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2) ain in Remarks)	Surface (B8)	Water Stai □ Drainage F □ Oxidized R □ Presence c □ Salt Depos □ Stunted or □ Geomorph ☑ Shallow Ac □ Microtopog	ned Leaves (B9) Patterns (B10) chizospheres along Living Roots (Ci of Reduced Iron (C4) sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3) graphic Relief (D4)
POROLOGY  etland Hydrology rimary Indicators (ar  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1)  Sediment Deposit  Drift Deposits (B3)  Algal Mat or Crus  Iron Deposits (B3)  Surface Soil Crace  eld Observations:  surface Water Preservations	y one is sufficiently (A2) (A2) (S (B2) (S) (S (B4) (S (B6)		Sparsely Veg Marl Deposit Hydrogen St Dry-Season Other (Expla	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2) ain in Remarks) es):	Surface (B8)	Water Stai  □ Drainage F  □ Oxidized R  □ Presence of  □ Salt Depose  □ Stunted or  □ Geomorph  ☑ Shallow Ad  □ Microtopog  ☑ FAC-neutra	ned Leaves (B9) Patterns (B10) Inizospheres along Living Roots (Citof Reduced Iron (C4) Sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
POROLOGY etland Hydrology etland Hydrology rimary Indicators (ar Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B1) Algal Mat or Crus Iron Deposits (B2) Surface Soil Crac eld Observations: surface Water Preser Vater Table Present?	y one is sufficiently (A2)  (A2)  (S (B2)  (S)  (CB4)  (CB	○ No	Sparsely Veg Marl Deposit Hydrogen St Dry-Season Other (Expla	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2) ain in Remarks) es):	Surface (B8)	Water Stai □ Drainage F □ Oxidized R □ Presence c □ Salt Depos □ Stunted or □ Geomorph ☑ Shallow Ac □ Microtopog	ned Leaves (B9) Patterns (B10) hizospheres along Living Roots (Ci of Reduced Iron (C4) sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
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POROLOGY etland Hydrology rimary Indicators (ar Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crus Iron Deposits (B3) Surface Soil Crac eld Observations: surface Water Present vater Table Present? includes capillary frii	y one is sufficient  (A2)  (S (B2)  (S)  (B4)  (SS (B6)  Test  Yes  (Age)  Yes	<ul><li>No ●</li><li>No ○</li><li>No ○</li><li>No ○</li></ul>	Sparsely Veg Marl Deposit Hydrogen St Dry-Season Other (Expla	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2) ain in Remarks) es): es):	Surface (B8)  Wetla	Water Stai  □ Drainage F  □ Oxidized R  □ Presence of  □ Salt Depose  □ Stunted or  □ Geomorph  ☑ Shallow Ad  □ Microtopog  ☑ FAC-neutra	ned Leaves (B9) Patterns (B10) Inizospheres along Living Roots (Citof Reduced Iron (C4) Sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
POROLOGY  Tetland Hydrology  Indicators (ar  Surface Water (Ar  High Water Table  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B1)  Algal Mat or Crus  Iron Deposits (B2)  Surface Soil Crace  Eld Observations:  Surface Water Present  Saturation Present?	y one is sufficient  (A2)  (S (B2)  (S)  (B4)  (SS (B6)  Test  Yes  (Age)  Yes	<ul><li>No ●</li><li>No ○</li><li>No ○</li><li>No ○</li></ul>	Sparsely Veg Marl Deposit Hydrogen St Dry-Season Other (Expla	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2) ain in Remarks) es): es):	Surface (B8)  Wetla	Water Stai  □ Drainage F  □ Oxidized R  □ Presence of  □ Salt Depose  □ Stunted or  □ Geomorph  ☑ Shallow Ad  □ Microtopog  ☑ FAC-neutra	ned Leaves (B9) Patterns (B10) Inizospheres along Living Roots (Citof Reduced Iron (C4) Sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
PROLOGY etland Hydrology imary Indicators (ar Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Algal Mat or Crus Iron Deposits (B3) Surface Soil Craceld Observations: Surface Water Present? Saturation Present?	y one is sufficient  (A2)  s (B2) b) t (B4) ) ts (B6)  t? Yes  yes  qe) Yes  a (stream gauge	○ No ○ ● No ○ ● No ○ e, monitor well	Sparsely Veg Marl Deposit Hydrogen St Dry-Season Other (Explain  Depth (inch Depth (inch Depth (inch	getated Concave ts (B15) ulfide Odor (C1) Water Table (C2) ain in Remarks)  es): es): es):	Surface (B8)  Wetla	Water Stai  □ Drainage F  □ Oxidized R  □ Presence of  □ Salt Depose  □ Stunted or  □ Geomorph  ☑ Shallow Ad  □ Microtopog  ☑ FAC-neutra	ned Leaves (B9) Patterns (B10) Inizospheres along Living Roots (Citof Reduced Iron (C4) Sits (C5) Stressed Plants (D1) ic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)

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