



Project/Site: Seward Highway MP 99 - 105	Borough/	City: Anchorage	е	Sam	pling Da	te: August 8,	2006	
Applicant/Owner: DOT&PF				Sam	pling Po	int: 14		
Investigator(s): CAD/SPT	Landforn	n (hillside terr	ace hummocks et		,			
	Slope (%): 1							
Subregion: Southcentral Alaska Lat 60 58 04.8								
Are climatic / hydrologic conditions on the site typical for this time of ye								
Are Vegetation N, Soil N, or Hydrology N, significantly	disturbed	d? Are	Normal Circumstar	nces" preser	nt? Yes	No		
Are Vegetation N, Soil N, or Hydrology N, naturally pr	oblematic	? (If ne	eded, explain any	answers in F	Remarks	.)		
SUMMARY OF FINDINGS – Attach site map showing	g sampl	ing point l	ocations, trans	sects, im	portan	t features	, etc.	
Hydrophytic Vegetation Present? Yes No _✓		the Complet	A					
Hydric Soil Present? Yes No		the Sampled		Voc	N			
Wetland Hydrology Present? Yes No		iuiiii a vveuai	iur	169	_ ~	, <del></del>		
Remarks:	roop may b	o drior compara	ed to lost year					
Hydrology - the winter storage this year is half of the average, so wetland at	reas may b	e dher compare	d to last year.					
Gently sloped.								
VEGETATION								
	Absolut	e Indicator						
Species (Use scientific names. List all species in plot.)	% Cove		Prevalence Inde	ex:				
1. Picea glauca (t)	10	FACU	Total % Cov				-	
2. Betula papyrifera (t)	70	FACU_	OBL species	0.5				
3. Cornus canadensis (h)	70	FACU	FACW species	35	x 2 = _			
4 Pteridium aquilinum (h)	60	_ FACU	FAC species		x 3 = _			
5. Equisetum sylvaticum (h)	25	_ FACU	FACU species	235	x 4 = _			
6. Salix sp. (s)	40	FAC	UPL species	245	x5=.			
7. Picea mariana (t)	35	_ FACW	Column Totals:	345	. (A) _	1235	(B)	
8. Calamagrostis canadensis (h)	10 25	FAC FAC	Prevalence	Index = B/	A = 3.57	,	_	
9. Lycopodium annotinum (h)		_ TAC						
10			011		hada Wa			
11			Other Indicators (Record supporti				rate	
13.			sheet.)					
14			Wetland Cry	ptogams (re	cord spe	cies and co	ver	
15.			at left)					
16			Morphologic					
17			Problematic	Hydrophytic	Vegetat	ion (Explain)	)	
18.								
19.								
20								
Total Cover		_	Hydrophytic					
Plot size 30 foot diameter circle			Vegetation Present?	Yes		No <u></u> ✓	_	
% Cover of Wetland Bryophytes0 Total Cover of Bryo	phytes _							
Remarks:								

Profile Description:	(Describe to the	depth ne	eaea to aocu	minorit tiro	nuicator.,	)			
Depth	Matrix		Red	ox Feature	s				
	or (moist) %		olor (moist)	%		Loc <sup>2</sup>	Texture	Remarks	
0 - 6 N/A								Organic	
- IV/1								Fractured bedrock with fine sa	
6+ 10YR 3	3/3 1	00 N/A							anu 
<sup>1</sup> Type: C=Concentra	ation, D=Depletion,	RM=Redu	iced Matrix.	2Location	: PL=Por	e Lining, R	C=Root Chann	nel, M=Matrix.	
Hydric Soil Indicate			dicators for						
Histosol or Histe	I (A1)		Alaska Co	lor Change	(TA4)4		Alaska	Gleyed Without Hue 5Y or	Redder
Histic Epipedon	(A2)		_ Alaska Alp	ine Swales	(TA5)			erlying Layer	
Hydrogen Sulfid			Alaska Re					(Explain in Remarks)	
Thick Dark Surfa							_	, ,,	
Alaska Gleyed (A		3	One indicator	of hydroph	vtic vegeta	ation, one	orimary indicate	or of wetland hydrology,	
Alaska Redox (A			and an appr					,	
Alaska Gleyed P		4(	Sive details of						
Restrictive Layer (if					9				
							Unidada Call	D	lo_✓
							Hydric Soil	Present? Yes N	<u> </u>
Remarks:									
HYDROLOGY									
HYDROLOGY  Wetland Hydrology	Indicators:						Secondary	Indicators (2 or more require	ed)
		sufficient)						Indicators (2 or more require stained Leaves (B9)	ed)
Wetland Hydrology	ny one indicator is		urface Soil Cr	acks (B6)			Water-		ed)
Wetland Hydrology Primary Indicators (a Surface Water (A)	nny one indicator is A1)	_ s	urface Soil Cr	, ,	al Imagery	(B7)	Water-	stained Leaves (B9) ge Patterns (B10)	
Wetland Hydrology Primary Indicators (a Surface Water (/ High Water Tabl	nny one indicator is A1)	_ s	urface Soil Cr undation Visil	ole on Aeria			Water- Draina Oxidize	stained Leaves (B9)	
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3)	nny one indicator is A1) le (A2)	s In s	urface Soil Cr undation Visil parsely Veget	ole on Aeria ated Conc	ave Surfac		Water Draina Oxidize Preser	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4)	
Wetland Hydrology Primary Indicators (a Surface Water (a High Water Tabl Saturation (A3) Water Marks (Ba)	nny one indicator is A1) le (A2)	s in s H	urface Soil Cr undation Visil parsely Veget ydrogen Sulfic	ole on Aeric ated Conc de Odor (C	ave Surfac		Water- Draina Oxidize Preser Salt De	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5)	
Wetland Hydrology Primary Indicators (a Surface Water (a High Water Tabl Saturation (A3) Water Marks (Ba) Sediment Depos	nny one indicator is A1) le (A2) 1) sits (B2)	s In s H D	urface Soil Cr undation Visil parsely Veget ydrogen Sulfik ry-Season Wa	ble on Aeric ated Conc de Odor (C ater Table (	ave Surfac 1) (C2)		Water- Draina Oxidize Preser Salt De	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1)	
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (B4 Sediment Depos Drift Deposits (B4	nny one indicator is A1) le (A2) 1) sits (B2)	s In s H D	urface Soil Cr undation Visil parsely Veget ydrogen Sulfic	ble on Aeric ated Conc de Odor (C ater Table (	ave Surfac 1) (C2)		Water- Draina Oxidize Preser Salt De Stunte	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2)	
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (B4 Sediment Deposits (B Mat or Crust of A	nny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4)	s In s H D	urface Soil Cr undation Visil parsely Veget ydrogen Sulfik ry-Season Wa	ble on Aeric ated Conc de Odor (C ater Table (	ave Surfac 1) (C2)		Water- Draina Oxidize Preser Salt De Stunte Geome	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3)	
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (B4 Sediment Depos Drift Deposits (B4	nny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4)	s In s H D	urface Soil Cr undation Visil parsely Veget ydrogen Sulfik ry-Season Wa	ble on Aeric ated Conc de Odor (C ater Table (	ave Surfac 1) (C2)		Water- Draina Oxidize Preser Salt De Stunte Geome Shallon Microte	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4)	
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (BA Sediment Deposits (B Mat or Crust of A Iron Deposits (B	nny one indicator is A1) le (A2) 1) sits (B2) 33) Algae or Marl (B4) 5)	s In s H D	urface Soil Cr undation Visil parsely Veget ydrogen Sulfik ry-Season Wa	ble on Aeric ated Conc de Odor (C ater Table (	ave Surfac 1) (C2)		Water- Draina Oxidize Preser Salt De Stunte Geome Shallon Microte	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3)	
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Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (B4 Sediment Deposits (B Mat or Crust of A Iron Deposits (B Field Observations: Surface Water Present	nny one indicator is A1) le (A2) 1) sits (B2) (3) Algae or Marl (B4) 5) : ent? Yes	S In S H D O	urface Soil Cr undation Visit parsely Veget ydrogen Sulfic ry-Season Wa ther (Explain	ble on Aeric ated Concide Odor (C ater Table ( in Remarks nches): nches):	ave Surfac 1) (C2) (S)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	Roots (C3)
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (B4 Sediment Deposits (B Mat or Crust of A Iron Deposits (B Field Observations: Surface Water Preser Water Table Present?	iny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4) 5) : ent? Yes Yes	S In S H D O	urface Soil Cr undation Visil parsely Veget ydrogen Sulfic ry-Season Wa ther (Explain	ble on Aeric ated Concide Odor (C ater Table ( in Remarks nches): nches):	ave Surfac 1) (C2) (S)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4)	Roots (C3)
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (B4 Sediment Deposits (B Mat or Crust of A Iron Deposits (B Field Observations: Surface Water Preset Water Table Present Saturation Present? (includes capillary frii	nny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4) 5) : ent? Yes Yes nge)	S In S H D O	urface Soil Cr undation Visit parsely Veget ydrogen Sulfic ry-Season Wa ther (Explain  Depth (in	ble on Aeric ated Conce de Odor (C ater Table ( in Remarks  nches): nches): nches):	ave Surfac 1) (C2) (S)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	Roots (C3)
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (B4 Sediment Deposits (B Mat or Crust of A Iron Deposits (B Field Observations: Surface Water Preser Water Table Present?	nny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4) 5) : ent? Yes Yes nge)	S In S H D O	urface Soil Cr undation Visit parsely Veget ydrogen Sulfic ry-Season Wa ther (Explain  Depth (in	ble on Aeric ated Conce de Odor (C ater Table ( in Remarks  nches): nches): nches):	ave Surfac 1) (C2) (S)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	Roots (C3)
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Table Saturation (A3) Water Marks (B4 Sediment Deposits (B Mat or Crust of A Iron Deposits (B Iron Deposits (B Water Table Present Saturation Present? (includes capillary frid Describe Recorded I	nny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4) 5) : ent? Yes Yes nge)	S In S H D O	urface Soil Cr undation Visit parsely Veget ydrogen Sulfic ry-Season Wa ther (Explain  Depth (in	ble on Aeric ated Conce de Odor (C ater Table ( in Remarks  nches): nches): nches):	ave Surfac 1) (C2) (S)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	Roots (C3)
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Tabl Saturation (A3) Water Marks (B4 Sediment Deposits (B Mat or Crust of A Iron Deposits (B Field Observations: Surface Water Preset Water Table Present Saturation Present? (includes capillary frii	nny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4) 5) : ent? Yes Yes nge)	S In S H D O	urface Soil Cr undation Visit parsely Veget ydrogen Sulfic ry-Season Wa ther (Explain  Depth (in	ble on Aeric ated Conce de Odor (C ater Table ( in Remarks  nches): nches): nches):	ave Surfac 1) (C2) (S)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	Roots (C3)
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Table Saturation (A3) Water Marks (B4 Sediment Deposits (B4 Iron Deposits (B4 Iron Deposits (B4 Field Observations: Surface Water Present Saturation Present? (includes capillary frid Describe Recorded I	nny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4) 5) : ent? Yes Yes nge)	S In S H D O	urface Soil Cr undation Visit parsely Veget ydrogen Sulfic ry-Season Wa ther (Explain  Depth (in	ble on Aeric ated Conce de Odor (C ater Table ( in Remarks  nches): nches): nches):	ave Surfac 1) (C2) (S)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	Roots (C3)
Wetland Hydrology Primary Indicators (a Surface Water (A High Water Table Saturation (A3) Water Marks (B4 Sediment Deposits (B4 Iron Deposits (B4 Iron Deposits (B4 Field Observations: Surface Water Present Saturation Present? (includes capillary frid Describe Recorded I	nny one indicator is A1) le (A2) 1) sits (B2) l3) Algae or Marl (B4) 5) : ent? Yes Yes nge)	S In S H D O	urface Soil Cr undation Visit parsely Veget ydrogen Sulfic ry-Season Wa ther (Explain  Depth (in	ble on Aeric ated Conce de Odor (C ater Table ( in Remarks  nches): nches): nches):	ave Surfac 1) (C2) (S)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living F nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	Roots (C3)





Project/Site: Seward Highway MP 99 - 105	Borough	/City: Anchorag	e	Sam	oling Dat	e: August 8,	2006
Applicant/Owner: DOT&PF	Sampling Point: 15						
Investigator(s): RAC/CAD	Landford	m (hilleide terr	ace hummocke et		pining i on		
			ace, numinocks, ex	J.). IIIII			
Local relief (concave, convex, none): none							
Subregion: Southcentral Alaska Lat:			_				
Are climatic / hydrologic conditions on the site typical for this time of ye							
Are Vegetation N, Soil N, or Hydrology N, significantly	y disturbe	d? Are	Normal Circumstan	ices" presen	t? Yes_	No	
Are Vegetation N, Soil N, or Hydrology N, naturally pr	roblematio	? (If ne	eded, explain any	answers in R	emarks.	)	
SUMMARY OF FINDINGS – Attach site map showing	g samp	ling point l	ocations, trans	ects, imp	ortant	features	, etc.
Hydrophytic Vegetation Present? Yes No		s the Sampled	Area				
Hydric Soil Present? Yes No		vithin a Wetlar		Yes	No	✓	
Wetland Hydrology Present? Yes No	.   "	Titling a Troud					
Remarks: Hydrology - the winter storage this year is half of the average, so wetland a	reas may b	oe drier compare	ed to last year.				
Rained hard yesterday and it's also raining today.							
Waypoint 48							
Closed Mixed Forest							
VEGETATION							
Species (Use scientific names. List all species in plot.)	Absolut % Cove		Prevalence Inde	٧٠			
Betula papyrifera (t)	70	FACU	Total % Cove		Mul	tinly by:	
2 Vaccinium vitis-idaea (h)	<1	FAC	OBL species	01.01.			-
3 Empetrum nigrum (h)	<1	FAC	FACW species		x 2 = _		
4 Calamagrostis canadensis (h)	10	FAC	FAC species	40	x 3 =		
5. Cornus canadensis (h)	10	FAC	FACU species		x 4 =		
6 Picea mariana (t)	30	FACW	UPL species	60	x 5 =	300	
7. Menziesia ferruginea (s)	60	UPL	Column Totals:	207	(A)	786	(B)
8. Athyrium distentifolium	5	FAC			0.70		
9 Oplopanax horridus (s)	5	FACU	Prevalence	Index = B/A	3.79		-
10. Rubus stellatus	10	FAC					
11. Lycopodium annotinum (h)	5	FAC	Other Indicators				
12			(Record supporting sheet.)	ng data in Re	emarks o	r on a sepa	rate
13. Sphagnum sp. (h)	10		Wetland Cry	ptogams (red	cord spec	cies and cov	/er
14. Foliose lichen			at left)	progume (re-	оро		
15			Morphologica	al Adaptation	ns		
16			Problematic			on (Explain)	)
17			-				
18							
19							
Z0	222						
			Hydrophytic Vegetation				
Plot size 30 foot diameter circle			Present?	Yes	'	No	-
Remarks:	priytes _		1				
Ground cover = a lot o f leaf litter. Ru st and Co ca are patchy.							
Pi ma are very happy. A few unhappy on the edge.							
Sphagnum is growing on logs.							

1 101110 2000	oribuon: Ipeacrine u	o ano aop	th needed to docum		uicator.	,			
Depth	Matrix		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks	
0 - 2	N/A							Roots and organics	
2 - 20	7.5YR3/2	100	N/A				sandy loam		
									_
									_
									_
l									
Type: C=C	oncentration, D=Deple	etion RM	=Reduced Matrix 2	Location:	PI =Por	e Lining R	C=Root Chanr	nel M=Matrix	_
Hydric Soil		buon, run	Indicators for Pr				to-rtoot onam	nui, m-muuna	
	or Histel (A1)		Alaska Color				Alaska	Gleyed Without Hue 5Y or Redder	
_	pipedon (A2)		Alaska Alpine	-				erlying Layer	
	en Sulfide (A4)		Alaska Redo					(Explain in Remarks)	
	ark Surface (A12)				11100			(Explain in Homano)	
_	Gleyed (A13)		3One indicator of	hvdrophyt	tic vegeta	ation, one	primary indicate	or of wetland hydrology,	
	Redox (A14)		and an appropri		-			, , , , , , , , , , , , , , , , , , , ,	
_	Gleyed Pores (A15)		<sup>4</sup> Give details of co						
	Layer (if present):						T		
_	<b>,</b> , <b>,</b> ,-								
	ches):						Hydric Soil	Present? Yes No _✓	
Remarks:	unus).						Tiyane oon	71000III. 100 II0	
remarks.									
1									
HYDROLO	IGY								
HYDROLO							Secondary	Indicators (2 or more sequired)	
Wetland Hy	drology Indicators:		Toliant)					Indicators (2 or more required)	
Wetland Hy	drology Indicators: cators (any one indica	tor is suff	-				Water-	stained Leaves (B9)	
Wetland Hy Primary India Surface	drology Indicators: cators (any one indica Water (A1)	tor is suff	Surface Soil Crack	, , ,			Water-	stained Leaves (B9) ge Patterns (B10)	
Wetland Hy Primary India Surface High Wa	drology Indicators: cators (any one indica Water (A1) ater Table (A2)	tor is suff	Surface Soil Crack Inundation Visible	on Aerial			Water- Draina Oxidize	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (C	3)
Wetland Hy Primary India Surface High Wa	drology Indicators: cators (any one indica Water (A1) ater Table (A2) on (A3)	tor is suff	Surface Soil Crack Inundation Visible Sparsely Vegetate	on Aerial ed Concav	ve Surfac		Water Draina Oxidize Preser	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (C nce of Reduced Iron (C4)	3)
Wetland Hy Primary India Surface High Wa Saturati Water N	drology Indicators: cators (any one indica Water (A1) ater Table (A2) on (A3) farks (B1)	tor is suff	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide	on Aerial ed Concav Odor (C1)	ve Surfac		Water- Draina Oxidize Preser Salt De	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5)	3)
Wetland Hy Primary India Surface High Wa Saturati Water N Sedimen	drology Indicators: cators (any one indical Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2)	tor is suff	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate	on Aerial ed Concav Odor (C1) r Table (C	ve Surfac ) (2)		Water- Draina Oxidize Preser Salt De	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1)	3)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimei Drift De	drology Indicators: cators (any one indications) Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide	on Aerial ed Concav Odor (C1) r Table (C	ve Surfac ) (2)		Water- Draina Oxidize Preser Salt De Stunte Geome	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2)	3)
Wetland Hy Primary Indie Surface High Wa Saturatie Water M Sedimen Drift Dep	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marks		Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate	on Aerial ed Concav Odor (C1) r Table (C	ve Surfac ) (2)		Water- Draina Oxidize Preser Salt De Stunte Geome	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) erphic Position (D2) w Aquitard (D3)	3)
Wetland Hy Primary Indie Surface High Wa Saturatie Water M Sedimen Drift Dep	drology Indicators: cators (any one indications) Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate	on Aerial ed Concav Odor (C1) r Table (C	ve Surfac ) (2)		Water- Draina Oxidize Preser Salt De Stunte Geome Shallon Microte	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) exprise Position (D2) extra Aquitard (D3) expographic Relief (D4)	3)
Wetland Hy Primary India Surface High Wa Saturati Water N Sedimen Drift Dep Iron Dep	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)		Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate	on Aerial ed Concav Odor (C1) r Table (C	ve Surfac ) (2)		Water- Draina Oxidize Preser Salt De Stunte Geome Shallon Microte	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) erphic Position (D2) w Aquitard (D3)	3)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift Dep Iron Dep	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)	(B4)	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (2)	e (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallon Microte	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) exprise Position (D2) extra Aquitard (D3) expographic Relief (D4)	3)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift Dep Iron Dep	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marling posits (B5)  vations: ter Present?  Ye	(B4)	Surface Soil Cract Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallon Microte	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) exprise Position (D2) extra Aquitard (D3) expographic Relief (D4)	3)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift Der Iron Der Field Obser Surface Wat Water Table	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)  vations: er Present? Ye	(B4)	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Cince of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	
Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Dep Iron Dep Field Obser Surface Wat Water Table Saturation P	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)  vations: ter Present? Present? Ye present? Ye present? Ye	(B4)	Surface Soil Cract Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	ee (B8)	Water- Draina Oxidize Preser Salt De Stunte Geome Shallor FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Conce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) exprise Position (D2) extra Aquitard (D3) expographic Relief (D4)	
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift Dep Iron Dep Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)  vations: ter Present? Present? Ye present? Ye present? Ye present? Ye present? Ye present? Ye present?	(B4)	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	weti	Water- Draina Oxidize Preser Salt De Stunte Geome Shallon FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Cince of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift Dep Iron Dep Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)  vations: ter Present? Present? Ye present? Ye present? Ye present? Ye present? Ye present? Ye present?	(B4)	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	weti	Water- Draina Oxidize Preser Salt De Stunte Geome Shallon FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Cince of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	
Wetland Hy Primary India Surface High Wa Saturati Water N Sedimen Drift Dep Mat or C Iron Dep Field Obser Surface Wat Water Table Saturation P (includes ca) Describe Re	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)  vations: ter Present? Present? Ye present? Ye present? Ye present? Ye present? Ye present? Ye present?	(B4)	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	weti	Water- Draina Oxidize Preser Salt De Stunte Geome Shallon FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Cince of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift Dep Iron Dep Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)  vations: ter Present? Present? Ye present? Ye present? Ye present? Ye present? Ye present? Ye present?	(B4)	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	weti	Water- Draina Oxidize Preser Salt De Stunte Geome Shallon FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Cince of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	
Wetland Hy Primary India Surface High Wa Saturatia Water N Sedimen Drift Dep Mat or C Iron Dep Field Obser Surface Wat Water Table Saturation P (includes ca) Describe Re	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)  vations: ter Present? Present? Ye present? Ye present? Ye present? Ye present? Ye present? Ye present?	(B4)	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	weti	Water- Draina Oxidize Preser Salt De Stunte Geome Shallon FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Cince of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	
Wetland Hy Primary India Surface High Wa Saturatia Water N Sedimen Drift Dep Mat or C Iron Dep Field Obser Surface Wat Water Table Saturation P (includes ca) Describe Re	drology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Mark posits (B5)  vations: ter Present? Present? Ye present? Ye present? Ye present? Ye present? Ye present? Ye present?	(B4)	Surface Soil Crack Inundation Visible Sparsely Vegetate Hydrogen Sulfide Dry-Season Wate Other (Explain in I	on Aerial ed Concav Odor (C1) r Table (C Remarks)	ve Surfac ) (22)	weti	Water- Draina Oxidize Preser Salt De Stunte Geome Shallon FAC-N	stained Leaves (B9) ge Patterns (B10) ed Rhizospheres on Living Roots (Cince of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)	





Project/Site: Seward Highway MP 99 - 105	Borough/C	City: Anchorag	e	Sampling	Date: August 8,	2006
Applicant/Owner: DOT&PF	Dorougise	ony.	-	Sampling		2000
Investigator(s): RAC/CAD	Landform	/hilleide terr	nce hummocke etc.):f		roint.	
Local relief (concave, convex, none): none			ace, numinocks, etc.).			
			-	D-		
Subregion: Southcentral Alaska Lat:					lum:	
Are climatic / hydrologic conditions on the site typical for this time of ye					,	
Are Vegetation N, Soil N, or Hydrology N significantly						
Are Vegetation N, Soil N, or Hydrology N naturally pr	oblematic?	(If n∈	eeded, explain any ans	wers in Remar	ks.)	
SUMMARY OF FINDINGS – Attach site map showing	g sampli	ng point l	ocations, transec	ts, importa	ant features	, etc.
Hydrophytic Vegetation Present? Yes _ ✓ No	l la	the Sampled	1 4			
Hydric Soil Present? Yes No	10	thin a Wetlar		es	No	
Wetland Hydrology Present? Yes No		um a vvena				
Remarks: Hydrology - the winter storage this year is half of the average, so wetland as	reas may be	drier compare	ed to last year.			
Ring of Tall Pima surround this area.						
Waypoint 49						
The state of the s						
VEGETATION						
VEGETATION	Absolute	Indicator				
Species (Use scientific names. List all species in plot.)	% Cover		Prevalence Index:			
1. Picea mariana (s)	45	FACW	Total % Cover o	f:	Multiply by:	
2 Ledum decumbens (h)	15	_FACW_	OBL species	35 x 1	= 35	
3. Empetrum nigrum (h)	25	FAC	FACW species		= 120	
4. Betula nana (s)	30	FAC	FAC species	70 x 3	= 210	
Eriophorum angustifolium	35	OBL	FACU species		<b>=</b> 12	-
6. Vaccinium uliginosum (h)	15	FAC_	UPL species		<b>=</b> 0	
7. Geocaulon lividum (h)	3	FACU_	Column Totals:	168 (A)	377	(B)
8			Prevalence Ind	ex = B/A = 2	2.24	
9	100					
10, Spragnum squamosum (n)			Other lasticuture of	M. dan buda		
12.			Other Indicators of (Record supporting of	data in Remark	vegetation: ks or on a sepa	rate
13.			sheet.)			
14.			✓ Wetland Cryptog	gams (record s	species and co	ver
15.			at left)			
16.			Morphological A			
17			Problematic Hyd	rophytic Vege	tation (Explain	)
18						
19						
20						
Total Cover	r: <u>268</u>	-	Hydrophytic			
Plot size % Bare 0		100	Vegetation Present?	Yes	No	_
% Cover of Wetland Bryophytes100 Total Cover of Bryo Remarks:	phytes					
Most Pima are scrub-shrub; a few are trees.						

Profile Des	oribuoii. Ipeaerine t	o are aspen	needed to documer	it the maleutor.			
Depth	Matrix		Redox F	eatures			
(inches)	Color (moist)	%	Color (moist)	%Type¹	Loc <sup>2</sup>	Texture	Remarks
0 - 10	N/A						Peat
0 10	1071						Overania sail same ave not broken down
10 - 20	10YR2/2	100				silty loam	Organic soil - some org. not broken down
l ——							
Tune: C=C	encentration D=Donl	otion DM-D	laduaged Matrix 21.	esstion: DI =Dess	Lining D	C=Boot Chan	nol Matthew
Hydric Soil	oncentration, D=Deple	etion, RM=R	Indicators for Prol	ocation: PL=Pore		C=Root Chan	nei, m=matrix.
,					oons .		
_	l or Histel (A1)		Alaska Color C				Gleyed Without Hue 5Y or Redder
	pipedon (A2)		Alaska Alpine S				erlying Layer
	en Sulfide (A4)		Alaska Redox \	With 2.5Y Hue		Other	(Explain in Remarks)
Thick D	ark Surface (A12)						
Alaska	Gleyed (A13)		One indicator of hy	ydrophytic vegetati	ion, one p	orimary indicat	or of wetland hydrology,
Alaska	Redox (A14)		and an appropria	ate landscape posit	tion must	be present.	
Alaska	Gleyed Pores (A15)		<sup>4</sup> Give details of cold	or change in Rema	arks.		
Restrictive	Layer (if present):						
Type:							
	ches):		_			Hydric Soil	Present? Yes ✓ No
						riyane son	Present: res No
Remarks:							
HYDROLO	OGY						
						Secondary	Indicators (2 or more required)
Wetland Hy	drology Indicators:	ator is suffici	ent)				Indicators (2 or more required)
Wetland Hy Primary Indi	drology Indicators: cators (any one indica	ator is suffici		(DB)		Water-	-stained Leaves (B9)
Wetland Hy Primary Indi Surface	drology Indicators: cators (any one indica Water (A1)	ator is suffici	Surface Soil Cracks	()		Water-	-stained Leaves (B9) age Patterns (B10)
Wetland Hy Primary Indi Surface High W	drology Indicators: cators (any one indicative Water (A1) ater Table (A2)	ator is suffici	Surface Soil Cracks Inundation Visible o	on Aerial Imagery (		Water Draina Oxidiz	-stained Leaves (B9) age Patterns (B10) ed Rhizospheres on Living Roots (C3)
Wetland Hy Primary Indi Surface High W. ✓ Saturati	rdrology Indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3)	ator is suffici	Surface Soil Cracks Inundation Visible o Sparsely Vegetated	on Aerial Imagery (I I Concave Surface		Water Draina Oxidiz Preser	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and Reduced Iron (C4)
Wetland Hy Primary Indi  Surface  High W  ✓ Saturati  Water M	rdrology Indicators: cators (any one indical Water (A1) ater Table (A2) ion (A3) Marks (B1)	ator is suffici	Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O	on Aerial Imagery (I I Concave Surface Idor (C1)		Water- Draina Oxidiz Preser Salt Do	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5)
Wetland Hy Primary Indi  Surface  High W  ✓ Saturati  Water M	rdrology Indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3)	ator is suffici	Surface Soil Cracks Inundation Visible o Sparsely Vegetated	on Aerial Imagery (I I Concave Surface Idor (C1)		Water- Draina Oxidiz Preser Salt Do	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and Reduced Iron (C4)
Wetland Hy Primary Indi  Surface  High W. ✓ Saturati  Water M.  Sedime	rdrology Indicators: cators (any one indical Water (A1) ater Table (A2) ion (A3) Marks (B1)	ator is suffici	Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2)		Water- Draina Oxidiz Preser Salt Do Stunte	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5)
Wetland Hy Primary Indi  Surface  High W. ✓ Saturati  Water M  Sedime  Drift De	cators (any one indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2)		Water- Draina Oxidiz Preser Salt Do Stunte	estained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) ad or Stressed Plants (D1)
Wetland Hy Primary Indi  Surface  High W  Saturati  Water M  Sedime  Drift De  Mat or 0	cators (any one indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2)		Water- Draina Oxidiz Preser Salt Do Stunte Geome	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) archic Position (D2)
Wetland Hy Primary Indi  Surface  High W  Saturati  Water M  Sedime  Drift De  Mat or 0	cators (any one indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marl		Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2)		Water- Draina Oxidiz Preser Salt Do Stunte Geome Shallo Microte	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arorphic Position (D2) and Aquitard (D3) appographic Relief (D4)
Wetland Hy Primary Indi  Surface High W ✓ Saturati Water M — Sedime — Drift De — Iron De	cators (any one indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marl posits (B5)		Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2)		Water- Draina Oxidiz Preser Salt Do Stunte Geome Shallo Microte	estained Leaves (B9) age Patterns (B10) ed Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) eposits (C5) ad or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3)
Wetland Hy Primary Indi  Surface  High W. ✓ Saturati  Water M. Sedime  Drift De  Mat or 0  Iron De	cators (any one indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marl posits (B5)	(B4)	Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water Other (Explain in Re	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2) emarks)	(B8)	Water- Draina Oxidiz Preser Salt Do Stunte Geome Shallo Microte	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arorphic Position (D2) and Aquitard (D3) appographic Relief (D4)
Wetland Hy Primary Indi  Surface  High W. ✓ Saturati  Water M.  Sedime  Drift De  Mat or 0  Iron De  Field Obser	cators (any one indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marl posits (B5)  rvations: ter Present? Ye	(B4)	Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water Other (Explain in Re	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2) emarks)	(B8)	Water- Draina Oxidiz Preser Salt Do Stunte Geome Shallo Microte	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arorphic Position (D2) and Aquitard (D3) appographic Relief (D4)
Wetland Hy Primary Indi  Surface  High W  Saturati  Water M  Sedime  Drift De  Iron De  Field Obset  Surface Water Table	rdrology Indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marl posits (B5)  rvations: ter Present? Yes	(B4)	Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water Other (Explain in Re	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2) emarks)	(B8)	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo Microte	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrhic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
Wetland Hy Primary Indi  Surface  High W. ✓ Saturati  Water M. Sedime  Drift De  Iron De  Field Obser  Surface Wa'  Water Table Saturation F	redrology Indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marli posits (B5)  rvations: ter Present? Present? Yes Present? Yes	(B4)	Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water Other (Explain in Re	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2) emarks)	(B8)	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo Microte	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arorphic Position (D2) and Aquitard (D3) appographic Relief (D4)
Wetland Hy Primary Indi  Surface  High W. ✓ Saturati  Water M.  Sedime  Drift De  Mat or C.  Iron De  Field Obser Surface Water Table Saturation F (includes ca	rdrology Indicators: cators (any one indicators) Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) Crust of Algae or Marl posits (B5)  rvations: ter Present? Present? Ye Present? Ye pillary fringe)	(B4)  es No es No es No	Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water Other (Explain in Re	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2) emarks)	(B8)	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrhic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
Wetland Hy Primary Indi  Surface  High W. ✓ Saturati  Water M.  Sedime  Drift De  Mat or C.  Iron De  Field Obser Surface Water Table Saturation F (includes ca	redrology Indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) Crust of Algae or Marli posits (B5)  rvations: ter Present? Present? Yes Present? Yes	(B4)  es No es No es No	Surface Soil Cracks Inundation Visible o Sparsely Vegetated Hydrogen Sulfide O Dry-Season Water Other (Explain in Re	on Aerial Imagery (I I Concave Surface Idor (C1) Table (C2) emarks)	(B8)	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	estained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) and of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrhic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
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Project/Site: Seward Highway MP 99 - 105	Borough/Ci	v Anchorag	e	San	npling Dat	e: August 11	, 2006
Applicant/Owner: DOT&PF		.,			npling Poi		,
Investigator(s): RAC/CAD	Landform (	hilleide terr	ace hummocke et				
Local relief (concave, convex, none): none			ace, manimocks, ev	o.j. <u>-                                  </u>			
					Dotum		
Subregion: Southcentral Alaska Lat:						1:	
Are climatic / hydrologic conditions on the site typical for this time of ye							
Are Vegetation N, Soil N, or Hydrology N, significantly	disturbed?	Are '	Normal Circumstar	nces" preser	nt? Yes_	No	
Are Vegetation N, Soil N, or Hydrology N, naturally pro-	oblematic?	(If ne	eded, explain any	answers in	Remarks.	)	
SUMMARY OF FINDINGS - Attach site map showing	samplin	g point l	ocations, trans	sects, im	portant	features	, etc.
Hydrophytic Vegetation Present? Yes _ ✓ No	l		•				
Hydric Soil Present? Yes No	10 0	ne Sampled nin a Wetlan		Yes	No		
Wetland Hydrology Present? Yes No	With	iin a wedai	iar	resv	NO		
Remarks: Hydrology - the winter storage this year is half of the average, so wetland an	reas may be o	drier compare	ed to last year.				
Waypoint 50							
Open Tall Scrub							
VEGETATION							
	Absolute	Indicator					
Species (Use scientific names. List all species in plot.)	% Cover 25	Status FAC	Prevalence Inde			Washington.	
Betula nana (s)     Eriophorum angustifolium (h)	60	OBL	Total % Cov		x 1 = _	tiply by: 85	-
Eriophorum vaginatum	70	FACW	OBL species FACW species		x2=		-
Vaccinium oxycoccos (h)	5	FACW	FAC species	40	x3=		-
5. Ledum decumbens (h)	20	FACW	FACU species	0	x4=	0	-
6. Empetrum nigrum (h)	15	FAC	UPL species	0	x5=	0	-
7. Andromeda polifolia (h)	25	OBL	Column Totals:	220	(A)	395	(B)
8.							/
9.			Prevalence	Index = B/	A = 1.79		-
10. Sphagnum squarrosum (h)	20						
11. Rusty Sphagnum (h)	80		Other Indicators	s of Hydrop	hytic Ve	getation:	
12			(Record supporti sheet.)	ng data in R	Remarks o	or on a sepa	rate
13			Wetland Cry	ntoname (re	cord sne	cies and co	ver
14			at left)	progums (re	Joord Spe-	cico ana co	***
15			Morphologic	al Adaptatio	ons		
16			Problematic			on (Explain	)
17			-	, , ,		, ,	<b>'</b>
18							
19							
20.							
	320		Hydrophytic				
Plot size 30 foot diameter circle		100	Vegetation Present?	Yes	<b>✓</b>	No	-
% Cover of Wetland Bryophytes20 Total Cover of Bryo Remarks:	priytes						
Normans.							

Profile Description: (Describe to the depth	n needed to document the indicator.)	
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
0 - 20 N/A		Peat
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=F		RC=Root Channel, M=Matrix.
Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :	
✓ Histosol or Histel (A1)	Alaska Color Change (TA4) <sup>4</sup>	Alaska Gleyed Without Hue 5Y or Redder
Histic Epipedon (A2)	Alaska Alpine Swales (TA5)	Underlying Layer
Hydrogen Sulfide (A4)	Alaska Redox With 2.5Y Hue	Other (Explain in Remarks)
Thick Dark Surface (A12)		
Alaska Gleyed (A13)	<sup>3</sup> One indicator of hydrophytic vegetation, one	primary indicator of wetland hydrology,
Alaska Redox (A14)	and an appropriate landscape position mus	t be present.
Alaska Gleyed Pores (A15)	<sup>4</sup> Give details of color change in Remarks.	
Restrictive Layer (if present):		
Type:	_	
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
riomanio.		
HYDROLOGY		
HYDROLOGY  Wetland Hydrology Indicators:		Secondary Indicators /2 or more required)
Wetland Hydrology Indicators:	iont)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici		Water-stained Leaves (B9)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici	_ Surface Soil Cracks (B6)	Water-stained Leaves (B9) Drainage Patterns (B10)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the sufficient	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	Water-stained Leaves (B9) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
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Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffice  ✓ Surface Water (A1)  — High Water Table (A2)  ✓ Saturation (A3)  — Water Marks (B1)	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1)	Water-stained Leaves (B9) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Salt Deposits (C5)
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Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the sum of t	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Water-stained Leaves (B9) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Salt Deposits (C5) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
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Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffice  ✓ Surface Water (A1)  — High Water Table (A2)  ✓ Saturation (A3)  — Water Marks (B1)  — Sediment Deposits (B2)  — Drift Deposits (B3)  — Mat or Crust of Algae or Marl (B4)  — Iron Deposits (B5)  Field Observations:  Surface Water Present?  Water Table Present?  Yes ✓ N  Saturation Present?  (includes capillary fringe)	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2 Depth (inches): 2	Water-stained Leaves (B9) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Salt Deposits (C5) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
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Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffice  ✓ Surface Water (A1)  — High Water Table (A2)  ✓ Saturation (A3)  — Water Marks (B1)  — Sediment Deposits (B2)  — Drift Deposits (B3)  — Mat or Crust of Algae or Marl (B4)  — Iron Deposits (B5)  Field Observations:  Surface Water Present? Yes ✓ N  Water Table Present? Yes ✓ N  Saturation Present? Yes ✓ N  Saturation Present? Yes ✓ N  (includes capillary fringe)  Describe Recorded Data (stream gauge, mon	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2 Depth (inches): 2 Depth (inches): 0 Wetleritoring well, aerial photos, previous inspections),	Water-stained Leaves (B9) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Salt Deposits (C5) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)







Project/Site: Seward Highway MP 99 - 105	Borough	n/City: Anchorag	ie	San	nnling Dat	te: August 11	1 2006
Applicant/Owner: DOT&PF	Dorougi	BOILY.			npling Poi		, 2000
						nt: 10	
Investigator(s): CAD/RAC			race, nummocks, et	(C.): Silgrit filli	5 III alea		
Local relief (concave, convex, none): none			-				
Subregion: Southcentral Alaska Lat:						1:	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes	No _	(If no, expla	ain in Rema	rks.)		
Are Vegetation $\underline{N}$ , Soil $\underline{N}$ , or Hydrology $\underline{N}$ significantly	disturbe	ed? Are	"Normal Circumsta	nces" prese	nt? Yes_	✓ No	
Are Vegetation N, Soil N, or Hydrology N naturally pro-	oblemation	c? (If ne	eeded, explain any	answers in	Remarks.	)	
SUMMARY OF FINDINGS – Attach site map showing	g samp	ling point l	ocations, trans	sects, im	portant	features	s, etc.
Hydrophytic Vegetation Present? Yes No _✓	١.						
Hydric Soil Present? Yes No	"	s the Sampled		V.		./	
Wetland Hydrology Present? Yes No	'	within a Wetla	nd?	Yes	No		
Remarks: Hydrology - the winter storage this year is half of the average, so wetland an	reas may	be drier compare	ed to last year.				
Squirrel habitat							
Waypoint 51							
,							
Tall Closed Shrub							
VEGETATION							
Species (Use scientific names. List all species in plot.)	Absolu % Cov		Prevalence Inde				
1. Viburnum edule (s)	% Cov 60	<u>er Status</u> FACU	Total % Cov		Mul	Itiply by:	
2. Gymnocarpium dryopteris (h)	30	FACU	OBL species	0	x 1 = _		-
Athyrium distentifolium (h)	15	FAC	FACW species	20	x 2 =		-
4 Oplopanax horridus (s)	15	FACU	FAC species	65	x3=		-
5. Alnus crispa (s)	20	FAC	FACU species	170	x 4 =	680	-
6. Sambucus racemosa (s)	25	FACU	UPL species	35	x 5 =	175	
7 Menziesia ferruginea (s)	35	UPL	Column Totals:	260	(A)	1090	(B)
8. Chamerion angustifolium (h)	30	FACU					
g. Sorbus scopulina (s)	25	NI	Prevalence	Index = B	A = 4.19		-
10. Picea mariana (t)	20	FACW					
11. Galium triflorum (h)	10	FACU_	Other Indicator	s of Hydrop	hytic Ve	getation:	
12. Rubus idaeus (s)	30_	FAC	(Record supporti sheet.)	ing data in F	Remarks o	or on a sepa	arate
13	-	_	Wetland Cry	intogams (re	ecord sne	cies and co	ver
14			at left)	progamo (n	roota spot	cies and ee	
15			Morphologic	al Adaptatio	ons		
16			Problematic			on (Explain	)
17			-				
18							
19							
20							
Total Cover			Hydrophytic				
Plot size 30 foot diameter circle			Vegetation Present?	Yes		No <u></u> ✓	-
Remarks:	p,100 _						
Thick understory of raspberry. Happy Pima on the edge.							

	mpuon, (bescribe ti	tito doptit	needed to document the inc	aicator.)		
Depth	Matrix		Redox Features			
(inches)	Color (moist)	%		Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 - 6	N/A					Root wad with organics
6 - 20	10YR4/6	100			sandy loam	some cobbles at 12 feet
<sup>1</sup> Type: C=C	oncentration, D=Deple	tion, RM=R	educed Matrix. <sup>2</sup> Location:	PL=Pore Lining, F	RC=Root Chan	nel, M=Matrix.
Hydric Soil	Indicators:		Indicators for Problematic	Hydric Soils <sup>3</sup> :		
Histosol	or Histel (A1)		Alaska Color Change (1	ΓA4) <sup>4</sup>	Alaska	Gleyed Without Hue 5Y or Redder
Histic E	pipedon (A2)		Alaska Alpine Swales (	TA5)	Unde	erlying Layer
Hydroge	en Sulfide (A4)		Alaska Redox With 2.53	Y Hue	Other	(Explain in Remarks)
Thick Da	ark Surface (A12)					
Alaska	Gleyed (A13)		3One indicator of hydrophyti	c vegetation, one	primary indicat	or of wetland hydrology,
Alaska l	Redox (A14)		and an appropriate lands	cape position mus	st be present.	
Alaska	Gleyed Pores (A15)		<sup>4</sup> Give details of color change	e in Remarks.		
Restrictive	Layer (if present):					
Type:			_			
Depth (in	ches):		_		Hydric Soil	Present? Yes No
Second layer	is very red/frown. At 12 f	eet cobbles s	tart.			
HYDROLO	GY					
	drology Indicators:				Secondary	Indicators (2 or more required)
	cators (any one indicat	or is sufficie	unt)		Occordally.	maicators (2 or more required)
	Water (A1)					stained Leaves (B9)
_	ater Table (A2)				Water-	stained Leaves (B9) ge Patterns (B10)
		_	Surface Soil Cracks (B6)	Imagery (B7)	Water-	ge Patterns (B10)
Oaturati		_	Surface Soil Cracks (B6) Inundation Visible on Aerial		Water- Draina Oxidiz	ge Patterns (B10) ed Rhizospheres on Living Roots (C3)
_	on (A3)	=	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave	e Surface (B8)	Water Draina Oxidiz Preser	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4)
Water M	on (A3) farks (B1)		Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1)	e Surface (B8)	Water- Draina Oxidiz Preser Salt Do	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5)
Water M	on (A3) farks (B1) nt Deposits (B2)	=	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	e Surface (B8)	Water Draina Oxidiz Preser Salt Do Stunte	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1)
Water M Sedime Drift De	on (A3) Marks (B1) nt Deposits (B2) posits (B3)	——————————————————————————————————————	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1)	e Surface (B8)	Water- Draina Oxidiz Preser Salt Do Stunte Geome	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2)
Water M Sedime Drift De Mat or C	on (A3) farks (B1) nt Deposits (B2)	B4)	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	e Surface (B8)	Water- Draina Oxidiz Preser Salt Draina Stunte Geom	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3)
Water M Sedime Drift De Mat or C	on (A3) farks (B1) nt Deposits (B2) posits (B3) Crust of Algae or Marl (	B4)	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	e Surface (B8)	Water- Draina Oxidiz Preser Salt Do Stunte Geom Shallo	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2)
Water M Sedime Drift De Mat or C	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations:		Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C Other (Explain in Remarks)	e Surface (B8)	Water- Draina Oxidiz Preser Salt Do Stunte Geom Shallo	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4)
Water M Sedimer Drift Der Mat or C Iron Der Field Obser Surface Wat	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations: er Present?  Yes	s No	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav. Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches):	e Surface (B8)	Water- Draina Oxidiz Preser Salt Do Stunte Geom Shallo	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4)
Water M Sedimel Drift Del Mat or C Iron Del	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations: er Present?  Yes	s No s No	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): Depth (inches):	e Surface (B8)	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)
Water M Sedimer Drift Der Mat or C Iron Der Field Obser Surface Wat Water Table Saturation P	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations: Present?  Yes Present?  Yes	s No s No	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concav. Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches):	e Surface (B8)	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4)
Water M Sedime Drift De Mat or C Iron Dep Field Obser Surface Wat Water Table Saturation P (includes ca	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations: er Present? Present? Yes present? Yes present? Yes present? Yes	s No s No s No	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): Depth (inches):	e Surface (B8) 2) Wetl	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)
Water M Sedimel Drift Del Mat or C Iron Del Field Obser Surface Wat Water Table Saturation P (includes cal Describe Re	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations: er Present? Present? Yes present? Yes present? Yes present? Yes	s No s No s No	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)   Depth (inches): Depth (inches):	e Surface (B8) 2) Wetl	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)
Water M Sedime Drift De Mat or C Iron Dep Field Obser Surface Wat Water Table Saturation P (includes ca	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations: er Present? Present? Yes present? Yes present? Yes present? Yes	s No s No s No	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)   Depth (inches): Depth (inches):	e Surface (B8) 2) Wetl	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)
Water M Sedimel Drift Del Mat or C Iron Del Field Obser Surface Wat Water Table Saturation P (includes cal Describe Re	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations: er Present? Present? Yes present? Yes present? Yes present? Yes	s No s No s No	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)   Depth (inches): Depth (inches):	e Surface (B8) 2) Wetl	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)
Water M Sedimel Drift Del Mat or C Iron Del Field Obser Surface Wat Water Table Saturation P (includes cal Describe Re	on (A3) Marks (B1) Int Deposits (B2) posits (B3) Crust of Algae or Marl ( posits (B5)  vations: er Present? Present? Yes present? Yes present? Yes present? Yes	s No s No s No	Surface Soil Cracks (B6) Inundation Visible on Aerial Sparsely Vegetated Concave Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)   Depth (inches): Depth (inches):	e Surface (B8) 2) Wetl	Water- Draina Oxidiz Preser Salt Draina Stunte Geom Shallo FAC-N	ge Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4) eposits (C5) d or Stressed Plants (D1) orphic Position (D2) w Aquitard (D3) opographic Relief (D4) leutral Test (D5)





Project/Site: Seward Highway MP 99 - 105	Borough/C	ity: Anchorag	e	San	noling Dat	e: August 11	, 2006
Applicant/Owner: DOT&PF		.,			npling Poi		,
Investigator(s): RAC/CAD	Landform	hilleide terr	ace hummocke et		inpining i on		
Local relief (concave, convex, none): none	_		ace, manimocks, et				
			-		Det		
Subregion: Southcentral Alaska Lat:						-	
Are climatic / hydrologic conditions on the site typical for this time of	_						
Are Vegetation N., Soil N., or Hydrology N. significant	tly disturbed?	Are '	"Normal Circumsta	nces" prese	nt? Yes_	No	
Are Vegetation N, Soil N, or Hydrology N naturally	problematic?	(If ne	eeded, explain any	answers in	Remarks.)	)	
SUMMARY OF FINDINGS – Attach site map showing	ng samplir	ng point l	ocations, trans	sects, im	portant	features	s, etc.
Hydrophytic Vegetation Present? Yes ✓ No		ha Camplad					
Hydric Soil Present? Yes   ✓ No	10 0	he Sampled nin a Wetlar		Voc	No		
Wetland Hydrology Present? Yes No	_   ****	iiii a vvetiai	iiur	169	_ "		
Remarks: Hydrology - the winter storage this year is half of the average, so wetland	areas may be	drier compare	ed to last year.				
Creek bisects site. Pond near site too.							
Greek bisects site. I and hear site too.							
VEGETATION							
	Absolute	Indicator					
Species (Use scientific names. List all species in plot.)	% Cover	Status	Prevalence Inde				
1. Angelica lucida (h)		FACU	Total % Cov			tiply by: 10	-
2. Cicuta mackenziana (h)	<u>5</u>	OBL FACU	OBL species		x1=_		-
Achillea millefolium (h)      Rumex occidentalis	5	OBL	FACW species	10	x2=_ x3=_		-
5. Carex sp.	<del>5</del>	FACW	FAC species FACU species	35	_ x3=_ x4=		-
6. Juncus sp.		FACW	UPL species	0	x5=	0	
7. Ribes sp.	10	FAC	Column Totals:	170	(A)	410	(B)
8. Potentilla anserina	20	FACW	Column Totals.		- (7) _		(0)
9.			Prevalence	Index = B	A = 2.41		-
10							
11.			Other Indicators	s of Hydrog	hytic Ve	getation:	
12			(Record supporti				rate
13			sheet.) Wetland Cry	into a nine (re	seerd ene	sies and se	
14			at left)	piogams (re	ecora spec	sies and co	ver
15			Morphologic	al Adantatio	ne		
16			Problematic			on (Explain	)
17				,		(	,
18							
19							
20							
	ver:170		Hydrophytic				
Plot size 30 foot diameter circle		0	Vegetation Present?	Yes	<u>✓</u> ı	No	-
Remarks:	yopiiytos						
Ribes sp trailing, not in common growth form.							
All species except for carex and juncus grow along the creek.							

SOIL Sampling Point: 19 Profile Description: (Describe to the depth needed to document the indicator.) Depth Matrix Redox Features Color (moist) % Type¹ Loc² Texture (inches) Color (moist) Type: C=Concentration, D=Depletion, RM=Reduced Matrix. 2Location: PL=Pore Lining, RC=Root Channel, M=Matrix. Hydric Soil Indicators: Indicators for Problematic Hydric Soils3: Histosol or Histel (A1) Alaska Color Change (TA4)4 Alaska Gleved Without Hue 5Y or Redder Histic Epipedon (A2) \_ Alaska Alpine Swales (TA5) Underlying Layer Hydrogen Sulfide (A4) Alaska Redox With 2.5Y Hue Other (Explain in Remarks) \_\_ Thick Dark Surface (A12) Alaska Gleyed (A13) One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, Alaska Redox (A14) and an appropriate landscape position must be present. Alaska Gleved Pores (A15) Give details of color change in Remarks. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Hydric soils assumed due to hydrophytic vegetation and inundation. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water-stained Leaves (B9) Surface Water (A1) Surface Soil Cracks (B6) Drainage Patterns (B10) \_\_ Inundation Visible on Aerial Imagery (B7) High Water Table (A2) Oxidized Rhizospheres on Living Roots (C3) Saturation (A3) Sparsely Vegetated Concave Surface (B8) Presence of Reduced Iron (C4) \_\_ Water Marks (B1) Hydrogen Sulfide Odor (C1) Salt Deposits (C5) \_\_\_ Dry-Season Water Table (C2) Sediment Deposits (B2) Stunted or Stressed Plants (D1) Drift Deposits (B3) Other (Explain in Remarks) Geomorphic Position (D2) Mat or Crust of Algae or Marl (B4) Shallow Aquitard (D3) Iron Deposits (B5) Microtopographic Relief (D4) FAC-Neutral Test (D5) Field Observations: Yes \_\_\_\_ No \_\_\_\_ Depth (inches): 1 - 2 Surface Water Present? Yes \_\_\_\_ No \_ Depth (inches): \_ Water Table Present? Wetland Hydrology Present? Yes 

✓ No ✓ No \_\_\_\_ Depth (inches): 0 Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mucky saturation where surface water is not present.





			<del>-</del>
Project/Site: Seward Highway MP 99 - 105	Borough/C	City: Anchorage	e Sampling Date: August 11, 2006
Applicant/Owner: DOT&PF			Sampling Point: 20
Investigator(s): RAC/CAD	Landform	(hillside, terra	ace, hummocks, etc.): hillside
Local relief (concave, convex, none): concave	Slope (%)	5	
Subregion: Southcentral Alaska Lat:		Lon	g: Datum:
Are climatic / hydrologic conditions on the site typical for this time of ye			
Are Vegetation N , Soil N , or Hydrology N significantly			
Are Vegetation N, Soil N, or Hydrology N naturally pro	oblematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampli	ng point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No			
Hydric Soil Present? Yes V No	ls t	the Sampled	
Wetland Hydrology Present? Yes   ✓ No	wit	hin a Wetlan	nd? Yes No
Remarks: 2006 Precipitation was 5 inches above normal and more rainfall than normal	in July (Nat	ional Weather	Service)
This site on a hill that slopes down into a creek, almost like a bowl. This area	is different	than other hills	side areas - it has a very coastal feel to it. The tree trunks are
much bigger than average.	is different	than other min	side areas. It has a very coastal reel to it. The free franks are
Southeast habitats have sloped wetlands - this is an example.			
VEGETATION			
	Absolute	_	
Species (Use scientific names. List all species in plot.)	% Cover 55	Status FACU	Prevalence Index:
1. Picea glauca (t)	20	FACU	Total % Cover of:Multiply by:
2. Equisetum arvense (h)	45	UPL	OBL species
Menziesia ferruginea (s)     Sitka sitchensis (t)	25	FACU	TACTY species X2
	15	FACU	TAC species X5
Oplopanax horridus (s)     Athyrium distentifolium (h)	15	FAC	17100 species x4
	15	FAC	or c species xo =
7. Calamagrostis canadensis (h)  8. Ribes sp. (h)	10	FAC	Column Totals:235 (A)910 (B)
Betula papyrifera (saplings)	15	FACU	Prevalence Index = B/A = 3.87
10. Streptopus amplexifolius (h)	5	FAC	
11. Cornus canadensis (h)	15	FACU	Other Indicators of Hydrophytic Vegetation:
12.			(Record supporting data in Remarks or on a separate
13. Plagiomnium insigne (coastal leafy moss)	100	NI	sheet.)
14			Wetland Cryptogams (record species and cover
15.			at left)
16.			Morphological Adaptations
17			✓ Problematic Hydrophytic Vegetation (Explain)
18.			
19.			
20.			
Total Cover	335		Hydrophytic
Plot size 30 foot diameter circle	Fround	0	Vegetation Present? Yes No
% Cover of Wetland Bryophytes 0 Total Cover of Bryophytes	phytes	100	
Remarks: Very large Pigl and larch.			
Very large ringrand laren.			

Profile Description: (Describe to	the depth needed to	o document the i	ndicator.)		
Depth Matrix		Redox Feature	5		
(inches) Color (moist)	% Color (m	oist) %	Type <sup>1</sup> Loc	Texture	Remarks
0 - 10 N/A					Roots and organic soil
10 - 16 2.5YR2.5/1	100			silty loam	many cobbles, mucky soil
	_				
Type: C=Concentration, D=Deple	tion. RM=Reduced M	atrix. <sup>2</sup> Location	: PL=Pore Linin	g, RC=Root Chan	nel. M=Matrix.
Hydric Soil Indicators:	Indicate	ors for Problemat	ic Hydric Soils	:	The state of the s
Histosol or Histel (A1)		ska Color Change			a Gleyed Without Hue 5Y or Redder
Histic Epipedon (A2)		ska Alpine Swales			erlying Layer
Hydrogen Sulfide (A4)		ska Redox With 2.			(Explain in Remarks)
Thick Dark Surface (A12)	^id	ska Nedox Willi 2.	of flue	_ Oulei	(Explain in Kellarks)
Alaska Gleyed (A13)	3One in	lianter of budsonbu	die vegetation ee	no primon, indicat	tor of wolland budgeless.
_ , , ,					or of wetland hydrology,
Alaska Redox (A14)		n appropriate land		nust be present.	
Alaska Gleyed Pores (A15)	Give de	etails of color chan	ige in Remarks.		
Restrictive Layer (if present):					
Type:					
Depth (inches):				Hydric Soil	Present? Yes No
HYDROLOGY					
HYDROLOGY				0	
Wetland Hydrology Indicators:					Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (any one indicat	-			Water	-stained Leaves (B9)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)	Surface	Soil Cracks (B6)		Water	-stained Leaves (B9) age Patterns (B10)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)	Surface Inundation	on Visible on Aeria		Water Draina Oxidiz	-stained Leaves (B9) age Patterns (B10) red Rhizospheres on Living Roots (C3)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)	Surface Inundatio Sparsely	on Visible on Aeria Vegetated Conca	ave Surface (B8)	Water Draina Oxidiz Prese	estained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	Surface Inundatio Sparsely Hydroge	on Visible on Aeria Vegetated Conca n Sulfide Odor (C	ave Surface (B8) 1)	Water Drains Oxidiz Preses Salt D	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	Surface Inundatio Sparsely Hydroge Dry-Sea	on Visible on Aeria Vegetated Conca n Sulfide Odor (Coson Water Table (	ave Surface (B8) 1) C2)	Water Drains Oxidiz Preses Salt D Stunte	e-stained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	Surface Inundation Sparsely Hydroge Dry-Sea Other (E	on Visible on Aeria Vegetated Conca n Sulfide Odor (C	ave Surface (B8) 1) C2)	Water Drains Oxidiz Preses Salt D Stunte	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	Surface Inundation Sparsely Hydroge Dry-Sea Other (E	on Visible on Aeria Vegetated Conca n Sulfide Odor (Coson Water Table (	ave Surface (B8) 1) C2)	Water Drains Oxidiz Presei Salt D Stunte Geom	e-stained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	Surface Inundation Sparsely Hydroge Dry-Sea Other (E	on Visible on Aeria Vegetated Conca n Sulfide Odor (Coson Water Table (	ave Surface (B8) 1) C2)	Water Drains Oxidiz Preses Salt D Stunte Geom	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) archic Position (D2)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Iron Deposits (B5)	Surface Inundation Sparsely Hydroge Dry-Sea Other (E	on Visible on Aeria Vegetated Conca n Sulfide Odor (Coson Water Table (	ave Surface (B8) 1) C2)	Water Draina Oxidiz Presea Salt D Stunte Geom Shallo	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Iron Deposits (B5))  Field Observations:	Surface Inundation Sparsely Hydroge Dry-Sea Other (E	on Visible on Aeria Vegetated Conca n Sulfide Odor (C son Water Table ( xplain in Remarks	ave Surface (B8) 1) C2)	Water Draina Oxidiz Presea Salt D Stunte Geom Shallo	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) ad or Stressed Plants (D1) arophic Position (D2) aw Aquitard (D3) appographic Relief (D4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Information Deposits (B5)  Field Observations:  Surface Water Present?	Surface Inundation Sparsely Hydroge Dry-Sea Other (E	on Visible on Aeria Vegetated Conca n Sulfide Odor (C son Water Table ( xplain in Remarks	ave Surface (B8) 1) C2)	Water Draina Oxidiz Presea Salt D Stunte Geom Shallo	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) ad or Stressed Plants (D1) arophic Position (D2) aw Aquitard (D3) appographic Relief (D4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Iron Deposits (B5))  Field Observations:  Surface Water Present? Yes Water Table Present?	Surface Inundation Sparsely Hydroge Dry-Sea Other (E	on Visible on Aeria Vegetated Conca n Sulfide Odor (Coson Water Table (explain in Remarks) epth (inches):epth (inches):	ave Surface (B8) 1) C2)	Water Drains Oxidiz Preses Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrophic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Iron Deposits (B5))  Field Observations:  Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	Surface Inundation Sparsely Hydroge Dry-Sea Other (E	on Visible on Aeria Vegetated Conca n Sulfide Odor (Coson Water Table (explain in Remarks) epth (inches):epth (inches):	ave Surface (B8) 1) C2)	Water Drains Oxidiz Preses Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) ad or Stressed Plants (D1) arophic Position (D2) aw Aquitard (D3) appographic Relief (D4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Iron Deposits (B5))  Field Observations:  Surface Water Present? Yes Water Table Present?	Surface Inundation Sparsely Hydroge Dry-Sea Other (E  B4)  B No D  B No D  B No D	on Visible on Aeria Vegetated Conca n Sulfide Odor (C son Water Table ( xplain in Remarks  epth (inches):  epth (inches):  epth (inches):  2	ave Surface (B8) 1) C2) b)	Water Drains Oxidiz Preses Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrophic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Interpretation (B5))  Field Observations:  Surface Water Present? Yes Water Table Present? Yes (includes capillary fringe)  Describe Recorded Data (stream g	Surface Inundation Sparsely Hydroge Dry-Sea Other (E  B4)  B No D  B No D  B No D	on Visible on Aeria Vegetated Conca n Sulfide Odor (C son Water Table ( xplain in Remarks  epth (inches):  epth (inches):  epth (inches):  2	ave Surface (B8) 1) C2) b)	Water Drains Oxidiz Preses Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrophic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Iron Deposits (B5))  Field Observations:  Surface Water Present?  Water Table Present?  Yes (includes capillary fringe)	Surface Inundation Sparsely Hydroge Dry-Sea Other (E  B4)  B No D  B No D  B No D	on Visible on Aeria Vegetated Conca n Sulfide Odor (C son Water Table ( xplain in Remarks  epth (inches):  epth (inches):  epth (inches):  2	ave Surface (B8) 1) C2) b)	Water Drains Oxidiz Preses Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrophic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Interpretation (B5))  Field Observations:  Surface Water Present? Yes Water Table Present? Yes (includes capillary fringe)  Describe Recorded Data (stream g	Surface Inundation Sparsely Hydroge Dry-Sea Other (E  B4)  B No D  B No D  B No D	on Visible on Aeria Vegetated Conca n Sulfide Odor (C son Water Table ( xplain in Remarks  epth (inches):  epth (inches):  epth (inches):  2	ave Surface (B8) 1) C2) b)	Water Drains Oxidiz Preses Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrophic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicat  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (Information Deposits (B5)  Field Observations:  Surface Water Present? Yes Water Table Present? Yes (includes capillary fringe)  Describe Recorded Data (stream g	Surface Inundation Sparsely Hydroge Dry-Sea Other (E  B4)  B No D  B No D  B No D	on Visible on Aeria Vegetated Conca n Sulfide Odor (C son Water Table ( xplain in Remarks  epth (inches):  epth (inches):  epth (inches):  2	ave Surface (B8) 1) C2) b)	Water Drains Oxidiz Preses Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrophic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)





Project/Site: Seward Highway MP 99 - 105	Borough	/City: Anchorag	e	San	noling Dat	e: August 15	2006
Applicant/Owner: DOT&PF	Dorougin	Oity.			npling Poi		, 2000
	Landfara	n (hillaida tarr	ann hummanka at		ipiing Poi	т	
			ace, nummocks, et	C.): Illiside			
Local relief (concave, convex, none): none					_		
Subregion: Southcentral Alaska Lat:						:	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes	No _	(If no, expla	in in Remar	ks.)		
Are Vegetation $\underline{N}$ , Soil $\underline{N}$ , or Hydrology $\underline{N}$ significantly	disturbed	d? Are	'Normal Circumstar	nces" prese	nt? Yes_	✓ No	
Are Vegetation $\underline{N}$ , Soil $\underline{N}$ , or Hydrology $\underline{N}$ naturally pr	oblematic	? (If ne	eded, explain any	answers in	Remarks.	)	
SUMMARY OF FINDINGS – Attach site map showing	g sampl	ling point l	ocations, trans	sects, im	portant	features	, etc.
Hydrophytic Vegetation Present? Yes No		the Sampled					
Hydric Soil Present? Yes No		ithin a Wetlar		Yes	No	<b>/</b>	
Wetland Hydrology Present? Yes No		itiiii a vvetiai	iu i	103	_ "	<u> </u>	
Remarks: Hydrology - the winter storage this year is half of the average, so wetland a	reas may b	e drier compare	ed to last year.				
Vegetation is not significantly disturbed, however it looks like it has been cle	ared in the	relatively near	future. The site is nea	ar a utility cor	ridor.		
Broadleaf woodland		, , , , , , , , , , , , , , , , , , , ,		, , , , , , , , , , , , , , , , , , , ,			
Bioadieai woodiand							
VEGETATION							
Species (Use scientific names. List all species in plot.)	Absolut		Prevalence Inde				
1. Alnus crispa (s)	% Cove 40	FAC	Total % Cov		Mul	Itinly by:	
2 Salix planifolia (s)	25	FACW	OBL species	_	x 1 =		-
3. Betula papyrifera (t)	40	FACU	FACW species		x 2 =		-
4 Chamerion angustifolium (h)	15	FACU	FAC species		x3=_		-
5 Calamagrostis canadensis (h)	10	FAC	FACU species	60	x 4 =		-
6. Achillea millefolium (h)	5	FACU	UPL species	0	x 5 =		
7.			Column Totals:	135	(A)	415	(B)
8							
9			Prevalence	Index = B/	A = 3.07		-
10							
11			Other Indicators				
12.			(Record supporti sheet.)	ng data in F	temarks o	or on a sepa	ırate
13			Wetland Cry	ptogams (re	cord spec	cies and co	ver
14			at left)	,	,		
15			Morphologic	al Adaptatio	ns		
16			Problematic	Hydrophytic	Vegetati	on (Explain	)
17							
18							
19							
20Total Cove							
			Hydrophytic Vegetation				
Plot size 30 foot diameter circle % Bare 0 % Cover of Wetland Bryophytes 0 Total Cover of Bryo			Present?	Yes		No <u></u>	-
Remarks:	<i>p,</i>						
Some type of grass covers the ground . There is no seed head and it resem	bles lawn ç	grass. Only abo	ut 8 inches high.				

Profile Desc	cription: (Describe to	the depth	needed to docu	ment the i	indicator.	)		
Depth	Matrix			ox Feature				
(inches)	Color (moist)	%	Color (moist)	%		_Loc <sup>2</sup>	Texture	Remarks
0 - 1	N/A							Root matter
1 - 9	7.5YR4/1	100					sandy	Coarse. a lot of sand and gravel
0.	N/A							Fractured bedrock
9+	N/A							
Type: C=C	oncentration, D=Deplet	ion, RM=F	Reduced Matrix.	<sup>2</sup> Location	: PL=Por	e Lining, R	RC=Root Chan	nel, M=Matrix.
Hydric Soil			Indicators for					
Histosol	l or Histel (A1)		Alaska Co	lor Change	(TA4)4		Alaska	a Gleyed Without Hue 5Y or Redder
Histic E	pipedon (A2)		Alaska Alp	ine Swales	(TA5)		Und	erlying Layer
Hydroge	en Sulfide (A4)		Alaska Re	dox With 2	5Y Hue		Other	(Explain in Remarks)
_	ark Surface (A12)							
_	Gleyed (A13)							tor of wetland hydrology,
_	Redox (A14)						t be present.	
	Gleyed Pores (A15)		<sup>4</sup> Give details o	color char	nge in Ren	narks.		
	Layer (if present):							
Type:			_					
	ches):						Hydric Soi	Present? Yes No
Remarks:								
<b>HYDROLO</b>	GY							
Wetland Hy	drology Indicators:						Secondary	/ Indicators (2 or more required)
Primary Indi	cators (any one indicato	or is suffici	ent)				Water	-stained Leaves (B9)
Surface	Water (A1)	_	_ Surface Soil Cr	acks (B6)			Draina	age Patterns (B10)
High Wa	ater Table (A2)	_	Inundation Visi	ble on Aeria	al Imagery	(B7)	Oxidiz	ed Rhizospheres on Living Roots (C3)
Saturati	on (A3)	_	_ Sparsely Veget	ated Conca	ave Surfac	e (B8)	Prese	nce of Reduced Iron (C4)
Water M	Marks (B1)	_	_ Hydrogen Sulfi	de Odor (C	1)		Salt D	leposits (C5)
	nt Deposits (B2)	_	_ Dry-Season Wa				_	ed or Stressed Plants (D1)
_	posits (B3)	_	Other (Explain	in Remarks	3)		_	orphic Position (D2)
_	Crust of Algae or Marl (E	34)					_	w Aquitard (D3)
Iron De	posits (B5)							topographic Relief (D4)
Field Obser	- etlana						FAC-	Neutral Test (D5)
Field Obser		N.	o Depth (i	nahaa\:				
Water Table			o Depth (i					
			o Depth (i				and thedralass	y Present? Yes No _✓_
Saturation P (includes ca	resent? Yes pillary fringe)	N	o _V Depth (i	ncnes):		_   weti	and Hydrolog	y Present? Yes No
	corded Data (stream ga	auge, mon	itoring well, aeria	photos, pr	evious ins	pections),	if available:	
I .								
Remarks:								
Remarks: Dry								





Project/Site: Seward Highway MP 99 - 105	Borough/	City: Anchorag	e	Sam	onlina Dat	te: August 8,	2006
Applicant/Owner: DOT&PF	Borougist	Gity. I			npling Poi		2000
Investigator(s): RAC/CAD	Landform	/hilloido toro	aaa hummaaka at			nt. <u>==</u>	
			ace, numinocks, et	G.J. IIIIIIII			
Local relief (concave, convex, none): none					Det		
Subregion: Southcentral Alaska Lat:						1:	
Are climatic / hydrologic conditions on the site typical for this time of ye							
Are Vegetation N, Soil N, or Hydrology N, significantly							
Are Vegetation N, Soil N, or Hydrology N naturally pr	oblematic?	? (If ne	eded, explain any	answers in F	Remarks.	)	
SUMMARY OF FINDINGS – Attach site map showing	g sampli	ing point l	ocations, trans	sects, im	portant	features	, etc.
Hydrophytic Vegetation Present? Yes No	le le	the Sampled	Area				
Hydric Soil Present? Yes No		ithin a Wetlar		Yes	No	,	
Wetland Hydrology Present? Yes No							
Remarks: Hydrology - the winter storage this year is half of the average, so wetland a	reas may be	e drier compare	ed to last year.				
Site is adjacent to the relatively recent trail. The area may have been previous	usly disturb	ed as the areas	s away from the trail a	are tall birch fo	orests.		
Upland vegetation dominated wetland							
Broadleaf woodland							
VEGETATION							
Occidental description of the second state of	Absolute	_					
Species (Use scientific names. List all species in plot.)	<u>% Cove</u> 15	r Status FACU	Prevalence Inde		B. 6	Minches Incom	
Betula papyrifera (t)     Calamagrostis canadensis (h)		FAC	OBL species		x 1 = _		-
2. Calamagrostis canadensis (h) 3. Spiraea beauverdiana (s)	<1 <1	FAC	FACW species		x2=_		-
4 Alnus crispa (s)	<1	FAC	FAC species		x3=_		
5			FACU species		x4=_		
6			UPL species	0	x5=		
7			Column Totals:	92	(A)		(B)
8.							
9.			Prevalence	e Index = B/	A = 3.16		-
10							
11			Other Indicators				
12			(Record supporti sheet.)	ing data in R	lemarks o	r on a sepa	rate
13			Wetland Cry	otogams (re	cord spe	cies and co	ver
14			at left)	,			
15			Morphologic	al Adaptatio	ns		
16	. ——		✓ Problematic	Hydrophytic	Vegetati	on (Explain	)
17							
18							
19							
Total Cove			Hydrophytic				
Plot size 20 foot diameter circle	Ground	60	Vegetation Present?	Yes		No	_
% Cover of Wetland Bryophytes 0 Total Cover of Bryo	phytes	0					
Remarks: Bepa is very stressed.							

Profile Description: (Describe to the depth	needed to document the indicator.)	
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=R	educed Matrix. <sup>2</sup> Location: PL=Pore Lining, R	C-Past Channel M-Matrix
Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :	C-Root Channel, M-Matrix.
*		Alaska Olavad Without Has 5V as Baddas
Histosol or Histel (A1)	Alaska Color Change (TA4) <sup>4</sup>	Alaska Gleyed Without Hue 5Y or Redder
Histic Epipedon (A2)	Alaska Alpine Swales (TA5)	Underlying Layer
Hydrogen Sulfide (A4)	Alaska Redox With 2.5Y Hue	Other (Explain in Remarks)
Thick Dark Surface (A12)		
Alaska Gleyed (A13)	<sup>3</sup> One indicator of hydrophytic vegetation, one	primary indicator of wetland hydrology,
Alaska Redox (A14)	and an appropriate landscape position mus	t be present.
Alaska Gleyed Pores (A15)	Give details of color change in Remarks.	
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks:	_	11,4110 0011110001111 1100 110
Hydric soils assumed due to hydrology.		
, injune come accumou add to my and egy.		
, in the second december due to my disciply.		
, , , a so to m, a so g,		
HYDROLOGY		
		Secondary Indicators (2 or more required)
HYDROLOGY	ent)	Secondary Indicators (2 or more required)  ✓ Water-stained Leaves (B9)
HYDROLOGY  Wetland Hydrology Indicators:	ent) Surface Soil Cracks (B6)	
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficiently	Surface Soil Cracks (B6)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficiently surface Water (A1)  High Water Table (A2)	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10) _ Oxidized Rhizospheres on Living Roots (C3)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the surface water (A1)  High Water Table (A2)  ✓ Saturation (A3)  — Water Marks (B1)	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10) — Oxidized Rhizospheres on Living Roots (C3) — Presence of Reduced Iron (C4) — Salt Deposits (C5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficiently sufficed by the sufficed by t	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10) — Oxidized Rhizospheres on Living Roots (C3) — Presence of Reduced Iron (C4) — Salt Deposits (C5) ✓ Stunted or Stressed Plants (D1)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the sum of t	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)  Salt Deposits (C5) ✓ Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the sum of t	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)  Salt Deposits (C5)  ✓ Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the sum of t	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)  Salt Deposits (C5) ✓ Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3) ✓ Microtopographic Relief (D4)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the surface water (A1)  High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (B4)  Iron Deposits (B5)	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)  Salt Deposits (C5)  ✓ Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the surface water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (B4)  Iron Deposits (B5)  Field Observations:	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)  Salt Deposits (C5) ✓ Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3) ✓ Microtopographic Relief (D4)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the surface water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (B4)  Iron Deposits (B5)  Field Observations:	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)  Salt Deposits (C5) ✓ Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3) ✓ Microtopographic Relief (D4)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)  Salt Deposits (C5) ✓ Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3) ✓ Microtopographic Relief (D4)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2-3 Depth (inches):	✓ Water-stained Leaves (B9) ✓ Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  Presence of Reduced Iron (C4)  Salt Deposits (C5) ✓ Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3) ✓ Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2-3 Depth (inches): Depth (inches): Depth (inches):	✓ Water-stained Leaves (B9)     ✓ Drainage Patterns (B10)       Oxidized Rhizospheres on Living Roots (C3)       Presence of Reduced Iron (C4)       Salt Deposits (C5)       Stunted or Stressed Plants (D1)       Geomorphic Position (D2)       Shallow Aquitard (D3)       Microtopographic Relief (D4)       FAC-Neutral Test (D5)  and Hydrology Present? Yes ✓ No
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2-3 Depth (inches):	✓ Water-stained Leaves (B9)     ✓ Drainage Patterns (B10)       Oxidized Rhizospheres on Living Roots (C3)       Presence of Reduced Iron (C4)       Salt Deposits (C5)       Stunted or Stressed Plants (D1)       Geomorphic Position (D2)       Shallow Aquitard (D3)       Microtopographic Relief (D4)       FAC-Neutral Test (D5)  and Hydrology Present? Yes ✓ No
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2-3 Depth (inches): Depth (inches): Depth (inches):	✓ Water-stained Leaves (B9)     ✓ Drainage Patterns (B10)       Oxidized Rhizospheres on Living Roots (C3)       Presence of Reduced Iron (C4)       Salt Deposits (C5)       Stunted or Stressed Plants (D1)       Geomorphic Position (D2)       Shallow Aquitard (D3)       Microtopographic Relief (D4)       FAC-Neutral Test (D5)  and Hydrology Present? Yes ✓ No
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2-3 Depth (inches): Depth (inches): Depth (inches):	✓ Water-stained Leaves (B9)     ✓ Drainage Patterns (B10)       Oxidized Rhizospheres on Living Roots (C3)       Presence of Reduced Iron (C4)       Salt Deposits (C5)       Stunted or Stressed Plants (D1)       Geomorphic Position (D2)       Shallow Aquitard (D3)       Microtopographic Relief (D4)       FAC-Neutral Test (D5)  and Hydrology Present? Yes ✓ No
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2-3 Depth (inches): Depth (inches): Depth (inches):	✓ Water-stained Leaves (B9)     ✓ Drainage Patterns (B10)       Oxidized Rhizospheres on Living Roots (C3)       Presence of Reduced Iron (C4)       Salt Deposits (C5)       Stunted or Stressed Plants (D1)       Geomorphic Position (D2)       Shallow Aquitard (D3)       Microtopographic Relief (D4)       FAC-Neutral Test (D5)  and Hydrology Present? Yes ✓ No
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2-3 Depth (inches): Depth (inches): Depth (inches):	✓ Water-stained Leaves (B9)     ✓ Drainage Patterns (B10)       Oxidized Rhizospheres on Living Roots (C3)       Presence of Reduced Iron (C4)       Salt Deposits (C5)       Stunted or Stressed Plants (D1)       Geomorphic Position (D2)       Shallow Aquitard (D3)       Microtopographic Relief (D4)       FAC-Neutral Test (D5)  and Hydrology Present? Yes ✓ No
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)  Depth (inches): 2-3 Depth (inches): Depth (inches): Depth (inches):	✓ Water-stained Leaves (B9)     ✓ Drainage Patterns (B10)       Oxidized Rhizospheres on Living Roots (C3)       Presence of Reduced Iron (C4)       Salt Deposits (C5)       Stunted or Stressed Plants (D1)       Geomorphic Position (D2)       Shallow Aquitard (D3)       Microtopographic Relief (D4)       FAC-Neutral Test (D5)  and Hydrology Present? Yes ✓ No





Appendix C - Page 111	
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Project/Site: Seward Highway MP 99 - 105	Borough/C	ity: Anchorage	e	San	npling Dat	te: August 15	, 2006
Applicant/Owner: DOT&PF				Sar	npling Poi	int: 23	
Investigator(s): RAC/CAD	Landform	(hillside, terra	ace, hummocks, et	c.): hillside			
Local relief (concave, convex, none): none							
Subregion: Southcentral Alaska Lat:					Datum	n:	
Are climatic / hydrologic conditions on the site typical for this time of ye							
Are Vegetation N , Soil N , or Hydrology N significantly						./ No	
Are Vegetation N, Soil N, or Hydrology N naturally pro	oblematic?	(If ne	eded, explain any	answers in	Remarks.	)	
SUMMARY OF FINDINGS – Attach site map showing	ı samplir	ng point l	ocations, trans	sects, im	portant	features	, etc.
Hydrophytic Vegetation Present? Yes No	le f	he Sampled	Area				
Hydric Soil Present? Yes No		hin a Wetlar		Yes	No	<b>✓</b>	
Wetland Hydrology Present? Yes No							
Remarks: Hydrology - the winter storage this year is half of the average, so wetland ar	eas may be	drier compare	ed to last year.				
Similar to site 9.							
Closed Tall Scrub							
Closed Tall Scrub							
VEGETATION							
Cassian (Han asignific assumed List all assesses in what )	Absolute	Indicator	Bravalance Inde				
Species (Use scientific names. List all species in plot.)  1. Alnus crispa (s)	% Cover 80	Status FAC	Prevalence Inde		Mod	Itinly by	
2 Galium triflorum (h)	10	FACU	OBL species		x 1 = _		-
3. Taraxacum officinale (h)	15	FACU	FACW species		x2=_		٠
4 Osmorhiza depauperata (h)	10	NI	FAC species	0.0	x3=		.
5. Bromus inermis (h)	5	NI	FACU species		x 4 =		.
6. Carex microchaeta (h)	5	FACU	UPL species		x 5 =		
7. Calamagrostis purpurascens (h)	3	NI	Column Totals:	110	(A)		(B)
8.							
9			Prevalence	Index = B	A = 3.27		-
10							
11			Other Indicators				
12			(Record supporti sheet.)	ng data in F	Remarks o	or on a sepa	rate
13			Wetland Cry	ptogams (re	ecord spe	cies and co	ver
14			at left)				
15			Morphologic	al Adaptatio	ons		
16			Problematic	Hydrophytic	c Vegetati	on (Explain	)
17							
18							
19							
Total Cover							
Plot size 30 foot diameter circle			Hydrophytic Vegetation Present?	Voc		No <b>√</b> _	
% Cover of Wetland Bryophytes 0 Total Cover of Bryophytes	phytes	0	Fresentr	res		NO	-
Remarks:							

Profile Description: (Describe to the dep	th needed to documen	t the indicator.	)		
Depth Matrix	Redox Fe				
(inches) Color (moist) %	Color (moist)	% Type¹	_Loc <sup>2</sup> _	Texture	not organic soil/gravel
0 - 6 7.5YR3/1 100				sandy loam	not organic son/graver
6+ N/A					Fractured bedrock
10/1					
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=	Poduced Matrix 21 c	cation: PL=Por	o Lining 6	PC=Post Chan	nol M=Matrix
Hydric Soil Indicators:	Indicators for Prob			NC-ROOL CHAIL	nei, m-matrix.
Histosol or Histel (A1)	Alaska Color Cl			Alaska	a Gleyed Without Hue 5Y or Redder
Histic Epipedon (A2)	Alaska Alpine S				erlying Layer
Hydrogen Sulfide (A4)	Alaska Redox V			Other	(Explain in Remarks)
Thick Dark Surface (A12)					
Alaska Gleyed (A13)	3One indicator of hy	drophytic vegeta	ation, one	primary indicat	or of wetland hydrology,
Alaska Redox (A14)	and an appropria			t be present.	
Alaska Gleyed Pores (A15)	<sup>4</sup> Give details of colo	r change in Ren	narks.		
Restrictive Layer (if present):					
Туре:	_				
Depth (inches):	_			Hydric Soi	Present? Yes No _
Remarks:					
HYDROLOGY					
HYDROLOGY  Wetland Hydrology Indicators:				Secondary	· Indicators (2 or more required)
	cient)				r Indicators (2 or more required) -stained Leaves (B9)
Wetland Hydrology Indicators:	cient) Surface Soil Cracks	(B6)		Water	
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffice.)	Surface Soil Cracks Inundation Visible or	n Aerial Imagery		Water Drains Oxidiz	-stained Leaves (B9) age Patterns (B10) red Rhizospheres on Living Roots (C3)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient of the surface Water (A1)  High Water Table (A2)  Saturation (A3)	Surface Soil Cracks Inundation Visible or Sparsely Vegetated	Aerial Imagery Concave Surfac		Water Drains Oxidiz Prese	-stained Leaves (B9) age Patterns (B10) ed Rhizospheres on Living Roots (C3) nce of Reduced Iron (C4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficed by the sum of the	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Or	n Aerial Imagery Concave Surfactor (C1)		Water Drains Oxidiz Prese Salt D	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) eposits (C5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficed by the surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Or Dry-Season Water T	n Aerial Imagery Concave Surfactor (C1) able (C2)		Water Drains Oxidiz Prese Salt D Stunte	e-stained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficed by the sum of the	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Or	n Aerial Imagery Concave Surfactor (C1) able (C2)		Water Drains Oxidiz Prese Salt D Stunte Geom	e-stained Leaves (B9) age Patterns (B10) and Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) archic Position (D2)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficed by the surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (B4)	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Or Dry-Season Water T	n Aerial Imagery Concave Surfactor (C1) able (C2)		Water Draina Oxidiz Prese Salt D Stunte Geom	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) archic Position (D2) aw Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficed by the surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Or Dry-Season Water T	n Aerial Imagery Concave Surfactor (C1) able (C2)		Water Drains Oxidiz Prese Salt D Stunte Geom Microt	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) ad or Stressed Plants (D1) arophic Position (D2) aw Aquitard (D3) appographic Relief (D4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffice and suffice to suffice the suffice and suffice	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Or Dry-Season Water T	n Aerial Imagery Concave Surfactor (C1) able (C2)		Water Drains Oxidiz Prese Salt D Stunte Geom Microt	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) archic Position (D2) aw Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffice and suffice to suffice the suffice and suffice	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Oc Dry-Season Water T Other (Explain in Re	n Aerial Imagery Concave Surfactor (C1) able (C2) marks)	ce (B8)	Water Drains Oxidiz Prese Salt D Stunte Geom Microt	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) ad or Stressed Plants (D1) arophic Position (D2) aw Aquitard (D3) appographic Relief (D4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficed by the sum of the	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Or Dry-Season Water T Other (Explain in Re	n Aerial Imagery Concave Surfactor (C1) able (C2) marks)	ce (B8)	Water Drains Oxidiz Prese Salt D Stunte Geom Microt	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) ad or Stressed Plants (D1) arophic Position (D2) aw Aquitard (D3) appographic Relief (D4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficed by the suffic	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Or Dry-Season Water T Other (Explain in Re	n Aerial Imagery Concave Surfactor (C1) able (C2) marks)	ce (B8)	Water Drains Oxidiz Prese Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrophic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffice  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Mat or Crust of Algae or Marl (B4)  Iron Deposits (B5)  Field Observations:  Surface Water Present?  Water Table Present?  Yes  Includes capillary fringe)	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Oc Dry-Season Water T Other (Explain in Re	n Aerial Imagery Concave Surfact dor (C1) Table (C2) marks) S):	wet	Water Drains Oxidiz Prese Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) ad or Stressed Plants (D1) arophic Position (D2) aw Aquitard (D3) appographic Relief (D4)
Primary Indicators (any one indicator is suffi  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Mat or Crust of Algae or Marl (B4) Iron Deposits (B5)  Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	Surface Soil Cracks Inundation Visible or Sparsely Vegetated Hydrogen Sulfide Oc Dry-Season Water T Other (Explain in Re	n Aerial Imagery Concave Surfact dor (C1) Table (C2) marks) S):	wet	Water Drains Oxidiz Prese Salt D Stunte Geom Shallo FAC-N	e-stained Leaves (B9) age Patterns (B10) age Rhizospheres on Living Roots (C3) ance of Reduced Iron (C4) apposits (C5) and or Stressed Plants (D1) arrophic Position (D2) aw Aquitard (D3) appographic Relief (D4) alleutral Test (D5)
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Project/Site: Seward Highway MP 99 - 105	Borough	/City: Anchorag	e	San	npling Dat	e: August 15	, 2006
Applicant/Owner: DOT&PF				San	npling Poi	nt: 24	
Investigator(s): RAC/CAD	Landforr	m (hillside, terr	ace, hummocks, et		,		
Local relief (concave, convex, none): none			,				
Subregion: Southcentral Alaska Lat:			-		Datum	1.	
Are climatic / hydrologic conditions on the site typical for this time of ye							
Are Vegetation N , Soil N , or Hydrology N significantly						./ No	
Are Vegetation N , Soil N , or Hydrology N naturally pro							. etc.
		9 po			, , , , , , , , , , , , , , , , , , , ,		, 010.
Hydrophytic Vegetation Present? Yes No V Hydric Soil Present? Yes No V	Is	s the Sampleo	Area			,	
Hydric Soil Present? Yes No ✓  Wetland Hydrology Present? Yes No ✓	l w	vithin a Wetla	nd?	Yes	No		
Remarks: Hydrology - the winter storage this year is half of the average, so wetland an	eas may h	ne drier compare	ad to last year				
	eas may t	be uner compare	eu to last year.				
53 degrees F, raining hard.							
VEGETATION							
Consider (Ulan existence and Extra II and Ex	Absolut	_	Bl				
Species (Use scientific names. List all species in plot.)  1. Picea glauca (t)	% Cove	er Status FACU	Prevalence Inde		Mod	tiply by:	
* P. ()		FACU	OBL species	0			-
Betula papyrifera (t)     Cornus canadensis (h)	15	FACU	FACW species		x2=_		
4 Achillea millefolium (h)	<1		FAC species		x3=_		
5			FACU species		x4=_		
6.			UPL species		x5=_		
7			Column Totals:			364	(B)
8.							
9			Prevalence	Index = B/	A = 4.0		-
10							
11			Other Indicators	of Hydrop	hytic Ve	getation:	
12. Sphagnum sp. (h)	20		(Record supporti sheet.)	ng data in R	temarks o	or on a sepa	rate
13			Wetland Cry	ptogams (re	cord spe	cies and co	ver
14			at left)				
15			Morphologic	al Adaptatio	ns		
16			Problematic	Hydrophytic	Vegetati	on (Explain)	)
17							
18							
19							
Total Cover			Hydrophytic				
Plot size 30 foot diameter circle	Fround	70	Vegetation Present?	Voc		No✓	
% Cover of Wetland Bryophytes 0 Total Cover of Bryophytes	phytes _	30	Fresentr	165			_
Remarks:			'				
Coca is patchy. There is no shrub layer.							

Profile Description: (Describe to the depth	needed to document the indicator.)	
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
0 - 4 N/A		Root wad/decaying wood
0-4 IVA		
4 - 6 7.5YR4/1 100		sandy loam
		huge rocks with ash in between.
6 - 18 N/A — — — —		
Trans CoConsentation DeDoubling DM-5	Parking Matrix 21 agetics, DI - Dara Lining 5	PO-Post Channel M-Matrix
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=F	Indicators for Problematic Hydric Soils <sup>3</sup> :	RC=Root Channel, M=Matrix.
Hydric Soil Indicators:		
Histosol or Histel (A1)	Alaska Color Change (TA4) <sup>4</sup>	Alaska Gleyed Without Hue 5Y or Redder
Histic Epipedon (A2)	Alaska Alpine Swales (TA5)	Underlying Layer
Hydrogen Sulfide (A4)	Alaska Redox With 2.5Y Hue	Other (Explain in Remarks)
Thick Dark Surface (A12)		
Alaska Gleyed (A13)	3One indicator of hydrophytic vegetation, one	primary indicator of wetland hydrology,
Alaska Redox (A14)	and an appropriate landscape position mus	st be present.
Alaska Gleyed Pores (A15)	<sup>4</sup> Give details of color change in Remarks.	
Restrictive Layer (if present):	•	
,, ,	_	H-44-0-11 B10 - M M/
Depth (inches):	_	Hydric Soil Present? Yes No
Remarks:		
Huge rocks!		
HYDROLOGY		
HYDROLOGY		Considerable distance (O considerable)
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
	ent)	Water-stained Leaves (B9)
Wetland Hydrology Indicators:	ent) _ Surface Soil Cracks (B6)	Water-stained Leaves (B9) Drainage Patterns (B10)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici		Water-stained Leaves (B9)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici  Surface Water (A1)	Surface Soil Cracks (B6)	Water-stained Leaves (B9) Drainage Patterns (B10)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici  Surface Water (A1)  High Water Table (A2)	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Water-stained Leaves (B9) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici  Surface Water (A1) High Water Table (A2) Saturation (A3)	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1)	Water-stained Leaves (B9)     Drainage Patterns (B10)     Oxidized Rhizospheres on Living Roots (C3)     Presence of Reduced Iron (C4)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Water-stained Leaves (B9) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Salt Deposits (C5) Stunted or Stressed Plants (D1)
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Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Mat or Crust of Algae or Marl (B4) Iron Deposits (B5)  Field Observations: Surface Water Present? Yes Now Water Table Present? Yes Now Saturation Present?	Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Other (Explain in Remarks)	Water-stained Leaves (B9) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Salt Deposits (C5) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
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Alaska Version 12-20-2005



