Powertech (USA) Inc.

United States Nuclear Regulatory Commission Official Hearing Exhibit

POWERTECH USA, INC.
(Dewey-Burdock In Situ Uranium Recovery Facility)

ASLBP#: 10-88
Docket#: 04009
Exhibit #: APP-I
Admitted: 8/19/2
Rejected:
Other:

ASLBP #: 10-898-02-MLA-BD01
Docket #: 04009075
Exhibit #: APP-040-BB-00-BD01
Admitted: 8/19/2014
Rejected:

Identified: 8/19/2014 Withdrawn: Stricken:



W28, R4 P13: Upstream, non-wetland



W28, R4 P14: Downstream, non-wetland





W29, R4 P17: Upstream, non-wetland

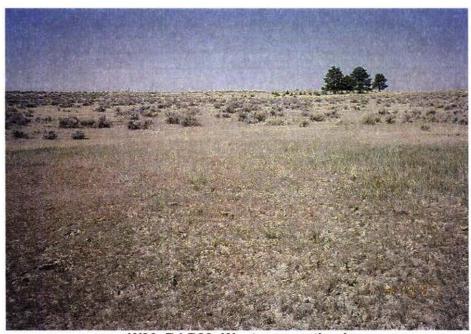


W29, R4 P18: Downstream, non-wetland





W30, R4 P19: East, non-wetland

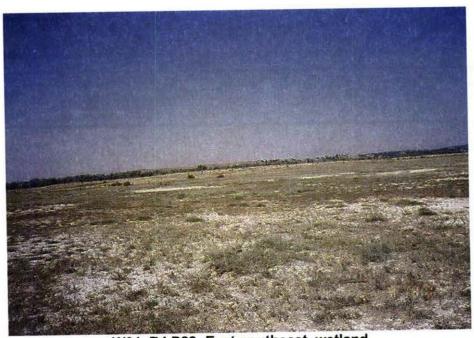


W30, R4 P20: West, non-wetland



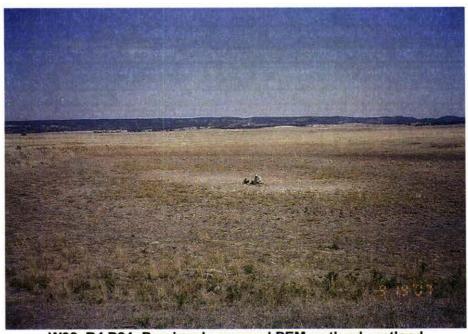


W31, R4 P21: Northeast, wetland

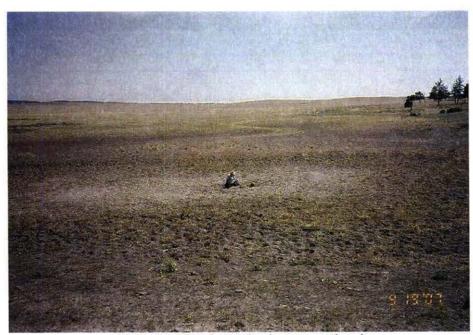


W31, R4 P22: East-southeast, wetland





W32, R4 P24: Previously mapped PEM wetland, wetland



W32, R4 P25: from the berm, wetland





W33, R5 P1: Upstream, wetland

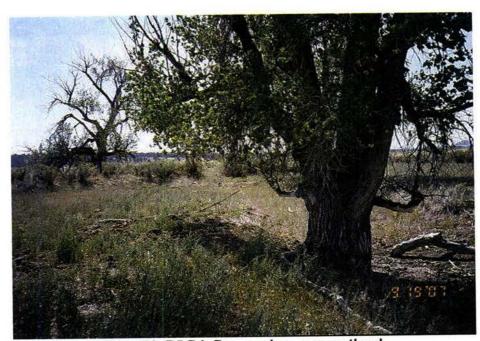


W33, R5 P2: Downstream, wetland





Wpt. 56, R5 P3: Depression, non-wetland



Wpt. 56, R5 P4: Depression, non-wetland





Wpt. 57, R5 P5: Depression, non-wetland

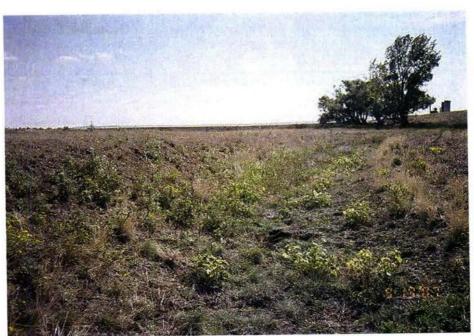


Wpt. 58, R5 P8: Surface water ends





W34, R5 P9: Upstream, non-wetland



W34, R5 P10: Downstream, non-wetland





W35, R5 P11: Facing East, wetland



W35, R5 P12: Facing south, wetland



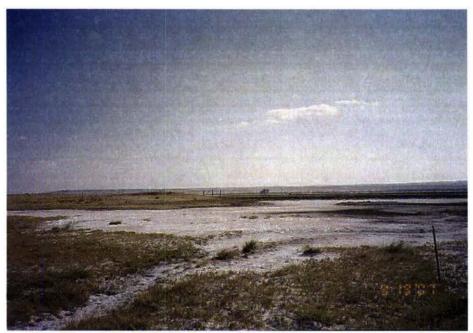


Wpt. 60 and 61, R5 P13: Depression, non-wetland



Wpt. 60 and 61, R5 P14: Depression, non-wetland



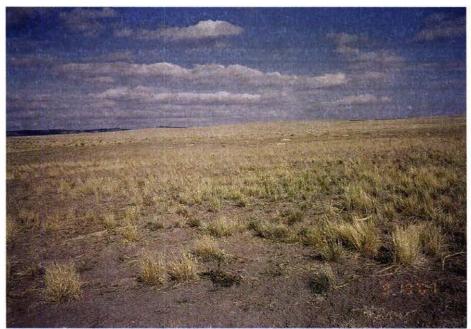


Wpt. 60 and 61, R5 P15: Depression w/ salt crusts, non-wetland

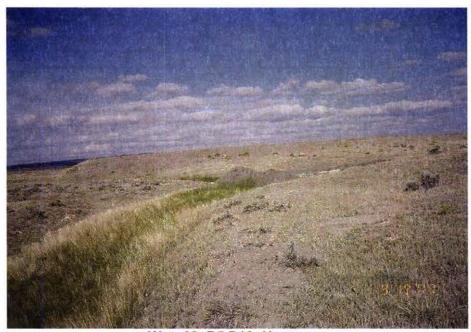


Wpt. 62, R5 P16: Depression, non-wetland





Wpt. 62, R5 P17: Depression, non-wetland



Wpt. 68, R5 P18: Upstream



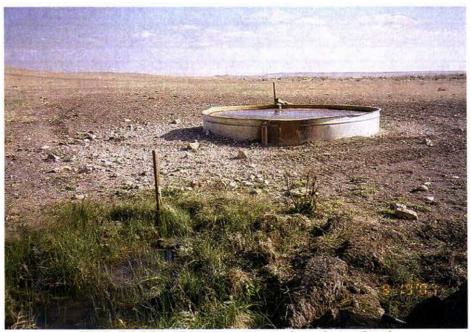


Wpt. 68, R5 P19: Downstream

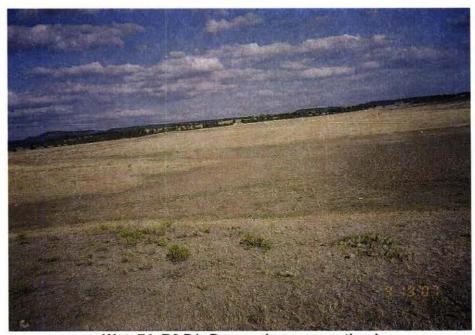


W36, R5 P20: Downstream, wetland



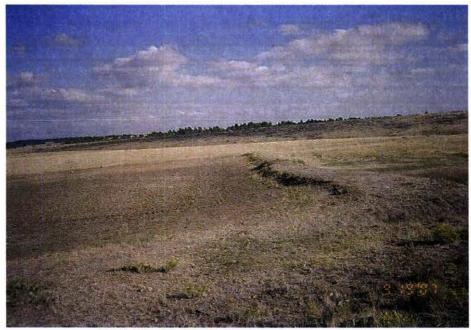


W36, R5 P21: Upstream to stock tank, wetland



Wpt. 74, R6 P1: Depression, non-wetland





Wpt. 74, R6 P2: Depression, non-wetland

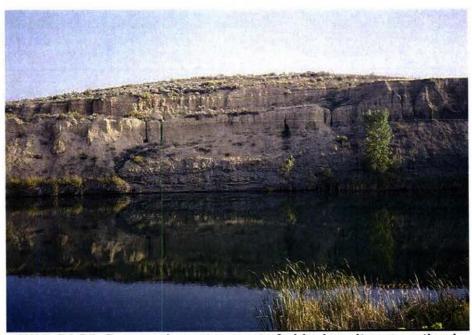


Wpt. 78, R6 P5: Depression, non-wetland



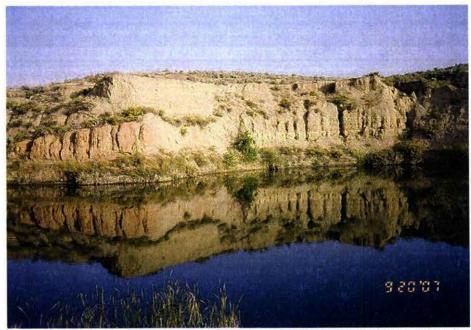


W37, R6 P6: Panoramic east to west of old mine pit, non-wetland

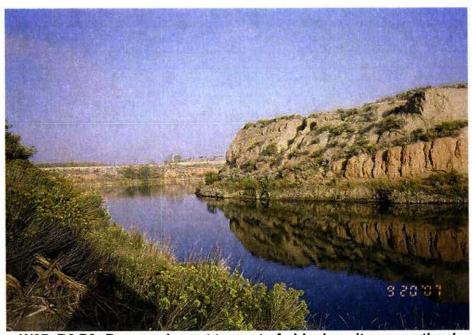


W37, R6 P7: Panoramic east to west of old mine pit, non-wetland



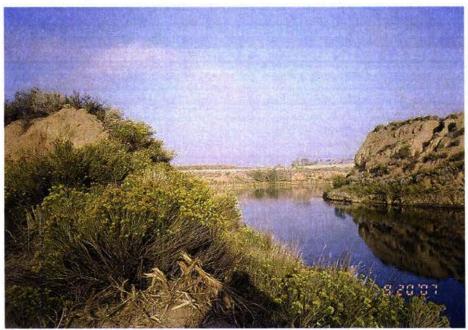


W37, R6 P8: Panoramic east to west of old mine pit, non-wetland



W37, R6 P9: Panoramic east to west of old mine pit, non-wetland



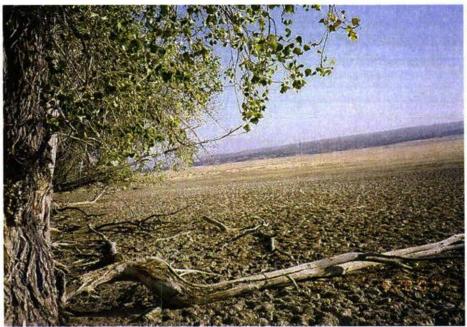


W37, R6 P10: Panoramic east to west of old mine pit, non-wetland

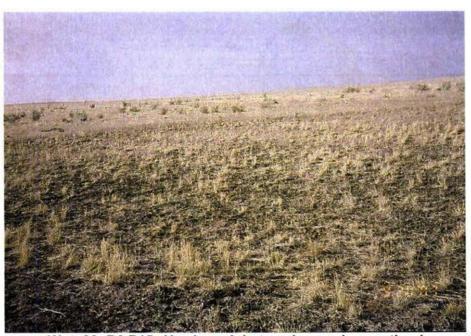


W38, R6 P13: East, wetland





W38, R6 P14: West, wetland



Wpt. 83, R6 P15: Hordeum jubatum depression, wetland





W39, R6 P16: Depression, wetland



W39, R6 P17: Drainage to the East, wetland





W40, R6 P18: Pond, wetland

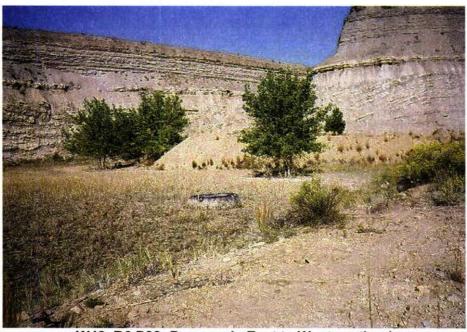


W41, R6 P19: Wetland



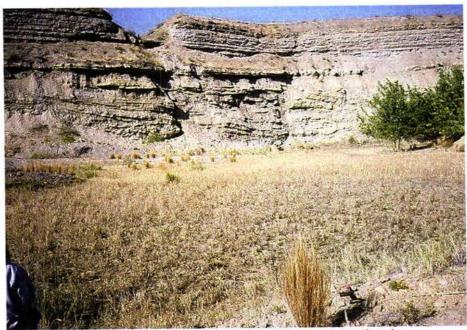


W41, R6 P20: General area, wetland

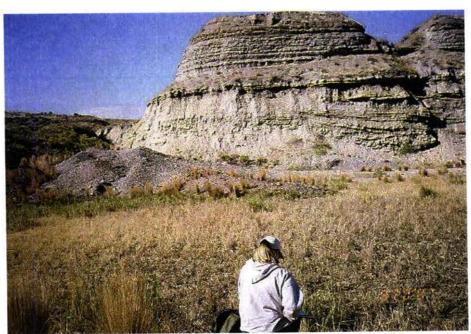


W42, R6 P22: Panoramic East to West, wetland





W42, R6 P23: Panoramic East to West, wetland



W42, R6 P24: Panoramic East to West, wetland



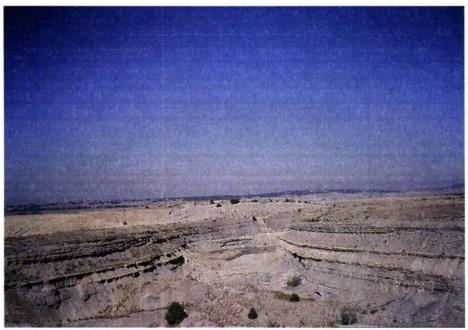


Wpt. 88 and 89, R7 P1: Mine Pit, non-wetland

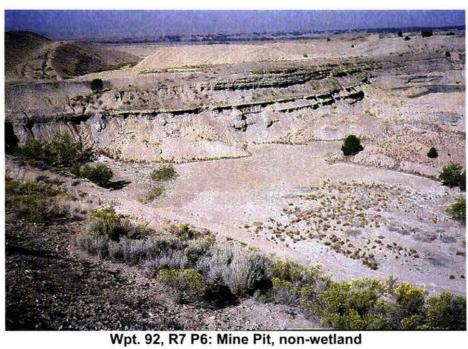


Wpt. 88 and 89, R7 P2: Mine Pit, non-wetland

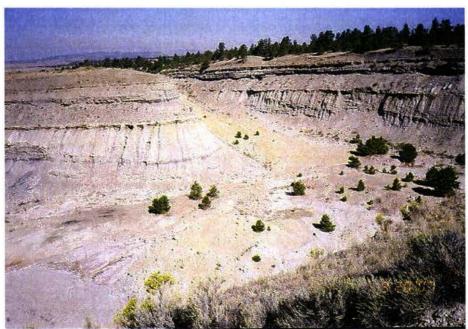




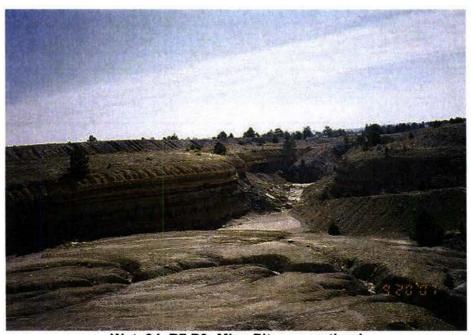
Wpt. 92, R7 P5: Mine Pit, non-wetland







Wpt. 92, R7 P7: Mine Pit, non-wetland

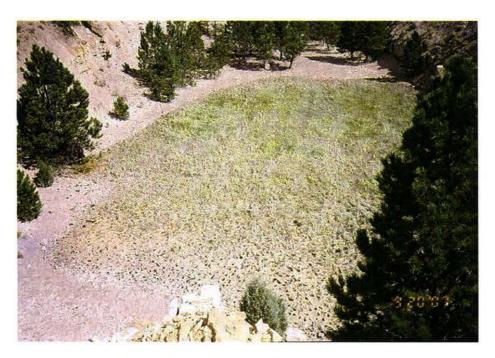


Wpt. 94, R7 P9: Mine Pit, non-wetland



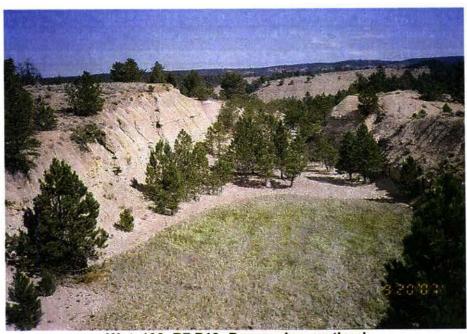


Wpt. 97, R7 P14: Depression, non-wetland



Wpt. 102, R7 P18: Depression, wetland





Wpt. 102, R7 P19: Depression, wetland



Wpt. 103, R7 P20: Mine Pit, wetland





Wpt. 104, R7 P21: Depression, wetland



Wpt. 104, R7 P22: Depression, wetland





Wpt. 104, R7 P23: Depression, wetland



W44, R7 P24: Northwest, wetland





W44, R8 P1: North, wetland

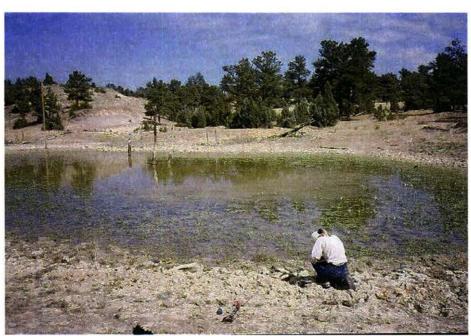


W44, R8 P2: East, wetland





W45, R8 P4: Upstream, wetland



W45, R8 P5: Downstream, wetland



## APPENDIX 3.5-G WETLAND DETERMINATION DATA FORMSGREAT PLAINS REGION (DRAFT)



## Powertech (USA) Inc.

## WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site:	Dewey Burdock		City/County:	Custer Count	sy Sampling Date: 9/17/07								
Applicant/Owner: Knight Piesold, Powertech			State:	South Dakota	a Sampling Point: W1								
Investigator(s): C. Robinson and J. Eberly Section, Township, Range: Section 32, T6S, R1E													
Landform (hillslope	, terrace, etc.) Depre	ssion into trib	utary L	ocal relief (con	ncave, convex, none): Convex Slope (%): 0%								
Subregion (LRP):	Black Hills MLRA62		Lat:	Long	g: Datum: NAD 1983, UTM Zone 13								
Soil Map Unit Nam	e:		NWI C	Classification:	PEMC								
Are climatic/hydrole	ogic conditions on the site	typical for this	s time of year?	Yes	X No (If no, explain in Remarks.)								
Are Vegetation _	, Soil , or	Hydrology	Significa	antly disturbed?	? Are "Normal Circumstances" present? Yes X No								
Are Vegetation	, Soil , or	Hydrology	Naturall	ly problematic?	(If needed, explain any answers in Remarks.)								
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.													
Hydrophytic Vege	etation Present?	Yes X	No										
Hydric Soil Present?  Yes X No Sithe Sampled Area Within a Wetland Yes X No													
Wetland Hydrolog	ay Present	Yes	No										
Remarks: R1 P1 - Depressi				*									
~10' x 15'	Off												
VEGETATION													
Tree Stratum (Use	scientific names)	Absolute % Cover	Dominant Species?	Indicator Status	i e								
1					Number of Dominant Species								
2. 3.					That are OBL, FACW, or FAC:1 (A)								
4.					Total Number of Dominant								
	Total Cover:				Species Across All Strata: 2 (B)								
Sapling/Shrub Stra  1. Rosa woodsi		100	x	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)								
2		100											
3. 4.		<del></del>			Prevalence Index Worksheet:								
5.					Total % Cover of: Multiply by:								
	Total Cover:	100		•	OBL species 75 x1= 75								
Herb Stratum					FACW species 15 x2= 30								
Hordeum jui     Elymus smit		<u>15</u> 5		FACW FACU	FAC species x3= FACU species 110 x4= 440								
3. Polygonum		5		FACU	UPL species x5=	<b>(D)</b>							
4. Eleocharis p 5.	Jaiustris	75	· X	OBL	Column Totals: 200 (A) 545  Prevalence Index = B/A = 2.75	(B)							
l <del>7</del>					Hydrophytic Vegetation Indicators								
					_   ' ' ' '								
1 0				<u></u>	Dominance Test is > 50%  X Prevalence Index is $\leq 3.0^1$								
10.	Total Cover:	100	<del></del>		Morphological Adaptations <sup>1</sup> (Providing supporting	g							
   Woody Vine Stratu	ım		A <sub>1</sub>		data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)								
1.	<del></del>												
2. 3.			***************************************		<sup>1</sup> Indicators of hydric soils and wetland hydrology must be presen	nt							
	Total Cover:			<del></del>	Vegetation								
% Bare Ground in	Herb Stratum	% C	over of Biotic C	rust	Present? Yes X No	-							
Remarks:													
US Army Corps of	Engineers				Great Plains - DRAFT 8-30-2006	 3							



## Powertech (USA) Inc.

SOIL								Sampling Point W1	
	tion: (Describe to t	he depth need	ded to docume	ent the indic	ator or conf	firm the absence	of indicators.)		
Depth	Matrix			Redox F	eatures				
(inches)	Color (moist)	%	Color (moist)		Туре	Loc <sup>2</sup>	Texture	Remarks	
0-8	2.5Y 3/1	90	10YR 4/8		C	RC	SiCL		
				_					
			······		<del></del>				
								•	
	_			_					
<sup>1</sup> Type: C=Conc	entration, D=Depletion	on PM-Peduc	ed Matrix	<sup>2</sup> l ocation	· DI -Doro I	ining PC=Poot	Channel, M=Matrix.		
	icators: (Applicable				. I L-I OIE L			matic Hydric Soils <sup>3</sup> :	
Histos					ed Matrix (S		1 cm Muck (A		
	Epipedon (A2)				Redox (A16) (LRR F, G, H)				
Black	Histic (A3)			Stripped Ma	atrix (S6)		Dark Surface (S7) (LRR G)		
	gen Sulfide (A4)				ky Mineral (f		High Plains D	epressions (F16)	
<del></del>	ed Layers (A5) (LRR	•			yed Matrix (F	(2)	•	tside MLRA 72 & 73)	
	Muck (A9) (LRR F, G,			Depleted M			Reduced Vert		
	ed Below Dark Surfa	ce (A11)			Surface (F6		Red Parent M		
	Dark Surface (A12) Mucky Mineral (S1)			•	ark Surface ( ressions (F8	·       —	Other (Explain	in Remarks)	
	Mucky Mineral (51) Mucky Peat or Peat	(S2) (LEE G. L			Depressions		3Indicators of	hydrophytic vegetation	
	Jucky Peat or Peat (		''	riigiri iailis	Depression	3 (1 10)		ydrology must be present.	
Remarks:									
HYDROLOGY	ology Indicators:					Soc	ondary Indicators	(2 or more required)	
•	ors (any one indicator	r is sufficient)					Surface Soil Cra		
	Water (A1)	,,	Salt C	rusts (B11)				ated Concave Surfaces (B8)	
High Wa	ter Table (A2)			ic Invertebra	ites (B13)		Drainage Patter	ns (B10)	
Saturatio				gen Sulfide				pheres on Living Roots (C3)	
	arks (B1)				r Table (C2)		Crayfish Burrow		
	t Deposits (B2)				ced Iron (C4	)		le on Aerial Imagery (C9)	
	osits (B3)			Muck Surface (Explain in I			_	mmocks (C11) (LRR F)	
	t or Crust (B4) osits (B5)		Other	(Explain in i	Remark)	***************************************	Geomorphic Pos FAC-Neutral Te		
	on Visible on Aerial In	nagen/ (R7)					Local Soil Surve		
	ained Leaves (B9)	lagely (D/)				-	_ Local Soll Sulve	y Data (DO)	
Field Observat									
,								•	
Surface Water	-	No		ı (inches):					
Water Table Pr		No		(inches):		Mindle	Iama December 10 - 1	/a.a. N V	
Saturation Pres (includes capilla		No	X Depth	(inches):		Wetland Hydro	logy Present?	/es No _X_	
Describe Recor	ded Data (stream ga	uge, monitorin	g well, aerial ph	notos, previo	us inspection	n), if available:			
Remarks:								•	
)									
7									



Project/Site:	Dewey Burdock		City/County:	Custer Coun	ty	Sampling Date:	9/17/07
Applicant/Owner:	Knight Piesold, Powe	rtech	State:	South Dakot	а	Sampling Point:	_ W2
Investigator(s):	C. Robinson and J. E	berly	Section, Townsl	nip, Range:	Section 32, T6S, R1E		
Landform (hillslope	e, terrace, etc.)Dra	inage	Lo	cal relief (co	ncave, convex, none):	Convex Slop	e (%): 3
Subregion (LRP):	Black Hills MLRA62		Lat:	Lor	g:	Datum: NAD 19	983, UTM Zone 13
Soil Map Unit Nam	ne:		NWI Cla	ssification:	R2EM		
Are climatic/hydrol	ogic conditions on the s	ite typical for thi	s time of year?	Yes	X No	(If no, expla	in in Remarks.)
Are Vegetation	, Soil ,	or Hydrology	Significar	itly disturbed	? Are "Normal Circumsta	inces" present?	Yes X No
Are Vegetation	, Soil ,	or Hydrology	Naturally	problematic <sup>2</sup>	(If needed, explain any	answers in Remar	ks.)
SUMMARY OF	F FINDINGS - Atta	ch site map	showing sam	pling poi	nt locations, transe	ects, importan	t features, etc.
Hydrophytic Veget	ation Present?	Yes X	No				
Hydric Soil Presen	it?	Yes X			Is the Sampled Area Within a Wetland	Yes X No	)
•		Yes X		_			
Remarks:					***************************************		
Isolated wetland							
						,	
VEGETATION							
Tree Stratum (Use	e scientific names)	Absolute % Cover	Dominant Species?	Indicate Status		Worksheet:	
1		70 00101			Number of Domin	•	
2					That are OBL, FA	.CW, or FAC:	1(A)
4.					Total Number of D		
	Total Cover	·			Species Across A	.ll Strata:	1 (B)
Sapling/Shrub Stra	atum				Percent of Domina		
1.		<del></del>			That Are OBL, FA	CW, or FAC:	100 (A/B)
3.					Prevalence Index	x Worksheet:	
4. 5.					Total % Cover of:		Multiply by:
	Total Cover			***************************************			
Herb Stratum					OBL species FACW species	$\frac{0}{70}$ x1=	140
1. Hordeum ju		10		FACW	FAC species	2 x3=	6
2. Elymus smi		15		FACU FACW		28x4=	112
3. <u>Spartina pe</u> 4. Bromus jap		<u>60</u> 5	X	FACU		$\frac{0}{100}$ x5= (A)	0 (B)
5. Xanthium s		2		FAC	Prevalence Index		2.58
6. Poa pratens		3		FACU			
7. Melilotus of 8.	ticinalis	5		FACU	— Hydrophytic Veg	getation Indicator	S
9.			***************************************			ce Test is > 50%	
10					X Prevalenc	e Index is ≤ 3.0¹	(Providing supporting
	Total Cover	r: <u>100</u>				gical Adaptations ( ks or on a separate	
Woody Vine Strate	<u>um</u>					tic Hydrophytic Ve	
1					- Indicators of hydric	c soils and wetland h	ydrology must be present
3.					Hydrophytic		
	Total Cover	:			Vegetation Present?	Yes X	No
% Bare Ground in	Herb Stratum 10	% C	over of Biotic Cru	st	, resenti	100 <u>X</u>	110
Remarks:						•	
	·					ж	



Profile Description: (Describe to the depth					Sampling Point W2
	needed to document	t the indicator or co	nfirm the absen	ce of indicators.)	
Depth Matrix		Redox Features			
(inches) Color (moist) %	Color (moist)	% Тур		Texture	Remarks
0-12 10YR 3/1 95	7.5YR 3/3	5 0	<u> </u>	C	
					*****
		· ·		***************************************	
Type: C=Concentration, D=Depletion, RM=R	Reduced Matrix.	<sup>2</sup> Location: PL=Pore	Lining, RC=Roo	t Channel, M=Matrix.	
lydric Soil Indicators: (Applicable to all Li	RRs, unless otherwis	e noted.)	Ir	ndicators for Problen	
Histosol (A1)		andy Gleyed Matrix	(S4)	1 cm Muck (A9	
Histic Epipedon (A2) Black Histic (A3)		Sandy Redox (S5)		Coast Prairie F Dark Surface (	Redox (A16) (LRR F, G, H)
Hydrogen Sulfide (A4)		tripped Matrix (S6) oamy Mucky Mineral	(F1)		epressions (F16)
Stratified Layers (A5) (LRR F)		oamy Gleyed Matrix			side MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)	D	epleted Matrix (F3)		Reduced Verti	c (F18)
Depleted Below Dark Surface (A11)		Redox Dark Surface (		Red Parent Ma	
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)		Pepleted Dark Surfac Redox Depressions (F		Other (Explain	in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LFI		ligh Plains Depression		3Indicators of h	nydrophytic vegetation
5 cm Mucky Peat or Peat (S3) (LRR			,		ydrology must be present.
Restrictive Layer (if present):					
Туре:					
Depth (inches):		Hydric S	ioils Present?	Yes X No	
Remarks:		·····			
,					
•					
	•				
			·		
HYDROLOGY	•				
Wetland Hydrology Indicators:	•			condary Indicators (	
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici				Surface Soil Cra	cks (B6)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici X Surface Water (A1)	Salt Cru	ists (B11)	·	Surface Soil Cra Sparsely Vegeta	cks (B6) ted Concave Surfaces (B8)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici  X Surface Water (A1) High Water Table (A2)	Salt Cru Aquatic	Invertebrates (B13)	·	Surface Soil Cra Sparsely Vegeta Drainage Patterr	cks (B6) ted Concave Surfaces (B8) is (B10)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici X Surface Water (A1)	Salt Cru Aquatic Hydroge	Invertebrates (B13) en Sulfide Oder (C1)	·	Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos	cks (B6) ted Concave Surfaces (B8) ns (B10) pheres on Living Roots (C3)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici  X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt Cru Aquatic Hydroge Dry-Sea Presence	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2 be of Reduced Iron (C	·	Surface Soil Cran Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows	cks (B6) ted Concave Surfaces (B8) ns (B10) pheres on Living Roots (C3)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici  X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2 ce of Reduced Iron (C ack Surface (C7)	·	Surface Soil Cran Sparsely Vegeta Drainage Patterr Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hur	cks (B6) ted Concave Surfaces (B8) is (B10) pheres on Living Roots (C3) s (C8) e on Aerial Imagery (C9) mmocks (C11) ( <b>LRR F</b> )
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici  X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2 be of Reduced Iron (C	·	Surface Soil Cran Sparsely Vegeta Drainage Patterr Oxidized Rhizosy Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Pos	cks (B6)  ted Concave Surfaces (B8)  is (B10)  pheres on Living Roots (C3)  s (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  ition (D2)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2 ce of Reduced Iron (C ack Surface (C7)	2)	Surface Soil Crain Sparsely Vegetate Drainage Patterr Oxidized Rhizosg Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Post FAC-Neutral Tes	cks (B6) ted Concave Surfaces (B8) ts (B10) pheres on Living Roots (C3) ts (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tition (D2) tt (D5)
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Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water Stained Leaves (B9)	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2 ce of Reduced Iron (C ack Surface (C7)	2)	Surface Soil Crain Sparsely Vegetate Drainage Patterr Oxidized Rhizosg Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Post FAC-Neutral Tes	cks (B6) ted Concave Surfaces (B8) ts (B10) pheres on Living Roots (C3) ts (C8) to on Aerial Imagery (C9) mmocks (C11) (LRR F) tition (D2) tt (D5)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water Stained Leaves (B9) Field Observations:	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2 as of Reduced Iron (C ack Surface (C7) Explain in Remark)	2)	Surface Soil Crain Sparsely Vegetate Drainage Patterr Oxidized Rhizosg Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Post FAC-Neutral Tes	cks (B6) ted Concave Surfaces (B8) ts (B10) pheres on Living Roots (C3) ts (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tition (D2) tt (D5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes X	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2) se of Reduced Iron (Click Surface (C7) Explain in Remark)	2)	Surface Soil Crain Sparsely Vegetate Drainage Patterr Oxidized Rhizosg Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Post FAC-Neutral Tes	cks (B6) ted Concave Surfaces (B8) ts (B10) pheres on Living Roots (C3 ts (C8) to on Aerial Imagery (C9) mmocks (C11) (LRR F) tition (D2) tt (D5)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes X N Water Table Present? Yes	Salt Cru	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2) se of Reduced Iron (Cack Surface (C7) Explain in Remark)	2)	Surface Soil Crain Sparsely Vegetar Sparsely Vegetar Drainage Pattern Oxidized Rhizosy Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Survey	cks (B6) ted Concave Surfaces (B8) is (B10) pheres on Living Roots (C3) is (C8) is on Aerial Imagery (C9) immocks (C11) (LRR F) ition (D2) it (D5) y Data (D8)
Wetland Hydrology Indicators:  Primary Indicators (any one indicator is suffici X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes X N Water Table Present? Yes In N Saturation Present? Yes In N	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2) se of Reduced Iron (Cack Surface (C7) Explain in Remark)	2)	Surface Soil Crain Sparsely Vegeta Drainage Patterroxidized Rhizosy Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Survey	cks (B6) ted Concave Surfaces (B8) ts (B10) pheres on Living Roots (C3) ts (C8) to on Aerial Imagery (C9) mmocks (C11) (LRR F) tition (D2) tt (D5)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water Stained Leaves (B9) Field Observations:  Surface Water Present? Yes X N Water Table Present? Yes Includes capillary fringe)	Salt Cru	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2) es of Reduced Iron (Cack Surface (C7) Explain in Remark)  Inches): Inches): Inches): Inches):	2) S4) Wetland Hydr	Surface Soil Crain Sparsely Vegetar Sparsely Vegetar Drainage Pattern Oxidized Rhizosy Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Survey	cks (B6) ted Concave Surfaces (B8) is (B10) pheres on Living Roots (C3) is (C8) is on Aerial Imagery (C9) immocks (C11) (LRR F) ition (D2) it (D5) y Data (D8)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B Water Stained Leaves (B9) Field Observations:  Surface Water Present? Yes X N Water Table Present? Yes Includes capillary fringe)	Salt Cru	Invertebrates (B13) en Sulfide Oder (C1) ason Water Table (C2) es of Reduced Iron (Cack Surface (C7) Explain in Remark)  Inches): Inches): Inches): Inches):	2) S4) Wetland Hydr	Surface Soil Crain Sparsely Vegetar Sparsely Vegetar Drainage Pattern Oxidized Rhizosy Crayfish Burrows Saturation Visible Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Survey	cks (B6) ted Concave Surfaces (B8) is (B10) pheres on Living Roots (C3) is (C8) is on Aerial Imagery (C9) immocks (C11) (LRR F) ition (D2) it (D5) y Data (D8)
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#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: De	ewey Burdock		City/County:	Custer Cou	nty	Sampling Date:	9/17/07	
Applicant/Owner: Kn	ight Piesold, Powe	ertech		South Dako			W3	
			•	ship, Range:	Section 32, T6S, R1	 I <u>E</u>		
Landform (hillslope, ter	rrace, etc.) _ Dr	ainage	L	ocal relief (co	oncave, convex, none):	Convex Slope	e (%): 0	
					ng:			
Soil Map Unit Name:								
Are climatic/hydrologic					s X No	(If no, explair	n in Remarks.)	
Are Vegetation	Soil	, or Hydrology	Significa	antly disturbe	d? Are "Normal Circum	<del></del>		
Are Vegetation	, Soil	, or Hydrology	Naturall	y problematio	? (If needed, explain a	ny answers in Remark	(s.)	
	·							
		ich site map	showing sai	mpling po	int locations, tran	sects, important	features, etc.	
Hydrophytic Vegetation	n Present?	Yes	No X	<u> </u>	Is the Sampled Area			
Hydric Soil Present?		Yes	NoX	<u> </u>	Within a Wetland	Yes No	<u>X</u>	
Wetland Hydrology Pre	esent	Yes X	No					
Remarks: R1 P 12: Upstream			•					,
R1 P13: Downstream								
L								
VEGETATION Tree Stratum (Use scie	ontific names)	Absolute	Dominant	Indicat	or Deminance To	est Worksheet:		
Tree Stratum (Use scie	munc names)	% Cover	Species?	Statu	<u>s</u>			
2						minant Species FACW, or FAC:	0 (A)	
2					That are ODE,		(A)	
4	Total Cove	.r.			Total Number of Species Across		2 (B)	
					'		(B)	
Sapling/Shrub Stratum  1.	1					ninant Species FACW, or FAC:	0 (A/B)	
2.								
3. 4.					Prevalence In	dex Worksheet:		
5.					Total % Cover	of: M	fultiply by:	_
	Total Cove	er:			OBL species	x1=		
Herb Stratum					FACW species	x2=		- -
Elymus smithii     Xanthium strum	parium	40	X	FAC	<del></del>   '	x3= ·_ x4=		-
3. Bromus japonici		20	X	FAC		x5=		-
4. Polygonum avic		5		FACI				_ (B)
<ol> <li>Lepidium densit</li> <li>Poa pratensis</li> </ol>	lorum	<u>15</u>		FACI		lex ≈ B/A ≈		
7. Melilotus officina	alis	10		FACU		Vegetation Indicators		
8. Symphoricarpos	s sp.	3		NI				
9.	····					ance Test is > 50% ence Index is ≤ 3.0 <sup>1</sup>		
10.	Total Cove	er: 100		<del></del>	Morpho	ological Adaptations¹ (l		ing
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \						arks or on a separate		
Woody Vine Stratum  1.					Probler	matic Hydrophytic Veg	etation (Explain)	
2.						dric soils and wetland hy	drology must be pres	sent
3.	Total Cove	er.			Hydrophytic Vegetation	•		
					Present?	Yes	No X	
% Bare Ground in Her Remarks:	b Stratum 50	% C	over of Biotic Cr	rust				
L								

US Army Corps of Engineers



SOIL						*****		Sampling Point W3
Profile Desc	ription: (Describe to th	e depth nee	eded to docume	nt the indica	tor or confir	m the absence	of indicators.)	
Donth	8 A A			Dada F	oturco.			
Depth (inches)	Matrix	9/	Color (moist)	Redox Fe		Loc <sup>2</sup>	Touturo	Domarko
(inches) 0-5	Color (moist) 10YR 3/1	<del></del>	Color (moist)		Type	LUC	Texture SiCL	Remarks
0-5	101K 3/1						- SIOL	
				<del></del>			·	
				_ <del></del>				
	<del></del>							
	· · · · · · · · · · · · · · · · · · ·			_				······
Type: C=Co	ncentration, D≃Depletio	n, RM=Redu	ced Matrix.	<sup>2</sup> Location:	PL=Pore Lin	ing, RC=Root C	Channel, M=Matrix.	
	ndicators: (Applicable						icators for Problem	atic Hydric Soils <sup>3</sup> :
	osol (A1)				d Matrix (S4)		1 cm Muck (A9	
	ic Epipedon (A2)			Sandy Redox				ledox (A16) (LRR F, G, H)
	ck Histic (A3)			Stripped Mat	• •		Dark Surface (	
	rogen Sulfide (A4)			•	y Mineral (F1			pressions (F16)
	tified Layers (A5) (LRR I	•			ed Matrix (F2)	ı	•	side MLRA 72 & 73)
	n Muck (A9) ( <b>LRR F, G,</b> l			Depleted Ma			Reduced Vertice	
	leted Below Dark Surfac k Dark Surface (A12)	e (A 1 1)		Redox Dark	, ,	<b>7</b> \	Red Parent Ma Other (Explain	
	dy Mucky Mineral (S1)			Redox Depre	rk Surface (F	'' <u></u>	Other (Explain	in Remarks)
	cm Mucky Peat or Peat (	S2) (I FF G	Η)		Depressions (	F16)	<sup>3</sup> Indicators of h	vdrophytic vegetation
	n Mucky Peat or Peat (S			riigiri idiiio t	oproceione (	,		drology must be present.
Restrictive L	ayer (if present):							
		<u> </u>						
HYDROLOG								
	drology Indicators:							2 or more required)
	ators (any one indicator	is sufficient)		1 (544)		<u></u>		
	e Water (A1)			rusts (B11)	(D42)		_ ' '	ed Concave Surfaces (B8)
	Vater Table (A2) ition (A3)			ic Invertebrate gen Sulfide C		X		s (B10) pheres on Living Roots (C3
	Marks (B1)			eason Water			Crayfish Burrows	
	ent Deposits (B2)			nce of Reduc	, ,	<del></del>		on Aerial Imagery (C9)
	eposits (B3)			luck Surface				nmocks (C11) (LRR F)
	Mat or Crust (B4)			(Explain in R		X	Geomorphic Pos	ition (D2)
	eposits (B5)			<b>,</b> - <b>,</b>	,		FAC-Neutral Tes	
Inunda	ation Visible on Aerial Im	agery (B7)					Local Soil Survey	
Water	Stained Leaves (B9)							
Field Obser	vations:	-	-		1			
0	D	V N.	5	<i>(</i> ' t )	İ			
Surface Wat		X No		(inches):				
Water Table Saturation P	<del></del>	No No		(inches):	— I v	Vetland Hydro	logy Present? Y	ne Y Mo
(includes car		140	Debiii	(mones).	<b>"</b>	Todaliu riyufo	ogy rieschitt 1	es X No
(miolades oa)	mary milgo/				}			
Describe Re	corded Data (stream gau	ige, monitori	ng well, aerial ph	otos, previou	s inspection),	if available:	_4110	
Remarks:								
Definable ch	annel is present.							

6



Project/Site: Dewey Burdock City/County: Custer County Sampling Date: 9/17/07  Applicant/Owner: Knight Piesold, Powertech State: South Dakota Sampling Point: W4  Investigator(s): C. Robinson and J. Eberly Section, Township, Range: Section 32, T6S, R1E  Landform (hillslope, terrace, etc.) Drainage Local relief (concave, convex, none): Convex Slope (%): 3  Subregion (LRP): Black Hills MLRA62 Lat: Long: Datum: NAD 1983, UTM Zone 13  Soil Map Unit Name: NWI Classification: R2EM  Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)  Are Vegetation Soil or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation Soil or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No Is the Sampled Area Within a Wetland Yes X No Wetland Hydrology Present Yes X No Remarks:  R2 P2: Upstream R2 P3: Downstream R2 P7: Downstream at waypoint 3 R2 P7: Downstream at waypoint 4 R2 P7: Do
Investigator(s): C. Robinson and J. Eberty  Ladform (hillslope, terrace, etc.)  Drainage  Local relief (concave, convex, none):  Convex  Slope (%): 3  Subregion (LRP):  Black Hills MLRA62  Lat:  Long:  Datum:  NAD 1983, UTM Zone 13  Soil Map Unit Name:  Are climatic/hydrologic conditions on the site typical for this time of year?  Yes  X  No  (If no, explain in Remarks.)  Are Vegetation  Soil  Or Hydrology  Naturally problematic?  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?  Yes  X  No  Wetland Hydrology Present  Yes  X  No  Wetland Hydrology Present  R2 P3: Downstream  R2 P4: Tributary  Channel width is approximately 17 feet  R2 P6: Upstream at waypoint 4  R2 P9: Downstream at waypoint 4  R2 P9: Downstream at waypoint 4  PEGETATION  Tree Stratum (Use scientific names)  Absolute  Dominant  Indicator  Dominance Test Worksheet:
Local relief (concave, convex, none): Convex Slope (%): 3  Subregion (LRP): Black Hills MLRA62
Subregion (LRP): Black Hills MLRA62
Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation, Soil, or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes _X _ No  Are Vegetation, Soil, or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes _X _ No  Are Vegetation, Soil, or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes _X _ No
Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation, Soil, or Hydrology Significantly disturbed? Are "Normal Circumstances" present? YesX No  Are Vegetation, Soil, or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? YesX No Is the Sampled Area Within a Wetland YesX No Within a Wetland YesX No Yes X No Yes X
Are Vegetation Soil , or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No Is the Sampled Area Within a Wetland Yes X No Wetland Hydrology Present Yes X No Remarks:  R2 P2: Upstream R2 P3: Downstream R2 P4: Tributary Channel width is approximately 17 feet R2 P6: Upstream at waypoint 3 R2 P7: Downstream at waypoint 4 R2 P9: Downstream at waypoint 4  VEGETATION  Tree Stratum (Use scientific names) Absolute Dominant Indicator Dominance Test Worksheet:
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?  Yes X No
Hydrophytic Vegetation Present?  Yes X No  Wetland Hydrology Present  Yes X No  Wetland Hydrology Present  Remarks: R2 P2: Upstream R2 P3: Downstream R2 P4: Tributary Channel width is approximately 17 feet R2 P6: Upstream at waypoint 3 R2 P7: Downstream at waypoint 3 R2 P9: Downstream at waypoint 4  VEGETATION  Tree Stratum (Use scientific names)  Absolute  Dominant  Indicator  Dominance Test Worksheet:
Hydrophytic Vegetation Present?  Yes X No  Wetland Hydrology Present  Yes X No  Wetland Hydrology Present  Remarks: R2 P2: Upstream R2 P3: Downstream R2 P4: Tributary Channel width is approximately 17 feet R2 P6: Upstream at waypoint 3 R2 P7: Downstream at waypoint 3 R2 P9: Downstream at waypoint 4  VEGETATION  Tree Stratum (Use scientific names)  Absolute  Dominant  Indicator  Dominance Test Worksheet:
Hydric Soil Present?  Yes X No  Wetland Hydrology Present Yes X No  Remarks: R2 P2: Upstream R2 P3: Downstream R2 P4: Tributary Channel width is approximately 17 feet R2 P6: Upstream at waypoint 3 R2 P7: Downstream at waypoint 3 R2 P8 Upstream at waypoint 4 R2 P9: Downstream at waypoint 4  VEGETATION  Tree Stratum (Use scientific names)  Absolute Dominant Indicator Dominance Test Worksheet:
Wetland Hydrology Present Yes X No  Remarks: R2 P2: Upstream R2 P3: Downstream R2 P4: Tributary Channel width is approximately 17 feet R2 P6: Upstream at waypoint 3 R2 P7: Downstream at waypoint 3 R2 P8 Upstream at waypoint 4 R2 P9: Downstream at waypoint 4  VEGETATION  Tree Stratum (Use scientific names) Absolute Dominant Indicator Dominance Test Worksheet:
Remarks: R2 P2: Upstream R2 P3: Downstream R2 P4: Tributary Channel width is approximately 17 feet R2 P6: Upstream at waypoint 3 R2 P7: Downstream at waypoint 3 R2 P8 Upstream at waypoint 4 R2 P9: Downstream at waypoint 4  VEGETATION  Tree Stratum (Use scientific names) Absolute Dominant Indicator Dominance Test Worksheet:
R2 P2: Upstream R2 P3: Downstream R2 P4: Tributary Channel width is approximately 17 feet R2 P6: Upstream at waypoint 3 R2 P7: Downstream at waypoint 3 R2 P8 Upstream at waypoint 4 R2 P9: Downstream at waypoint 4  VEGETATION  Tree Stratum (Use scientific names) Absolute Dominant Indicator Dominance Test Worksheet:
R2 P6: Upstream at waypoint 3 R2 P7: Downstream at waypoint 3 R2 P9: Downstream at waypoint 4  VEGETATION  Tree Stratum (Use scientific names)  Absolute Dominant Indicator Dominance Test Worksheet:
VEGETATION       Tree Stratum (Use scientific names)     Absolute     Dominant     Indicator     Dominance Test Worksheet:
VEGETATION       Tree Stratum (Use scientific names)     Absolute     Dominant     Indicator     Dominance Test Worksheet:
Tree Stratum (Use scientific names)  Absolute  Dominant  Indicator  Dominance Test Worksheet:
<u>% Cover</u> <u>Species? Status</u> Number of Dominant Species
2 That are OBL, FACW, or FAC: 2 (A)
73 Total Number of Dominant
Total Cover: Species Across All Strata: 2 (B)
Sapling/Shrub Stratum Percent of Dominant Species
1. That Are OBL, FACW, or FAC: 100 (A/B)
2. Prevalence Index Worksheet:
4.
5 Total Cover: Total % Cover of: Multiply by:
OBL species x1=
Herb Stratum   FACW species   x2=     1. Spartina pectinata   35   X   FACW   FAC species   x3=
2. Cirsium arvense 10 FACU FACU species x4=
3. Schoenoplectus pungens 20 X OBL UPL species x5=
4. Eleocharis palustris 35 X OBL Column Totals: (A) (B) 5. Prevalence Index = B/A =
6.
7 Hydrophytic Vegetation Indicators 8.
9 X Dominance Test is > 50%
10. Prevalence Index is $\leq 3.0^{1}$
Total Cover: 100 Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratum Problematic Hydrophytic Vegetation (Explain)
1 Indicators of hydric soils and wetland hydrology must be present
3. Hydrophytic
Total Cover: Vegetation Present? Yes X No
% Bare Ground in Herb Stratum % Cover of Biotic Crust
Remarks:



SOIL	•								Sampling Point W4
Profile Descri	ption: (Describe to t	he depth need	ed to docume	nt the indica	ator or conf	irm the abs	sence of indicato	rs.)	
Depth	Matrix			Redox F	eatures				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc			Remarks
0-2	Gley1 2.5/N	100				<del></del>	SCL		
2-10	Gley1 3/N	100					SCL		
10-14	Gley1 4/5GY	<u>95</u> _	7.5YR 4/6	5			SC		
·	· · · · · · · · · · · · · · · · · · ·			_			<u> </u>		
									· · · · · · · · · · · · · · · · · · ·
								·	
	<del></del>	-				<del></del>			
	centration, D=Depletion				PL=Pore L	ining, RC=F	Root Channel, M=		Unduia Calla <sup>3</sup> .
	dicators: (Applicable sol (A1)	e to all LKKS, t	niess otnerw X	Sandy Gleye	ed Matrix (S4	4) -		robiematic luck (A9) (L	: Hydric Soils³: RR C)
	Epipedon (A2)			Sandy Redo		••			x (A16) (LRR F, G, H)
	Histic (A3)			Stripped Ma				urface (S7)	
	ogen Sulfide (A4)	E)			ky Mineral (F				ssions (F16)
	fied Layers (A5) (LRR Muck (A9) (LRR F, G,			Loamy Gley Depleted Ma		2)	•	ed Vertic (F1	MLRA 72 & 73)
	eted Below Dark Surfa		***************************************	Redox Dark	, ,	)		arent Materia	
	Dark Surface (A12)			Depleted Da			Other (	Explain in R	emarks)
	y Mucky Mineral (S1) m Mucky Peat or Peat	(S2) (LEE C. U		Redox Depr High Plains			3Indica	tore of budge	phytic vegetation
	Mucky Peat or Peat (S			riigii Flaiiis	Debiessions	(F10)			ogy must be present.
	yer (if present):								
	•								
Type:					11-1-1-0-1			A.I	
Depth (inches	s): 		<del></del>	ļ	Hydric Soi	is Present?	? Yes <u>X</u>	_ No	
Remarks:						***************************************			
Faint hydroger	n sulfide odor was pres	sent.							
					-				
HVDDOL OOV	,								
HYDROLOGY Wetland Hydr	ology Indicators:						Secondary India	ators (2 or	more required)
	tors (any one indicator	r is sufficient)				-		Soil Cracks (	
X Surface	Water (A1)			rusts (B11)					Concave Surfaces (B8)
	ater Table (A2)			ic Invertebrat		_		Patterns (B	
	on (A3)			gen Sulfide ( eason Water		-			es on Living Roots (C3)
	/larks (B1) nt Deposits (B2)			nce of Reduc		_		Burrows (C8 n Visible on	Aerial Imagery (C9)
	posits (B3)		***************************************	Auck Surface	, ,	,			cks (C11) ( <b>LRR F</b> )
Algal M	at or Crust (B4)			(Explain in R		_		hic Position	
	posits (B5)	(0.7)				-		tral Test (D	,
	ion Visible on Aerial In Stained Leaves (B9)	nagery (B7)				-	Local Soi	Survey Da	ta (D8)
Field Observa					•				
Surface Water Water Table P		X No -		(inches): (inches):					
Saturation Pre	_	X No -		(inches):		Wetland H	ydrology Presen	t? Yes	X No
(includes capil				(11101100).		TTOULUITU TT	yarology i roccii	•• •••	
Describe Descri	anded Date /-tiarr	ugo monitari	المساهدة المسا	otoo r	Inco4!:	\ \( \( \frac{1}{2} \) \( \frac{1} \) \( \frac{1} \) \( \frac{1}{2} \) \( \frac{1}{2	<u>'</u>		
Describe Reco	orded Data (stream ga	uge, monitoring	weii, aeriai ph	οιοs, previoι	is inspection	), it availabl	ie:		
Remarks:					•				
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#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County	y: Custer Co	inty	Sampling Date:	9/17/07	
Applicant/Owner: Knight Piesold, Pow	vertech	_		ota		W5	
Investigator(s): C. Robinson and J.	Eberly	Section, To	wnship, Range	Section 32, T6S, R1E			
Landform (hillslope, terrace, etc.)	plands		_ Local relief (d	oncave, convex, none):	None Slo	pe (%): _2	
Subregion (LRP): Black Hills MLRA6	62	Lat:	L	ong:	Datum: NAD	1983, UTM Z	one 13
Soil Map Unit Name:		NV	/I Classification				
Are climatic/hydrologic conditions on the	site typical for thi	is time of yea	r? Y	es X No	(If no, expl	ain in Remarl	ks.)
Are Vegetation, Soil	, or Hydrology	Sign	ificantly disturbe	ed? Are "Normal Circumst	ances" present?	Yes X	No
Are Vegetation , Soil	, or Hydrology	Natu	rally problemat	c? (If needed, explain any	answers in Rema	arks.)	
			•				
SUMMARY OF FINDINGS - Att	ach site map	showing	sampling po	oint locations, trans	ects, importai	nt features	s, etc.
Hydrophytic Vegetation Present?	Yes	_ No _	X	Is the Sampled Area			
Hydric Soil Present?	Yes	_ No _	X	Within a Wetland	Yes N	o <u>X</u>	
Wetland Hydrology Present	Yes	No	X			***************************************	
Remarks: R1 P5: Upland area near Beaver Creek							
VEGETATION Tree Stratum (Use scientific names)	Absolute	Domina	nt Indica	tor Dominance Tes	t Worksheet		
	% Cover	Species		is			
1.   2.	-			Number of Domi That are OBL, F		1	(A)
3.				That are OBL, 17	ACVV, 011 AC		(^)
4. Total Cov				Total Number of		2	<b>(D)</b>
·	ei			Species Across	All Strata.		(B)
Sapling/Shrub Stratum  1.				Percent of Domit That Are OBL, F.		50	(A/B)
2.				—   That Ale Obl., T	AOW, 011 AO		(700)
3.				Prevalence Inde	ex Worksheet:		
5.				Total % Cover of	f:	Multiply by:	
Total Cov	er:						
Herb Stratum				OBL species FACW species	x1= x2=		
1. Poa pratensis	45	X	FAC	U FAC species	25 x3=	75	
2. Cirsium arvense	15		FAC		75 x4=	300	
Chenopodium album     Helianthus annuus	<u>25</u>	X	FAC	······································	x5= (A)	375	(B)
5				Prevalence Inde		3.75	(5)
6. 7.				Hydrophytic Ve	getation Indicato	ure	
8.						13	
9. 10.					ce Test is > 50% ce Index is < 3.01		
Total Cov	er: 100			Morpholo	ogical Adaptations		upporting
Woody Vine Stratum					ks or on a separat atic Hydrophytic Ve		nlain)
1.				Floblema	and right opiny ne ve	syetation (Exp	piairi)
2. 3.					ric soils and wetland	nydrology must	be present
Total Cov	er:	***************************************	<del></del>	Hydrophytic Vegetation			
		Name of Dist	o Courat	Present?	Yes	No _	X
% Bare Ground in Herb Stratum 40 Remarks:	<u> % C</u>	Cover of Biotic	Cust				

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Great Plains - DRAFT 8-30-2006



SOIL						Sampling Point W5
Profile Description: (Describe to the d	lepth needed to d	ocument the indic	ator or confirm	the absence o	of indicators.)	
Depth Matrix		Redox F	eatures	<u> </u>		
(inches) Color (moist)		(moist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6 10YR 3/2	100				SCL	
·					÷/4.0000	
		<del></del>				
	***************************************					
		21				
ype: C=Concentration, D=Depletion, F ydric Soil Indicators: (Applicable to			: PL=Pore Linir		annel, M=Matrix	matic Hydric Soils <sup>3</sup> :
Histosol (A1)	an LKKS, unless		ed Matrix (S4)	maic	1 cm Muck (A	
Histic Epipedon (A2)		Sandy Red				Redox (A16) (LRR F, G, F
Black Histic (A3)		Stripped Ma				(S7) (LRR G)
Hydrogen Sulfide (A4)			ky Mineral (F1)			epressions (F16)
Stratified Layers (A5) (LRR F)			yed Matrix (F2)			tside MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)		Depleted M			_ Reduced Ver	
Depleted Below Dark Surface (A	A11)		Surface (F6)		Red Parent M	
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)			ark Surface (F7) ressions (F8)	)	_ Other (Explai	n in Remarks)
2.5 cm Mucky Peat or Peat (S2)	(LEF G. H)		Depressions (F	16)	3Indicators of	hydrophytic vegetation
5 cm Mucky Peat or Peat (S3) (			Боргосского (г	,		nydrology must be present
YDROLOGY						
etland Hydrology Indicators:				Secon		(2 or more required)
rimary Indicators (any one indicator is s Surface Water (A1)	sufficient)	Salt Crusts (B11)			Surface Soil Cra	acks (B6) ated Concave Surfaces (B
High Water Table (A2)		Aquatic Invertebra	ites (B13)		Drainage Patter	
Saturation (A3)		Hydrogen Sulfide				spheres on Living Roots (
Water Marks (B1)	<del></del>	Dry-Season Wate			Crayfish Burrow	
Sediment Deposits (B2)		Presence of Redu	ced Iron (C4)		Saturation Visib	le on Aerial Imagery (C9)
Drift Deposits (B3)		Thin Muck Surface				immocks (C11) (LRR F)
Algal Mat or Crust (B4)		Other (Explain in I	Remark)	-	Geomorphic Po	
Iron Deposits (B5)	n. (D7)				FAC-Neutral Te	
Inundation Visible on Aerial Image Water Stained Leaves (B9)	ery (B7)				Local Soil Surve	ey Data (Do)
ield Observations:						
				•		
urface Water Present? Yes	NoX	Depth (inches):				
/ater Table Present? Yes	NoX	Depth (inches):		atland Usedes I.	mu Brancott	Von Na V
aturation Present? Yes ncludes capillary fringe)	NoX_	Depth (inches):	W	etland Hydrolo	gy Present?	Yes No <u>X</u>
escribe Recorded Data (stream gauge,	monitoring well, a	erial photos, previo	us inspection), i	f available:		
lemarks:						
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### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	Custer County	Sampling Date: 9/17/07
Applicant/Owner: Knight Piesold,	Powertech	State:	South Dakota	Sampling Point: W6
Investigator(s): C. Robinson and	d J. Eberly	_ Section, Towns	hip, Range: _	Section 32, T6S, R1E
Landform (hillslope, terrace, etc.)	Drainage	Lo	cal relief (conca	ave, convex, none):convex Slope (%):2
Subregion (LRP): Black Hills ML	RA62	_ Lat:	Long:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:	· · · · · · · · · · · · · · · · · · ·	NWI Cla	assification:	
Are climatic/hydrologic conditions or	the site typical for th	nis time of year?	Yes	X No (If no, explain in Remarks.)
Are Vegetation , Soil	, or Hydrology	Significar	ntly disturbed?	Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Naturally	problematic? (	If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS -	Attach site map	showing sam	npling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No X		
Hydric Soil Present?	Yes		IS	the Sampled Area ithin a Wetland Yes No X
Wetland Hydrology Present				
Remarks:	100			
R1 P 17: Upstream R1 P18: Downstream				
VEGETATION				
Tree Stratum (Use scientific names)		Dominant	Indicator	Dominance Test Worksheet:
1	% Cover	Species?	Status	Number of Dominant Species
2.				That are OBL, FACW, or FAC: 0 (A)
4.				Total Number of Dominant
Total	Cover:			Species Across All Strata: 2 (B)
Sapling/Shrub Stratum				Percent of Dominant Species
1. Rosa woodsii 2.	100	X	FACU	That Are OBL, FACW, or FAC: 0 (A/B)
3.				Prevalence Index Worksheet:
4. 5.			•	Total % Cover of: Multiply by:
	Cover: 100			
Herb Stratum				OBL species x1= FACW species x2=
1. Elymus smithii	85	×	FACU	FAC species x3=
2. Astragalus sp.	5		UPL	FACU species 85 x4= 340
Nassella viridula     Ratibida columnifera	<u>5</u> 5	-	NI NI	UPL species         5         x5=         25           Column Totals:         90         (A)         365         (B)
5.				Prevalence Index = B/A = 4.05
6. 7.				Hydrophytic Vegetation Indicators
8.				Tryurophytic vegetation indicators
9.				Dominance Test is > 50%
10.	Cover: 100		-	Prevalence Index is ≤ 3.0¹  Morphological Adaptations¹ (Providing supporting
Total	100			data in Remarks or on a separate sheet)
Woody Vine Stratum  1.				Problematic Hydrophytic Vegetation (Explain)
2.				<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3.				Hydrophytic
Total	Cover:			Vegetation   Present?   Yes   No   X
% Bare Ground in Herb Stratum	30 %	Cover of Biotic Cru	ıst	
Remarks:				

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Great Plains - DRAFT 8-30-2006



SOIL	(L = 1	1-14	-4.41 ' ''		Sum the elec		Sampling Point W6
Profile Description: (Describe to t	the depth nee	ded to docume	nt the indic	ator or con	firm the abser	nce of indicators.)	
Depth Matrix	0/	0-1(		eatures	1 12		Danisda
(inches) Color (moist) 0-8 10YR 4/1	<u>%</u> 100	Color (moist)	%	Туре	Loc <sup>2</sup>	Texture SiC	Remarks
1011(4/1							
					<del></del>		
-							
tanda							***************************************
		·	_				
	***************************************						
				<del></del>			
ype: C=Concentration, D=Depleti						ot Channel, M=Matrix.	
ydric Soil Indicators: (Applicabl	le to all LRRs,	unless otherw				Indicators for Proble	
Histosol (A1) Histic Epipedon (A2)			Sandy Gley Sandy Red	yed Matrix (S	-	1 cm Muck (A	(BRC) Redox (A16) (LRR F, G, H
Black Histic (A3)		<del></del>	Stripped Ma	, ,	-		(S7) (LRR G)
Hydrogen Sulfide (A4)				cky Mineral (	F1)		epressions (F16)
Stratified Layers (A5) (LRR	R F)		Loamy Gle	yed Matrix (I	<sup>-</sup> 2)		tside MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G			Depleted M			Reduced Ver	
Depleted Below Dark Surfa	ace (A11)			k Surface (F		Red Parent N	
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)				ark Surface ressions (F8		Other (Explai	n in Remarks)
2.5 cm Mucky Peat or Peat		н) ———		Depression		3Indicators of	hydrophytic vegetation
5 cm Mucky Peat or Peat (		,			( )		hydrology must be present.
				·			
IYDROLOGY							
Vetland Hydrology Indicators:	<del></del>	· · · · · · · · · · · · · · · · · · ·			S		(2 or more required)
rimary Indicators (any one indicato	or is sufficient)					Surface Soil Cra	
Surface Water (A1)			rusts (B11) c Invertebra	Man (D43)			ated Concave Surfaces (B8
High Water Table (A2) Saturation (A3)			c invertebra gen Sulfide			Drainage Patter	กร (ธาช) spheres on Living Roots (C
Water Marks (B1)				r Table (C2)		Crayfish Burrow	
Sediment Deposits (B2)				iced Iron (C4			le on Aerial Imagery (C9)
Drift Deposits (B3)			luck Surfac				immocks (C11) (LRR F)
Algal Mat or Crust (B4)		Other	(Explain in	Remark)	*******	X Geomorphic Po	, ,
Iron Deposits (B5) Inundation Visible on Aerial Ir	magon/(B7)					FAC-Neutral Te Local Soil Surve	
Water Stained Leaves (B9)	magery (D7)					20001 0011 0011	sy Data (Do)
ield Observations:							-
urface Water Present? Yes	No	V Donth	(inches):				
ourface Water Present? Yes Vater Table Present? Yes	No No		(inches): (inches):				
Saturation Present? Yes	No		(inches):		Wetland Hyd	Irology Present?	Yes No X
includes capillary fringe)					•		
Describe Recorded Data (stream ga	auge, monitorin	g well, aerial ph	otos, previo	ous inspectio	n), if available:		
Name and the same							
Remarks:							
							ine DRAFT Varsion 8 30



#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County: Cu	ster County	Sampling Date: 9/17/07
Applicant/Owner: /Knight Piesold, F	Powertech	State: So	outh Dakota	Sampling Point: W7
Investigator(s): C. Robinson and	J. Eberly	Section, Township	, Range: Se	ection 32, T6S, R1E
Landform (hillslope, terrace, etc.)	Drainage	Loca	l relief (concave	e, convex, none): Convex Slope (%): 2
Subregion (LRP): Black Hills MLF	RA62	_ Lat:	Long:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI Class	ification:	R4SB7
Are climatic/hydrologic conditions on	the site typical for th	is time of year?	Yes	X No (If no, explain in Remarks.)
Are Vegetation, Soil	, or Hydrology	Significantly	disturbed? Ar	re "Normal Circumstances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Naturally pro	oblematic? (If r	needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - A	Attach site map	showing samp	ling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes X	_ No	- le th	e Sampled Area
Hydric Soil Present?	Yes X	No		in a Wetland Yes X No
Wetland Hydrology Present	Yes X	No		
Remarks: R1 P17 Upstream R1 P18 Downstream				
VEGETATION				
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1.		<del>openies:</del>		Number of Dominant Species
2. 3.				That are OBL, FACW, or FAC:1 (A)
4.				Total Number of Dominant
Total C	cover:			Species Across All Strata: (B)
Sapling/Shrub Stratum  1.			`	Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2.				
3.				Prevalence Index Worksheet:
5.				Total % Cover of: Multiply by:
Total C	Cover:			OBL species x1=
Herb Stratum	_			FACW species x2=
Elymus smithii     Cirsium arvense			FACU FACU	FAC species x3= x4=
3. Spartina pectinata	75	X	FACW	UPL species x5=
4. Helianthus annuus	10		FACU	Column Totals: (A) (B)
5. Cynoglossum officinale 6.	5		<u>NI</u>	Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators
8. 9.			********	X Dominance Test is > 50%
10.	Cover: 100			Prevalence Index is ≤ 3.0¹  Morphological Adaptations¹ (Providing supporting
rotare	Cover:100			data in Remarks or on a separate sheet)
Woody Vine Stratum  1.				Problematic Hydrophytic Vegetation (Explain)
2.				<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3. Total (	Cover:			Hydrophytic Vegetation
Total	Jovei			Present? Yes No
% Bare Ground in Herb Stratum Remarks:	5 %(	Cover of Biotic Crust		
Remarks.				
	····			

US Army Corps of Engineers



Tortile Description: (Describe to the depth needed to document the Indicator or confirm the absence of Indicators.)  Depth Mahity Redoc Feature  Freedor Featur	SOIL								Sampling Point W7
Inches	Profile Descr	iption: (Describe to th	e depth ne	eded to docume	nt the indicate	or or confirm	the absence	of indicators.)	
Inches	Depth	Matrix			Redox Fea	itures			
Type: C=Concentration, D=Depletion, RM=Reduced Matrix.  **Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  Indicators (Applicable to all LRRs, unless otherwise noted.)  Histosci (Art)  Sandy Redox (S5)  Sandy Redox (S5)  Coast Prairie Redox (A16) (LRR F, G, H)  Black Histosci (Ay)  Stripfied Layers (A5) (LRR F)  High Palinis Depressions (F16)  Loamy Mucky Mineral (F1)  To m Muck (A9) (LRR F, G, H)  Depleted Matrix (F2)  To m Muck (A9) (LRR F, G, H)  Depleted Matrix (F2)  To m Muck (A9) (LRR F, G, H)  Depleted Matrix (F2)  To m Muck (A9) (LRR F, G, H)  Depleted Matrix (F2)  To m Muck (A9) (LRR F, G, H)  Depleted Matrix (F2)  To m Muck (A9) (LRR F, G, H)  Depleted Matrix (F2)  Red Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Z 5.cm Mucky Peat or Peat (S2) (LFF G, H)  High Plains Depressions (F8)  Z 5.cm Mucky Peat or Peat (S2) (LFF G, H)  High Plains Depressions (F8)  Proceed on Peat (S2) (LFF G, H)  High Plains Depressions (F6)  Sandy Mucky Peat or Peat (S3) (LRR F)  Hydric Soils Present? Yes X No   **Present**  **Present*	(inches)		%	Color (moist)			Loc <sup>2</sup>	Texture	Remarks
yudric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc Epipedon (A2) Sandy Gleyed Matrix (S4) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Black Histic (A3) Stripped Marix (S6) Hydrogen Sulfice (A4) Loamy Mucky Mineral (F1) Loamy Wucky Mineral (F2) Loamy Wucky Mineral (F2) Loamy Statified Layers (A5) (LRR F) Loamy Wucky Mineral (F2) Loamy Gleyed Matrix (F3) Pepleted Below Dark Surface (A11) Popleted Below Dark Surface (A12) Popleted Dark Surface (F7) Phick Dark Surface (A12) Popleted Dark Surface (F16) Pople	0-12	10YR 3/1		7.5 YR 4/6	30	Ċ	RC	SiC	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Stripped Martix (S4) Histo Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Stripped Martix (S6) Hydrogen Sulfide (A4) Loamy Mucky Minerat (F1) Clark Straffield Layers (A5) (LRR F) Loamy Wucky Minerat (F2) Clark Surface (R7) Clark Surface (A11) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Minerat (S1) Sandy Mucky Minerat (S1) Sandy Mucky Minerat (S1) Seedox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRF G, H) Som Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S3) (LRF F) High Plains Depressions (F16) Surface Water (A11) Surface Water (A12) Surface Water (A13) Surface Water (A13) Surface Water (A13) Surface Water (A14) Surface (C11) Surface Water (A15) Surface (C11) Surface (C11) Surface (C12) Sediment Deposits (C12) Presence of Reduced Iron (C4) Suturation (Visible on Aerial Imagery (C9) Find Deposits (C11) In Muck Surface (C17) Fino Hoposits (C11) In Muck Surface (C17) Surface (C17			4Hiterrature and the second						
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Stripped Martix (S4) Histo Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Stripped Martix (S6) Hydrogen Sulfide (A4) Loamy Mucky Minerat (F1) Clark Straffield Layers (A5) (LRR F) Loamy Wucky Minerat (F2) Clark Surface (R7) Clark Surface (A11) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Minerat (S1) Sandy Mucky Minerat (S1) Sandy Mucky Minerat (S1) Seedox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRF G, H) Som Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S3) (LRF F) High Plains Depressions (F16) Surface Water (A11) Surface Water (A12) Surface Water (A13) Surface Water (A13) Surface Water (A13) Surface Water (A14) Surface (C11) Surface Water (A15) Surface (C11) Surface (C11) Surface (C12) Sediment Deposits (C12) Presence of Reduced Iron (C4) Suturation (Visible on Aerial Imagery (C9) Find Deposits (C11) In Muck Surface (C17) Fino Hoposits (C11) In Muck Surface (C17) Surface (C17								<del></del>	······································
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Stripped Martix (S4) Histo Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Stripped Martix (S6) Hydrogen Sulfide (A4) Loamy Mucky Minerat (F1) Clark Straffield Layers (A5) (LRR F) Loamy Wucky Minerat (F2) Clark Surface (R7) Clark Surface (A11) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Minerat (S1) Sandy Mucky Minerat (S1) Sandy Mucky Minerat (S1) Seedox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRF G, H) Som Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S3) (LRF F) High Plains Depressions (F16) Surface Water (A11) Surface Water (A12) Surface Water (A13) Surface Water (A13) Surface Water (A13) Surface Water (A14) Surface (C11) Surface Water (A15) Surface (C11) Surface (C11) Surface (C12) Sediment Deposits (C12) Presence of Reduced Iron (C4) Suturation (Visible on Aerial Imagery (C9) Find Deposits (C11) In Muck Surface (C17) Fino Hoposits (C11) In Muck Surface (C17) Surface (C17						·····			
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosoil (A1) Histos Epipedon (A2) Sandy Redox (S5) Black Histos (A3) Stripped Martix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Wucky Mineral (F2) Loamy Wucky Mineral (F2) Loamy Wucky Mineral (F3) Loamy Wucky Mineral (F3) Loamy Sulfade (A4) Loamy Wucky Mineral (F2) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F3) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F3) Reduced Vertic (F18)									
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Stripped Martix (S4) Histo Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Stripped Martix (S6) Hydrogen Sulfide (A4) Loamy Mucky Minerat (F1) Clark Straffield Layers (A5) (LRR F) Loamy Wucky Minerat (F2) Clark Surface (R7) Clark Surface (A11) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Minerat (S1) Sandy Mucky Minerat (S1) Sandy Mucky Minerat (S1) Seedox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRF G, H) Som Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S3) (LRF F) High Plains Depressions (F16) Surface Water (A11) Surface Water (A12) Surface Water (A13) Surface Water (A13) Surface Water (A13) Surface Water (A14) Surface (C11) Surface Water (A15) Surface (C11) Surface (C11) Surface (C12) Sediment Deposits (C12) Presence of Reduced Iron (C4) Suturation (Visible on Aerial Imagery (C9) Find Deposits (C11) In Muck Surface (C17) Fino Hoposits (C11) In Muck Surface (C17) Surface (C17									
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable (Applica				-		<del></del>	***		
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable (Applica				-		<del></del>		***************************************	
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable (Applica		•							<u>.                                      </u>
Histosol (A1) Histosol (A2) Sandy Gleyed Matrix (S4) Histosol (A2) Sandy Redox (S5) Coast Praine Redox (A16) (LRR F, G, H) Black Histic (A3) Stripped Matrix (S6) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Sandy Matery Mineral (F1) Sandy Matery Mineral (F1) Sandy	ype: C=Co	ncentration, D=Depletio	n, RM=Redu	ced Matrix.	<sup>2</sup> Location: F	PL≖Pore Lining	, RC=Root C	Channel, M=Matrix.	
Histic Epipedon (A2) Black Histic (A3) Stripped Martix (S6) Disk Furiaire Redox (A16) (LRR F, G, H) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) (LRR H outside MLRA 72 & 73) Torm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Perfect Below Dark Surface (A12) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRF G, H) High Plains Depressions (F8) Som Mucky Peat or Peat (S3) (LRR F)  setrictive Layer (if present):  ### Warris Collaboration ###			to all LRRs	, unless otherw	ise noted.) Sandy Gleved	Matrix (SA)	Ind		
Black Histic (A3)   Stripped Matrix (S6)   Dark Surface (S7) (LRR G)   Hydrogen Sulfide (A4)   Loamy Mucky Mineral (F1)   High Plains Depressions (F16)   Stratified Layers (A5) (LRR F)   Loamy Cleyed Matrix (F2)   (LRR H outside MLRA 72 & 73)   Depleted Below Dark Surface (A11)   Redox Dark Surface (F6)   Red ved Vertic (F18)   Depleted Below Dark Surface (A12)   Depleted Dark Surface (F7)   Other (Explain in Remarks)   2.5 cm Mucky Mineral (S1)   X Redox Depressions (F16)   Redox Dark Surface (F7)   Other (Explain in Remarks)   3 indicators of hydrophytic vegetation and wetland hydrology must be present.  **Secondary Indicators (2 or more required)**  **Proceedings of the company of the									
Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) Loamy (Deyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky (Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) Belove and Peat or Peat (S2) (LFF G, H) Setrictive Layer (if present):  ### Provided Thick Dark Surface (A12)  ### Provided Thick Dark Surface (A12)  ### Setrictive Layer (if present):  ### Setrictive Layer (if present):  ### Provided Thick Dark Surface (A12)  ### Provided Thick Dark Surface (A12)  ### Setrictive Layer (if present):  ### Provided Thick Dark Surface (A12)  ### Provided									
1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) S Eardy Mucky Peat or Peat (S2) (LFF G, H) S Emblocy Peat or Peat (S3) (LRR F) S Emblocy Peat or Peat (S2) (LRR F) S Emblocy Peat or Peat (S2) (LRR F) S Emblocy Peat (S3) (LRR F) S Emblocy Peat (S4) (Park) Peat (S4) (P									
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Z. 5 cm Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S2) (LFF G, H) Setrictive Layer (if present):  ### High Plains Depressions (F16) Surface Soils Present? Yes X No  ### No  ### Present Present (Present):  ### Present Present							<del></del>	(LRR H out	side MLRA 72 & 73)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S3) (LRR F)  estrictive Layer (if present):  ### Hydric Soils Present? Yes X No    Hydric Soils Present? Yes X No      Present				***************************************	•				` '
Sandy Mucky Mineral (S1)	'		e (A11)						
2.5 cm Mucky Peat or Peat (S2) (LRF G, H) High Plains Depressions (F16) Indicators of hydrophytic vegetation and welland hydrology must be present. Som Mucky Peat or Peat (S3) (LRR F) Hydric Soils Present? Yes X No Soil Cracks (B6) Surface Water (A1) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surfaces (B8) High Water Table (A2) Aquatic Invertebrates (B13) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Cracks (B8) Sediment Deposits (B1) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Thin Muck Surface (C7) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Crust (B4) Other (Explain in Remark) X Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Water Stained Leaves (B9) Water Stained Leaves (B9) Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Includes capillary fringe)					•	` '		Other (Explair	in Remarks)
S cm Mucky Peat or Peat (S3) (LRR F)  septite (Inches):  septite (Inch			(S2) (LFF G.				6)	3Indicators of i	nydrophytic vegetation
### Pytric Soils Present? YesXNo						-p. 000.0 (	•,		
PYPROLOGY    Internation   Int	estrictive L	ayer (if present):	1						
Variable	· `	s):				yuric Solis Pi	resent?	res <u>A</u> No	
Vetland Hydrology Indicators: rimary Indicators (any one indicator is sufficient)  Surface Water (A1)  Salt Crusts (B11)  Sparsely Vegetated Concave Surfaces (B8 High Water Table (A2)  Aquatic Invertebrates (B13)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Ield Observations:  Surface Water Present?  Yes  No  X  Depth (inches):  Sediract Deposits (B2)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Drift Deposits (B5)	emarks:								
Vetland Hydrology Indicators:  \( \text{Irimary Indicators (any one indicator is sufficient)} \)  \( \text{Surface Water (A1)} \)  \( \text{Surface Water (A1)} \)  \( \text{High Water Table (A2)} \)  \( \text{Aquatic Invertebrates (B13)} \)  \( \text{Saturation (A3)} \)  \( \text{Maty Marks (B1)} \)  \( \text{Saturation (A3)} \)  \( \text{Maty Math Marks (B1)} \)  \( \text{Sediment Deposits (B2)} \)  \( \text{Drift Deposits (B3)} \)  \( \text{Algal Mat or Crust (B4)} \)  \( \text{Iron Deposits (B3)} \)  \( \text{Inon Deposits (B3)} \)  \( \text{Inon Deposits (B4)} \)  \( \text{Inon Deposits (B3)} \)  \( \text{Inon Deposits (B6)} \)  \( \text{Inon Deposits (B7)} \)  \( Water Table Present? Yes No X Depth (inches): Surface Water Present? Yes No X Depth (inches): Saturation Present? Yes No X No Saturation Present? Yes No X No Saturation Present? Yes No X No Saturation Present? Yes No Yes									
Vetland Hydrology Indicators: rimary Indicators (any one indicator is sufficient)  Surface Water (A1)  Salt Crusts (B11)  Sparsely Vegetated Concave Surfaces (B6)  Drainage Patterns (B10)  Saturation (A3)  Hydrogen Sulfide Oder (C1)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Saturation Visible on Aerial Imagery (C9)  Prist Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Ield Observations:  Surface Water Present? Yes No X Depth (inches):  Surface Water Present? Yes No X No X Depth (inches):  Surface Water Present? Yes No X No X Depth (inches):  Surface Water Present? Yes No X No							·····		
Secondary Indicators (any one indicator is sufficient)   Surface Soil Cracks (B6)	ADBUI UCA	,							
Surface Water (A1) Salt Crusts (B11) Squration (A3) Sutration (A3) Sutration (A3) Sediment Deposits (B2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Table (Date Vater (B6)  Inundation Visible on Aerial Imagery (B7) Water Table (Date Vater (B6)  Inundation Visible on Aerial Imagery (B7) Water Table (Date Vater (B6)  Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Ield Observations:  Iurface Water Present?  Yes No X Depth (inches): Algal Pater (Inche				· · · · · · · · · · · · · · · · · · ·			Seco	ondary Indicators	2 or more required)
Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Aquatic Invertebrates (B13) Drainage Patterns (B10) Aquatic Invertebrates (B13) Drainage Patterns (B10) Aquatic Invertebrates (B13) Drainage Patterns (B10) Adviced Rhizospheres on Living Roots (C Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Ield Observations:  urface Water Present? Yes No X Depth (inches): //ater Table Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			is sufficient)						
Saturation (A3)				Salt Cı	rusts (B11)				
Water Marks (B1) Sediment Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) ield Observations:  urface Water Present? Ves No X Depth (inches): aturation Present? Yes X No No No X Depth (inches): aturation Present? Yes X No No X Depth (inches): aturation Present? Yes X No No X Depth (inches): aturation Present? Yes X No No X Depth (inches): aturation Present? Yes X No No X Depth (inches): aturation Present? Yes X No No X Depth (inches): aturation Present? Yes X No No X Depth (inches): aturation Present? Yes X No No X Depth (inches): aturation Present? Yes X No		, ,							
Sediment Deposits (B2)		· •					X_		
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  urface Water Present? Yes No X Depth (inches): Vater Table Present? Yes No X Depth (inches): aturation Present									
Algal Mat or Crust (B4) Other (Explain in Remark) X Geomorphic Position (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Local Soil Survey Data (D8)  Water Stained Leaves (B9) Inundation Visible On Aerial Imagery (B7) Local S									
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  ield Observations:  urface Water Present? Yes No X Depth (inches): //ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches):  aturation Present? Yes No X Depth (inches):  aturation Present? Yes No X Depth (inches):  wetland Hydrology Present? Yes X No Concludes capillary fringe)  escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:							X		
Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  ield Observations:  urface Water Present? Yes No X Depth (inches): //ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches):  wetland Hydrology Present? Yes X No nocludes capillary fringe)  escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:					(Explain in reci	nark)			
Water Stained Leaves (B9)  ield Observations:  urface Water Present? Yes No X Depth (inches): //ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches):  wetland Hydrology Present? Yes X No Concludes capillary fringe)  escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			agery (B7)				-		
urface Water Present? Yes No X Depth (inches): //ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): wetland Hydrology Present? Yes X No nocludes capillary fringe)  escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:								_	
Vater Table Present? Yes No X Depth (inches):  aturation Present? Yes No X Depth (inches):  mcludes capillary fringe)  Wetland Hydrology Present? Yes X No capillary fringe)  escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	ield Observ	ations:	•	,					
Vater Table Present? Yes No X Depth (inches):  aturation Present? Yes No X Depth (inches):  mcludes capillary fringe)  Wetland Hydrology Present? Yes X No capillary fringe)  escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	urfaca Wata	r Dracant? Vac	No	Y Denth	(inches):				
Adduration Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No nocludes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:		_				<del></del>			
escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:		_				We1	tland Hvdrol	oav Present? Y	es X No
	ncludes cap	illary fringe)					, , , , , , , , , , , , , , , , , , , ,		
	·	- · · · · · · · · · · · · · · · · · · ·	·						
lemarks:	escribe Rec	orded Data (stream gau	ige, monitori	ng well, aerial ph	otos, previous	inspection), if	available:		
lemarks:		•					,		
Remarks:									
Remarks:									
	lemarks:								



Project/Site:	Dewey Burdock		City/County:	Custer Cou	nty Sampling Date: 9/17/07
Applicant/Owner:	Knight Piesold, Powe	ertech	State:	South Dako	ota Sampling Point: W8
Investigator(s):	C. Robinson and J. E	Eberly	Section, Towr	nship, Range:	Section 31, T6S, R1E
Landform (hillslope	e, terrace, etc.) <u>Dr</u>	ainage	।	_ocal relief (co	oncave, convex, none): Convex Slope (%): 1
Subregion (LRP):	Black Hills MLRA62	2	Lat:	Lo	ong: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Nam	e:		NWI C	Classification:	R2EM
Are climatic/hydrol	ogic conditions on the	site typical for this	s time of year?	Υe	es X No (If no, explain in Remarks.)
Are Vegetation _	, Soil	, or Hydrology	Signific	antly disturbe	d? Are "Normal Circumstances" present? Yes X No
Are Vegetation	, Soil	, or Hydrology	Natural	ly problematio	c? (If needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - Atta	ach site map	showing sa	mpling po	int locations, transects, important features, etc.
Hydrophytic Veget	ation Present?	Yes X	No		In the Complet Avec
Hydric Soil Presen	t?	Yes X	No		Is the Sampled Area Within a Wetland Yes X No
	/ Present	Yes X	No		<u> </u>
Remarks: R1 P19 Upstream R1 P20 Downstrea Similar to W4 and					
VEGETATION					
Tree Stratum (Use	scientific names)	Absolute % Cover	Dominant Species?	Indicat Statu	·
1.					Number of Dominant Species That are OBL, FACW, or FAC:3(A)
8. <u> </u>					That are OBL, FACW, or FAC:3 (A)
4.	Total Cove				Total Number of Dominant Species Across All Strata: 3 (B)
Sapling/Shrub Stra  1.	<u>atum</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2.					
3. 4.					Prevalence Index Worksheet:
5.	T				Total % Cover of: Multiply by:
	Total Cove	er:			OBL species x1=
Herb Stratum				=	FACW species x2=
Spartina pe     Eleocharis i		<u> 15</u> 35	<u>X</u>	FACV	
	ctus pungens	25	$\frac{x}{x}$	OBL	<u> </u>
4. Eleocharis	acicularis	25	X	OBL	
5. 6.		<del></del>		<del></del>	Prevalence Index = B/A =
7.					Hydrophytic Vegetation Indicators
8. 9.					X Dominance Test is > 50%
10.				<del></del>	Prevalence Index is ≤ 3.0 <sup>1</sup>
	Total Cove	er: 100		_	Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratu	<u>ım</u>				Problematic Hydrophytic Vegetation (Explain)
1. 2.		· · · · · · · · · · · · · · · · · · ·		<del>-</del>	¹Indicators of hydric soils and wetland hydrology must be present
3.				_	Hydrophytic
	Total Cove	er:			Vegetation Vos V No
% Bare Ground in	Herb Stratum 40	% C	over of Biotic C	rust	Present? Yes X No
Remarks:					
7					



Depth Matrix			Redox Fea	atures			
nches) Color (moist)	. %	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Remarks
0-5 Gley1 3/10Y	- <del>70</del> -	7.5YR 4/4	20	C	M.	SC	romano
2.0,1.0.1	, 0		<del>-</del> -	_	RC		
		2.5N	10	D	M	SC .	
5+ Rock							
					·		<del>-</del>
	<del></del>						
pe: C=Concentration, D=Deple	tion PM-Peduce	d Matrix	<sup>2</sup> l ocation:	DI =Pore Lining	PC=Boot (	Channel, M=Matrix.	
dric Soil Indicators: (Applica				r E-r Old Ellillig		icators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (A1)	Die to un Ertito, c		Sandy Gleyed	d Matrix (S4)		1 cm Muck (A9	
Histic Epipedon (A2)		***************************************	andy Redox	, ,	-		, ledox (A16) (LRR F, G, F
Black Histic (A3)			tripped Matri			Dark Surface (	
Hydrogen Sulfide (A4)		L	oamy Mucky	Mineral (F1)		High Plains De	pressions (F16)
Stratified Layers (A5) (LF	RR F)	L	oamy Gleye	d Matrix (F2)	·	(LRR H outs	side MLRA 72 & 73)
1 cm Muck (A9) (LRR F,	G, H)		epleted Mat			Reduced Vertice	; (F18)
Depleted Below Dark Sui	` ,		Redox Dark S	` '		Red Parent Ma	, ,
Thick Dark Surface (A12)				k Surface (F7)		Other (Explain	in Remarks)
Sandy Mucky Mineral (S	,		Redox Depre		<b>^</b>	3	
2.5 cm Mucky Peat or Pe		) F	ligh Plains D	epressions (F1	6)		ydrophytic vegetation
5 cm Mucky Peat or Peat strictive Layer (if present):	(S3) ( <b>LRR F</b> )					and wettand ny	drology must be present
pe: pth (inches): marks:				Hydric Soils P	resent?	Yes X No	, ,
pth (inches):				Hydric Soils Pi	resent?	Yes X No	, ,
pth (inches): marks:				Hydric Soils Pi	resent?	Yes X No	, .
pth (inches): marks: DROLOGY				Hydric Soils Pi			or more required)
pth (inches): marks:  DROLOGY tland Hydrology Indicators:	tor is sufficient)			Hydric Soils Pi		ondary Indicators (2	
oth (inches): marks:  DROLOGY tland Hydrology Indicators:	ntor is sufficient)	Salt Cru	usts (B11)	Hydric Soils Pi		ondary Indicators (2 Surface Soil Crac	ks (B6)
oth (inches): marks:  DROLOGY tland Hydrology Indicators: mary Indicators (any one indica	ntor is sufficient)		-			ondary Indicators (2 Surface Soil Crac	ks (B6) ed Concave Surfaces (B
DROLOGY tland Hydrology Indicators: mary Indicators (any one indicators (any one indicators). Surface Water (A1)	ntor is sufficient)	Aquatic	usts (B11)	s (B13)	Sec	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern	ks (B6) ed Concave Surfaces (B s (B10)
DROLOGY tland Hydrology Indicators: mary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ntor is sufficient)	Aquatic Hydroge Dry-Sea	ists (B11) Invertebrate en Sulfide Od ason Water T	s (B13) der (C1) able (C2)	Sec	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (( (C8)
DROLOGY tland Hydrology Indicators: mary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	tor is sufficient)	Aquatic Hydroge Dry-Sea	ists (B11) Invertebrate en Sulfide Od ason Water T de of Reduce	s (B13) der (C1) able (C2) d Iron (C4)	Sec.	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (( (C8) on Aerial Imagery (C9)
DROLOGY tland Hydrology Indicators: mary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	tor is sufficient)	Aquatic Hydroge Dry-Sea Presence Thin Mu	ists (B11) Invertebrate en Sulfide Od ason Water T be of Reduce ick Surface (	s (B13) der (C1) able (C2) d Iron (C4) C7)	Secondary X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C (C8) on Aerial Imagery (C9) hmocks (C11) (LRR F)
pth (inches): marks:  DROLOGY Itland Hydrology Indicators: mary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	tor is sufficient)	Aquatic Hydroge Dry-Sea Presence Thin Mu	ists (B11) Invertebrate en Sulfide Od ason Water T de of Reduce	s (B13) der (C1) able (C2) d Iron (C4) C7)	Sec.	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
pth (inches): marks:  DROLOGY Stland Hydrology Indicators: mary Indicators (any one indicators (any one indicators (any one indicators)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)		Aquatic Hydroge Dry-Sea Presence Thin Mu	ists (B11) Invertebrate en Sulfide Od ason Water T be of Reduce ick Surface (	s (B13) der (C1) able (C2) d Iron (C4) C7)	Secondary X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) t (D5)
DROLOGY tland Hydrology Indicators: mary Indicators (any one indicators (any one indicators (any one indicators) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial	Imagery (B7)	Aquatic Hydroge Dry-Sea Presence Thin Mu	ists (B11) Invertebrate en Sulfide Od ason Water T be of Reduce ick Surface (	s (B13) der (C1) able (C2) d Iron (C4) C7)	Secondary X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) t (D5)
DROLOGY tland Hydrology Indicators: marks:  DROLOGY tland Hydrology Indicators: mary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Water Stained Leaves (B9)	Imagery (B7)	Aquatic Hydroge Dry-Sea Presence Thin Mu	ists (B11) Invertebrate en Sulfide Od ason Water T be of Reduce ick Surface (	s (B13) der (C1) able (C2) d Iron (C4) C7)	Secondary X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) t (D5)
DROLOGY tland Hydrology Indicators: mary Indicators (any one indicators (any one indicators (any one indicators) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Water Stained Leaves (B9)	Imagery (B7)	Aquatic Hydroge Dry-Sea Presence Thin Mu	ists (B11) Invertebrate en Sulfide Od ason Water T be of Reduce ick Surface (	s (B13) der (C1) able (C2) d Iron (C4) C7)	Secondary X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) t (D5)
DROLOGY  Interpretation of the properties of the	Imagery (B7)	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	ists (B11) Invertebrate en Sulfide Od ason Water T be of Reduce ick Surface (	s (B13) der (C1) able (C2) d Iron (C4) C7)	Secondary X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
pth (inches):  marks:  DROLOGY  etland Hydrology Indicators: mary Indicators (any one indicators (any one indicators)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial  Water Stained Leaves (B9)  eld Observations:	Imagery (B7)	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	ists (B11) Invertebrate en Sulfide Od ason Water T ce of Reduce ick Surface ( Explain in Re	s (B13) der (C1) able (C2) id Iron (C4) C7) mark)	Secondary X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) t (D5) Data (D8)
DROLOGY  Patland Hydrology Indicators: mary Indicators (any one indicators (any one indicators)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial  Water Stained Leaves (B9)  Patland Observations:  rface Water Present? Yes  pater Table Present? Yes	I Imagery (B7)  X No X No	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (I	ists (B11) Invertebrate en Sulfide Oc ason Water T ce of Reduce ick Surface ( Explain in Re	s (B13) der (C1) able (C2) d Iron (C4) C7) mark)	X X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	eks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C (C8) e on Aerial Imagery (C9) hmocks (C11) (LRR F) tion (D2) t (D5) Data (D8)
DROLOGY Itland Hydrology Indicators: mary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Water Stained Leaves (B9) Itld Observations: Irface Water Present? Yes	I Imagery (B7)  X No X No	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (I	ists (B11) Invertebrate en Sulfide Oc ason Water T ce of Reduce ick Surface ( Explain in Re	s (B13) der (C1) able (C2) d Iron (C4) C7) mark)	X X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) t (D5) Data (D8)
DROLOGY tland Hydrology Indicators: mary Indicators (any one indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Water Stained Leaves (B9) Ind Observations:  Indication Visible on Aerial Water Stained Leaves (B9) Indicators (B1)	Imagery (B7)  X No X No X No	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	ists (B11) Invertebrate en Sulfide Oc ason Water T be of Reduce ick Surface ( Explain in Re inches): inches):	s (B13) ler (C1) able (C2) id Iron (C4) C7) mark)	Secondary Second	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) t (D5) Data (D8)
DROLOGY tland Hydrology Indicators: marks:  marks:  DROLOGY tland Hydrology Indicators: mary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Water Stained Leaves (B9) Ild Observations:  rface Water Present? Yes ter Table Present? Yes turation Present? Yes	Imagery (B7)  X No X No X No	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	ists (B11) Invertebrate en Sulfide Oc ason Water T be of Reduce ick Surface ( Explain in Re inches): inches):	s (B13) ler (C1) able (C2) id Iron (C4) C7) mark)  5 5 5 Wef	Secondary Second	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B s (B10) wheres on Living Roots (C8) on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) Data (D8)



Project/Site: Dewey Burdock		City/County:	Custer Coun	ty Sampling Date: 9/17/07
Applicant/Owner: Knight Piesold, P	owertech	State:	South Dakot	a Sampling Point: W9
Investigator(s): C. Robinson and	J. Eberly	Section, Tow	nship, Range:	Section 30-31, T6S R1E
Landform (hillslope, terrace, etc.)	Drainage		Local relief (co	ncave, convex, none): <u>Convex</u> Slope (%):
Subregion (LRP): Black Hills MLR	A62	Lat:	Lor	ng: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI	Classification:	PABJH
Are climatic/hydrologic conditions on	the site typical for th	is time of year?	Ye	X No (If no, explain in Remarks.)
Are Vegetation, Soil	, or Hydrology	Signific	cantly disturbed	? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil	, or Hydrology	Natura	illy problematic	? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - A	Attach site map	showing sa	ampling poi	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes X	No		Is the Sampled Area
Hydric Soil Present?	Yes X	No		Within a Wetland Yes X No
Wetland Hydrology Present	Yes X	No		
Remarks: R1 P23 Upstream R1 P24 Downstream				
VEGETATION				
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?		
1.				Number of Dominant Species
2. 3.				That are OBL, FACW, or FAC:2 (A)
4. Total C	over.	****		Total Number of Dominant Species Across All Strata: 2 (B)
Sapling/Shrub Stratum  1.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2. 3.				Prevalence Index Worksheet:
4.				Frevalence index worksneet.
5. Total C	over.			Total % Cover of: Multiply by:
				OBL species x1=
Herb Stratum  1. Xanthium strumarium	40	x	FAC	FACW species x2= FAC species x3=
Suckleya suckleyanna	60	$-\hat{\mathbf{x}}$	OBL	FACU species x4=
3.				UPL species x5=
4. 5.	<del>-</del>			Column Totals: (A) (B) Prevalence Index = B/A =
6.				Hydrophytic Vegetation Indicators
8.				
9.				X Dominance Test is > 50% Prevalence Index is ≤ 3.0 <sup>1</sup>
Total C	over: 100	· · · · · · · · · · · · · · · · · · ·		Morphological Adaptations <sup>1</sup> (Providing supporting
Woody Vine Stratum				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)
1				1 Indicators of hydric soils and wetland hydrology must be present
3.				Hydrophytic
Total C	Cover:			Vegetation Present? Yes X No
% Bare Ground in Herb Stratum	50 % (	Cover of Biotic	Crust	100 // 100
Remarks:	41			



	on: (Describe to the							Sampling Point W9
		ie deptri nee	ded to docume	nt the indicat	or or confirm t	he absence	of indicators.)	
Donath '	** **			5				
Depth	Matrix			Redox Fe				
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc²	Texture	Remarks
0-6	10YR 4/1	50	5YR 4/6	50	С	RC/M	С	
					***************************************	***************************************	•	
					· ——			
<del></del>	<del></del>							
				****				***************************************
				_				
		***************************************			·			
<sup>1</sup> Type: C=Concer	ntration, D=Depletio	n RM=Reduc	ced Matrix	<sup>2</sup> l ocation:	PI =Pore Lining	RC=Root C	hannel, M=Matrix.	•
	ators: (Applicable				TE TOIC LITTING			natic Hydric Soils <sup>3</sup> :
Histosol		,		Sandy Gleyer	d Matrix (S4)		1 cm Muck (A9	
	pipedon (A2)			Sandy Redox				Redox (A16) (LRR F., G, H)
Black His				Stripped Matr			Dark Surface (	
	n Sulfide (A4)			Loamy Mucky				pressions (F16)
	Layers (A5) (LRR	F)		Loamy Gleye				side MLRA 72 & 73)
	ck (A9) (LRR F, G,			Depleted Mat			Reduced Vertice	, .
	Below Dark Surfac	•		Redox Dark S			Red Parent Ma	
	ark Surface (A12)	æ (A11)			k Surface (F7)		Other (Explain	· · · · · · · · · · · · · · · · · · ·
	lucky Mineral (S1)			Redox Depre			Other (Explain	in Remarks)
	flucky Milleral (31) flucky Peat or Peat	(S2) (I EE G			epressions (F16	s)	3Indicators of b	ydrophytic vegetation
	cky Peat or Peat (S		'''	riigir railis b	epressions (i ii	,		drology must be present.
Restrictive Layer		o) (ERRIT)					and welland my	diology must be present.
restrictive Layer	(ii presenty.							
_						•		
Туре:								
Pepth (inches):					Hydric Soils Pr	esent? \	∕es <u>X</u> No	
Remarks:							<del></del>	
HADBOI OCA		<del></del>						
HYDROLOGY								· .
Wetland Hydrolo		is sufficiently				Seco		2 or more required)
Wetland Hydrolo Primary Indicators	s (any one indicator	is sufficient)	Salt C	(044)	ORTHORNIA DATA CARACTERISTA		Surface Soil Crac	ks (B6)
Wetland Hydrolo Primary Indicators Surface Wa	s (any one indicator ater (A1)	is sufficient)		rusts (B11)	- (D42)	Seco	Surface Soil Crac Sparsely Vegetat	ks (B6) ed Concave Surfaces (B8)
Wetland Hydrolo Primary Indicators Surface Wa High Water	s (any one indicator ater (A1) · Table (A2)	is sufficient)	Aquati	ic Invertebrate		·	Surface Soil Crac Sparsely Vegetat Drainage Pattern	ks (B6) ed Concave Surfaces (B8) s (B10)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation	s (any one indicator ater (A1) · Table (A2) (A3)	is sufficient)	Aquati	ic Invertebrate gen Sulfide O	der (C1)		Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp	cks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark	s (any one indicator ater (A1) Table (A2) (A3) ks (B1)	is sufficient)	Aquati Hydrog	ic Invertebrate gen Sulfide Od eason Water T	der (C1) able (C2)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows	cks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark	s (any one indicator ater (A1) Table (A2) (A3) (s (B1) Deposits (B2)	is sufficient)	Aquati Hydro Dry-Se Presei	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce	der (C1) able (C2) ed Iron (C4)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible	cks (B6) ed Concave Surfaces (B8) s (B10) sheres on Living Roots (C3) (C8) e on Aerial Imagery (C9)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D	s (any one indicator ater (A1) Table (A2) (A3) ss (B1) Deposits (B2) sits (B3)	is sufficient)	Aquati Hydro Dry-Se Presei Thin M	ic Invertebrate gen Sulfide Oceason Water T nce of Reduce Muck Surface (	der (C1) Table (C2) ed Iron (C4) C7)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum	cks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) hmocks (C11) (LRR F)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos	s (any one indicator ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	is sufficient)	Aquati Hydro Dry-Se Presei Thin M	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce	der (C1) Table (C2) ed Iron (C4) C7)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi	cks (B6) ed Concave Surfaces (B8) s (B10) cheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) chmocks (C11) (LRR F) tion (D2)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o	s (any one indicator ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5)	·	Aquati Hydro Dry-Se Presei Thin M	ic Invertebrate gen Sulfide Oceason Water T nce of Reduce Muck Surface (	der (C1) Table (C2) ed Iron (C4) C7)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	ks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation	a (any one indicator later (A1) Table (A2) (A3) (A (	·	Aquati Hydro Dry-Se Presei Thin M	ic Invertebrate gen Sulfide Oceason Water T nce of Reduce Muck Surface (	der (C1) Table (C2) ed Iron (C4) C7)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi	ks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mato Iron Depos Inundation Water Stain	a (any one indicator ater (A1) r Table (A2) (A3) (S (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aerial Imned Leaves (B9)	·	Aquati Hydro Dry-Se Presei Thin M	ic Invertebrate gen Sulfide Oceason Water T nce of Reduce Muck Surface (	der (C1) Table (C2) ed Iron (C4) C7)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	ks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mato Iron Depos Inundation Water Stain	a (any one indicator ater (A1) r Table (A2) (A3) (S (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aerial Imned Leaves (B9)	·	Aquati Hydro Dry-Se Presei Thin M	ic Invertebrate gen Sulfide Oceason Water T nce of Reduce Muck Surface (	der (C1) Table (C2) ed Iron (C4) C7)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	ks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Water Stair	s (any one indicator ater (A1) r Table (A2) (A3) ss (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aerial Im ned Leaves (B9) ins:	agery (B7)	Aquati Hydro Dry-Se Presel Thin M Other	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce Muck Surface ( (Explain in Re	der (C1) Table (C2) ed Iron (C4) C7)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	ks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Inundation Water Stair Field Observatio	s (any one indicator ater (A1) r Table (A2) (A3) ss (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aerial Immed Leaves (B9) ins: esent? Yes	agery (B7)	Aquati Hydro Dry-Se Presei Thin M Other	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fuck Surface ( (Explain in Re	der (C1) Table (C2) ed Iron (C4) C7)	·	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	ks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Inundation Water Stair Field Observatio Surface Water Pres	s (any one indicator ater (A1) r Table (A2) (A3) (S (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial Immed Leaves (B9) ons: esent? Yes ent? Yes	agery (B7) No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches):	der (C1) Table (C2) Table (C4) Table (C4) Table (C4) Table (C4) Table (C4) Table (C4)	X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Inundation Water Stair Field Observatio Surface Water Preser Saturation Preser	s (any one indicator ater (A1) r Table (A2) (A3) (S (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial Immed Leaves (B9) ons: esent? esent? Yes ent? Yes ont? Yes	agery (B7)	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fuck Surface ( (Explain in Re	der (C1) Table (C2) Table (C4) Table (C4) Table (C4) Table (C4) Table (C4) Table (C4)	X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	ks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Inundation Water Stair Field Observatio Surface Water Preser Saturation Preser	s (any one indicator ater (A1) r Table (A2) (A3) (S (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial Immed Leaves (B9) ons: esent? esent? Yes ent? Yes ont? Yes	agery (B7) No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches):	der (C1) Table (C2) Table (C4) Table (C4) Table (C4) Table (C4) Table (C4) Table (C4)	X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Water Stair Field Observatio Surface Water Press Saturation Preser (includes capillary	a (any one indicator later (A1)  Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	agery (B7)  No No No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches): (inches):	der (C1) Table (C2) Table (C4) Ta	X X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Water Stain Field Observatio Surface Water Pres Saturation Preser (includes capillary	s (any one indicator ater (A1) r Table (A2) (A3) (S (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial Immed Leaves (B9) ons: esent? esent? Yes ent? Yes ont? Yes	agery (B7)  No No No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches): (inches):	der (C1) Table (C2) Table (C4) Ta	X X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Water Stair Field Observatio Surface Water Press Saturation Preser (includes capillary	a (any one indicator later (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	agery (B7)  No No No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches): (inches):	der (C1) Table (C2) Table (C4) Ta	X X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Water Stair Field Observatio Surface Water Press Saturation Preser (includes capillary	a (any one indicator later (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	agery (B7)  No No No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches): (inches):	der (C1) Table (C2) Table (C4) Ta	X X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Water Stair Field Observatio Surface Water Press Saturation Preser (includes capillary	a (any one indicator later (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	agery (B7)  No No No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches): (inches):	der (C1) Table (C2) Table (C4) Ta	X X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Water Stair Field Observatio Surface Water Pres Saturation Preser (includes capillary Describe Recorde	a (any one indicator later (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	agery (B7)  No No No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches): (inches):	der (C1) Table (C2) Table (C4) Ta	X X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Water Stair Field Observatio  Surface Water Pre Water Table Pres Saturation Preser (includes capillary Describe Recorde	as (any one indicator later (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	agery (B7)  No No No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches): (inches):	der (C1) Table (C2) Table (C4) Ta	X X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)
Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat of Iron Depos Inundation Water Stair Field Observatio Surface Water Pres Saturation Preser (includes capillary Describe Recorde	as (any one indicator later (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	agery (B7)  No No No	Aquati Hydro Dry-Se Presei Thin M Other  X Depth X Depth X Depth	ic Invertebrate gen Sulfide Oc eason Water T nce of Reduce fluck Surface ( (Explain in Re  (inches): (inches): (inches):	der (C1) Table (C2) Table (C4) Ta	X X	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	eks (B6) ed Concave Surfaces (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) tion (D2) t (D5) v Data (D8)



Project/Site:	Dewey Burdock		City/County:	Custer Cou	tySampling Date:	9/17/07
Applicant/Owner:	Knight Piesold, Powe	ertech	State:	South Dako	a Sampling Point:	W10
Investigator(s):	C. Robinson and J. E	Eberly	Section, Towr	nship, Range:	Section 32, T6S, R1E	
Landform (hillslope	e, terrace, etc.) <u>Dra</u>	ainage/ Depressi	on l	Local relief (co	ncave, convex, none):Convex Slo	pe (%):
Subregion (LRP):	Black Hills MLRA62	<u> </u>	Lat:	Lo	g: Datum: NAD	1983, UTM Zone 13
Soil Map Unit Nam	ne:		NWI C	Classification:	PUSA	
Are climatic/hydrole	ogic conditions on the	site typical for this	s time of year?	Υe	X No (If no, expl	ain in Remarks.)
Are Vegetation _	, Soil ,	or Hydrology	Signific	antly disturbe	? Are "Normal Circumstances" present?	Yes X No
Are Vegetation _	, Soil ,	or Hydrology	Natural	ly problemation	(If needed, explain any answers in Rema	arks.)
SUMMARY OF	FINDINGS - Atta	ch site map	showing sa	mpling po	nt locations, transects, importa	nt features, etc.
Hydrophytic Veget	ation Present?	Yes	No 2	×		
Hydric Soil Presen	t?	Yes X			Is the Sampled Area Within a Wetland Yes X N	lo
	Present	Yes X	No			
Remarks: NWI previously ma R2 P1: Downstreal R2 P2: Upstream	m					
Transitioning area	changing to an upland	area.				
VEGETATION						
Tree Stratum (Use	scientific names)	Absolute % Cover	Dominant Species?	Indicat Statu		
1					Number of Dominant Species	4 (4)
3.			**************************************	_	That are OBL, FACW, or FAC: _	1 (A)
4.	Total Cove	<b></b>			Total Number of Dominant Species Across All Strata:	2 (B)
		·			Species Across Air Strata.	2 (B)
Sapling/Shrub Stra	<u>itum</u>				Percent of Dominant Species That Are OBL, FACW, or FAC:	50 (A/B)
2.						(/\/b)
3.					Prevalence Index Worksheet:	
4. 5.					Total % Cover of:	Multiply by:
	Total Cove	r:				
Herb Stratum					OBL species x1= FACW species 20 x2=	40
1. Carex filifolia		<u>80</u> 20	X	UPL	FAC species x3=	
2. Hordeum jui 3.	oatum	20		FACV	FACU species x4= UPL species 80 x5=	400
4.					Column Totals: 100 (A)	440 (B)
5. 6.		<del> </del>			Prevalence Index = B/A =	4.40
7					Hydrophytic Vegetation Indicate	rs
					— Deminerate Testies 500/	
9. 10.					Dominance Test is > 50% Prevalence Index is ≤ 3.0¹	
	Total Cove	r: 100		_	Morphological Adaptations	
Woody Vine Stratu					data in Remarks or on a separated Problematic Hydrophytic V	
					Indicators of hydric soils and wetland	hydrology must be present
3.			***************************************		Hydrophytic	
	Total Cove	r:			Vegetation Present? Yes	No X
% Bare Ground in	Herb Stratum 10	% C	over of Biotic C	rust	rieseitti 165	NO
Remarks:						
<b>T</b>						



SOIL Profile Description: (D	escribe to the	denth neer	led to docume	nt the indica	tor or confir	m the absence	of indicators )	oling Point W10
		depth neet	ieu to docume			III tile absence	e of filalcators.)	
Depth (inches) Cold	Matrix	0/	Calar (maint)	Redox Fe	eatures Type <sup>1</sup>	Loc²	Toyturo	Domarka
	or (moist) R 4/1	<u>%</u> 75	Color (moist) 5YR 5/8	- <u>%</u> 25	rype C	RC	Texture C	Remarks
	R 4/1	93	10YR 5/8	- <del>- 7</del>	- <del>- c</del>	- <del>- M</del>	<del>C</del>	
			101103/0	- <del>- '</del> -				
	·	<del></del>						
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·		<del></del>			<del></del>		<del></del>	<del></del>
Type: C=Concentration	, D=Depletion	, RM=Reduc	ed Matrix.	<sup>2</sup> Location:	PL=Pore Lin	ning, RC=Root	Channel, M=Matrix.	
Hydric Soil Indicators:	(Applicable t	o all LRRs,	unless otherw	ise noted.)		Inc		matic Hydric Soils³:
Histosol (A1)	(40)			Sandy Gleye	ed Matrix (S4)		1 cm Muck (A	
Histic Epipedor Black Histic (A3				Sandy Redox Stripped Mat		<del></del>		Redox (A16) (LRR F, G, H) (S7) ( <b>LRR G</b> )
Hydrogen Sulfic					y Mineral (F1			epressions (F16)
Stratified Layer	` '	)			ed Matrix (F2			tside MLRA 72 & 73)
1 cm Muck (A9				Depleted Ma		,	Reduced Ver	,
Depleted Belov	/ Dark Surface	(A11)		Redox Dark	Surface (F6)	<del></del>	Red Parent M	laterial (TF2)
Thick Dark Sur					rk Surface (F	7)	Other (Explain	n in Remarks)
Sandy Mucky N				Redox Depre		(E40)	3, ,, ,	
2.5 cm Mucky i			1)	High Plains I	Depressions	(F16)		hydrophytic vegetation nydrology must be present.
5 cm Mucky Pe Restrictive Layer (if pro		(LKK I')					and Welland	rydrology mast be present.
Depth (inches):					Hydric Soils	s Present?	Yes X No	
Type: Depth (inches):  Remarks: A few oxidized root char	nets existed, v	with a greate	r percentage in	·		s Present?	Yes X No	
Depth (inches):  Remarks:  A few oxidized root char	nels existed, v	with a greate	r percentage in	·		s Present?	Yes X No	
Depth (inches):		vith a greate	r percentage in	·			ondary Indicators	(2 or more required)
Depth (inches):  Remarks:  A few oxidized root char  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any	licators: one indicator is			the top five ir			ondary Indicators Surface Soil Cra	icks (B6)
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any Surface Water (A	licators: one indicator is 1)		Salt C	the top five in	nches.		ondary Indicators Surface Soil Cre Sparsely Vegete	acks (B6) ated Concave Surfaces (B8
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any of Surface Water (A High Water Table	licators: one indicator is 1)		Salt C	the top five in	es (B13)	Sec	ondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter	acks (B6) ated Concave Surfaces (B8 ns (B10)
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any of the content	licators: one indicator is 1) (A2)		Salt C Aquati Hydro	the top five in	es (B13)		ondary Indicators Surface Soil Cre Sparsely Vegete Drainage Patter Oxidized Rhizos	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C
Remarks: A few oxidized root char  HYDROLOGY  Wetland Hydrology Inc Primary Indicators (any of the content of t	licators: one indicator is 1) (A2)		Salt C Aquati Hydro	rusts (B11) c Invertebrate gen Sulfide Ceason Water	es (B13) Oder (C1) Table (C2)	Sec	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (Ca s (C8)
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any of the content	licators: one indicator is 1) (A2)		Salt C Aquati Hydro; Dry-Se Prese	the top five in	es (B13) Oder (C1) Table (C2) ed Iron (C4)	Sec	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C
A few oxidized root chare  A fight oxidized root chare  A few o	licators: one indicator is 1) (A2) is (B2) ) t (B4)		Salt C Aquati Hydro; Dry-Se Prese; Thin M	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduc	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7)	Sec	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (Ci s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2)
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any of the content	licators: one indicator is 1) (A2) ss (B2) ) t (B4)	s sufficient)	Salt C Aquati Hydro; Dry-Se Prese; Thin M	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduction	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7)	Sec	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C: s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5)
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any surface Water (A High Water Table Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible	licators: one indicator is 1) (A2) s (B2) ) t (B4) ) on Aerial Ima	s sufficient)	Salt C Aquati Hydro; Dry-Se Prese; Thin M	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduction	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7)	Sec	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C3 s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5)
Pepth (inches): Remarks: A few oxidized root chare HYDROLOGY Netiand Hydrology Inc Primary Indicators (any Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water Stained Le	licators: one indicator is 1) (A2) s (B2) ) t (B4) ) on Aerial Ima	s sufficient)	Salt C Aquati Hydro; Dry-Se Prese; Thin M	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduction	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7)	Sec	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (Ci s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5)
Pepth (inches): Remarks: A few oxidized root chare HYDROLOGY Wetland Hydrology Inc Primary Indicators (any Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water Stained Le	licators: one indicator is 1) (A2) s (B2) ) t (B4) ) on Aerial Ima	s sufficient)	Salt C Aquati Hydro; Dry-Se Prese; Thin M	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduction	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7)	Sec	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C: s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5)
Pepth (inches): Remarks: A few oxidized root chare HYDROLOGY Wetland Hydrology Inc Primary Indicators (any of the second of the	licators: one indicator is 1) (A2) ss (B2) ) t (B4) ) on Aerial Ima aves (B9)	s sufficient) gery (B7)	Salt C Aquati Hydro; Dry-Se Prese Thin M Other	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduce fluck Surface (Explain in R	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7)	Sec	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C3 s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5)
Remarks:  A few oxidized root char  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any of the content of	licators: one indicator is 1) (A2) ss (B2) ) t (B4) ) on Aerial Ima aves (B9)  Yes Yes	gery (B7)	Salt C Aquati Hydro; Dry-Se Presei Thin M Other  X Depth X Depth	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduct fuck Surface (Explain in R	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7) emark)	Sec X	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te Local Soil Surve	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C3 s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5) ey Data (D8)
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any of the content	licators: one indicator is 1) (A2) ss (B2) ) t (B4) ) on Aerial Ima aves (B9)  Yes Yes Yes Yes	s sufficient) gery (B7)	Salt C Aquati Hydro; Dry-Se Presei Thin M Other  X Depth X Depth	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduce fluck Surface (Explain in R	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7) emark)	Sec X	ondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te Local Soil Surve	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C3 s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5)
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any of the content	licators: one indicator is 1) (A2) ss (B2) ) t (B4) ) on Aerial Ima aves (B9)  Yes Yes Yes Yes	gery (B7)	Salt C Aquati Hydro; Dry-Se Presei Thin M Other  X Depth X Depth	rusts (B11) ic Invertebrate gen Sulfide Ceason Water nce of Reduct fuck Surface (Explain in R	es (B13) Oder (C1) Table (C2) ed Iron (C4) (C7) emark)	Sec X	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te Local Soil Surve	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C3 s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5) ey Data (D8)
Primary Indicators (B1) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Iron Deposits (B5) Inundation (Visible	licators: one indicator is 1) (A2) s (B2) t (B4) on Aerial Ima aves (B9)  Yes Yes Yes Yes )	gery (B7)	Salt C Aquati Hydro Dry-Se Prese Thin M Other  X Depth X Depth X Depth	rusts (B11) ic Invertebrate gen Sulfide C eason Water nce of Reduce fluck Surface (Explain in R  (inches): (inches):	es (B13) Oder (C1) Table (C2) red Iron (C4) (C7) emark)	Sec X X	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te Local Soil Surve	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C3 s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5) ey Data (D8)
Pepth (inches):  Remarks:  A few oxidized root chare  HYDROLOGY  Wetland Hydrology Inc  Primary Indicators (any of the content	licators: one indicator is 1) (A2) s (B2) t (B4) on Aerial Ima aves (B9)  Yes Yes Yes Yes )	gery (B7)	Salt C Aquati Hydro Dry-Se Prese Thin M Other  X Depth X Depth X Depth	rusts (B11) ic Invertebrate gen Sulfide C eason Water nce of Reduce fluck Surface (Explain in R  (inches): (inches):	es (B13) Oder (C1) Table (C2) red Iron (C4) (C7) emark)	Sec X X	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te Local Soil Surve	acks (B6) ated Concave Surfaces (B8 ns (B10) spheres on Living Roots (C3 s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5) ey Data (D8)
Remarks:  A few oxidized root chare  Surface Water (A)  Water Water Table  Saturation (A3)  Water Marks (B1)  Sediment Deposit  Drift Deposits (B3  Algal Mat or Crus  Iron Deposits (B5  Inundation Visible  Water Stained Le  Field Observations:  Surface Water Present?  Mater Table Present?  Saturation Present?  Saturation Present?  Sincludes capillary fringe	licators: one indicator is 1) (A2) s (B2) t (B4) on Aerial Ima aves (B9)  Yes Yes Yes Yes )	gery (B7)	Salt C Aquati Hydro Dry-Se Prese Thin M Other  X Depth X Depth X Depth	rusts (B11) ic Invertebrate gen Sulfide C eason Water nce of Reduce fluck Surface (Explain in R  (inches): (inches):	es (B13) Oder (C1) Table (C2) red Iron (C4) (C7) emark)	Sec X X	Sondary Indicators Surface Soil Cra Sparsely Vegeta Drainage Patter Oxidized Rhizos Crayfish Burrow Saturation Visib Frost-Heave Hu Geomorphic Po FAC-Neutral Te Local Soil Surve	acks (B6) ated Concave Surfaces (B6 ns (B10) spheres on Living Roots (C s (C8) le on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5) ey Data (D8)



Project/Site: Dewey Burdock		City/County:	Custer Coun	sty Sampling Date: 9/18/07
Applicant/Owner: Knight Piesold, Power	tech	State:	South Dakot	a Sampling Point: W11
Investigator(s): C. Robinson and J. Eb	erly	Section, Towns	ship, Range:	Section 32, T6S, R1E
Landform (hillslope, terrace, etc.) Drai	nage	Lo	ocal relief (cor	ncave, convex, none): <u>Convex</u> Slope (%): <u>1</u>
Subregion (LRP): Black Hills MLRA62		Lat:	Lor	ng: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI CI	lassification:	
Are climatic/hydrologic conditions on the si	te typical for this	s time of year?	Yes	s X . No (If no, explain in Remarks.)
Are Vegetation , Soil , o	or Hydrology	Significa	antly disturbed	? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , o	or Hydrology	Naturally	y problematic?	? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attac	ch site map	showing sar	mpling poi	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No X	<u> </u>	Is the Sampled Area
Hydric Soil Present?	Yes	No X		Within a Wetland Yes NoX
	Yes	No X	(	
Remarks: NWI previously mapped: PEMF Cottonwoods in area but not in five foot rac R2 P3: West R2 P4: East	lius			
Tree Stratum (Use scientific names)	Absolute	Dominant	Indicato	Dominance Test Worksheet:
,	% Cover	Species?	Status	<del></del>
2.				Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
3.				Total Number of Descined
4Total Cover:				Total Number of Dominant Species Across All Strata: 1 (B)
Sapling/Shrub Stratum				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 0 (A/B)
2. 3.				Prevalence Index Worksheet:
4.				
5Total Cover:		-	<del></del>	Total % Cover of: Multiply by:
				OBL species x1=
Herb Stratum  1. Bassia sieveriana	70	x	FACU	FACW species 5 x2= 10 FAC species 15 x3= 45
2. Hordeum jubatum	5		FACW	/ FACU species 80 x4= 320
3. Chenopodium album	15		_ FAC	UPL species x5=
Cirsium arvense     Thlaspi arvense	<u>5</u>		FACU FACU	
6.			_	
7. 8.			<del></del>	Hydrophytic Vegetation Indicators
9.				Dominance Test is > 50%
10Total Cover:	100			Prevalence Index is ≤ 3.0¹  Morphological Adaptations¹ (Providing supporting
				data in Remarks or on a separate sheet)
Woody Vine Stratum 1.				Problematic Hydrophytic Vegetation (Explain)
2.				<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3.				Hydrophytic
Total Covers	·			Vegetation Present? Yes NoX
% Bare Ground in Herb Stratum 40	% C	over of Biotic Cr	rust	
Remarks:				



Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)  Depth (Inches)	Profile Description: (Describ						Sam	pling Point W11
(Inches) Color (moist) % Color (moist) % Type Loc' Texture Remarks  10YR 4/1 100  10YR		e to the depth need	ed to documen	t the indicat	or or confirm	the absence	of indicators.)	· ·
(Inches) Color (moist) % Color (moist) % Type' Loc' Texture Remarks  10YR 4/1 100 SIC	Deoth Mat	rix		Redox Fea	atures			
"Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    "Location: PL=Pore Lining, RC=Root Channel, M=Matrix.   Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosol (A1)		-	Color (moist)		<del></del>	Loc²		Remarks
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Charlied Layers (A5) (LRR F) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Som Muck (A9) (LRR F) Som Mucky Paet or Peat (S2) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LFR F) Pepth (inches):  Hydric Soils Present?  Hydric Soils Present?  Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B1) Saturation (A3) Hydrogen Sulfide Oder (C1) Surface Soil Cracks (B6) Surface Water (A1) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Saturation (A3) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Saturation (A3) Hydrogen Sulfide Oder (C1) Sat	0-8 10YR 4/1	100					SiC	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Siripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sariatified Layers (A5) (LRR F) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR F)  Hydric Soils Present):  Hydric Soils Present?  Hydric Soils Present?  Hydric Soils Present?  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Saturation (A3) Hydrogen Sulfide Oder (C1) Sediment Deposits (B2) Prisent (B4) Saturation (A3) Thin Muck Surface (C7) Agal Mat or Crust (B4) Trink Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Trink Deposits (B5) Inundators (B4) Trink Deposits (B5) Inundator (B4) This Sandy Mater Table (B4) This Mater Ta		<del>-</del> -						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Siripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A11) Sandy Mucky Mineral (F2) Sandy Mucky Mineral (F3) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F5) Sandy Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Hydric Soils Present?  Hydric Soils Present?  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Cder (C1) Sediment Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Trink Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Indicators for Problematic Hydric Soils' Local Soil Survey Data (D8) Field Observations:  Surface Water Present? Yes No X Depth (inches):						***************************************		
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Siripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A11) Sandy Mucky Mineral (F2) Sandy Mucky Mineral (F3) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F5) Sandy Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Hydric Soils Present?  Hydric Soils Present?  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Cder (C1) Sediment Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Trink Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Indicators for Problematic Hydric Soils' Local Soil Survey Data (D8) Field Observations:  Surface Water Present? Yes No X Depth (inches):								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Siripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A11) Sandy Mucky Mineral (F2) Sandy Mucky Mineral (F3) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F5) Sandy Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Hydric Soils Present?  Hydric Soils Present?  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Cder (C1) Sediment Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Trink Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Indicators for Problematic Hydric Soils' Local Soil Survey Data (D8) Field Observations:  Surface Water Present? Yes No X Depth (inches):	<u> </u>							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Depleted Matrix (F2) Loamy Mucky Mineral (F1) Thick Dark Surface (A11) Redox Dark Surface (F6) Red Parent Material (TF2) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Muck (A9) (LRR F, G, H) Depleted Dark Surface (F6) Red Parent Material (TF2) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S3) (LRR F)  Hydric Soils Present?  Frimary Indicators (A12) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Hydrogen Sulfide Cder (C1) Saturation (A3) Saturation (A3) Hydrogen Sulfide Cder (C1) Saturation (A3) Hydrogen Sulfide (A3 Hydrogen Su					<del></del>			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Siripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A11) Sandy Mucky Mineral (F2) Sandy Mucky Mineral (F3) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F5) Sandy Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Hydric Soils Present?  Hydric Soils Present?  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Cder (C1) Sediment Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Trink Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Indicators for Problematic Hydric Soils' Local Soil Survey Data (D8) Field Observations:  Surface Water Present? Yes No X Depth (inches):						<del> </del>		
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Siripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A11) Sandy Mucky Mineral (F2) Sandy Mucky Mineral (F3) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F4) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F5) Sandy Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Hydric Soils Present?  Hydric Soils Present?  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Cder (C1) Sediment Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Trink Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Indicators for Problematic Hydric Soils' Local Soil Survey Data (D8) Field Observations:  Surface Water Present? Yes No X Depth (inches):								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Siripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sariatified Layers (A5) (LRR F) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Peat or Peat (S2) (LFR G, H) Some Mucky Peat or Peat (S2) (LFR F)  Hydric Soils Present):  Hydric Soils Present?  Hydric Soils Present?  Hydric Soils Present?  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Saturation (A3) Hydrogen Sulfide Oder (C1) Sediment Deposits (B2) Prisent (B4) Saturation (A3) Thin Muck Surface (C7) Agal Mat or Crust (B4) Trink Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Trink Deposits (B5) Inundators (B4) Trink Deposits (B5) Inundator (B4) This Sandy Mater Table (B4) This Mater Ta	Windstate Communication Commun							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Sandy Redox (S5) Histic Epipedon (A2) Sandy Redox (S5) Sondy Redox (S5) Sondy Redox (S5) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A11) Sandy Mucky Mineral (F2) Sandy Mucky Mineral (F3) Sandy Mucky Mineral (F4) Sondy Mucky Mineral (F4) Sondy Mucky Mineral (F5) Sondy Mucky Mineral (F5) Sond Mucky Peat or Peat (S2) (LRR F) Sond Mucky Peat or Peat (S2) (LRR F) Hydric Soils Present?  Wetland Hydrology Indicators: Primary Indicators (A11) Salt Crusts (B11) Surface Water (A11) Salt Crusts (B11) Surface Water (A12) Saturation (A3) Hydrogen Sulfide Oder (C1) Sondy Mucky Mineral (S1) Sondy Mucky Mineral (S1) Sondy Mucky Mineral (S1) Sondy Mucky Mineral (S1) Sondy Mucky Peat or Peat (S2) (LRR F)  Wetland Hydrology Indicators: Primary Indicators (A12) Surface Water (A11) Salt Crusts (B11) Surface Soil Cracks (B6) Surface Water (A11) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Oder (C1) Soltwelter Table (A2) Saturation (A3) Hydrogen Sulfide Oder (C1) Soltwelter Table (A2) Sediment Deposits (B2) Prisence of Reduced Iron (C4) Saturation (Visible on Aerial Imagery (C9) Frost-Heave Hummorks (C11) (LRR F) Agal Mat or Crust (B4) Indicators for Problematic Hydric Soils': 1 crum Mucky Page Indicator (A7) Indicators for Problematic Hydric (S0) (Sick (A5)) Indicators for Problematic Hydric (A5) Indicators (A5) (LRR F) Coast Prainie Redox (A16) (LRR F, G, H) Indicators (A5) (LRR F, G, H) Indicators (A5) (LRR F, G, H) High Plains Depressions (F16) Red Parent Material (TF2) Cherk (Explain in Remark)  Surface Soil Cracks (B6) Surface Soil Crack	Type: C=Concentration, D=D	epletion, RM=Reduce	ed Matrix.	<sup>2</sup> Location: I	PL=Pore Linin	g, RC=Root C	hannel, M=Matrix.	
Histic Epipedon (AZ) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) High Plains Depressions (F16) (LRR H outside MLRA 72 & 73) High Plains Depressions (F16) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F3) Reduced Vertic (F18) Reduced Verti			unless otherwis	e noted.)			cators for Proble	matic Hydric Soils³:
Black Histic (A3)								
Hydrogen Sulfide (A4)  Stratified Layers (A5) (LRR F)  Loamy Mucky Mineral (F1)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Depleted Matrix (F3)  Reduced Vertic (F18)  Reduced Vertic (								
Stratified Layers (A5) (LRR F)  1 cm Muck (A9) (LRR F, G, H)  2 cm Muck (A9) (LRR F, G, H)  3 cm Muck (A9) (LRR F, G, H)  4 cm Muck (A9) (LRR F, G, H)  5 cm Muck (A9) (LRR F, G, H)  5 cm Muck (A9) (LRR F, G, H)  6 cm Muck (A9) (LRR F, G, H)  7 cm Muck (A9) (LRR F, G, H)  8 cm Muck Mineral (S1)  8 cm Muck Mineral (S1)  9 cm Muck Mineral (S1)  1 cm Muck Mineral (S2) (LFF G, H)  2 cm Muck Mineral (S2) (LFF G, H)  3 indicators of hydrophytic vegetation and welland hydrology must be present welland hydrol								
1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Redox Dark Surface (F1) Pepleted Below Dark Surface (A12) Depleted Dark Surface (F7) Other (Explain in Remarks)  Depleted Below Dark Surface (A12) Depleted Dark Surface (F7) Other (Explain in Remarks)  Sandy Mucky Mineral (S1) Redox Depressions (F8) High Plains Depressions (F16)  5 cm Mucky Peat or Peat (S2) (LRF G, H) High Plains Depressions (F16)  5 cm Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F16)  From Mucky Peat or Peat (S3) (LRR F) Hydric Soils Present? Yes No X  Wettand Hydrology Indicators:  Primary Indicators (any one indicator is sufficient)  Surface Water (A1) Salt Crusts (B11) Sparsely Vegetated Concave Surfaces (E13) Drainage Patterns (B10)  Saturation (A3) Hydrogen Sulfide Oder (C1) Oxidized Rhizospheres on Living Roots (Water Marks (B1) Dry-Season Water Table (C2) Crayfish Burrows (C8)  Sediment Deposits (B3) Thin Muck Surface (C7) Frost-Heave Hummocks (C11) (LRR F)  Algal Mat or Crust (B4) Other (Explain in Remark) X Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No X Depth (inches):								
Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Red Parent Material (TF2) Thick Dark Surface (A12) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Redox Depressions (F8) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F16) 5 cm Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F16) 5 cm Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Type: Pepth (inches): Hydric Soils Present? Yes No X  Remarks:  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B11) Sparsely Vegetated Concave Surfaces (E14) Surface Water (A1) Salt unit in vertebrates (B13) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Oder (C1) Oxidized Rhizospheres on Living Roots (E14) Water Marks (B1) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation (Visible on Aerial Imagery (C9) Drift Deposits (B3) Thin Muck Surface (C7) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Crust (B4) Other (Explain in Remark) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Field Observations:  Surface Water Present? Yes No X Depth (inches):								
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S3) (LRR F)  Redox Depressions (F16) Some Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Type: Pepth (inches):  Hydric Soils Present? Yes No X  Remarks:  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crusts (B1) Salt Crusts (B13) Salturation (A3) Hydrogen Sulfide Oder (C1) Saturation (A3) Hydrogen Sulfide Oder (C1) Softment Deposits (B2) Dry-Season Water Table (C2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stalined Leaves (B9) Field Observations:  Surface Water Present? Yes No X Depth (inches):  Depleted Dark Surface (F7) Redox Depressions (F8) High Plains Depressions (F16)  **Jindicators of hydrophytic vegetation and wetland hydrology must be present **Jindicators of hydrophytic vegetation and wetland hydrology must be present **Jindicators of hydrophytic vegetation and wetland hydrology must be present **Secondary Indicators (2 or more required)  Surface Soil Cracks (B6) Surface Water Present? Yes No X Depth (inches):	<del></del>					***************************************		
Sandy Mucky Mineral (S1)								
2.5 cm Mucky Peat or Peat (S2) (LFF G, H) 5 cm Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Type: Depth (inches):  Hydric Soils Present? Yes No X  Remarks:  Surface Water (A1) Surface Water (A1) Saturation (A3) Surface Water (A3) Saturation (A3) Hydrogen Suffice Oder (C1) Saturation (A3) Saturation (A3) Sediment Deposits (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Drift Deposits (B3) Algal Mat or Crust (B4) Drive Surface (C7) Drift Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stalined Leaves (B9) Field Observations:  Surface Water Present? Yes No X Depth (inches):							Other (Explai	ii iii remanoj
Scm Mucky Peat or Peat (S3) (LRR F)  Restrictive Layer (if present):  Type:  Depth (inches):  Hydric Soils Present? Yes No X  Remarks:  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (any one indicator is sufficient)  Surface Water (A1)  Surface Water (A1)  Salt Crusts (B11)  Sparsely Vegetated Concave Surfaces (E13)  Hydrogen Sulfide Oder (C1)  Water Marks (B1)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Drinanger Patterns (B10)  Saturation (Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No X Depth (inches):						16)	3Indicators of	hydrophytic vegetation
Restrictive Layer (if present):  Type:  Depth (inches):			<i>'</i>	9				
Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)  Surface Water (A1) Surface Water (A2) High Water Table (A2) Saturation (A3) Saturation (A3) Hydrogen Sulfide Oder (C1) Sediment Deposits (B2) Primary Indicators (B13) Sediment Deposits (B3) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Surface Water Present?  Surface Soil Cracks (B6) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B1) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B6) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B6) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B6) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B6) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B1) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B1) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B1) Sparsely Vegetated Concave Surfaces (E Surface Soil Cracks (B1) Sparsely Vegetated Concave Surfaces (E Sparsely Vegetated Concave Surface (E Sparsely Vegetated Concave Surfaces (E Spars	remars.							
Primary Indicators (any one indicator is sufficient)  Surface Water (A1)  Surface Water (A2)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Field Observations:  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surfaces (EB13)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Frost-Heave Hummocks (C11) (LRR F)  Other (Explain in Remark)  X Geomorphic Position (D2)  FAC-Neutral Test (D5)  Local Soil Survey Data (D8)  Field Observations:  Surface Water Present? Yes NoX Depth (inches):						0		
Surface Water (A1) Salt Crusts (B11) Sparsely Vegetated Concave Surfaces (E High Water Table (A2) Aquatic Invertebrates (B13) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (E Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Field Observations:  Surface Water Present?  Salt Crusts (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (E Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Frost-Heave Hummocks (C11) (LRR F) Geomorphic Position (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Vater Stained Leaves (B9)  Surface Water Present?  Yes No X Depth (inches):						Seco		
High Water Table (A2) Saturation (A3) Hydrogen Sulfide Oder (C1) Oxidized Rhizospheres on Living Roots (C1) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Field Observations:  Aquatic Invertebrates (B13) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Frost-Heave Hummocks (C11) (LRR F) Geomorphic Position (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Field Observations:  Surface Water Present?  Yes No X Depth (inches):		noator is sumoterity	Salt Cru	ısts (R11)		· —		
Saturation (A3) Hydrogen Sulfide Oder (C1) Oxidized Rhizospheres on Living Roots (C1) Water Marks (B1) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Thin Muck Surface (C7) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Crust (B4) Other (Explain in Remark) X Geomorphic Position (D2) Iron Deposits (B5) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No X Depth (inches):	·····				s (B13)	******		
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Saturation Visible on Aerial Imagery (C9)  Frost-Heave Hummocks (C11) (LRR F)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Local Soil Survey Data (D8)  Field Observations:  Surface Water Present? Yes NoX _ Depth (inches):								
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Field Observations:  Thin Muck Surface (C7) Other (Explain in Remark)  Thin Muck Surface (C7) Other (Explain in Remark)  X Geomorphic Position (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Field Observations:  Surface Water Present? Yes NoXDepth (inches):	Water Marks (B1)		Dry-Sea	ason Water T	able (C2)		_ Crayfish Burrow	rs (C8)
Algal Mat or Crust (B4)  Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes NoX _ Depth (inches):							Saturation Visib	le on Aerial Imagery (C9)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No _X _ Depth (inches):								
Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No _X _ Depth (inches):			Other (E	Explain in Re	mark)	X_	- '	, ,
Water Stained Leaves (B9)           Field Observations:           Surface Water Present?         Yes         No         Depth (inches):								
Field Observations:  Surface Water Present? Yes No _X _ Depth (inches):		• , ,				-	_ Local Soil Survi	ey Data (D8)
Surface Water Present? Yes No _X_ Depth (inches):	,	59)						
' ' '	riela Observations.							
Water Table Present? Ves No V Donth (inches):	Surface Water Present? Y	es No	X Depth (i	inches):				
Water Table Present? Yes No _X _ Depth (inches):	Water Table Present? Y	/es No	X Depth (	inches):		•		
		'es No	X Depth (	inches):	We	tland Hydrolo	ogy Present?	Yes No _X_
(includes capillary fringe)	(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			well acticles	too provious	inepostion) if	· · ovoilable:		
Describe necorded Data (stream gauge, monitoring well, aerial priotos, previous inspection), il available:	Describe Recorded Date /stree		, wen, aenai pho	ios, previous	inspection), if	avallable:		
	Describe Recorded Data (stream	am gauge, monitoring						
	Describe Recorded Data (strea	am gauge, monitoring						
Remarks:	Describe Recorded Data (strea	am gauge, monitorinç						
		am gauge, monitorinç				·		
		am gauge, monitorinç						



Project/Site: Dewey Burdock		City/County:	Custer Cou	inty	Sampling Date: 9/18/07
Applicant/Owner: Knight Piesold, Pow		State:	South Dake		Sampling Point: W12
Investigator(s): C. Robinson and J. I	Eberly	- Section, Tow	vnship, Range:	Section 32, T6S, R1E	
Landform (hillslope, terrace, etc.) Dr	ainage	•	Local relief (c	oncave, convex, none):	Convex Slope (%): 1
Subregion (LRP): Black Hills MLRA6					Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI			
Are climatic/hydrologic conditions on the					(If no, explain in Remarks.)
Are Vegetation , Soil	, or Hydrology	Signifi	cantly disturbe	ed? Are "Normal Circumst	tances" present? Yes X No
Are Vegetation, Soil	, or Hydrology	Natura	ally problemati	c? (If needed, explain any	y answers in Remarks.)
				1-4.1- 41 - 4	4. * 4. 454
SUMMARY OF FINDINGS - Atta			ampling po	int locations, trans	ects, important features, etc.
Hydrophytic Vegetation Present?	Yes	_ No	<u>X</u>	Is the Sampled Area	
Hydric Soil Present?	Yes X	_ No		Within a Wetland	Yes NoX
Wetland Hydrology Present Remarks:	Yes	No	X		
NWI previously mapped: PEMF					·
R2 P5: West R2 P6: East					
R2 Po. East					
\(\text{F} = \frac{1}{2} \\ \text{F} \\ \t					
VEGETATION Tree Stratum (Use scientific names)	Absolute	Dominant	Indica	tor Dominance Tes	it Worksheet:
(OSS SSISTANCE)	% Cover	Species?		IS	
1.				Number of Domi That are OBL, F	
3.				That are OBE, 17	hew, arrae (A)
4. Total Cove				Total Number of	The state of the s
I otal Cove	er:			Species Across	All Strata: 2 (B)
Sapling/Shrub Stratum	•			Percent of Domin	
1.				I That Are OBL, F	FACW, or FAC: - 50 (A/B)
3.				Prevalence Inde	ex Worksheet:
4. 5.				Total % Cover o	f: Multiply by:
Total Cove	er:		<del></del>	Total 78 Cover o	i. Widiuply by
Hart Oberture				OBL species	x1=
Herb Stratum  1. Spartina pectinata	5		FAC'	FACW species W FAC species	5 x2= 10 50 x3= 150
2. Chenopodium album	50	X	FAC	FACU species	45 x4= 180
3. Cirsium arvense	15		<u>FAC</u>		x5=(D)
4. Thlaspi arvense 5.	30	X	FAC	U Column Totals: Prevalence Inde	$\frac{100}{\text{ex}} = \text{B/A} = \frac{340}{3.40}$ (B)
6.					
7. 8.			<del></del>	Hydrophytic Ve	egetation Indicators
9.					nce Test is > 50%
10.					nce Index is ≤ 3.0 <sup>1</sup>
Total Cove	er: <u>100</u>				ogical Adaptations <sup>1</sup> (Providing supporting rks or on a separate sheet)
Woody Vine Stratum					atic Hydrophytic Vegetation (Explain)
1. 2.				1 Indicators of hude	ric soils and wetland hydrology must be present
3.				Hydrophytic	no sons and welland hydrology must be present
Total Cove	er:	-		Vegetation	
% Para Ground in Harb Stratum 20	9/ 6	over of Biotics	Cruet	Present?	Yes NoX
% Bare Ground in Herb Stratum 30 Remarks:		Cover of Biotic	Olust	L	
1					



SOIL								ling Point W12
Profile Descri	ption: (Describe to th	e depth nee	ded to docume	ent the indicat	or or confirm	the absence	of indicators.)	,
Depth	Matrix			Redox Fe	atures			
(inches)	Color (moist)	%	Color (moist)		Type <sup>1</sup>	Loc²	Texture	Remarks
0-8	10YR 4/1	75	10YR 5/8	25	С	М	С	
					***************************************			
			-					, , , , , , , , , , , , , , , , , , ,
				2, ,,	DI D I.			······································
	centration, D≃Depletio dicators: (Applicable				PL=Pore Lining	, RC=Root C	hannel, M=Matrix.	natic Hydric Solls³:
-	sol (A1)	to all LKKS,	, umess otherw	Sandy Gleyed	d Matrix (S4)	illu	1 cm Muck (As	
	Epipedon (A2)			Sandy Redox				Redox (A16) (LRR F, G, H)
	Histic (A3)			Stripped Matr			Dark Surface (	
	ogen Sulfide (A4)			Loamy Mucky	Mineral (F1)		High Plains De	pressions (F16)
	fied Layers (A5) (LRR	•		Loamy Gleye				side MLRA 72 & 73)
	Muck (A9) (LRR F, G,		X	Depleted Mat			Reduced Verti	
	eted Below Dark Surface	e (A11)		Redox Dark S			Red Parent Ma Other (Explain	
	Dark Surface (A12)  White Mucky Mineral (S1)			Redox Depres	k Surface (F7)		Other (Explain	iii Reiliaiks)
	m Mucky Peat or Peat	S2) (LFF G.			epressions (F1	6)	3Indicators of I	ydrophytic vegetation
	Mucky Peat or Peat (S							drology must be present.
estrictive La	yer (if present):		,					
уре:				'				
Depth (inches	s):			. 11	Hydric Soils P	resent?	res X No	
0								······································
Remarks:								
IYDROLOGY	,							
	rology Indicators:					Seco	ondary Indicators (	2 or more required)
rimary Indica	itors (any one indicator	is sufficient)					Surface Soil Cra	
	Water (A1)			rusts (B11)				ted Concave Surfaces (B8)
	ater Table (A2)			ic Invertebrate	, ,		_ Drainage Patterr	
	ion (A3)			gen Sulfide Od eason Water T		<u>-</u>	<ul> <li>Oxidized Rhizos</li> <li>Crayfish Burrows</li> </ul>	pheres on Living Roots (C3
	Marks (B1) ent Deposits (B2)			eason water ince of Reduce	, ,			e on Aerial Imagery (C9)
	posits (B3)			Muck Surface (				nmocks (C11) (LRR F)
	at or Crust (B4)			(Explain in Re		X	Geomorphic Pos	
	posits (B5)			(=::	,	<u></u>	FAC-Neutral Tes	
Inundat	ion Visible on Aerial Im	agery (B7)				****	Local Soil Surve	/ Data (D8)
Water S	Stained Leaves (B9)			·				
ield Observa	ations:						··································	
	. D	NI-	V D46	. (:b)				
Surface Water		No		i (inches):				
Vater Table F Saturation Pre	****	No No		i (inches): i (inches):	<sub>We</sub>	fland Hydrol	ogy Present? Y	es No X
includes capi			Debu				-gj . 103011t: 1	
Describe Reco	orded Data (stream gau	ıge, monitorir	ng well, aerial ph	notos, previous	inspection), if	available:		
			•					
Remarks:								
			4					



Project/Site:	Dewey Burdock		_ City/County:	Custer County	Sampling Date: 9/18/07
Applicant/Owner:	Knight Piesold, Pow	ertech	State:	South Dakota	Sampling Point: W13
Investigator(s):	C. Robinson and J.	Eberly	Section, Town	ship, Range: <u>S</u>	Section 32, T6S, R1E
Landform (hillslope	e, terrace, etc.) <u>Di</u>	rainage	L	ocal relief (concav	ve, convex, none): Convex Slope (%): 1
Subregion (LRP):	Black Hills MLRA6	2	Lat:	Long:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Nam	ne:		NWI C	lassification:	R4US
Are climatic/hydrol	logic conditions on the	site typical for th	is time of year?	Yes	X No (If no, explain in Remarks.)
Are Vegetation _	, Soil	, or Hydrology	Significa	antly disturbed? A	re "Normal Circumstances" present? Yes X No
Are Vegetation _	, Soil	, or Hydrology	Naturall	y problematic? (If	needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - Att	ach sita man	showing sa	mpling point l	ocations, transects, important features, etc.
Hydrophytic Veget					ocations, transects, important reatures, etc.
					he Sampled Area
Hydric Soil Presen		Yes		<u>C</u> With	hin a Wetland Yes X No
Remarks:	y Present	Yes X	No	<b>_</b>	A STATE OF THE STA
Just North of the a	rea little bluestem is c	reeping into the o	Irainage but it is	still dominated by	Spartina pectinata.
<u> </u>					
VEGETATION	scientific names)	Abashita	, Dait	Indicator	Dominance Test Worksheet:
Tree Stratum (Use	scientific names)	Absolute % Cover	Dominant Species?	Status	Dominance Test Worksneet:
1			-		Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
3.	***************************************				That are Obl., FACW, OF AC.
4	Total Cove				Total Number of Dominant Species Across All Strata:1 (B)
1		···			` ,
Sapling/Shrub Stra  1.	<u>atum</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2.					
3. 4.	· · ·				Prevalence Index Worksheet:
5.					Total % Cover of: Multiply by:
	Total Cove	er:			OBL species x1=
Herb Stratum					FACW species x2=
Spartina pe     Andropogor	ctinata n scoparius	90	X	FACWNI	FAC species x3= x4=
3. Chenopodiu		5	***************************************	FAC	UPL species x5=
4.					Column Totals: (A) (B)
5. 6.				_	Prevalence Index = B/A =
7.					Hydrophytic Vegetation Indicators
8. 9.		-			X Dominance Test is > 50%
10.	Total Cove	er: 100			Prevalence Index is ≤ 3.0 <sup>1</sup>
	Total Cove	er:100			Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratu					Problematic Hydrophytic Vegetation (Explain)
2.					<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3.	Total Cove				Hydrophytic Vegetation
	rotal Cove				Present? Yes X No
% Bare Ground in Remarks:	Herb Stratum 10	% (	Cover of Biotic C	rust	
Remarks:				•	
•					
·					



ches) Color (moist) % Color (moist) % Type Loc Texture Remarks 0-4 10YR 4/1 50 7.5YR 5/8 50 C M SICL 4-10 10YR 4/1 100 SICL  SICL  This Control of the Color of Problematic Hydric Soils*:  Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (LRR C) Histosol (A1) Sandy Gleyed Matrix (S5) Coast Preper Lining, RC=Root Channel, M=Matrix Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (LRR C) Histosol Sulfide (A4) Stripped Matrix (S5) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) (LRR H outside MLRA 72 & 73) Tom Muck (A9) (LRR F, G, H) Depleted Matrix (F2) (LRR H outside MLRA 72 & 73) Thick Dark Surface (A11) Redox Dark Surface (F6) Red Parent Material (TF2) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Som Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F16)  Strictive Layer (if present):  pe: pp: pp: pp: pp: pp: pph (inches): Hydric Soils Present? Yes No X User Matrix (S1) Sparsely Vegatation (C7) Aquatic Invertebrates (S13) High Vater (A1) Salt Crusts (B11) Sparsely Vegatation (C7) Sparsely Vegatated Concave Surfaces (E13) High Vater (A3) Hydrogen Sulfide Oder (C1) Sparsely Vegatation (C3) Surface Water (A1) Sparsely Vegatation (C7) Aquatic Invertebrates (S13) Seement (C7) Aquatic Invertebrates (S13) Seement (S13) Sparsely Vegatation (S11) Craylish Burrows (C3) Sediment Deposits (C3) Presence of Reduced from (C4) Saturation (Vsible on Aerial Imagery (C8) Aquatic Invertebrates (C7) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Crust (B4) Dry-Season Water Table (C2) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Crust (B4) Other (Explain in Remark) A Ceemorphic Position (D2) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Crust (B4) Other (Explain in Remark) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Crust (B4) Other (Explain in Remark) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Cru	Denth	Matrix			Deday Ea	atures			
10   10   10   10   10   10   10   10	Depth inches) Co		0/.	Color (moiet)			l oc²	Tevture	Remarke
ype: C=Concentration, D=Depletion, RM=Reduced Matrix.  **Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  *dric Soil Indicators: (Applicable to all LRRs, unless otherwrise noted.)  Histos (Applicable to all LRRs, unless otherwrise noted.)  Reduced Vertic (F18)  Pink (Applicable to all LRRs, unless otherwrise noted.)  Pink (Applicable to all LRRs, unless otherwrise noted.)  Pink (Applicable to all LRRs, unless otherwrise noted.)  Histos (Applicable to all LRRs, unless otherwrise noted.)  Histos (Applicable to all LRRs, unless otherwrise noted.)  Pink (Applicable to all LRRs, unless otherwrise noted.)  Histos (Applicable to all LRRs, unless otherwrise.)  Pink (Applicable to all LRRs, unless otherwrise.)  Hydric Soils Pres									rtemarks
ype: C=Concentration, D=Depletion, RM=Reduced Matrix.    Cocation: PL=Pore Lining, RC=Root Channel, M=Matrix.									
rdick Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc Epipedon (A2) Sandy Redox (S5) Histoc Epipedon (A2) Sandy Redox (S5) Sirce Markins (S6) Black Histoc A3) Stripped Markin (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Popelated Below Dark Surface (A11) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRR F) Som Mucky Peat or Peat (S2) (LRR F) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S3) (LRR F) Redox Dark Surface (F7) Redox Dar	4-10 10	YR 4/ I	100				****	SICL -	
rdick Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc Epipedon (A2) Sandy Redox (S5) Histoc Epipedon (A2) Sandy Redox (S5) Sirce Markins (S6) Black Histoc A3) Stripped Markin (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Popelated Below Dark Surface (A11) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRR F) Som Mucky Peat or Peat (S2) (LRR F) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S3) (LRR F) Redox Dark Surface (F7) Redox Dar							***************************************		
rdick Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc Epipedon (A2) Sandy Redox (S5) Histoc Epipedon (A2) Sandy Redox (S5) Sirce Markins (S6) Black Histoc A3) Stripped Markin (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Popelated Below Dark Surface (A11) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRR F) Som Mucky Peat or Peat (S2) (LRR F) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S3) (LRR F) Redox Dark Surface (F7) Redox Dar									
rdick Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc Epipedon (A2) Sandy Redox (S5) Histoc Epipedon (A2) Sandy Redox (S5) Sirce Markins (S6) Black Histoc A3) Stripped Markin (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Popelated Below Dark Surface (A11) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRR F) Som Mucky Peat or Peat (S2) (LRR F) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S3) (LRR F) Redox Dark Surface (F7) Redox Dar							<del></del>		
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rdick Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc Epipedon (A2) Sandy Redox (S5) Histoc Epipedon (A2) Sandy Redox (S5) Sirce Markins (S6) Black Histoc A3) Stripped Markin (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Popelated Below Dark Surface (A11) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Som Mucky Peat or Peat (S2) (LRR F) Som Mucky Peat or Peat (S2) (LRR F) Redox Dark Surface (F7) Redox Dark Surface (F7) Redox Dark Surface (F7) Som Mucky Peat or Peat (S3) (LRR F) Redox Dark Surface (F7) Redox Dar	<del></del>				<del></del>				
Histosol (A1)  Histosol (A2)  Sandy Redox (S5)  Black Histic (A3)  Stripped Matrix (S6)  Black Histic (A3)  Stripped Matrix (S6)  Straffied Layers (A5) (LRR F, G, H)  Stratified Layers (A5) (LRR F, G, H)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A11)  Redox Dark Surface (F7)  Thick Dark Surface (A12)  Sendy Mucky Mineral (F1)  Loamy Mucky (F3)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F8)  Red Parent Material (TF2)  Thick Dark Surface (A12)  Sendy Mucky Mineral (S1)  Sendy Mucky Mineral (S1)  Redox Dersessions (F6)  Red Parent Material (TF2)  Other (Explain in Remarks)  Sendy Mucky Peat or Peat (S3) (LRR F)  2.5 cm Mucky Peat or Peat (S3) (LRR F)  High Plains Depressions (F16)  Strictive Layer (if present):  pe:  pet were small inclusions of mottles present in depths 4-10 in the matrix.  ### Marks:  were were small inclusions of mottles present in depths 4-10 in the matrix.  #### Marks:  were were small inclusions of mottles present in depths 4-10 in the matrix.  ###################################						PL=Pore Linin			
Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F2) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Thick Dark Surface (A11) Redox Dark Surface (F1) Depleted Below Dark Surface (A11) Redox Dark Surface (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F3) Some Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F6) Some Mucky Peat or Peat (S2) (LFF G, H) Hydric Soils Present?  Perewere small inclusions of mottles present in depths 4-10 in the matrix.  **Property Indicators (2 or more required)** **Imarks:** **Recondary Indicators (2 or more required)** **Imarks:**		: (Applicable	to all LRRs,	unless otherv			Ind		
Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) (RR H outside MLRA 72 & 73) Period (A11) Redox Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Dark Surface (F6) Red Parent Material (TF2) Other (Explain in Remarks) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F6) Other (Explain in Remarks) 3 Indicators of hydrophytic vegetation and wettand hydrology must be present strictive Layer (if present):    Period	<del></del>								
Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Loamy Gleged Matrix (F2) (LRR Houtside MLRA 72 & 73) 1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Dark Surface (F6) Red Parent Material (TF2) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S3) (LRR F)  Firstictive Layer (if present):  pe: ppth (Inches): Hydric Soils Present? Yes No X Surface Soil Cracks (B6) Surface Water (A1) Salt Crusts (B11) Surface Water (A1) Salt Crusts (B13) Surface Water (A2) Aqualic invertebrates (B13) Surface Water (A2) Salt Marks (B1) Surface Water (A2) Salt Crusts (B1) Surface Water (A2) Salt Crusts (B1) Surface Water (A1) Salt Crusts (B13) Surface Water (A1) Salt Crusts (B13) Surface Water (A2) Salt Crusts (B1) Surface (C1) Surface Water (A2) Surface Water (A2) Surface (A2) Surface (A2) Surface (A2) Surface (A3)		, ,							
Stratified Layers (A5) (LRR F)  1 cm Muck (A9) (LRR F, G, H)  Depleted Matrix (F2)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Thick Dark Surface (A12)  Depleted Dark Surface (A12)  Sandy Mucky Mineral (S1)  2.5 cm Mucky Peat or Peat (S2) (LFF G, H)  5 cm Mucky Peat or Peat (S3) (LRR F)  strictive Layer (if present):  pe:  pht (inches):  Hydric Soils Present? Yes No X  Water Marks (B1)  Surface Water (A12)  Surface (A12)  Salt Crusts (B11)  Surface (B13)  Surface (B14)  Surface (B13)  Surface (B13)  Surface (B14)  Surface (B13)  Surface (B13)  Surface (B13)  Surface (B14)  Surface (B13)  Surface (B14)  Surface (B14)  Surface (B15)  Surface (B16)  Surface (B16)  Surface (B17)  Surface (B16)  Surface (B18)  Surface (B17)  Surface (B18)  Surface (B18)  Surface (B18)  Surface (B18)  Surface (B18)  Surface (B19)  Surface (B18)  Surface (									
1 cm Muck (A9) (LRR F, G, H) Depleted Beliav Dark Surface (A11) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S3) (LRR F)  Persective Layer (if present):  pe:							-		. ,
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F8) 3 Indicators of hydrophytic vegetation and welfand hydrology must be present strictive Layer (if present):  pe: pth (inches):  ### Hydric Soils Present? Yes No X  ### No X  ### Secondary Indicators (2 or more required)  ### Surface Soil Cracks (86) Surface Soil Cracks (86) Surface Soil Cracks (86) Surface Soil Cracks (87) Surface Soil Cracks (88)									
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sor Mucky Peat or Peat (S2) (LFF G, H) Sor Mucky Peat or Peat (S3) (LRR F) Sor Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F16) Sor Mucky Peat or Peat (S3) (LRR F)  pe: pth (inches): Hydric Soils Present? Yes No X  Water Albert (A1) Salt Crusts (B11) Sourface Soil Cracks (B6) Surface Water (A1) Solution (A3) Hydrogen Sulfide Oder (C1) Oxidized Rhizospheres on Living Roots (Welter Marks (B1)) Dry-Season Water Table (C2) Craylish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Inches): Inches (B3) Water Stained Leaves (B3) Water Stained Leaves (B3) Thin Muck Surface (C7) Water Stained Leaves (B3) W									
Sandy Mucky Minerat (S1) Redox Depressions (F8) High Plains Depressions (F16) 3 Indicators of hydrophytic vegetation and wetland hydrology must be present wetland hydrology must be present strictive Layer (if present):    Pet	·		e (A11)						
2.5 cm Mucky Peat or Peat (S2) (LFF G, H) 5 cm Mucky Peat or Peat (S3) (LRR F)  strictive Layer (if present):  pe: ppth (inches):    Hydric Soils Present?    Yes	_							Other (Explain	in Remarks)
strictive Layer (if present):  pe: ppth (inches): p		, ,	(C2) (LEE C	u\			16)	3Indicators of b	udranhutia vagatatian
pe: ppth (inches): pp				n)	rigii Piains L	pepressions (F	10)		
ppe:			o) (LIKIT)					and wedand ny	arology mast be present
etland Hydrology Indicators: mary Indicators (any one indicator is sufficient)  Surface Water (A1) Surface Water (A1) Surface Water (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Oder (C1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) In Deposits (B5) In Undation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  eld Observations:  urface Water Present? Yes No X Depth (inches): ater Table Present? Yes No X Depth (inches): ater Table Present? Yes No X Depth (inches): ater Table Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:  Saturation Indicators (2 or more required) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surfaces (E Sparsely Vegetated Concave (C2) Crayfish Burrows (C3) Saturation (C2) Crayfish Burrows (C3) Saturation (C4) S	pth (inches):					Hydric Soils F	Present?	Yes No	x
etland Hydrology Indicators: (any one indicator is sufficient)  Surface Water (A1) Surface Water (A1) Surface Water (A1) Satt Crusts (B11) Saturation (A3) Hydrogen Sulfide Oder (C1) Sediment Deposits (B1) Drift Deposits (B3) Algal Mat or Crust (B4) In Other (Explain in Remark) In Other (Explain in Remark) Water Stained Leaves (B9)  eld Observations:  urface Water Present? Yes No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X Depth (inches): atter Table Present? Yes No X No X No X Depth (inches): atter Table Present? Yes No X No X No X Depth (inches): atter Table Present? Yes No X No X No X Depth (inches): atter Table Present? Yes No X No	epth (inches): emarks:	sions of mottle	s present in d	lepths 4-10 in t		Hydric Solls F	Present?	Yes No	X
imary Indicators (any one indicator is sufficient)  Surface Water (A1)  Salt Crusts (B11)  Salt Crusts (B13)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stalined Leaves (B9)  eld Observations:  urface Water Present? Yes No X Depth (inches): atturation Present? Yes No X Depth (inches): atturation Present? Yes No X Depth (inches): ascribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:  Salt Crusts (B6)  Sparsely Vegetated Concave Surfaces (B Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Frost-Heave Hummocks (C11) (LRR F) Saturation Visible on Aerial Imagery (C9) Frost-Heave Hummocks (C11) (LRR F) Saturation Visible on Aerial Imagery (C9) Saturation (C4) Saturation Visible on Aerial Imagery (C9) Saturation (C4) Saturation (C4) Saturation (C4) Saturation (C4) Saturation (C4	epth (inches): emarks: nere were small inclus	sions of mottle	s present in d	lepths 4-10 in tl		Hydric Soils F	Present?	Yes No	X
Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Saturation (B1) Sparsely Vegetated Concave Surfaces (E Dry-Season Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Frost-Heave Hummocks (C11) (LRR F) Frost-Heave Hummocks (C11) (LRR F) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  eld Observations:  urface Water Present? Yes No X Depth (inches): ater Table Present? Yes No X Depth (inch	pth (inches): emarks: ere were small inclus /DROLOGY		s present in d	lepths 4-10 in t		Hydric Soils F			
High Water Table (A2) Saturation (A3) Hydrogen Sulfide Oder (C1) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  eld Observations:  urface Water Present? Yes No X Depth (inches): saturation Present? Yes No X Depth (inches): saturation Present? Yes No X Depth (inches): secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	pth (inches): emarks: ere were small inclus /DROLOGY etland Hydrology In	dicators:		lepths 4-10 in t		Hydric Soils F		ondary Indicators (2	or more required)
Saturation (A3)  Hydrogen Sulfide Oder (C1)  Oxidized Rhizospheres on Living Roots (C2)  Crayfish Burrows (C8)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Saturation Visible on Aerial Imagery (C9)  Prost-Heave Hummocks (C11) (LRR F)  Algal Mat or Crust (B4)  Other (Explain in Remark)  X  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Local Soil Survey Data (D8)  Present? Yes  No  X  Depth (inches):  alter Table Present? Yes  No  X  Depth (inches):  Wetland Hydrology Present? Yes  X  No  cludes capillary fringe)  Wetland Later Gauge, monitoring well, aerial photos, previous inspection), if available:	pth (inches): marks: ere were small inclus  /DROLOGY etland Hydrology In	dicators:			he matrix.	Hydric Soils F		ondary Indicators (2 Surface Soil Crac	2 or more required) ks (B6)
Water Marks (B1)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  ald Observations:  Inface Water Present? Yes No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X No X Depth (inches):  Inturation Present? Yes No X No	pth (inches): marks: ere were small inclus  'DROLOGY etland Hydrology In mary Indicators (any Surface Water (A	dicators: one indicator		Salt (	he matrix.		Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetati	<b>2 or more required)</b> ks (B6) ed Concave Surfaces (E
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Inface Water Present?  Yes  No  X  Depth (inches):  Inturation Present?  Yes  Yes  X  No  Inturation Present?  Yes  Yes  X  No  Inturation Present?  Yes  Yes  Yes  Yes  X  No  Inturation Present?  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	pth (inches): marks: ere were small inclus  'DROLOGY etland Hydrology In mary Indicators (any Surface Water (A) High Water Tabl	dicators: one indicator		Salt (	he matrix.  Crusts (B11) tic Invertebrate	es (B13)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns	2 or more required) ks (B6) ed Concave Surfaces (E s (B10)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Indicated Water Present?  Inface Water Present?  Interest Yes No X Depth (inches): Interest Depth (inches): Intere	pth (inches): marks: ere were small inclus  /DROLOGY etland Hydrology In mary Indicators (any Surface Water ( High Water Tabl Saturation (A3)	dicators: one indicator A1) e (A2)		Salt (	he matrix.  Crusts (B11) tic Invertebrate ogen Sulfide O	es (B13) der (C1)	Seco	Surface Soil Crac Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp	2 or more required) ks (B6) ed Concave Surfaces (E s (B10) heres on Living Roots (6
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Indicate Water Present? Yes No X Depth (inches):  Alter Table Present? Yes No X Depth (inches):  Intract Present? Yes No X Depth (inches):  Sturration Present? Yes No X No Yes No X Depth (inches):  Sturration Present? Yes No X No Yes No Yes X No Yes Yes X No Yes Yes X No Yes Yes Yes X No Yes	pth (inches): marks: ere were small inclus  /DROLOGY etland Hydrology In imary Indicators (any Surface Water (/ High Water Tabl Saturation (A3) Water Marks (B1)	dicators: one indicator A1) e (A2)		Salt ( Aqua Hydro	Crusts (B11) tic Invertebrate ogen Sulfide O Season Water	es (B13) der (C1) Table (C2)	Seco	Surface Soil Crac Surface Soil Crac Sparsely Vegetati Drainage Patterns Oxidized Rhizosp Crayfish Burrows	e or more required) ks (B6) ed Concave Surfaces (Es (B10) heres on Living Roots (C8)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  eld Observations:  Irrace Water Present? Yes NoX Depth (inches): ater Table Present? Yes NoX Depth (inches): aturation Present? Yes NoX Depth (inches): aturation Present? Yes NoX Depth (inches): wetland Hydrology Present? Yes X No accided capillary fringe)  escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	pth (inches): marks: ere were small inclus  PDROLOGY etland Hydrology In imary Indicators (any Surface Water (A High Water Tabl Saturation (A3) Water Marks (B1 Sediment Depos	dicators: one indicator A1) e (A2) i)		Salt ( Aqua Hydro	crusts (B11) tic Invertebrate ogen Sulfide O beason Water	es (B13) der (C1) Table (C2) ed Iron (C4)	Seco	Surface Soil Crac Surface Soil Crac Sparsely Vegetati Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible	e or more required) ks (B6) ed Concave Surfaces (Es (B10) heres on Living Roots (C8) on Aerial Imagery (C9)
Water Stained Leaves (B9)  eld Observations:  urface Water Present? Yes No X Depth (inches): ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): urface Water Present? Yes No X Depth (inches):  esturation Present? Yes No X Depth (inches):  wetland Hydrology Present? Yes X No Yes No Yes X No Yes Yes X No Yes Yes X No Yes Yes Yes X No Yes	pth (inches): marks: ere were small inclus  /DROLOGY etland Hydrology In imary Indicators (any Surface Water (/ High Water Tabl Saturation (A3) Water Marks (B1 Sediment Deposits (B	dicators: one indicator A1) e (A2) i) its (B2) 3)		Salt ( Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide O beason Water ence of Reduce Muck Surface	es (B13) der (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Crac Surface Soil Crac Sparsely Vegetati Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum	e or more required) ks (B6) ed Concave Surfaces (Es (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F)
eld Observations:  urface Water Present? Yes No X Depth (inches): ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): urface Water Present? Yes No X Depth (inches): wetland Hydrology Present? Yes X No Includes capillary fringe)  escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	pth (inches): marks: ere were small inclus  PDROLOGY etland Hydrology In imary Indicators (any Surface Water (A High Water Tabl Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B Algal Mat or Cru	dicators: one indicator A1) e (A2) i) its (B2) 3) st (B4)		Salt ( Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide O beason Water ence of Reduce Muck Surface	es (B13) der (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hurr Geomorphic Posi	P or more required) ks (B6) ed Concave Surfaces (Es (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
arface Water Present? Yes No X Depth (inches): ater Table Present? Yes No X Depth (inches): aturation Present? Yes No X Depth (inches): cludes capillary fringe)  Bescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	rpth (inches):  Imarks: Imarks	dicators: one indicator (A1) e (A2) iits (B2) 3) st (B4)	is sufficient)	Salt ( Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide O beason Water ence of Reduce Muck Surface	es (B13) der (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Crace Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	P or more required) ks (B6) ed Concave Surfaces (Es (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
ater Table Present? Yes No X Depth (inches): Ituration Present? Yes No X Depth (inches): Ituration Present? Yes No X Depth (inches): Ituration Present? Yes X No Cludes capillary fringe)  Escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	pth (inches): marks: ere were small inclus  'DROLOGY etland Hydrology In mary Indicators (any Surface Water (A) High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B) Drift Deposits (B) Algal Mat or Cru Iron Deposits (B) Inundation Visible Water Stained L	dicators: one indicator (A1) e (A2) i) iits (B2) 3) st (B4) 5) e on Aerial Im	is sufficient)	Salt ( Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide O beason Water ence of Reduce Muck Surface	es (B13) der (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Crace Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	P or more required) ks (B6) ed Concave Surfaces (Es (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
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escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	Property (inches):  Proper	dicators: one indicator A1) e (A2) i) its (B2) 3) st (B4) 5) e on Aerial Imeaves (B9) ? Yes	is sufficient) agery (B7)	Salt ( Aqua Hydre Dry-S Prese Thin Other	Crusts (B11) tic Invertebrate ogen Sulfide O Season Water ence of Reduce Muck Surface or (Explain in Re	es (B13) der (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Crace Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	P or more required) ks (B6) ed Concave Surfaces (Es (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
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US Army Corps of Engineers

Great Plains - DRAFT Version 8-30-06



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Project/Site: Dewey	Burdock	City/County:	Custer County	Sampling Date: 9/18/07
Applicant/Owner: Knight F	Piesold, Powertech	_ State:	South Dakota	Sampling Point: W14
Investigator(s): C. Robi	nson and J. Eberly	Section, Townsh	nip, Range: <u>Se</u>	ection 32, T6S, R1E
Landform (hillslope, terrace,	etc.) <u>Drainage</u>	Lo	cal relief (concave	e, convex, none): Convex Slope (%): 1
Subregion (LRP): Black	Hills MLRA62	Lat:	Long:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI Cla	ssification:	R4US
Are climatic/hydrologic cond	litions on the site typical for th	nis time of year?	Yes	X No (If no, explain in Remarks.)
Are Vegetation , Sc	il , or Hydrology	Significan	tly disturbed? Ar	re "Normal Circumstances" present? Yes X No
Are Vegetation , So	il , or Hydrology	Naturally	problematic? (If	needed, explain any answers in Remarks.)
SUMMARY OF FINDI	NGS - Attach site map	showing sam	pling point k	ocations, transects, important features, etc.
Hydrophytic Vegetation Pres				
Hydric Soil Present?	Yes X	 No		ie Sampled Area nin a Wetland Yes X No
Wetland Hydrology Present	Yes X	No		
Remarks:			045.040	
R2 P7: Upstream R2P8: Downstream	, area extend	ds from waypoints	015-019	•
R2 P9: General area of PEN	<u>/C</u>	<del></del>		· · · · · · · · · · · · · · · · · · ·
VEGETATION				
Tree Stratum (Use scientific	•	Dominant	Indicator	Dominance Test Worksheet:
<u> </u>   1.	% Cover_	Species?	<u>Status</u>	Number of Dominant Species
1. 1 2.				That are OBL, FACW, or FAC:3 (A)
3. 4.				Total Number of Dominant
7 4.	Total Cover:			Species Across All Strata:3 (B)
Conline/Chruh Stratum				Percent of Dominant Species
Sapling/Shrub Stratum  1.				That Are OBL, FACW, or FAC: 100 (A/B)
2.				
3.				Prevalence Index Worksheet:
5.				Total % Cover of: Multiply by:
	Total Cover:			OBL species 20 x1= 20
Herb Stratum				FACW species 80 x2= 160
Spartina pectinata     Tracks (atticalian		X	FACW	FAC species x3=
Typha latifolia     Juncus balticus		X	OBL FACW	FACU species x4= UPL species x5=
4.				Column Totals: 100 (A) 180 (B)
5. 6.	<del></del>			Prevalence Index = B/A = 1.80
7.				Hydrophytic Vegetation Indicators
8.				X Dominance Test is > 50%
10.	<del></del>		<del></del>	X Prevalence Index is ≤ 3.01
	Total Cover: 100			Morphological Adaptations <sup>1</sup> (Providing supporting
Woody Vine Stratum				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)
1.				
2	<u> </u>			¹Indicators of hydric soils and wetland hydrology must be present  Hydrophytic
J	Total Cover:		<del></del>	Negetation
	<del></del>			Present? Yes X No
% Bare Ground in Herb Stra	atum 10 %	Cover of Biotic Cru		

US Army Corps of Engineers **SOIL** 

Great Plains - DRAFT 8-30-2006 Sampling Point W14



	Matrix			Redox Fea	itures			
nches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Remarks
0-4	Gley1 4/N	55	7.5YR 5/8	45	Ċ	RC	SiCL	
I-14	Gley1 4/N	80	7.5YR 4/6	20	C	M	SiCL.	
	***************************************	***************************************						
					***************************************			
				_			· <u> </u>	
e: C=Cor	centration, D=Depletio	n, RM=Reduc	ced Matrix.	<sup>2</sup> Location: F	PL=Pore Lining	, RC=Root (	Channel, M=Matrix.	
	dicators: (Applicable	to all LRRs,				Ind	licators for Problem	natic Hydric Soils³:
	sol (A1)			Sandy Gleyed			1 cm Muck (A9	
	Epipedon (A2)			Sandy Redox				Redox (A16) (LRR F, G,
	Histic (A3)			Stripped Matri:			Dark Surface (	
	ogen Sulfide (A4)			Loamy Mucky				pressions (F16)
	fied Layers (A5) (LRR			Loamy Gleyed				side MLRA 72 & 73)
	Muck (A9) (LRR F, G,			Depleted Matr			Reduced Vertice	
	ted Below Dark Surfac	æ (A11)		Redox Dark S	, ,		Red Parent Ma	` ,
	Dark Surface (A12)			Depleted Dark			Other (Explain	in Remarks)
	y Mucky Mineral (S1)			Redox Depres			3	
	n Mucky Peat or Peat		H)	High Plains De	epressions (F16	5)		ydrophytic vegetation
	Mucky Peat or Peat (S ver (if present):	3) (LKK F)			<del></del>		and welland ny	ydrology must be preser
oe: oth (inches marks: ere were sn	nall inclusions of mottle	s present in d	lepths 4-10 in the		lydric Soils Pr	esent?	Yes X No	
oth (inches		s present in d	lepths 4-10 in the		lydric Soils Pr	esent?	Yes X No	
oth (inches narks: re were sn	nall inclusions of mottle	s present in d	lepths 4-10 in the		lydric Soils Pr	esent?	Yes X No	
narks: re were sn  DROLOGY	nall inclusions of mottle		lepths 4-10 in the		lydric Soils Pr		·	2 or more required)
narks: re were sn  DROLOGY	nall inclusions of mottle		lepths 4-10 in the		lydric Soils Pr		·	
narks: re were sn  DROLOGY tland Hydr nary Indica	nall inclusions of mottle				lydric Soils Pr		ondary Indicators (	cks (B6)
narks: re were sn  DROLOGY land Hydr hary Indica Surface	nall inclusions of mottle ology Indicators: tors (any one indicator		Salt Cr	e matrix.  rusts (B11) c Invertebrates	s (B13)		ondary Indicators (	cks (B6) ted Concave Surfaces (I
narks: re were sn  DROLOGY land Hydr hary Indica Surface	ology Indicators: tors (any one indicator Water (A1) ater Table (A2)		Salt Cr	e matrix.	s (B13)	Sec	ondary Indicators (; Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp	cks (B6) led Concave Surfaces (I s (B10) oheres on Living Roots (
DROLOGY land Hydr ary Indica Surface High Water M	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1)		Salt Cr Aquati Hydrog Dry-Se	e matrix.  rusts (B11) c Invertebrates gen Sulfide Od eason Water Ta	s (B13) er (C1) able (C2)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows	cks (B6) led Concave Surfaces (B s (B10) pheres on Living Roots ( s (C8)
DROLOGY cland Hydr nary Indica Surface High W: Saturati Water M Sedime	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)		Salt Cr Aquati Hydroç Dry-Se Preser	e matrix.  rusts (B11) c Invertebrates gen Sulfide Od aason Water Ta	s (B13) er (C1) able (C2) d Iron (C4)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible	cks (B6) led Concave Surfaces (B s (B10) pheres on Living Roots ( s (C8) e on Aerial Imagery (C9)
DROLOGY Cland Hydrinary Indica Surface High W: Saturati Water N Sedime Drift De	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)		Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrates gen Sulfide Od aason Water Ta nce of Reduced	s (B13) er (C1) able (C2) d Iron (C4) C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible	cks (B6) led Concave Surfaces (B s (B10) pheres on Living Roots ( s (C8)
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DROLOGY Cland Hydrony Indica Surface High Water N Sedime Drift De Algal M Iron De	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	is sufficient)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrates gen Sulfide Od aason Water Ta nce of Reduced	s (B13) er (C1) able (C2) d Iron (C4) C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi	cks (B6) led Concave Surfaces (I les (B10) leheres on Living Roots (I le (C8) le on Aerial Imagery (C9) lenmocks (C11) (LRR F) lition (D2) t (D5)
DROLOGY Idand Hydrary Indica Surface High With Saturati Water M Sedime Drift De Algal M Iron De Inundat Water S	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Im	is sufficient)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrates gen Sulfide Od aason Water Ta nce of Reduced	s (B13) er (C1) able (C2) d Iron (C4) C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi FAC-Neutral Tes	cks (B6) led Concave Surfaces (I les (B10) leheres on Living Roots (I le (C8) le on Aerial Imagery (C9) lenmocks (C11) (LRR F) lition (D2) t (D5)
DROLOGY Idand Hydrary Indica Surface High With Saturati Water M Sedime Drift De Algal M Iron De Inundat Water S	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Im	is sufficient)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrates gen Sulfide Od aason Water Ta nce of Reduced	s (B13) er (C1) able (C2) d Iron (C4) C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi FAC-Neutral Tes	cks (B6) led Concave Surfaces (I les (B10) leheres on Living Roots (I le (C8) le on Aerial Imagery (C9) lenmocks (C11) (LRR F) lition (D2) t (D5)
DROLOGY tland Hydr nary Indica Surface High Water M Sedime Drift De Algal M Inductor De Inundat Water S Inductor De Inundat Water S Inductor De Inundat Water S Inductor De Inundat In	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Im tained Leaves (B9)	is sufficient) agery (B7)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other (	e matrix.  rusts (B11) c Invertebrates gen Sulfide Od eason Water Ta nce of Reduced luck Surface (( (Explain in Rer	s (B13) er (C1) able (C2) d Iron (C4) C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi FAC-Neutral Tes	cks (B6) ded Concave Surfaces (B s (B10) cheres on Living Roots (B c (C8) de on Aerial Imagery (C9) nmocks (C11) (LRR F) dition (D2) t (D5)
DROLOGY tland Hydr mary Indica Surface High W: Saturati Water N Sedime Drift De Algal M Iron De Inundat	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Imitained Leaves (B9) litions: Present? Yes	is sufficient) agery (B7)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other (	rusts (B11) c Invertebrates gen Sulfide Od aason Water Ta nce of Reduced	s (B13) er (C1) able (C2) d Iron (C4) C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi FAC-Neutral Tes	cks (B6) ded Concave Surfaces (B s (B10) cheres on Living Roots (B c (C8) de on Aerial Imagery (C9) nmocks (C11) (LRR F) dition (D2) t (D5)
DROLOGY tland Hydr nary Indica Surface High Water M Sedime Drift De Algal M Iron De Inundat Water S Id Observa	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Imitained Leaves (B9) titions:  Present? Yes resent? Yes	is sufficient) agery (B7)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other (	rusts (B11) c Invertebrates gen Sulfide Od eason Water Ta nce of Reduced luck Surface (C (Explain in Rer	s (B13) er (C1) able (C2) d Iron (C4) C7) mark)	Secondary X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi FAC-Neutral Tes Local Soil Survey	cks (B6) led Concave Surfaces (B s (B10) led Concave Surfaces (B s (B10) led Concave Surfaces (B c (C8) led On Aerial Imagery (C9) led On Aerial Imagery (C9) led (D2) t (D5) led (D8)
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DROLOGY Iland Hydronary Indica Surface High With Saturati Water Modern Sedime Drift De Algal Modern Modern Sedime Inundat Water Sedime Inundat Water Sedime Inundat Water Sedime Unit De Inundat Unit	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Imitained Leaves (B9) utions:  Present? Yes resent? Yes sent? Yes	agery (B7)  No No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other of  X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Od asson Water Ta nce of Reduce luck Surface (C (Explain in Rer  (inches): (inches):	s (B13) er (C1) able (C2) d Iron (C4) C7) mark)	Sec.  X X X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi FAC-Neutral Tes Local Soil Survey	cks (B6) led Concave Surfaces (B s (B10) led Concave Surfaces (B s (B10) led Concave Surfaces (B c (C8) led On Aerial Imagery (C9) led On Aerial Imagery (C9) led (D2) t (D5) led (D8)
DROLOGY Cland Hydrogy Indica Surface High With Saturati Water Manager	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) farks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Imitained Leaves (B9) attions:  Present? Yes resent? Yes sent? Yes lary fringe)	agery (B7)  No No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other of  X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Od asson Water Ta nce of Reduce luck Surface (C (Explain in Rer  (inches): (inches):	s (B13) er (C1) able (C2) d Iron (C4) C7) mark)	Sec.  X X X	ondary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi FAC-Neutral Tes Local Soil Survey	cks (B6) led Concave Surfaces (I s (B10) oheres on Living Roots (I s (C8) e on Aerial Imagery (C9) nmocks (C11) (LRR F) ition (D2) t (D5) y Data (D8)

US Army Corps of Engineers



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	Custer Count	ty	Sampling Date:	9/18/07
Applicant/Owner: Knight Piesold, Power	ertech	State:	South Dakota	<u> </u>	Sampling Point:	W15
Investigator(s): C. Robinson and J. E	berly	Section, Towns	ship, Range:	Section 30, T6S, R1E		,
Landform (hillslope, terrace, etc.)	ainage	Lo	ocal relief (con	ncave, convex, none):	Concave Slope	e (%): <u>1</u>
Subregion (LRP): Black Hills MLRA62		Lat:	Lon	g:	Datum: NAD 19	83, UTM Zone 13
Soil Map Unit Name:		NWI CI	assification:	R2EM		
Are climatic/hydrologic conditions on the	site typical for this	time of year?	Yes	<u>X</u> No	(If no, explair	ı in Remarks.)
Are Vegetation , Soil	or Hydrology	Significa	ntly disturbed'	? Are "Normal Circumsta	ances" present?	Yes X No
Are Vegetation , Soil ,	or Hydrology	Naturally	problematic?	(If needed, explain any	answers in Remark	.s.)
SUMMARY OF FINDINGS - Atta	ch site map s	showing san	npling poir	nt locations, transe	ects, important	features, etc.
Hydrophytic Vegetation Present?	Yes X	No	,	Is the Sampled Area	¥.	
Hydric Soil Present?	Yes X	No			Yes X No	
Wetland Hydrology Present	Yes X	No				
Remarks: R2 P12: Upstream				i.		
R2 P13: Downstream	Ab :b4 0 54					
Wetland is upstream and the channel wid	in is about 8 feet	wide.	<del></del>			
VEGETATION						
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status		! Worksheet:	
1.				Number of Domir		4 (4)
2. 3.				That are OBL, FA	CVV, or FAC:	<u>1</u> (A)
4. Total Cove			-	Total Number of I		1 (B)
Total Gove	'·			Species Acioss A	w Strata.	(0)
Sapling/Shrub Stratum  1.				Percent of Domin		100 (A/B)
2.					• -	
3. 4.				Prevalence Inde	x Worksheet:	
5.				Total % Cover of	: M	lultiply by:
Total Cove	r:			OBL species	x1=	
Herb Stratum		v	E4 0\4/	FACW species	x2=	
Spartina pectinata     Eleocharis palustris	<u>55</u> 15	X	_ <u>FACW</u> OBL	FAC species FACU species	x3= _	
3. Juncus balticus	10		FACW	<b>—</b> '	x5=	
4. Kochia scoparia 5. Bassia sieveriana	10 10		- FAC FACU	Column Totals: Prevalence Index	${A} = B/A = A$	(B)
6.						
7. 8.			-	Hydrophytic Ve	getation Indicators	
9.					ce Test is > 50%	•
10Total Cove	r: 100				ce Index is $\leq 3.0^1$	Providing supporting
Total Cove	1			data in Remark	ks or on a separate :	sheet)
Woody Vine Stratum  1.				Problema	tic Hydrophytic Veg	etation (Explain)
2.				<sup>1</sup> Indicators of hydri	c soils and wetland hyd	drology must be present
3. Total Cove	<u></u>	•••••		Hydrophytic Vegetation		
	<del></del>			Present?	Yes X	No
% Bare Ground in Herb Stratum  Remarks:	% Co	over of Biotic Cri	ust			
nomarko.						

US Army Corps of Engineers

Great Plains - DRAFT 8-30-2006



rottle Description: (Descr			4 4h a ! d! a a 4 a .		the channe	of indicators \	g Point W15
, , , , , , , , , , , , , , , , , , , ,	ibe to the depth ne	eaea to aocumen	t the indicator	r or confirm	the absence	or indicators.)	
	atrix		Redox Fea		<del></del>	·	
inches) Color (m		Color (moist)	%	Type'	Loc²	Texture	Remarks
0-8 2.5Y 4/1		7.5YR 4/6	10	<u> </u>	RC, M	CL	
8-10 Gley1 3/N	N 70	7.5YR 5/8	30	C	M	SiC	
			***			. <del></del>	
ype: C=Concentration, D=				L=Pore Lining		nannel, M=Matrix.	<del></del>
ydric Soil Indicators: (Ap Histosol (A1)	plicable to all LRRs			Matrix (CA)	Indic	tators for Problema	
Histic Epipedon (A2	Λ.		andy Gleyed I andy Redox (		-	1 cm Muck (A9)	(LRR C) dox (A16) (LRR F, G, F
Black Histic (A3)	)		stripped Matrix			Dark Surface (S	
Hydrogen Sulfide (A	(4)		oamy Mucky N			High Plains Dep	
Stratified Layers (A5			oamy Gleyed			(LRR H outsi	de MLRA 72 & 73)
1 cm Muck (A9) (LR	, , , , , , , , , , , , , , , , , , ,		epleted Matrix			Reduced Vertic	
Depleted Below Dar	rk Surface (A11)		Redox Dark Su	rface (F6)		Red Parent Mate	erial (TF2)
Thick Dark Surface	` <i>'</i>		epleted Dark			Other (Explain in	Remarks)
Sandy Mucky Miner			Redox Depress			2	
2.5 cm Mucky Peat		,H) ⊦	ligh Plains De <sub>l</sub>	pressions (F1	16)		drophytic vegetation
5 cm Mucky Peat or estrictive Layer (if presen				····		and wetland hyd	rology must be present
					·····		
YDROLOGY							
					Seco	ndary Indicators (2	or more required)
IYDROLOGY Vetland Hydrology Indicato Primary Indicators (any one i		)		-	Seco	ndary Indicators (2 Surface Soil Crack	s (B6)
Vetland Hydrology Indicate rimary Indicators (any one i		Salt Cru	usts (B11)		Seco	Surface Soil Crack Sparsely Vegetate	s (B6) d Concave Surfaces (B
Vetland Hydrology Indicator rimary Indicators (any one in X Surface Water (A1) High Water Table (A2)	ndicator is sufficient	Salt Cru Aquatic	Invertebrates		·	Surface Soil Crack Sparsely Vegetate Drainage Patterns	s (B6) d Concave Surfaces (B (B10)
Vetland Hydrology Indicatorimary Indicators (any one in Surface Water (A1) High Water Table (A2) Saturation (A3)	ndicator is sufficient	Salt Cru Aquatic Hydroge	Invertebrates en Sulfide Ode	r (C1)		Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C
Vetland Hydrology Indicatorimary Indicators (any one in X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ndicator is sufficient	Salt Cru Aquatic Hydrogo Dry-Sea	Invertebrates en Sulfide Ode ason Water Ta	er (C1) ble (C2)	·	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows (	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C C8)
Vetland Hydrology Indicatorimary Indicators (any one in X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ndicator is sufficient	Salt Cru Aquatic Hydroge Dry-Sea	Invertebrates en Sulfide Ode ason Water Ta ce of Reduced	er (C1) ble (C2) Iron (C4)	·	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows ( Saturation Visible of	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C C8) on Aerial Imagery (C9)
Vetland Hydrology Indicatorimary Indicators (any one in X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3)	ndicator is sufficient ) 2)	Salt Cru Aquatic Hydroge Dry-Sea Presend Thin Mu	Invertebrates en Sulfide Ode ason Water Ta ce of Reduced ick Surface (C	er (C1) ble (C2) Iron (C4) 7)	·	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows ( Saturation Visible of Frost-Heave Humn	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) nocks (C11) (LRR F)
Vetland Hydrology Indicatorimary Indicators (any one in X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4	ndicator is sufficient ) 2)	Salt Cru Aquatic Hydroge Dry-Sea Presend Thin Mu	Invertebrates en Sulfide Ode ason Water Ta ce of Reduced	er (C1) ble (C2) Iron (C4) 7)	·	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows ( Saturation Visible of Frost-Heave Humr Geomorphic Positi	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) nocks (C11) (LRR F) on (D2)
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Vetland Hydrology Indicator imary Indicators (any one in X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Inundation Visible on A Water Stained Leaves iield Observations:  Surface Water Present?  Vater Table Present?  Surface water Present?  Vater Table Present?  Includes capillary fringe)	ndicator is sufficient  2)  Aerial Imagery (B7) (B9)  Yes No Yes No	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (I	Invertebrates en Sulfide Ode ason Water Ta ce of Reduced ick Surface (C Explain in Rem inches): inches):	er (C1) ble (C2) Iron (C4) 7) eark)  10 We	X X X	Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph Crayfish Burrows ( Saturation Visible of Frost-Heave Humn Geomorphic Positin FAC-Neutral Test ( Local Soil Survey I	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) nocks (C11) (LRR F) on (D2) (D5) Data (D8)
Vetland Hydrology Indicator imary Indicators (any one in X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Inundation Visible on A Water Stained Leaves iield Observations:  Surface Water Present?  Vater Table Present?  Surface water Present?  Vater Table Present?  Includes capillary fringe)	ndicator is sufficient  2)  Aerial Imagery (B7) (B9)  Yes No Yes No	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (I	Invertebrates en Sulfide Ode ason Water Ta ce of Reduced ick Surface (C Explain in Rem inches): inches):	er (C1) ble (C2) Iron (C4) 7) eark)  10 We	X X X	Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph Crayfish Burrows ( Saturation Visible of Frost-Heave Humn Geomorphic Positin FAC-Neutral Test ( Local Soil Survey I	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) nocks (C11) (LRR F) on (D2) (D5) Data (D8)
Vetland Hydrology Indicatorimary Indicators (any one it X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on A	ndicator is sufficient  2)  Aerial Imagery (B7) (B9)  Yes No Yes No	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (I	Invertebrates en Sulfide Ode ason Water Ta ce of Reduced ick Surface (C Explain in Rem inches): inches):	er (C1) ble (C2) Iron (C4) 7) eark)  10 We	X X X	Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph Crayfish Burrows ( Saturation Visible of Frost-Heave Humn Geomorphic Positin FAC-Neutral Test ( Local Soil Survey I	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) nocks (C11) (LRR F) on (D2) (D5) Data (D8)
Vetland Hydrology Indicator imary Indicators (any one in X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Inundation Visible on A Water Stained Leaves iield Observations:  Surface Water Present?  Vater Table Present?  Surface water Present?  Vater Table Present?  Includes capillary fringe)	ndicator is sufficient  2)  Aerial Imagery (B7) (B9)  Yes No Yes No	Salt Cru Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (I	Invertebrates en Sulfide Ode ason Water Ta ce of Reduced ick Surface (C Explain in Rem inches): inches):	er (C1) ble (C2) Iron (C4) 7) eark)  10 We	X X X	Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph Crayfish Burrows ( Saturation Visible of Frost-Heave Humn Geomorphic Positin FAC-Neutral Test ( Local Soil Survey I	s (B6) d Concave Surfaces (B (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) nocks (C11) (LRR F) on (D2) (D5) Data (D8)



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	Custer County	Sampling Date: 9/18/07	
Applicant/Owner: Knight Piesold, Pov	vertech	State:	South Dakota	Sampling Point: W16	
Investigator(s): C. Robinson and J.	Eberly	Section, Towns	ship, Range: S	ection 31, T6S, R1E	
Landform (hillslope, terrace, etc.)	)rainage	L	ocal relief (concav	ve, convex, none): _Concave _ Slope (%): _1	
Subregion (LRP): Black Hills MLRA6	62	Lat:	Long:	Datum: NAD 1983, UTM Zone 13	
Soil Map Unit Name:		NWI CI	<del></del>	R2EM	
Are climatic/hydrologic conditions on the				X No (If no, explain in Remarks.)	
, ,		•		re "Normal Circumstances" present? Yes X No	
				needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Att	tach site map	showing sar	npling point l	ocations, transects, important features, etc.	
Hydrophytic Vegetation Present?	Yes X		Is th	ne Sampled Area	
Hydric Soil Present?	Yes X	No		hin a Wetland Yes X No	
Wetland Hydrology Present	Yes X	No			
Remarks: R2 P18: Upstream					
R2 P19: Downstream					
Aquatic animals present		<del></del>			
VEGETATION					
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1				Number of Dominant Species	
2.				That are OBL, FACW, or FAC:2 (A)	
4.				Total Number of Dominant	
Total Cov	er:			Species Across All Strata:2 (B)	
Sapling/Shrub Stratum				Percent of Dominant Species	
1.				That Are OBL, FACW, or FAC: 100 (A/B)	
2. 3.			<del></del>	Prevalence Index Worksheet:	
4.		-		Flevalence much worksheet.	
5. Total Co.				Total % Cover of: Multiply by:	
Total Cov	/er:			OBL species x1=	
Herb Stratum				FACW species x2=	
Spartina pectinata     Cirsium arvense		X	_ <u>FACW</u> FACU	FAC species x3= x4=	
3. Eleocharis palustris	40	X	OBL	UPL species x5=	
4. Juncus balticus	15		FACW	Column Totals: (A) (B)	)
5. Xanthium strumarium	5		FAC	Prevalence Index = B/A =	
6. Chenopodium album	3 2		FAC	Livelness had a Verentation Indicators	
7. Schoenoplectus pungens 8.			OBL	Hydrophytic Vegetation Indicators	
9.				X Dominance Test is > 50%	
10.				Prevalence Index is ≤ 3.0 <sup>1</sup>	
Total Cov	/er: 100			Morphological Adaptations <sup>1</sup> (Providing supporting	
Woody Vine Stratum				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)	
1					
2.		-		<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present	
3				Hydrophytic Vegetation	
Total Cov	/ei.			Present? Yes X No	
	5 % C	Cover of Biotic Cr	ust		
Remarks:		•			

US Army Corps of Engineers

Great Plains - DRAFT 8-30-2006



ofile Description: (Describe to the depth n					or mulcators.	•
Donth Matrix		Bodov For			•	
Depth Matrix inches) Color (moist) %	Color (moist)	Redox Fea %	Type <sup>1</sup>	Loc²	Texture	Remarks
0-5 2.5Y 4/1 37	7.5YR 4/6		C	RC	C	remand
	Gley1 2.5/N	60				
	- CICY 1 2.3/11					
/pe: C=Concentration, D=Depletion, RM=Red	duced Matrix.	<sup>2</sup> Location: P	L=Pore Lining	, RC=Root C	hannel, M=Matrix.	
dric Soil Indicators: (Applicable to all LRF		rise noted.)			cators for Problema	atic Hydric Soils <sup>3</sup> :
Histosol (A1)		Sandy Gleyed		3	1 cm Muck (A9)	
Histic Epipedon (A2)		Sandy Redox (				edox (A16) (LRR F, G, I
Black Histic (A3)		Stripped Matrix			Dark Surface (S	
Hydrogen Sulfide (A4)		Loamy Mucky			High Plains Dep	
Stratified Layers (A5) (LRR F)		Loamy Gleyed	` '		•	ide MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11)	X	Depleted Matri Redox Dark Su			Reduced Vertic Red Parent Mat	•
Thick Dark Surface (A12)		Depleted Dark			Other (Explain i	
Sandy Mucky Mineral (S1)		Redox Depres		-	Other (Explain)	in Nomano,
2.5 cm Mucky Peat or Peat (S2) (LFF (	G. H)	High Plains De		3)	3Indicators of hy	drophytic vegetation
5 cm Mucky Peat or Peat (S3) (LRR F)	· · ·	<b>3</b>		- ,		drology must be presen
	<del></del>		**			
/DROLOGY						
etland Hydrology Indicators:				Seco	endary Indicators (2	
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien				Seco	Surface Soil Cracl	ks (B6)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1)	Salt C	Crusts (B11)	(D40)		Surface Soil Cracl Sparsely Vegetate	ks (B6) ed Concave Surfaces (E
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2)	Salt C	tic Invertebrates		Seco	Surface Soil Crack Sparsely Vegetate Drainage Patterns	ks (B6) ed Concave Surfaces (E s (B10)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt C Aqua Hydro	tic Invertebrates ogen Sulfide Od	er (C1)		Surface Soil Cract Sparsely Vegetate Drainage Patterns Oxidized Rhizospl	ks (B6) ed Concave Surfaces (E s (B10) heres on Living Roots (
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Salt C Aqua Hydro	tic Invertebrates ogen Sulfide Ode Season Water Ta	er (C1) able (C2)		Surface Soil Cract Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows	ks (B6) ed Concave Surfaces (E s (B10) heres on Living Roots ( (C8)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt C Aqua Hydro Dry-S Prese	tic Invertebrates ogen Sulfide Ode Season Water Ta ence of Reduced	er (C1) able (C2) I Iron (C4)		Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots ( (C8) on Aerial Imagery (C9)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Salt C Aqua Hydro Dry-S Prese Thin I	tic Invertebrates ogen Sulfide Od Season Water Ta ence of Reduced Muck Surface (C	er (C1) able (C2) I Iron (C4) C7)	X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots ((C8) on Aerial Imagery (C9) mocks (C11) (LRR F)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt C Aqua Hydro Dry-S Prese Thin I	tic Invertebrates ogen Sulfide Ode Season Water Ta ence of Reduced	er (C1) able (C2) I Iron (C4) C7)		Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (G (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Salt C Aqua Hydro Dry-S Prese Thin I Other	tic Invertebrates ogen Sulfide Od Season Water Ta ence of Reduced Muck Surface (C	er (C1) able (C2) I Iron (C4) C7)	X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)	Salt C Aqua Hydro Dry-S Prese Thin I Other	tic Invertebrates ogen Sulfide Od Season Water Ta ence of Reduced Muck Surface (C	er (C1) able (C2) I Iron (C4) C7)	X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)	Salt C Aqua Hydro Dry-S Prese Thin I Other	tic Invertebrates ogen Sulfide Od Season Water Ta ence of Reduced Muck Surface (C	er (C1) able (C2) I Iron (C4) C7)	X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)	Salt C Aqua Hydro Dry-S Prese Thin I	tic Invertebrates ogen Sulfide Od Geason Water Ta ence of Reduced Muck Surface (O r (Explain in Rer	er (C1) able (C2) I Iron (C4) C7) nark)	X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots ((C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5)
etland Hydrology Indicators: imary Indicators (any one indicator is sufficien  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  eld Observations:	Salt C Aqua Hydro Dry-S Prese Thin I Other	tic Invertebrates ogen Sulfide Ode Geason Water Ta ence of Reduced Muck Surface (Cr r (Explain in Rer	er (C1) able (C2) I Iron (C4) 77) nark)	X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots ((C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) eld Observations:  urface Water Present? Yes X No	Salt C Aqua Hydro Dry-S Prese Thin I Other	tic Invertebrates ogen Sulfide Ode Geason Water Ta ence of Reduced Muck Surface (C r (Explain in Rer	er (C1) able (C2) I Iron (C4) 77) nark)		Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots ((C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficien Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) eld Observations:  urface Water Present? Yes X No ater Table Present? Yes X No ater Table Present? Yes X No	Salt C Aqua Hydro Dry-S Prese Thin I Other	tic Invertebrates ogen Sulfide Ode Geason Water Ta ence of Reduced Muck Surface (Cr r (Explain in Rer	er (C1) able (C2) I Iron (C4) 77) nark)		Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots ((C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) eld Observations: urface Water Present? Yes X No ater Table Present? Yes X No ater Table Present? Yes X No cludes capillary fringe)	Salt C Aqua Hydro Dry-S Prese Thin I Other  Depth Depth	tic Invertebrates ogen Sulfide Ode Season Water Ta ence of Reduced Muck Surface (C r (Explain in Rer  n (inches): n (inches):	er (C1) able (C2) I Iron (C4) C7) nark)  5 5 5 Wet	X X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots ((C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
etland Hydrology Indicators: imary Indicators (any one indicator is sufficien  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  eld Observations:  urface Water Present? Yes X No	Salt C Aqua Hydro Dry-S Prese Thin I Other  Depth Depth	tic Invertebrates ogen Sulfide Ode Season Water Ta ence of Reduced Muck Surface (C r (Explain in Rer  n (inches): n (inches):	er (C1) able (C2) I Iron (C4) C7) nark)  5 5 5 Wet	X X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots ((C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) eld Observations:  urface Water Present? Yes X No ater Table Present? Yes X No cludes capillary fringe)	Salt C Aqua Hydro Dry-S Prese Thin I Other  Depth Depth	tic Invertebrates ogen Sulfide Ode Season Water Ta ence of Reduced Muck Surface (C r (Explain in Rer  n (inches): n (inches):	er (C1) able (C2) I Iron (C4) C7) nark)  5 5 5 Wet	X X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
etland Hydrology Indicators: mary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) eld Observations:  rface Water Present? Yes X No alter Table Present? Yes X No cludes capillary fringe)	Salt C Aqua Hydro Dry-S Prese Thin I Other  Depth Depth	tic Invertebrates ogen Sulfide Ode Season Water Ta ence of Reduced Muck Surface (C r (Explain in Rer  n (inches): n (inches):	er (C1) able (C2) I Iron (C4) C7) nark)  5 5 5 Wet	X X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
Atland Hydrology Indicators:  mary Indicators (any one indicator is sufficient Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Indicated Water Present?  Yes X No ster Table Present? Yes X No cludes capillary fringe)  scribe Recorded Data (stream gauge, monitor)	Salt C Aqua Hydro Dry-S Prese Thin I Other  Depth Depth	tic Invertebrates ogen Sulfide Ode Season Water Ta ence of Reduced Muck Surface (C r (Explain in Rer  n (inches): n (inches):	er (C1) able (C2) I Iron (C4) C7) nark)  5 5 5 Wet	X X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
tland Hydrology Indicators: mary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Hd Observations:  rface Water Present? Yes X No ater Table Present? Yes X No cludes capillary fringe)	Salt C Aqua Hydro Dry-S Prese Thin I Other  Depth Depth	tic Invertebrates ogen Sulfide Ode Season Water Ta ence of Reduced Muck Surface (C r (Explain in Rer  n (inches): n (inches):	er (C1) able (C2) I Iron (C4) C7) nark)  5 5 5 Wet	X X	Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ed Concave Surfaces (B s (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)



#### **WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)**

Applicant/Owner   Knight Piesold, Powertech   State   South Dakota   Sampling Point   W17	Project/Site: Dewey Burdock		City/County:	Custer Cou	nty S	Sampling Date: 9/18/07
Ditch around agricultural area   Local relief (concave, convex, none)   Convex   Slope (%)   2	Applicant/Owner: Knight Piesold, Powe	ertech				Sampling Point: W17
Datum: NAD 1983, UTM Zone 13   Soil Map Unit Name: NAW Classification: New Conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)	Investigator(s): C. Robinson and J. E	berly	Section, Tow	nship, Range	Section 31, T6S, R1E	
NWI Classification:    Landform (hillslope, terrace, etc.) Dit	ch around agricul	tural area	Local relief (c	oncave, convex, none):cc	onvex Slope (%): 2	
Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation	Subregion (LRP): Black Hills MLRA62		Lat:	Lo	ong: C	Datum: NAD 1983, UTM Zone 13
Significantly disturbed? Are "Normal Circumstances" present?				Classification:		
Naturally problematic? (If needed, explain any answers in Remarks.)	Are climatic/hydrologic conditions on the s	site typical for this	s time of year?	Y	es X No	(If no, explain in Remarks.)
Summary OF Findings - Attach site map showing sampling point locations, transects, important features, etc.	Are Vegetation , Soil ,	or Hydrology	Signific	cantly disturbe	d? Are "Normal Circumstand	ces" present? Yes X No
Hydrophytic Vegetation Present?   Yes	Are Vegetation , Soil ,	or Hydrology	Natura	lly problemati	? (If needed, explain any ar	nswers in Remarks.)
Is the Sampled Area   Within a Wetland   Yes   No   X   Within a Wetland   Yes   No   X	SUMMARY OF FINDINGS - Atta	ch site map	showing sa	ampling po	int locations, transec	ts, important features, etc.
Metland Hydrology Present   Yes	Hydrophytic Vegetation Present?	Yes	No	<u> </u>	lo the Commissi Avec	
Remarks   Rema	Hydric Soil Present?	Yes				es NoX
### Previously mapped as PEMA  ### Spacing Stratum   Cover	Wetland Hydrology Present	Yes	No	Х		٤
	Remarks: R2 P22: Unstream					
VEGETATION   Tree Stratum (Use scientific names)   Absolute % Cover   Species?   Status   Indicator Species?   Number of Dominant Species   That are OBL, FACW, or FAC: 0 (A)	R2 P23: Downstream					
Absolute	Previously mapped as PEMA	•				
Number of Dominant Species   That are OBL, FACW, or FAC:   0	VEGETATION		***************************************			
That are OBL, FACW, or FAC: 0 (A)  Total Number of Dominant Species Across All Strata: 1 (B)  Sapling/Shrub Stratum  Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)  Prevalence Index Worksheet:  Total Cover:  Total Cover:    OBL species   x1 =	<u>Tree Stratum</u> (Use scientific names)				1	/orksheet:
Total Number of Dominant Species Across All Strata: 1 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)  Prevalence Index Worksheet:  Total Cover:  Total Cover:  Total Cover:  Total Cover:    Bromus inermis   95   X   FACU   FAC   FAC   Species   3   33   9	1.					
Total Cover:   Species Across All Strata: 1 (B)	2.			<del></del>	I hat are OBL, FAC	W, or FAC: (A)
Percent of Dominant Species   That Are OBL, FACW, or FAC:   0   (A/B)	4.					
That Are OBL, FACW, or FAC: 0 (A/B)    Cover of:   Multiply by:	Total Cover	·			Species Across Air	Strata: (B)
Prevalence Index Worksheet:	Sapling/Shrub Stratum					
Total Cover:   Total % Cover of:   Multiply by:	2.		*****		—   That Are OBL, FAC	W, 01 FAC. 0 (A/B)
Total Cover:    Total Cover of:   Multiply by:	3.				Prevalence Index \	Worksheet:
Total Cover:   OBL species   x1 =	5.			<del></del>	Total % Cover of:	Multiply by:
Herb Stratum	Total Cover	r:				
Cirsium arvense         2         FACU species         97 x4 = 388           3. Chenopodium album         3         FAC         UPL species x5 = Column Totals: 100 (A) 397 (B)           4. State of the providence Index = B/A = 3.97         3.97         B           6. State of the providence Index = B/A = 3.97         B         B           9. State of the providence Index = B/A = 3.97         B         B           10. State of the providence Index = B/A = 3.97         B         B           10. State of the providence Index = B/A = 3.97         B         B           10. State of the providence Index is = 50%         B         B           10. State of the providence Index is = 3.01         B         B           10. State of the providence Index is = 3.01         B         B           10. State of the providence Index is = 3.01         B         B           10. State of the providence Index is = 3.01         B         B           10. State of the providence Index is = 3.01         B         B           10. State of the providence Index is = 3.01         B         B           10. State of the providence Index is = 3.01         B         B           10. State of the providence Index is = 3.01         B         B           10. State of the providence Index is = 3.01         B </td <td>Herb Stratum</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Herb Stratum					
3. Chenopodium album 3 FAC UPL species x5= Column Totals: 100 (A) 397 (B) Prevalence Index = B/A = 3.97  6. Hydrophytic Vegetation Indicators  8. Dominance Test is > 50% Prevalence Index is ≤ 3.0¹ Prevalence Index is ≤ 3.0¹ Morphological Adaptations¹ (Providing supporting)			X		············ '	
Column Totals: 100 (A) 397 (B)   Prevalence Index = B/A = 3.97						
6.	4.				Column Totals:	
Total Cover:   100   Hydrophytic Vegetation Indicators	5. 6.		· · · · · · · · · · · · · · · · · · ·		Prevalence Index =	B/A = 3.97
9. Dominance Test is > 50% 10. Prevalence Index is ≤ 3.0¹  Total Cover: 100 Morphological Adaptations¹ (Providing supporting	7.				Hydrophytic Veget	tation Indicators
10. Prevalence Index is ≤ 3.0¹  Total Cover: 100 Morphological Adaptations¹ (Providing supporting	8.				—   Dominones	Took in > 500/
Total Cover: 100 Morphological Adaptations <sup>1</sup> (Providing supporting	10.					
I data in Remarks or on a senarate sheet)	Total Cover	r: 100			Morphologic	cal Adaptations <sup>1</sup> (Providing supporting
	Woody Vine Stratum					
1	1.					
	2. 3.					oils and wetland hydrology must be present
Total Cover: Vegetation		r;			Vegetation	
% Bare Ground in Herb Stratum % Cover of Biotic Crust Present? Yes NoX	% Bare Ground in Herb Stratum		over of Riotic (	Crust		Yes NoX
	Remarks:	70 01	OTOL OF DIOLOC	J. 401		

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Great Plains - DRAFT 8-30-2006



SOIL				-4 41 1414				ng Point W17
Profile Descri	ption: (Describe to t	ne depth ned	eded to docume	nt the indicate	or or confirm ti	ne absence	of indicators.)	•
Depth (in the second	Matrix	0/		Redox Fe		12	<b>T</b>	Damanda .
inches) 0-2	Color (moist) 2.5Y 2.5/1	100	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture C	Remarks
2-8	2.5Y 4/3	100					<del></del>	
	2.31 4/3				***************************************			
					<del></del>			
***************************************			****					
					. ———			
				<del> </del>				·
<u>:</u>		-	<del></del>					
	centration, D=Depletion				PL=Pore Lining,		hannel, M=Matrix.	
	dicators: (Applicable sol (A1)	e to all LRRs		i <b>se noted.)</b> Sandy Gleyed	Matrix (SA)	Indi	cators for Problema 1 cm Muck (A9)	
	Epipedon (A2)			Sandy Redox				edox (A16) (LRR F, G,·I
	Histic (A3)			Stripped Matri		<del>-</del>	Dark Surface (S	
	ogen Sulfide (A4)			Loamy Mucky			High Plains Dep	
	fied Layers (A5) (LRR			Loamy Gleyed			•	de MLRA 72 & 73)
	Muck (A9) (LRR F, G,			Depleted Matr			Reduced Vertic	
	eted Below Dark Surfa : Dark Surface (A12)	ce (ATT)		Redox Dark S Depleted Dark			Red Parent Mat Other (Explain in	
	y Mucky Mineral (S1)			Redox Depres			Office (Explain)	r Komanko,
	m Mucky Peat or Peat	(S2) (LFF G,			epressions (F16	6)	3Indicators of hy	drophytic vegetation
	Mucky Peat or Peat (Sayer (if present):	3) (LRR F)					and wetland hyd	frology must be presen
	•							
YDROLOGY	***************************************		\					
	rology Indicators:					Seco	ndary Indicators (2	or more required)
imary Indica	tors (any one indicator	is sufficient)					Surface Soil Crack	s (B6)
	Water (A1)			rusts (B11)				d Concave Surfaces (E
	ater Table (A2)			ic Invertebrate: gen Sulfide Oc			Drainage Patterns	
	ion (A3) Marks (B1)			gen Suilide Od eason Water T			Crayfish Burrows	neres on Living Roots ( 'C8)
	ent Deposits (B2)			nce of Reduce				on Aerial Imagery (C9)
	posits (B3)			luck Surface (				mocks (C11) (LRR F)
	at or Crust (B4)		Other	(Explain in Re	mark)	X	Geomorphic Posit	
	posits (B5)	(D7)	•				FAC-Neutral Test	
	ion Visible on Aerial In Stained Leaves (B9)	agery (B7)					Local Soil Survey	Data (D8)
eld Observa				W				
urface Water	-	No		(inches):				
ater Table F aturation Pre	_	No No		(inches):	Wet	and Hydrold	ogy Present? Ye	s No X
	llary fringe)			(monos)		ana myarore	-gjirosont: 10	NO
	, , ,						**************************************	
escribe Reco	orded Data (stream ga	uge, monitori	ing well, aerial ph	otos, previous	inspection), if a	vailable:	•	
	, 4		•					
emarks:								
	•							
			,					



#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	Custer County	Sampling Date: 9/18/07	
Applicant/Owner: Knight Piesold, Pov	vertech	_	South Dakota		
Investigator(s): C. Robinson and J.	Eberly	Section, Towns	ship, Range:	Section 31, T6S, R1E	
				ave, convex, none): Concave Slope (%): 5	
Subregion (LRP): Black Hills MLRA6				Datum: NAD 1983, UTM Zone 13	
Soil Map Unit Name:		NWI CI		R2EM	
Are climatic/hydrologic conditions on the				X No (If no, explain in Remarks.)	
Are Vegetation , Soil	, or Hydrology	Significa	ntly disturbed?	Are "Normal Circumstances" present? Yes X No	
Are Vegetation, Soil	, or Hydrology	Naturally	problematic?	(If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Att	tach site map	showing sar	nplina point	locations, transects, important features, etc.	
Hydrophytic Vegetation Present?	Yes X				
Hydric Soil Present?	Yes X			the Sampled Area ithin a Wetland Yes X No	
Wetland Hydrology Present	Yes X	No			
Remarks: R3 P1: Upstream R3 P2: Downstream Wpt 026 is similar to W18, R2 P24: Ups Width of wetland is about 17', width of c		yı .			
VEGETATION		-			
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1	70 00001	Орсоюз:		Number of Dominant Species	
<u>}</u> .				That are OBL, FACW, or FAC:1 (A)	
4.				Total Number of Dominant	
Total Cov	er:			Species Across All Strata: 1 (B)	
Sapling/Shrub Stratum				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)	
1. 2.				That Are OBL, FACW, or FAC: 100 (A/B)	
3.			_	Prevalence Index Worksheet:	
4. 5.				Total % Cover of: Multiply by:	
Total Cov	rer:				
Herb Stratum	•		·	OBL species x1= x2=	
Spartina pectinata	<u>80</u>	X	FACW	FAC species x3=	
Xanthium strumarium     Schoenoplectus pungens	<del>5</del>	<u></u>	_ <u>FAC</u> OBL	FACU species x4= UPL species x5=	
4. Juncus balticus	5		FACW	Column Totals: (A) (B	3)
5. 6.		-		Prevalence Index = B/A =	
7.	_	***************************************		Hydrophytic Vegetation Indicators	
8.		**************************************			
9. 10.			-	Dominance Test is > 50% Prevalence Index is < 3.01	
Total Cov	ver: 100			Morphological Adaptations <sup>1</sup> (Providing supporting	
Woody Vine Stratum				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)	
1				<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present	
3.			_	Hydrophytic	
Total Cov	/er:			Vegetation Present? Yes X No	
	% C	over of Biotic Cr	ust		
Remarks:					
	· · · · · · · · · · · · · · · · · · ·	·			

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ches) Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks 0-6 Gley1 4/5GY 97 2.5YR 7/8 3 C M CL  Per Caconcentration, D=Depletion, RM=Reduced Matrix.  Cocation: PL=Pore Lining, RC=Root Channel, M=Matrix.  Cocation: PL=Pore Lining, RC=Root Channel, M=Matrix.  Cocation: PL=Pore Lining, RC=Root Channel, M=Matrix.  Indicators (Applicable to all LRRs, unless otherwise noted.)  History (Applicable to all LRRs, unless otherwise noted.)  Indicators for Problematic Hydric Solis*:  1 orm Muck (Applicable to all LRRs, unless otherwise noted.)  Loamy Mucky Mineral (F1)  Depleted Layers (Applicable to Applicable to all LRRs, unless otherwise noted.)  Redox Dark Surface (F6)  Red Dark Surface (Applicable to Applicable to	Depth	Matrix			Redox Fe	eatures			
Gley 1 4/5GY 97 2.5YR 7/8 3 C M CL    Page C-Concentration, D-Depletion, RM=Reduced Matrix   2-Location: PL=Pore Lining, RC=Root Channel, M=Matrix   Matrix Soil indicators: (Applicable to all LRRs, unless otherwise noted, per Matrix (S4)   Indicators for Problematic Hydric Soils*: (A)   Indicators for Problematic Hyd	nches)		%	Color (moist)			Loc²	Texture	Remarks
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A) Histo Epipedon (A2) Sandy Gleyed Matrix (S4) Histo Epipedon (A2) Sandy Redox (S5) Slack Histic (A3) Striped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Depleted Below Dark Surrace (A11) Depleted Below Dark Surrace (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F16)  Water Marky Peat or Peat (S3) (LRR F) High Plains Depressions (F16)  Surface Water (A1) Surface Water (A1) Surface Water (A1) Saturation (A3) X Hydrogen Sulfide Oder (C1) Water Marks (B1) Drisses Pattern (A3) Surface Water (A1) Saturation (A3) X Hydrogen Sulfide Oder (C1) Drisses Pattern (A3) Surface Water (A1) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation (A3) X Hydrogen Sulfide Oder (C1) Drisses Pattern (B10) Surface Soil Cracks (B6) Surface Water (A1) Saturation (A3) X Hydrogen Sulfide Oder (C1) Drisses Pattern (B10) Surface Soil Cracks (B6) Surface Water (A1) Saturation (A3) X Hydrogen Sulfide Oder (C1) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation (S1) Algal Mat or Crust (B4) Iron Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B3) Iron Deposits (B3) Iron Deposits (B3) Iron Pattern (B10) Iron Deposits (B4) Iron Deposits (B4) Iron Pattern (B10) Iron Pa	0-6						М	CL	
Airic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A1) Histo Epipedon (A2) Sandy Repox (S5) Histo Epipedon (A2) Sandy Repox (S5) Black Histic (A3) Stripped Matrix (S8) Hydrogen Suffide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G) Hydrogen Suffide (A4) Stratified Layers (A5) (LRR F) X Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR OL Coast Prairie Redox (A16) (LRR F, G) Hydrogen Suffide (A4) Depleted Below Dark Surface (A11) Redox Depleted Matrix (F2) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some of Peat (S2) (LFF G, H) High Plains Depressions (F16)  **Indicators of hydrophytic vegetation and wetland hydrology must be preser strictive Layer (if present):  **December of Peat (S2) (LRR F)  **Indicators (A12)						<del></del>		<del></del>	
Airic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A1) Histo Epipedon (A2) Sandy Repox (S5) Histo Epipedon (A2) Sandy Repox (S5) Black Histic (A3) Stripped Matrix (S8) Hydrogen Suffide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G) Hydrogen Suffide (A4) Stratified Layers (A5) (LRR F) X Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR OL Coast Prairie Redox (A16) (LRR F, G) Hydrogen Suffide (A4) Depleted Below Dark Surface (A11) Redox Depleted Matrix (F2) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some of Peat (S2) (LFF G, H) High Plains Depressions (F16)  **Indicators of hydrophytic vegetation and wetland hydrology must be preser strictive Layer (if present):  **December of Peat (S2) (LRR F)  **Indicators (A12)		<del></del>							
Aric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A1) Histos (A2) Sandy Gleyed Matrix (S4) Histos (A2) Slack Histos (A3) Straffed Layers (A5) (LRR F) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Coast Prairie Redox (A16) (LRR F, G, H) High Plains Layers (A5) (LRR F) Torm Muck (A9) (LRR F, G, H) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Depressions (F16) Trick Dark Surface (A12) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LFR G, H) High Plains Depressions (F16) Trick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F) High Plains Depressions (F16)  **Indicators of hydrophytic vegetation and wetland hydrology must be preser strictive Layer (if present):  **December 1:**  **December 2:** **December 3:** **De									
Aric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A1) Histos (A2) Sandy Gleyed Matrix (S4) Histos (A2) Slack Histos (A3) Straffed Layers (A5) (LRR F) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Coast Prairie Redox (A16) (LRR F, G, H) High Plains Layers (A5) (LRR F) Torm Muck (A9) (LRR F, G, H) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Depressions (F16) Trick Dark Surface (A12) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LFR G, H) High Plains Depressions (F16) Trick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F) High Plains Depressions (F16)  **Indicators of hydrophytic vegetation and wetland hydrology must be preser strictive Layer (if present):  **December 1:**  **December 2:** **December 3:** **De		·				· · · · · · · · · · · · · · · · · · ·			
Airic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A1) Histo Epipedon (A2) Sandy Repox (S5) Histo Epipedon (A2) Sandy Repox (S5) Black Histic (A3) Stripped Matrix (S8) Hydrogen Suffide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G) Hydrogen Suffide (A4) Stratified Layers (A5) (LRR F) X Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR OL Coast Prairie Redox (A16) (LRR F, G) Hydrogen Suffide (A4) Depleted Below Dark Surface (A11) Redox Depleted Matrix (F2) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some of Peat (S2) (LFF G, H) High Plains Depressions (F16)  **Indicators of hydrophytic vegetation and wetland hydrology must be preser strictive Layer (if present):  **December of Peat (S2) (LRR F)  **Indicators (A12)									
Aric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A1) Histos (A2) Sandy Gleyed Matrix (S4) Histos (A2) Slack Histos (A3) Straffed Layers (A5) (LRR F) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Coast Prairie Redox (A16) (LRR F, G, H) High Plains Layers (A5) (LRR F) Torm Muck (A9) (LRR F, G, H) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Depressions (F16) Trick Dark Surface (A12) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LFR G, H) High Plains Depressions (F16) Trick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F) High Plains Depressions (F16)  **Indicators of hydrophytic vegetation and wetland hydrology must be preser strictive Layer (if present):  **December 1:**  **December 2:** **December 3:** **De									
Actic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A2) Histo Epipedon (A2) Sandy Reyed Matrix (S5) Histo (A3) Sitriped Matrix (S5) Histos (A3) Striped Matrix (S5) High Caper (A16) (LRR F. G. Coast Prairie Redox (A16) (LRR F. G. Dark Yurface) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) Redox Burface (F1) Pepleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral							***	***************************************	
Actic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A2) Histo Epipedon (A2) Sandy Reyed Matrix (S5) Histo (A3) Sitriped Matrix (S5) Histos (A3) Striped Matrix (S5) High Caper (A16) (LRR F. G. Coast Prairie Redox (A16) (LRR F. G. Dark Yurface) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) Redox Burface (F1) Pepleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral									
Actic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A2) Histo Epipedon (A2) Sandy Reyed Matrix (S5) Histo (A3) Sitriped Matrix (S5) Histos (A3) Striped Matrix (S5) High Caper (A16) (LRR F. G. Coast Prairie Redox (A16) (LRR F. G. Dark Yurface) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR G.) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) Redox Burface (F1) Pepleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral	ne C≍Co	ncentration D=Depletio	n RM=Redu	ced Matrix	<sup>2</sup> l ocation:	PL=Pore Lining	RC=Root C	hannel M=Matrix	•
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Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR C) Hydrogen Sulfide (A4) Loarny Mucky Mineral (F1) Hydrogen Sulfide (Layers (A5) (LRR F) X Loarny Cleyed Matrix (F2) Reduced Vertic (F18) Sparsely Vegetated Concave Surfaces (F19) Sparsely Vegetated Concave Surfaces (F19						d Matrix (S4)			
Hydrogen Sulfide (A4)  Straffied Layers (A5) (LRR F)  X Loamy (Deyed Matrix (F2)  1 cm Muck (A9) (LRR F, G, H)  Depleted Below Dark Surface (A11)  Depleted Below Dark Surface (A11)  Depleted Below Dark Surface (A11)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Peat or Peat (S2) (LFF G, H)  Some Mucky Peat or Peat (S2) (LRF F)  Sericitive Layer (if present):  Decided Below Dark Surface (B1)  Sericitive Layer (if present):  Droll (Inches):  Droll (Inc	Histi	c Epipedon (A2)			Sandy Redox	(S5)		Coast Prairie Re	edox (A16) (LRR F, G,
Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H) Depleted Melow Dark Surface (A11) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Red Parent Material (TF2) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) Sorm Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F16) Sorm Mucky Peat or Peat (S3) (LRR F)  DROLOGY Hand Hydrology Indicators: Bettictive Layer (If present):  DROLOGY Hand Hydrology Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Surface Soil Cracks (B6) Surface Water Marks (B1) Dry-Season Water Table (C2) Drift Deposits (B2) Presence of Reduced Iron (C4) Sediment Deposits (B2) Drift Deposits (B3) Thin Muck Surface (C7) High Water Table (C4) Algal Mat or Crust (B4) Dry-Season Water Table (C2) Drift Deposits (B4) Dry-Season Water (A7) High Water Present? Ves X No  Drost-Hydrogen Surface (C7) Drift Deposits (B3) Thin Muck Surface (C7) Frost-Heave Hummocks (C11) (LRR F) High Water Stained Leaves (B9) Hid Observations:  ### Water Present?									
1 cm Muck (A9) (LRR F, G, H) Depleted Bellow Dark Surface (A11) Redox Dark Surface (B6) Red Parent Material (TF2) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Ser Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F8) Strictive Layer (if present):  DEROLOGY Redox Depressions (F16) Strictive Layer (if present):  DEROLOGY Redox Depressions (F16) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water (A1) High Plains Deposits (B13) Surface Water (A1) Saturation (A3) X Hydrogen Sulfide Oder (C1) Surface Water Marks (B1) Drift Deposits (B2) Presence of Reduced Iron (C4) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Id Observations:  If ace Water Present? Yes X No Depth (inches):  If ace Water Present? Yes X No Depth (inches):  If ace Water Present? Yes X No Depth (inches):  Interest A Depth (inches):  Intere									, ,
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and wetland hydrology must be preser strictive Layer (if present):    Proposition   Present   Pr			(CO) (LEE C				r)	3 maliantona at hu	
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pth (inches):    Hydric Soils Present?   Yes   X   No			3) (LKK F)				<del></del>	and welland my	nology must be preser
DROLOGY  Internal Hydrology Indicators:  Internal Hydrology Indicators (2 or more required)  Surface Soil Cracks (B6)  Surface Water (A1)  Surface Water (A1)  Salt Crusts (B11)  Saprsely Vegetated Concave Surfaces (I High Water Table (A2)  Aquatic Invertebrates (B13)  Drainage Patterns (B10)  Saturation (A3)  X Hydrogen Sulfide Oder (C1)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Ind Observations:  Indee Water Present? Yes No Depth (inches):  Interface Water Present? Yes No No Depth (inches):  Interface Water Present? Yes No		-Jul ( p. 100).			}				
pth (inches):    Hydric Soils Present?   Yes   X   No					i				•
IDROLOGY  Etland Hydrology Indicators:  mary Indicators (any one indicator is sufficient)  Surface Water (A1)  Surface Water (A1)  Salt Crusts (B11)  Salt Crusts (B13)  Surface Water (A2)  Aquatic Invertebrates (B13)  Drainage Patterns (B10)  Saturation (A3)  X Hydrogen Sulfide Oder (C1)  Oxidized Rhizospheres on Living Roots ( Water Marks (B1)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Saturation (Visible on Aerial Imagery (C9)  Drift Deposits (B3)  Thin Muck Surface (C7)  Frost-Heave Hummocks (C11) (LRR F)  Algal Mat or Crust (B4)  Uron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Id Observations:  rface Water Present? Yes No X Depth (inches):  ater Table Present? Yes No X Depth (inches):  sterior Table Present? Yes No X Depth (inches):  Survey Data (D8)  Wetland Hydrology Present? Yes X No Cludes capillary fringe)									
Secondary Indicators (2 or more required)				<del></del>	1.	II. dala Calla Da		/ V N-	
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escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	DROLOG' Petland Hyd mary Indica Surface High W Satural Water Sedime Drift De Algal M Iron De Inundar Water Peld Observ	y  Irology Indicators: ators (any one indicator a Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) rations: ar Present?  Yes Present?  Yes	agery (B7)  No X No	Aquation X Hydrog Dry-Se Preser Thin M Other (	rusts (B11) c Invertebrate gen Sulfide Oc ason Water T nce of Reduce luck Surface ( (Explain in Re	s (B13) der (C1) Table (C2) ed Iron (C4) C7) emark)	Seco	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows Saturation Visible Frost-Heave Humi Geomorphic Positi FAC-Neutral Test Local Soil Survey	ks (B6) ad Concave Surfaces (I (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
	Marks:  DROLOG  Paland Hyde  Mary Indica  Surface  High W  Satural  Water  Sedime  Drift De  Algal M  Iron De  Inunda  Water  Pald Observ  rface Water  ater Table I  turation Pre	rology Indicators: ators (any one indicator e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) // At or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) rations: er Present? Yes Present? Yes esent? Yes	agery (B7)  No X No	Aquation X Hydrog Dry-Se Preser Thin M Other (	rusts (B11) c Invertebrate gen Sulfide Oc ason Water T nce of Reduce luck Surface ( (Explain in Re	s (B13) der (C1) Table (C2) ed Iron (C4) C7) emark)	Seco	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows Saturation Visible Frost-Heave Humi Geomorphic Positi FAC-Neutral Test Local Soil Survey	ks (B6) ad Concave Surfaces (I (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
	Marks:  DROLOG  Paland Hyde  Mary Indica  Surface  High W  Satural  Water  Sedime  Drift De  Algal M  Iron De  Inunda  Water  Pald Observ  rface Water  ater Table I  turation Pre	rology Indicators: ators (any one indicator e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) // At or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) rations: er Present? Yes Present? Yes esent? Yes	agery (B7)  No X No	Aquation X Hydrog Dry-Se Preser Thin M Other (	rusts (B11) c Invertebrate gen Sulfide Oc ason Water T nce of Reduce luck Surface ( (Explain in Re	s (B13) der (C1) Table (C2) ed Iron (C4) C7) emark)	Seco	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows Saturation Visible Frost-Heave Humi Geomorphic Positi FAC-Neutral Test Local Soil Survey	ks (B6) ad Concave Surfaces (I (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
	marks:  DROLOG' etland Hyd mary Indica Surface High W Saturat Water Sedime Orift De Inunda Water Inunda Water Indoorseld Observ  rface Water turation Pricludes cap	y  rology Indicators: ators (any one indicator e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) rations: er Present? Yes esent? Yes esent? Yes ellary fringe)	agery (B7)  No X No	X Hydrog Dry-Se Preser Thin M Other (  X Depth Depth X Depth	rusts (B11) c Invertebrate gen Sulfide Oceason Water T ice of Reduce luck Surface ( (Explain in Re  (inches): (inches):	ss (B13) der (C1) able (C2) ed Iron (C4) C7) emark)  Wet	Seco	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows Saturation Visible Frost-Heave Humi Geomorphic Positi FAC-Neutral Test Local Soil Survey	ks (B6) ad Concave Surfaces (I (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
	marks:  "DROLOG" etland Hyd mary Indica Surface High W Saturat Water Sedime Drift De Algal M Iron De Inunda Water eld Observ rface Water turration Pricludes cap	y  rology Indicators: ators (any one indicator e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) rations: er Present? Yes esent? Yes esent? Yes ellary fringe)	agery (B7)  No X No	X Hydrog Dry-Se Preser Thin M Other (  X Depth Depth X Depth	rusts (B11) c Invertebrate gen Sulfide Oceason Water T ice of Reduce luck Surface ( (Explain in Re  (inches): (inches):	ss (B13) der (C1) able (C2) ed Iron (C4) C7) emark)  Wet	Seco	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows Saturation Visible Frost-Heave Humi Geomorphic Positi FAC-Neutral Test Local Soil Survey	ks (B6) ad Concave Surfaces (I (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
	marks:  "DROLOG" etland Hyd mary Indica Surface High W Saturat Water Sedime Drift De Algal M Iron De Inunda Water eld Observ rface Water turration Pricludes cap	y  rology Indicators: ators (any one indicator e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) rations: er Present? Yes esent? Yes esent? Yes ellary fringe)	agery (B7)  No X No	X Hydrog Dry-Se Preser Thin M Other (  X Depth Depth X Depth	rusts (B11) c Invertebrate gen Sulfide Oceason Water T ice of Reduce luck Surface ( (Explain in Re  (inches): (inches):	ss (B13) der (C1) able (C2) ed Iron (C4) C7) emark)  Wet	Seco	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows Saturation Visible Frost-Heave Humi Geomorphic Positi FAC-Neutral Test Local Soil Survey	ks (B6) kd Concave Surfaces (I (B10) heres on Living Roots (I (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)  S X No
	marks:  "DROLOG" etland Hyd mary Indica Surface High W Saturat Water Sedime Drift De Algal M Iron De Inunda Water eld Observ rface Water turration Pricludes cap	y  rology Indicators: ators (any one indicator e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) rations: er Present? Yes esent? Yes esent? Yes ellary fringe)	agery (B7)  No X No	X Hydrog Dry-Se Preser Thin M Other (  X Depth Depth X Depth	rusts (B11) c Invertebrate gen Sulfide Oceason Water T ice of Reduce luck Surface ( (Explain in Re  (inches): (inches):	ss (B13) der (C1) able (C2) ed Iron (C4) C7) emark)  Wet	Seco	Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph Crayfish Burrows Saturation Visible Frost-Heave Humi Geomorphic Positi FAC-Neutral Test Local Soil Survey	ks (B6) kd Concave Surfaces (I (B10) heres on Living Roots (I (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)  S X No



Project/Site: Dewey Burdock		City/County:	Custer Cou	inty	Sampling Date:9/18/07
Applicant/Owner: Knight Piesold, Pow	ertech	State:	South Dake	ota	Sampling Point: W19
Investigator(s): C. Robinson and J. I	Eberly	Section, Tov	vnship, Range:	Section 31, T6S, R1E	A MARKET.
Landform (hillslope, terrace, etc.)	w area		Local relief (c	oncave, convex, none):	Concave Slope (%):
Subregion (LRP): Black Hills MLRA6	2	Lat:	Lo	ong:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI	Classification:		331870
Are climatic/hydrologic conditions on the	site typical for thi	s time of year'	? Y	es <u>X</u> No	(If no, explain in Remarks.)
Are Vegetation , Soil	, or Hydrology	Signifi	icantly disturbe	ed? Are "Normal Circumsta	ances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Natura	ally problemati	c? (If needed, explain any	answers in Remarks.)
SUMMARY OF FINDINGS - Atta	ach site map	showing s	ampling po	oint locations, transe	ects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No	X	Is the Sampled Area	
Hydric Soil Present?	Yes X	No			Yes NoX
Wetland Hydrology Present	Yes	No	X		
Remarks: Low vegetation cover, Normal circumsta R3 P3: Northwest R3 P4: East	nces present with	in an active pr	rairie dog comr	nunity. Previously NWI ma	apped as PEMF.
VEGETATION					
Tree Stratum (Use scientific names)	Absolute	Dominan			Worksheet:
1	% Cover	Species?	Statu	Number of Domir	nant Species
2				That are OBL, FA	ACW, or FAC:0 (A)
4.				Total Number of I	
Total Cove	er:			Species Across A	All Strata: 1 (B)
Sapling/Shrub Stratum  1.				Percent of Domin That Are OBL, FA	
2.   3.	<del></del>		<del></del>	Prevalence Inde	x Worksheet
4					
5Total Cove	er:			Total % Cover of	: Multiply by:
16.4.				OBL species	x1=
Herb Stratum  1. Chenopodium berlandieri	99	Y	FAC	FACW species FAC species	x2= 99 x3= 297
Bassia sieveriana	1		FAC	U FACU species	1 x4= 4
3.	*******			UPL species	x5=
5.				Column Totals: Prevalence Index	$\frac{100}{A} = B/A = \frac{100}{3.01}$ (B)
6.					
7. 8.				Hydrophytic Ve	getation Indicators
9.					ce Test is > 50%
Total Cove	er: 100				ce Index is ≤ 3.0 <sup>1</sup> gical Adaptations <sup>1</sup> (Providing supporting
Woody Vine Stratum	100			data in Remark	ks or on a separate sheet) tic Hydrophytic Vegetation (Explain)
1				1Indicators of hydri	ic soils and wetland hydrology must be present
3.				Hydrophytic	
Total Cove	er:			Vegetation Present?	Yes No X
% Bare Ground in Herb Stratum 65	% C	over of Biotic	Crust		
Remarks:					



SOIL							Samplii	ng Point W19
Profile Desc	ription: (Describe to th	ne depth nee	ded to documen	t the indicat	or or confirm t	he absence	of indicators.)	
Depth	Matrix			Redox Fe	eatures			•
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc²	Texture	Remarks
0-2	10YR 4/1	95	7.5YR 5/8	5	C	M	SiCL	
2-4	10YR 4/1	100					SiCL	
						***************************************	***************************************	
			***************************************				<u> </u>	
<sup>1</sup> Type: C=Co	oncentration, D=Depletio	n, RM=Redu	ced Matrix.	<sup>2</sup> Location: I	PL=Pore Lining	, RC=Root C	hannel, M=Matrix.	•
	ndicators: (Applicable	to all LRRs		se noted.)			cators for Problema	
	osol (A1) ic Epipedon (A2)			Sandy Gleyed Sandy Redox			1 cm Muck (A9)	
	ck Histic (A3)			Stripped Matri	, ,		Dark Surface (S	edox (A16) (LRR F, G, H)
	rogen Sulfide (A4)			_oamy Mucky			High Plains Dep	
	tified Layers (A5) (LRR	F)		_oamy Gleyeo			·	de MLRA 72 & 73)
	n Muck (A9) ( <b>LRR F, G,</b>			Depleted Matr		***************************************	Reduced Vertic	
·	leted Below Dark Surface	:e (А11)		Redox Dark S			Red Parent Mat	
	ck Dark Surface (A12) dy Mucky Mineral (S1)			Depleted Dark Redox Depres	Surface (F7)		Other (Explain i	n Remarks)
	cm Mucky Peat or Peat	(S2) ( <b>LFF G</b> .			epressions (F1)	6)	3Indicators of hy	drophytic vegetation
	n Mucky Peat or Peat (S				оргозолото (г	-,		Irology must be present.
Remarks:								
HYDROLOG	Y							
	drology Indicators:					Seco	ndary Indicators (2	or more required)
	ators (any one indicator e Water (A1)	is sufficient)	C-14 C			<del></del>	Surface Soil Crack	
	Vater (AT)			usts (B11) : Invertebrate:	s (B13)		_ Sparsely vegetate Drainage Patterns	d Concave Surfaces (B8)
	ition (A3)			en Sulfide Od				eres on Living Roots (C3)
	Marks (B1)			ason Water T			_ Crayfish Burrows	C8)
	ent Deposits (B2)			ce of Reduce				on Aerial Imagery (C9)
	eposits (B3)			uck Surface (	•		-	mocks (C11) (LRR F)
	Mat or Crust (B4) eposits (B5)		Other (	Explain in Re	mark)		<ul> <li>Geomorphic Positi FAC-Neutral Test</li> </ul>	
	ation Visible on Aerial Im	agery (B7)					Local Soil Survey	
<del></del>	Stained Leaves (B9)	37 (7						
Field Observ	vations:							·
Surface Water	er Present? Yes	No	X Depth (	(inches):				
Water Table	_	No		inches):				
Saturation Pr		No	X Depth (	(inches):	Wet	land Hydrold	ogy Present? Ye	s No _X_
(includes cap	oillary fringe)							<del>_</del>
Describe Red	corded Data (stream gau	ıge, monitorir	ng well, aerial pho	tos, previous	inspection), if a	available:		
		J.,	5	-, ,	-F// 1/ 6			
Remarks:	<u></u>							
Remarks:								



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site:	Dewey Burdock		City/County:	Custer Cou	nty	Sampling Date:	9/18/07	
Applicant/Owner:	Knight Piesold, Pow	ertech	State:	South Dake	ta	Sampling Point:	W20	
Investigator(s):	C. Robinson and J.	Eberly	Section, Tow	nship, Range:	Section 9, T7S, R1E			
Landform (hillslope	e, terrace, etc.)Di	rainage		Local relief (co	oncave, convex, none):	Concave Slope	e (%): <u>0</u>	
Subregion (LRP):	Black Hills MLRA6	2	Lat:	Lo	ong:	Datum:NAD 19	983, UTM Zone 13	·
Soil Map Unit Nam	e:		NWI	Classification:	PEM	····		
Are climatic/hydrole	ogic conditions on the	site typical for thi	s time of year?	Ye	es X No _	(If no, explai	n in Remarks.)	
Are Vegetation _	, Soil	, or Hydrology	Signific	cantly disturbe	d? Are "Normal Circums	stances" present?	Yes X No	
Are Vegetation _	, Soil	, or Hydrology	Natura	lly problemation	c? (If needed, explain an	ny answers in Remarl	ks.)	
SUMMARY OF	FINDINGS - Att	ach site map	showing sa	ampling po	int locations, trans	sects, important	t features, etc.	ı
Hydrophytic Vegeta	ation Present?	Yes X	No		In the Consulad Asses			
Hydric Soil Presen	t?	Yes	No	X	Is the Sampled Area Within a Wetland	Yes X No		
Wetland Hydrology	/ Present	Yes X	No					
Remarks: R2 P12: Upstream R2 P13: Downstrea		dth is about 8 fee	t wide.					
VEGETATION				11'1		-430/		
Tree Stratum (Use	scientific names)	Absolute % Cover	Dominant Species?	Indical Statu		st worksneet:		
1					Number of Dom		1 (A)	
β. ————————————————————————————————————						ACW, OI FAC.	1(A)	
4	Total Cove				Total Number o Species Across		1 (B)	
		vi			·	-	(5)	
Sapling/Shrub Stra	<u>itum</u>				Percent of Dom	inant Species FACW, or FAC:	100 (A/B)	
2		·				_		
3. 4.		-			Prevalence Inc	dex Worksheet:		
5					Total % Cover	of: N	Multiply by:	-
	Total Cov	er:			OBL species	x1=		
Herb Stratum					FACW species	x2=		<i>.</i>
1. Schoenople 2. Cirsium arve	ctus pungens	90 5	X	OBL FAC		x3= x4=		•
3. Bassia sieve		5		FAC		x5=		
4.					Column Totals:	<del></del> ` '		_ (B)
5. 6.					Prevalence Inde	67 - D/A -		
7. 8.					Hydrophytic V	egetation Indicators	5	
9.						nce Test is > 50%	•	
10.	Total Cov	er: 100			Prevale	nce Index is ≤ 3.0 <sup>1</sup> logical Adaptations <sup>1</sup> (	(Providing outportis	na
	Total Cov	ei. <u>100</u>			data in Rema	arks or on a separate	sheet)	ng
Woody Vine Stratu	<u>ım</u>				Problem	natic Hydrophytic Veg	jetation (Explain)	
2.					<sup>1</sup> Indicators of hyd	dric soils and wetland hy	drology must be pres	sent
3	Total Cov	ar:			Hydrophytic Vegetation			
					Present?	Yes X	No	
% Bare Ground in Remarks:	Herb Stratum	% C	Cover of Biotic (	Crust				
i ipinama.							•	
1								

US Army Corps of Engineers



	iption. (Describe to ti	ie aepiii nee	ded to docume	nt the indica		i tile absence	of indicators.)	
Depth	Matrix	•		Redox I	- eatures			
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 3/1	98	5YR 5/8	2	С	М	С	,
****	****							
							· · · · · · · · · · · · · · · · · · ·	
	******							
	·							
ype: C=Coi	ncentration, D=Depletio	n, RM=Redu	ced Matrix.	<sup>2</sup> Location:	PL=Pore Lini	ng, RC=Root C	Channel, M=Matrix	ζ.
	dicators: (Applicable		, unless otherwi	se noted.)				ematic Hydric Soils <sup>3</sup> :
	sol (A1)				ed Matrix (S4)		1 cm Muck (	
	Epipedon (A2)			Sandy Redo				Redox (A16) (LRR F, G, H
	k Histic (A3)			Stripped Mar				e (S7) (LRR G)
	ogen Sulfide (A4)	<b>-</b> \			ky Mineral (F1)			Depressions (F16)
	ified Layers (A5) (LRR I	•		Loamy Gleye Depleted Ma	ed Matrix (F2)		Reduced Ve	utside MLRA 72 & 73)
	i Muck (A9) ( <b>LRR F, G,</b> eted Below Dark Surfac				Surface (F6)			Material (TF2)
	eted below bark Surfac k Dark Surface (A12)	~ (^ ( )			rk Surface (F7	,		in in Remarks)
	dy Mucky Mineral (S1)				essions (F8)	,		in arrestiancy
	m Mucky Peat or Peat	(S2) ( <b>LFF G</b> ,			Depressions (F	16)	3Indicators o	f hydrophytic vegetation
	Mucky Peat or Peat (S		,	Ü	, ,	ŕ	and wetland	hydrology must be present
emarks:								
emarks:								
	(							·
YDROLOGY						Seco	ondary Indicators	s (2 or more required)
YDROLOG\	/ rology Indicators: ators (any one indicator	is sufficient)				Seco	Surface Soil Ci	
YDROLOGY etland Hyd rimary Indica C Surface	rology Indicators: ators (any one indicator e Water (A1)	is sufficient)		usts (B11)		Seco	<ul><li>Surface Soil Control</li><li>Sparsely Vege</li></ul>	racks (B6) tated Concave Surfaces (B
YDROLOG\ etland Hyd rimary Indica Surface High W	rology Indicators: ators (any one indicator e Water (A1) /ater Table (A2)	is sufficient)	Aquation	c Invertebrat		Seco	<ul><li>Surface Soil Corporation</li><li>Sparsely Vege</li><li>Drainage Patte</li></ul>	racks (B6) tated Concave Surfaces (B erns (B10)
YDROLOG\ Vetland Hyd rimary Indica Surface High W Satural	rology Indicators: ators (any one indicator a Water (A1) /ater Table (A2) ion (A3)	is sufficient)	Aquation Hydrog	c Invertebrat gen Sulfide C	Oder (C1)	Seco	Surface Soil Co Sparsely Vege Drainage Patte Oxidized Rhizo	racks (B6) tated Concave Surfaces (B erns (B10) ospheres on Living Roots (C
YDROLOG letland Hyd imary Indica ( Surface High W Satural Water I	rology Indicators: ators (any one indicator e Water (A1) /ater Table (A2) ion (A3) Marks (B1)	is sufficient)	Aquation Hydrogo Dry-Se	c Invertebrat gen Sulfide C ason Water	oder (C1) Table (C2)	Seco	<ul> <li>Surface Soil Cr</li> <li>Sparsely Vege</li> <li>Drainage Patte</li> <li>Oxidized Rhizo</li> <li>Crayfish Burror</li> </ul>	racks (B6) tated Concave Surfaces (B erns (B10) ospheres on Living Roots (C ws (C8)
YDROLOG\ fetland Hyd imary Indica Gurface High W Satural Water   Sedime	rology Indicators: ators (any one indicator e Water (A1) (ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2)	is sufficient)	Aquation Hydrogo Dry-Se Preser	c Invertebrat gen Sulfide C eason Water ace of Reduc	Oder (C1) Table (C2) ed Iron (C4)	Seco	Surface Soil Co Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visil	racks (B6) tated Concave Surfaces (Berns (B10) ospheres on Living Roots (C ws (C8) ble on Aerial Imagery (C9)
YDROLOG\ fetland Hyd imary Indica  Surface High W Satural Water I Sedime	rology Indicators: ators (any one indicator a Water (A1) (ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	is sufficient)	Aquation Hydrog Dry-Se Preser Thin M	c Invertebrat gen Sulfide C ason Water ace of Reduc luck Surface	Oder (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visi Frost-Heave H	racks (B6) tated Concave Surfaces (Berns (B10) espheres on Living Roots (Cws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F)
YDROLOG\ Vetland Hyd rimary Indica C Surface High W Satural Water I Sedime Drift De Algal M	rology Indicators: ators (any one indicator e Water (A1) fater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	is sufficient)	Aquation Hydrog Dry-Se Preser Thin M	c Invertebrat gen Sulfide C eason Water ace of Reduc	Oder (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po	racks (B6) tated Concave Surfaces (Berns (B10) espheres on Living Roots (Cws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2)
YDROLOG\ Vetland Hyd rimary Indica Surface High W Satural Water I Sedime Drift De Algal M	rology Indicators: ators (any one indicator water (A1) fater Table (A2) fion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5)		Aquation Hydrog Dry-Se Preser Thin M	c Invertebrat gen Sulfide C ason Water ace of Reduc luck Surface	Oder (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To	racks (B6) tated Concave Surfaces (Bitns (B10) ospheres on Living Roots (Civing Roots (Civing Roots) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5)
YDROLOG\ Vetland Hyd rimary Indica C Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda	rology Indicators: ators (any one indicator e Water (A1) fater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)		Aquation Hydrog Dry-Se Preser Thin M	c Invertebrat gen Sulfide C ason Water ace of Reduc luck Surface	Oder (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po	racks (B6) tated Concave Surfaces (Bitns (B10) ospheres on Living Roots (Civing Roots (Civing Roots) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5)
YDROLOGY Tetland Hyd rimary Indicat Surface High Water I Sedime Drift De Algal M Iron De Inunda Water I	rology Indicators: ators (any one indicator a Water (A1) fater Table (A2) fion (A3) Marks (B1) fent Deposits (B2) feposits (B3) lat or Crust (B4) fiposits (B5) tion Visible on Aerial Im Stained Leaves (B9)		Aquation Hydrog Dry-Se Preser Thin M	c Invertebrat gen Sulfide C ason Water ace of Reduc luck Surface	Oder (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To	racks (B6) tated Concave Surfaces (B trns (B10) ospheres on Living Roots (C ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5)
YDROLOGY  /etland Hyd  /imary Indica  K Surface  High W Satural  Water I Sedime Drift De Algal M Iron De Inunda Water I ield Observ	rology Indicators: ators (any one indicator e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) ition Visible on Aerial Im Stained Leaves (B9) ations:	agery (B7)	Aquati Hydrog Dry-Se Preser Thin M Other	c Invertebrat gen Sulfide C eason Water ice of Reduc uck Surface (Explain in R	Oder (C1) Table (C2) sed Iron (C4) (C7) emark)	Seco	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To	racks (B6) tated Concave Surfaces (Bitns (B10) ospheres on Living Roots (Civing Roots (Civing Roots) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5)
YDROLOGY  //etland Hyd  // Surface  // Surface  High W  Satural  Water I  Sedime  Drift De  Algal M  Iron De  Inunda  Water I  water I  ield Observ	rology Indicators: ators (any one indicator a Water (A1) later Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) ition Visible on Aerial Im Stained Leaves (B9) ations: r Present?	agery (B7)	Aquati Hydrog Dry-Se Preser Thin M Other of	c Invertebrat gen Sulfide C eason Water ice of Reduc uck Surface (Explain in R	Oder (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To	racks (B6) tated Concave Surfaces (Bitns (B10) ospheres on Living Roots (Civing Roots (Civing Roots) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5)
VYDROLOGY Vetland Hyd Vetland Hyd Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda Inunda Water Sield Observe Surface Water Vater Table F	rology Indicators: ators (any one indicator a Water (A1) /ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) tion Visible on Aerial Im Stained Leaves (B9) atlons: r Present? Yes Present? Yes	agery (B7)  X No No	Aquati Hydrog Dry-Se Preser Thin M Other (	c Invertebrat gen Sulfide C lason Water ice of Reduc uck Surface (Explain in R	Oder (C1) Table (C2) sed Iron (C4) (C7) emark)	. X	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To Local Soil Surv	racks (B6) tated Concave Surfaces (Bitns (B10) spheres on Living Roots (Civing Roots (
YDROLOGY //etland Hyd rimary Indicat	rology Indicators: ators (any one indicator a Water (A1) /ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) tion Visible on Aerial Im Stained Leaves (B9) atlons: r Present? Present? Yes esent? Yes	agery (B7)	Aquati Hydrog Dry-Se Preser Thin M Other (	c Invertebrat gen Sulfide C eason Water ice of Reduc uck Surface (Explain in R	Oder (C1) Table (C2) sed Iron (C4) (C7) emark)	. X	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visil Frost-Heave H Geomorphic Po FAC-Neutral To	racks (B6) tated Concave Surfaces (Bitns (B10) ospheres on Living Roots (Civing Roots) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5)
YDROLOGY //etland Hyd rimary Indicat X Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda Water S ield Observ  urface Water aturation Pre	rology Indicators: ators (any one indicator a Water (A1) /ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) tion Visible on Aerial Im Stained Leaves (B9) atlons: r Present? Present? Yes esent? Yes	agery (B7)  X No No	Aquati Hydrog Dry-Se Preser Thin M Other (	c Invertebrat gen Sulfide C lason Water ice of Reduc uck Surface (Explain in R	Oder (C1) Table (C2) sed Iron (C4) (C7) emark)	. X	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To Local Soil Surv	racks (B6) tated Concave Surfaces (Bitns (B10) spheres on Living Roots (Civing Roots (
rimary Indica X Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda Water S Geld Observ Surface Wate Vater Table F Saturation Prencludes cap	rology Indicators: ators (any one indicator a Water (A1) /ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) tion Visible on Aerial Im Stained Leaves (B9) atlons: r Present? Present? Yes esent? Yes	agery (B7)  X No No No	Aquati Hydrog Dry-Se Preser Thin M Other (   Depth X Depth Depth	c Invertebrat gen Sulfide C eason Water nce of Reduc uck Surface (Explain in R (inches): (inches): (inches):	Oder (C1) Table (C2) sed Iron (C4) (C7) emark)  5	Etland Hydrol	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To Local Soil Surv	racks (B6) tated Concave Surfaces (Bitns (B10) spheres on Living Roots (Civing Roots (
YDROLOGY Vetland Hyd rimary Indica  Surface High W Satural Water Sedime Drift De Algal M Iron De Inunda Water Select ield Observ urface Water Vater Table Faturation Prencludes cap	rology Indicators: ators (any one indicator a Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) ations: r Present? Yes esent? Yes esent? Yes elillary fringe)	agery (B7)  X No No No	Aquati Hydrog Dry-Se Preser Thin M Other (   Depth X Depth Depth	c Invertebrat gen Sulfide C eason Water nce of Reduc uck Surface (Explain in R (inches): (inches): (inches):	Oder (C1) Table (C2) sed Iron (C4) (C7) emark)  5	Etland Hydrol	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To Local Soil Surv	racks (B6) tated Concave Surfaces (Bitns (B10) spheres on Living Roots (Civing Roots (
YDROLOGY etland Hyd imary Indicat Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda Water I eld Observe later Table Faturation Pre ncludes capi	rology Indicators: ators (any one indicator a Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) ations: r Present? Yes esent? Yes esent? Yes elillary fringe)	agery (B7)  X No No No	Aquati Hydrog Dry-Se Preser Thin M Other (   Depth X Depth Depth	c Invertebrat gen Sulfide C eason Water nce of Reduc uck Surface (Explain in R (inches): (inches): (inches):	Oder (C1) Table (C2) sed Iron (C4) (C7) emark)  5	Etland Hydrol	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To Local Soil Surv	racks (B6) tated Concave Surfaces (B trns (B10) spheres on Living Roots (C ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5) vey Data (D8)
YDROLOGY etland Hyd imary Indica Surface High W Satural Water Sedime Drift De Algal M Iron De Inunda Water seld Observ urface Wate ater Table Faturation Pre-	rology Indicators: ators (any one indicator a Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial Im Stained Leaves (B9) ations: r Present? Yes esent? Yes esent? Yes elillary fringe)	agery (B7)  X No No No	Aquati Hydrog Dry-Se Preser Thin M Other (   Depth X Depth Depth	c Invertebrat gen Sulfide C eason Water nce of Reduc uck Surface (Explain in R (inches): (inches): (inches):	Oder (C1) Table (C2) sed Iron (C4) (C7) emark)  5	Etland Hydrol	Surface Soil Ci Sparsely Vege Drainage Patte Oxidized Rhizo Crayfish Burror Saturation Visi Frost-Heave H Geomorphic Po FAC-Neutral To Local Soil Surv	racks (B6) tated Concave Surfaces (B trns (B10) sepheres on Living Roots (C ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5) vey Data (D8)



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County: C	Custer County	,	Sampling Date: 9/18/07
Applicant/Owner: Knight Piesold, Powerl	ech				Sampling Point: W21
Investigator(s): C. Robinson and J. Eb					
Landform (hillslope, terrace, etc.) Drain		-	_		Concave Slope (%): 2
Subregion (LRP): Black Hills MLRA62					
				PEM	Datom. NAD 1903, OTM Zone 13
Soil Map Unit Name:  Are climatic/hydrologic conditions on the si					(If no, explain in Remarks.)
, ,		•			
Are Vegetation, Soil, C					
Are Vegetation , Soil , o	or Hydrology	Naturally p	problematic?	(ir needed, explain any	answers in Remarks.)
SUMMARY OF FINDINGS - Attac	h site map	showing sam	pling poin	t locations, transe	ects, important features, etc.
Hydrophytic Vegetation Present?	Yes X	No	_  .	. Also Commissed Associ	
Hydric Soil Present?	Yes X	No		s the Sampled Area Vithin a Wetland	Yes X No
Wetland Hydrology Present	Yes X	 No	_		
Remarks:					
R3 P10: Upstream R3 P11: Downstream					
R3 P12: Bridge					•
Channel crosses the boundary and extended	s to the road		<del></del>		·
VEGETATION					
Tree Stratum (Use scientific names)	Absolute % Cours	Dominant Species?	Indicator	Dominance Test	: Worksheet:
1.	% Cover	Species?	Status	Number of Domin	nant Species
2.				That are OBL, FA	ACW, or FAC:1 (A)
3. 4.				Total Number of I	Dominant
Total Cover:		-	<del></del>	Species Across A	
Sapling/Shrub Stratum				Percent of Domin	ant Species
1.				That Are OBL, FA	
2.					
3. 4.			***************************************	_ Prevalence Inde	x Worksheet:
5.	•			Total % Cover of:	: Multiply by:
Total Cover:			· · · · · · · · · · · · · · · · · · ·		
Herb Stratum				OBL species FACW species	x1=
1Typha latifolia	55	x	OBL	FAC species	x3=
Asclepias speciosa	10		FAC	FACU species	x4=
3. Glycyrrhiza lepidota	<u>15</u>		FACU	UPL species	x5= (B)
4. Spartina pectinata 5. Helianthus annuus	<u> </u>		FACW FACU	Column Totals: Prevalence Index	(A) (B)
6. Melilotus sp.	<u>5</u>		FACU	- Frevalence index	K - B/A -
7. Schoenoplectus pungens	5		OBL	Hydrophytic Ved	getation Indicators
8.				_   .,, ., .,	<b></b>
9.					ce Test is > 50%
10Total Cover:	100			Prevalenc	ce Index is ≤ 3.0 <sup>1</sup> gical Adaptations¹ (Providing supporting
Total Cover.	100				ks or on a separate sheet)
Woody Vine Stratum				Problema	tic Hydrophytic Vegetation (Explain)
1				Indicators of hydri	c soils and wetland hydrology must be present
3.			-	Hydrophytic	,
Total Cover:	-			Vegetation	
% Raro Cround in Hash Steetung	9/ 5	Cover of Biotic Cover	- <b>+</b>	Present?	Yes X No
% Bare Ground in Herb Stratum	%(	Cover of Biotic Crus	<u> </u>	1	

US Army Corps of Engineers



SOIL				***************************************				mpling Point W21
Profile Descr	ription: (Describe to t	he depth nee	ded to documer	nt the indicato	or or confirm t	he absence o	f indicators.)	·
Depth	Matrix			Redox Fe	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Remarks
0-3	5YR 3/4	100				<u></u>	SCL	
3-5	10YR 2/2	50	5YR 4/6	50	C	M	SCL	water filled the hole
				_				
								,
<sup>1</sup> Type: C=Co	ncentration, D=Depletion	on. RM=Reduc	ced Matrix.	<sup>2</sup> Location: F	PL=Pore Lining	. RC=Root Ch	annel, M=Matri	x.
	ndicators: (Applicable		unless otherwi	se noted.)			ators for Prob	lematic Hydric Soils <sup>3</sup> :
	osol (A1)			Sandy Gleyed		<i></i>		(A9) (LRR C)
	ic Epipedon (A2)			Sandy Redox	. ,			ie Redox (A16) (LRR F, G, H)
	k Histic (A3) rogen Sulfide (A4)			Stripped Matri: Loamy Mucky				ce (S7) ( <b>LRR G</b> ) Depressions (F16)
	rogen Sullide (A4) tified Layers (A5) ( <b>LRR</b>	E)		Loamy Mucky Loamy Gleyed		. —		outside MLRA 72 & 73)
	Muck (A9) (LRR F, G,	•		Depleted Matri			Reduced V	
	leted Below Dark Surfa	•		Redox Dark S		,		Material (TF2)
Thic	k Dark Surface (A12)	, ,		Depleted Dark			Other (Expl	ain in Remarks)
	dy Mucky Mineral (S1)		*****	Redox Depres			3	
	cm Mucky Peat or Peat		H)	High Plains De	epressions (F1	6)		of hydrophytic vegetation
	n Mucky Peat or Peat (\$ .ayer (if present):	53) (LRR F)					and welland	d hydrology must be present.
Restrictive L	ayer (ii present).				• •			
Type:								
Depth (inche	es):			lн	lydric Soils Pr	resent? Ye	s X N	lo .
• • •	-			•				
Remarks:								
								•
						•		
HYDROLOG								
	Irology Indicators:					Secon		's (2 or more required)
	ators (any one indicato e Water (A1)	r is sufficient)	Calt Cr	rusts (B11)	······		Surface Soil C	etated Concave Surfaces (B8)
	Vater Table (A2)			usis (BTT) c Invertebrates	(R13)		Drainage Patt	
	tion (A3)			en Sulfide Od		***************************************		ospheres on Living Roots (C3)
	Marks (B1)			ason Water Ta			Crayfish Burro	
Sedim	ent Deposits (B2)			nce of Reduced				sible on Aerial Imagery (C9)
Drift D	eposits (B3)			luck Surface (0	•		Frost-Heave I	Hummocks (C11) (LRR F)
	Mat or Crust (B4)		Other	(Explain in Rer	nark)		Geomorphic F	
	eposits (B5) ition Visible on Aerial In	magan, (D7)		_			FAC-Neutral	rest (D5) rvey Data (D8)
	Stained Leaves (B9)	nagery (b/)	•				Local Soll Sul	vey Data (Do)
Field Observ								•
								•
Surface Wate	-	X No		(inches):	0			
Water Table	-	X No		(inches):	,,,,		D 40	Van V Na
Saturation Pr	_	X No	Depin	(inches):	wet	land Hydrolo	gy Present?	Yes X No
(includes cap	mary minge)							
Describe Red	corded Data (stream ga	uge, monitorir	ng well, aerial pho	otos, previous	inspection), if a	available:		<del>,</del>
1			·		-			
Remarks:		***************************************						
								•
7								



#### **WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)**

Project/Site: Dewey Burdook City/County: Custer County Sampling Date: 9/18/07  Applicant/Owner: Knight Piesold, Powertech State: South Dakota Sampling Point: W22  Investigator(s): C. Robinson and J. Eberty Section, Township, Range: Section 9, T7S, R1E  Landform (hillslope, terrace, etc.) Drainage Local relief (concave, convex, none): Concave Slope (%): 0  Subregion (LRP): Black Hills MLRA62 Lat: Long: Datum: NAD 1983, UTM Zone 13  Soil Map Unit Name: NAW Classification: PEM  Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)  Are Vegetation Soil or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes X No  Are Vegetation or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  VEGETATION  Tree Stratum (Use scientific names) Absolute % Cover Species? Status  Number of Dominant Species  Number of Dominant Species
Investigator(s): C. Robinson and J. Eberty  Landform (hillslope, terrace, etc.) Drainage  Local relief (concave, convex, none): Concave Slope (%): 0  Subregion (LRP): Black Hills MLRA62  Lat: Long: Datum: NAD 1983, UTM Zone 13  Soil Map Unit Name: NWI Classification: PEM  Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)  Are Vegetation Soil or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes X No Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No Settleman State Site Sampled Area Within a Wetland Yes X No Settleman State Site Sampled Area Within a Wetland Yes X No Settleman Site Site Sampled Area Within a Wetland Yes X No Settleman Site Site Site Site Site Site Site Site
Landform (hillslope, terrace, etc.) Drainage Local relief (concave, convex, none): Concave Slope (%): 0  Subregion (LRP): Black Hills MLRA62 Lat: Long: Datum: NAD 1983, UTM Zone 13  Soil Map Unit Name: NWI Classification: PEM  Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)  Are Vegetation Soil or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes X No Aturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No Is the Sampled Area Within a Wetland Yes X No Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Dominant Indicator Status  Dominance Test Worksheet:
Subregion (LRP): Black Hills MLRA62
Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation, Soil, or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes _X No  Are Vegetation, Soil, or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes _X No  Are Vegetation, Soil, or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes _X No
Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation, Soil, or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes _X No  Are Vegetation, Soil, or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes _X No
Are Vegetation , Soil , or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes X No  Are Vegetation , Soil , or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No
Are Vegetation, Soil, or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?  Yes X No
Hydrophytic Vegetation Present?  Yes X No Is the Sampled Area Within a Wetland Yes X No  Wetland Hydrology Present Yes X No  Wetland Hydrology Present Yes X No  Remarks: R3 P13: Upstream R3 P14: Downstream  VEGETATION  Tree Stratum (Use scientific names)  Absolute % Cover Species?  Status  Is the Sampled Area Within a Wetland Yes X No  Dominant Indicator Status  Dominance Test Worksheet:
Hydric Soil Present?  Yes  No  Wetland Hydrology Present  Yes  X  No  Remarks:  R3 P13: Upstream  R3 P14: Downstream  VEGETATION  Tree Stratum (Use scientific names)  Absolute % Cover Species?  Status  Is the Sampled Area Within a Wetland  Yes  X  No  Dominant Indicator Status  Dominance Test Worksheet:
Hydric Soil Present?  Yes No X  Within a Wetland Yes X No  Wetland Hydrology Present  Yes X No  Remarks: R3 P13: Upstream R3 P14: Downstream  VEGETATION  Tree Stratum (Use scientific names)  Absolute Species?  Species?  Absolute Species?  Absolute Species?  Status  Mithin a Wetland Yes X No  Dominant Indicator Status
Wetland Hydrology Present Yes X No  Remarks: R3 P13: Upstream R3 P14: Downstream  VEGETATION  Tree Stratum (Use scientific names)  Absolute Dominant Indicator Species? Status  Dominance Test Worksheet:
Remarks: R3 P13: Upstream R3 P14: Downstream  VEGETATION  Tree Stratum (Use scientific names)  Absolute Dominant Indicator Species? Status  Dominance Test Worksheet:
VEGETATION  Tree Stratum (Use scientific names)  Absolute Dominant Indicator Species?  Status  Dominance Test Worksheet:
VEGETATION  Tree Stratum (Use scientific names)  Absolute Dominant Indicator Species?  Status  Dominance Test Worksheet:
Tree Stratum (Use scientific names)  Absolute Dominant Indicator Species?  Status  Dominance Test Worksheet:
% Cover Species? Status
1. Number of Dominant Species
That are ORL FACIAL as FAC.
2 That are OBL, FACW, or FAC: (A) 3
4 Total Number of Dominant
Total Cover: Species Across All Strata:1 (B)
Sapling/Shrub Stratum Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2
3. Prevalence Index Worksheet:
4
Total Cover:
OBL species
1. Spartina pectinata 81 X FACW FAC species x3=
2.       Cirsium arvense       19       FACU       FACU species       19       x4=       76         3.       UPL species       x5=
4. Column Totals: 100 (A) 238 (B)
5. Prevalence Index = B/A = 2.38
6
8
9. $X$ Dominance Test is > 50% 10. Prevalence Index is $\leq 3.0^1$
Total Cover: 100 Morphological Adaptations¹ (Providing supporting
data in Remarks or on a separate sheet)  Woody Vine Stratum  Problematic Hydrophytic Vegetation (Explain)
1
2. Indicators of hydric soils and wetland hydrology must be present  3. Hydrophytic
Total Cover: Vegetation
% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust
Remarks.
US Army Corps of Engineers Great Plains - DRAFT 8-30-2006

43



SOIL					npling Point W22
Profile Description: (Describe to the depth n	eeded to document th	ne indicator or conf	irm the absence	of indicators.)	
Depth Matrix		Redox Features			
(inches) Color (moist) %	Color (moist)	% Type	Loc²	Texture	Remarks
0-1 . 10YR 4/6 100 1-4 2.5YR 3/2 100				SC	Hit rock at 4 inches
1-4 2.5YR 3/2 100				30	HILLIOCK AL 4 INCHES
······					-
	***************************************			<del></del>	
***************************************					
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Re		ocation: PL=Pore L			
Hydric Soil Indicators: (Applicable to all LRI					ematic Hydric Soils <sup>3</sup> :
Histosol (A1)		dy Gleyed Matrix (S- dy Redox (S5)	<u> </u>		A9) ( <b>LRR C</b> ) e Redox (A16) (LRR F, G, H)
Histic Epipedon (A2) Black Histic (A3)		oped Matrix (S6)			e (S7) (LRR G)
Hydrogen Sulfide (A4)		my Mucky Mineral (f	=1)		Depressions (F16)
Stratified Layers (A5) (LRR F)		my Gleyed Matrix (F	·		utside MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)		leted Matrix (F3)	·	Reduced Ve	
Depleted Below Dark Surface (A11)		lox Dark Surface (F6			Material (TF2)
Thick Dark Surface (A12)		leted Dark Surface (		Other (Expla	in in Remarks)
Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF		lox Depressions (F8) n Plains Depressions		<sup>3</sup> Indicators o	f hydrophytic vegetation
5 cm Mucky Peat or Peat (S3) (LRR F		Triama Depressions	3 (1 10)		hydrology must be present.
Type: Depth (inches): Remarks:		Hydric Soi	ils Present? Y	es N	o <u>X</u>
HYDROLOGY					
Wetland Hydrology Indicators:			Seco	ndary Indicators	s (2 or more required)
Primary Indicators (any one indicator is sufficient				Surface Soil C	racks (B6)
Surface Water (A1)	Salt Crusts				tated Concave Surfaces (B8)
High Water Table (A2)		vertebrates (B13)	X		
Saturation (A3) Water Marks (B1)		Sulfide Oder (C1) in Water Table (C2)		Crayfish Burro	ospheres on Living Roots (C3)
Sediment Deposits (B2)		of Reduced Iron (C4	,		ble on Aerial Imagery (C9)
Drift Deposits (B3)		Surface (C7)	,		ummocks (C11) (LRR F)
Algal Mat or Crust (B4)	Other (Exp	olain in Remark)	X	Geomorphic P	
Iron Deposits (B5)				FAC-Neutral T	
Inundation Visible on Aerial Imagery (B7	)			_ Local Soil Sun	vey Data (D8)
Water Stained Leaves (B9) Field Observations:					
i ioid Observations.					
Surface Water Present? Yes No					
Water Table Present? Yes No				<b>5</b> 40	V V
Saturation Present? Yes No	Depth (incl	hes):	Wetland Hydrolo	ogy Present?	Yes <u>X</u> No
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos	, previous inspection	n), if available:		
Remarks:					
Dry throughout the gree and there was an arrange	hment of unland associa	ne.			
Dry throughout the area and there was encroad	annent of uplantic specie				



#### **WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)**

Project/Site: Dewey Burdock		City/County: Cu	ıster Cour	sty Sampling Date: 9/18/07
Applicant/Owner: Knight Piesold, Powertech			uth Dakot	
Investigator(s): C. Robinson and J. Eberly		Section, Township	, Range:	
		-	_	ncave, convex, none): Concave Slope (%): 1
Subregion (LRP): Black Hills MLRA62		Lat:	Loi	ng: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI Class	ification:	PEM
Are climatic/hydrologic conditions on the site typic	al for this	time of year?	Ye	s X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydro	ology	Significantly	disturbed	l? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydro	ology	Naturally pr	oblematic	? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site	man e	showing samp	lina noi	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	<del>, шар .</del> Х	No	ing poi	int locations, transects, important leatures, etc.
Hydric Soil Present? Yes	X		-	Is the Sampled Area Within a Wetland Yes X No
Wetland Hydrology Present Yes		No X	-	
Remarks:	***********************		,	
R3 P17: Upstream R3 P18: Downstream				
Possible low spot that collects water, dying cattails	s present			
VEGETATION				
· · · · · · · · · · · · · · · · · · ·	olute over	Dominant Species?	Indicate	
1		<u> </u>		Number of Dominant Species
2. B				That are OBL, FACW, or FAC:1 (A)
4				Total Number of Dominant
Total Cover:				Species Across All Strata: 2 (B)
Sapling/Shrub Stratum 1.			·	Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)
2.			-	
3.				Prevalence Index Worksheet:
5				Total % Cover of: Multiply by:
Total Cover:	<del>.</del>			OBL species 60 x1= 60
Herb Stratum			=	FACW species 9 x2= 18
	9	x	FACU FACU	
	0		FACL	
	0	X .	OBL	Column Totals: 100 (A) 201 (B)
	1		FAC	Prevalence Index = B/A = 2.01
7.		•	-	Hydrophytic Vegetation Indicators
8.				
9.				Dominance Test is > 50%  X Prevalence Index is < 3.01
10 Total Cover: 10	00	•		X Prevalence Index is ≤ 3.0¹ Morphological Adaptations¹ (Providing supporting
***************************************	<del></del>			data in Remarks or on a separate sheet)
Woody Vine Stratum 1.				Problematic Hydrophytic Vegetation (Explain)
2.				<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3			***************************************	Hydrophytic
Total Cover:				Vegetation Present? Yes X No
% Bare Ground in Herb Stratum 0	% C	over of Biotic Crust		103 <u>A</u> 140
Remarks:				



ches) Color (moist) % Color (moist) % Type Loc* Texture Remarks  0.2 10YR 3/1 100  2.6 5YR 4/6 95 7.5YR 5/8 5 C RC C  2.6 5YR 4/6 95 7.5YR 5/8 5 C RC C  2.6 5YR 4/6 95 7.5YR 5/8 5 C RC C  2.6 5YR 4/6 95 7.5YR 5/8 5 C RC C  2.7 C C C  3.7 C C C  3.7 C C C  3.7 C C C C  3.7 C C C C  4.7 C C C C  4.7 C C C C  4.7 C C C C C  4.7 C C C C C  4.7 C C C C C C  4.7 C C C C C C C C C C C C C C C C C C C	Depth	Matrix			Redox Fear	tures			
10   10   10   10   10   10   10   10	nches)		%	Color (moist)			Loc²	Texture	Remarks
pe: C=Concentration, D=Depletion, RM=Reduced Matrix.  idric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  idric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  idric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  idric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  idric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  idric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  idric Soil Matrix (S4)  idric Matrix (S4)  idri	0-2							SiC	
dic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Black Histos (A3) Slady Redox (S5) Black Histos (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Stripfed Matrix (F6) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Sandy Mucky Mineral (F1) Loamy Mucky Peat or Peat (S2) (LFF G, H) Loamy Mucky Peat or Peat (S3) (LRR F) Strictive Layer (if present):  Pe: pth (inches):  ### Hydric Soils Present?  ### Plains Depressions (F16)  Surface Water (A1) Depseted Delow Dark Surface (A11) Salt Crusts (B11) Surface Water (A1) Depseted Matrix (F3) Surface Water Marks (B1) Surface Water Indicator is sufficiently Water Marks (B1) Dry-Season Water (A1) Aquatic Invertebrates (B13) Apdrogen Sulfide Oder (C1) Drift Deposits (B2) Presence of Reduced Iron (C4) Fressence of Reduced Iron (C5) Agal Mat or Crust (B4) Iron Deposits (B3) Irin Muck Surface (C7) Fressence of Reduced Iron (C4) Fressence of Reduced Iron (C4) Fressence of Reduced Iron (C5) Fressence of Reduced Iron (C6) Fressence of Reduced Iron	2-6	5YR 4/6	95	7.5YR 5/8	5	C	RC	, <u>C</u>	
Agric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Hydrogen Suffice (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Strictive Layer (if present):  Depleted Dark Surface (A12) Some Mucky Peat or Peat (S3) (LRR F) Some Mucky Peat or Peat (S3) (LRR F)  Depleted Dark Surface (A12) Some Mucky Peat or Peat (S3) (LRR F) Serictive Layer (if present):  December of the Mineral (F1) Surface Water (A1) Salt Crusts (B11) Salt Crusts (B13) Dry-Season Water Table (C2) Seminent Deposits (B2) Presence of Reduced Iron (C4) Algala Mat or Crust (B4) Iron Deposits (B3) Inim Muck Surface (C11) (LRR F) Iron Deposits (B3) Inim Muck Surface (B3) Water Marks (B1) Iron Season Water (A7) Algala Mat or Crust (B4) Iron Deposits (B3) Iron Mucky Peat or Poat Imagery (B7) Water Standard (B4) Iron Deposits (B3) Iron Mucky (B4) Iron Deposits (B3) Iron Mineral (F1) Iron Muck Surface (B3) Iron Mineral (F1) Iron Muck Surface (B1) Iron Deposits (B3) Iron Mineral (F1) Iron Mineral (									
A pilcators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A2) Histos (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Stripped Matrix (S6) Hydrogen Suffice (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Serticitive Layer (if present):  Depleted Dark Surface (A12) Hydrogen Suffice (A12) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) Serticitive Layer (if present):  DROLOGY Under (Explain in Remark)  DROLOGY Hydrogen Suffice Order (A2) Surface Water (A1) Salt Crusts (B11) Surface Water (A2) Salt Crusts (B1) Dry-Season Water Table (C2) Sement Deposits (B2) Drift Deposits (B2) Presence of Reduced Iron (C4) Fresence of Reduced Iron (C4) Fresh-tear Hummocks (C11) (LRR F) Fresh-tear Hummocks (C11) (									
A pilcators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos (A2) Histos (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Stripped Matrix (S6) Hydrogen Suffice (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Serticitive Layer (if present):  Depleted Dark Surface (A12) Hydrogen Suffice (A12) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) Serticitive Layer (if present):  DROLOGY Under (Explain in Remark)  DROLOGY Hydrogen Suffice Order (A2) Surface Water (A1) Salt Crusts (B11) Surface Water (A2) Salt Crusts (B1) Dry-Season Water Table (C2) Sement Deposits (B2) Drift Deposits (B2) Presence of Reduced Iron (C4) Fresence of Reduced Iron (C4) Fresh-tear Hummocks (C11) (LRR F) Fresh-tear Hummocks (C11) (									
dict Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosoi (A1) Sandy Gleyed Matrix (S4) Histosoi (A2) Sandy Redox (S5) Slack Histic (A3) Slack Matrix (S6) Dark Surface (S7) (LRR G, G) Hydrogen Suffice (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) S. Redox Dark Surface (F7) Sandy Mucky Mineral (S1) S. Redox Dark Surface (F7) Sandy Mucky Mineral (S1) S. Thick Dark Surface (A12) Sandy Mucky Mineral (S1) S. Thick Dark Surface (A12) Sandy Mucky Peat or Peat (S2) (LFF G, H) S. Thick Dark Surface (A12) Sericitive Layer (if present):  pere pth (inches):    Phydric Soils Present?   Yes _ X _ No				<del></del>					
Agric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Hydrogen Suffice (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Strictive Layer (if present):  Depleted Dark Surface (A12) Some Mucky Peat or Peat (S3) (LRR F) Some Mucky Peat or Peat (S3) (LRR F)  Depleted Dark Surface (A12) Some Mucky Peat or Peat (S3) (LRR F) Serictive Layer (if present):  December of the Mineral (F1) Surface Water (A1) Salt Crusts (B11) Salt Crusts (B13) Dry-Season Water Table (C2) Seminent Deposits (B2) Presence of Reduced Iron (C4) Algala Mat or Crust (B4) Iron Deposits (B3) Inim Muck Surface (C11) (LRR F) Iron Deposits (B3) Inim Muck Surface (B3) Water Marks (B1) Iron Season Water (A7) Algala Mat or Crust (B4) Iron Deposits (B3) Iron Mucky Peat or Poat Imagery (B7) Water Standard (B4) Iron Deposits (B3) Iron Mucky (B4) Iron Deposits (B3) Iron Mineral (F1) Iron Muck Surface (B3) Iron Mineral (F1) Iron Muck Surface (B1) Iron Deposits (B3) Iron Mineral (F1) Iron Mineral (							<del></del>		
Agric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Hydrogen Suffice (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Strictive Layer (if present):  Depleted Dark Surface (A12) Some Mucky Peat or Peat (S3) (LRR F) Some Mucky Peat or Peat (S3) (LRR F)  Depleted Dark Surface (A12) Some Mucky Peat or Peat (S3) (LRR F) Serictive Layer (if present):  December of the Mineral (F1) Surface Water (A1) Salt Crusts (B11) Salt Crusts (B13) Dry-Season Water Table (C2) Seminent Deposits (B2) Presence of Reduced Iron (C4) Algala Mat or Crust (B4) Iron Deposits (B3) Inim Muck Surface (C11) (LRR F) Iron Deposits (B3) Inim Muck Surface (B3) Water Marks (B1) Iron Season Water (A7) Algala Mat or Crust (B4) Iron Deposits (B3) Iron Mucky Peat or Poat Imagery (B7) Water Standard (B4) Iron Deposits (B3) Iron Mucky (B4) Iron Deposits (B3) Iron Mineral (F1) Iron Muck Surface (B3) Iron Mineral (F1) Iron Muck Surface (B1) Iron Deposits (B3) Iron Mineral (F1) Iron Mineral (		· · · · · · · · · · · · · · · · · · ·							
Agric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Hydrogen Suffice (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LFF G, H) Strictive Layer (if present):  Depleted Dark Surface (A12) Some Mucky Peat or Peat (S3) (LRR F) Some Mucky Peat or Peat (S3) (LRR F)  Depleted Dark Surface (A12) Some Mucky Peat or Peat (S3) (LRR F) Serictive Layer (if present):  December of the Mineral (F1) Surface Water (A1) Salt Crusts (B11) Salt Crusts (B13) Dry-Season Water Table (C2) Seminent Deposits (B2) Presence of Reduced Iron (C4) Algala Mat or Crust (B4) Iron Deposits (B3) Inim Muck Surface (C11) (LRR F) Iron Deposits (B3) Inim Muck Surface (B3) Water Marks (B1) Iron Season Water (A7) Algala Mat or Crust (B4) Iron Deposits (B3) Iron Mucky Peat or Poat Imagery (B7) Water Standard (B4) Iron Deposits (B3) Iron Mucky (B4) Iron Deposits (B3) Iron Mineral (F1) Iron Muck Surface (B3) Iron Mineral (F1) Iron Muck Surface (B1) Iron Deposits (B3) Iron Mineral (F1) Iron Mineral (						<del></del>			
Histosol (A1)  Histosol (A2)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Coast Prairie Redox (A16) (LRR F, G)  Black Histic (A3)  Stripped Matrix (S6)  Black Histic (A3)  Stripped Matrix (S6)  Hydrogen Sulfide (A4)  Stratified Leyers (A5) (LRR F)  Loamy Gleyed Matrix (F2)  1 cm Muck (A9) (LRR F, G, H)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (F1)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Z5 cm Mucky Mineral (S1)  Z5 cm Mucky Peat or Peat (S2) (LFF G, H)  High Plains Depressions (F16)  Reduze Dark Surface (F1)  Some Mucky Mineral (S1)  Z5 cm Mucky Peat or Peat (S2) (LFF G, H)  High Plains Depressions (F16)  Thick Dark Surface (A12)  See Depleted Dark Surface (F1)  Sandy Mucky Mineral (S1)  Z5 cm Mucky Peat or Peat (S2) (LFF G, H)  High Plains Depressions (F16)  Thick Dark Surface (A12)  Some Depleted Dark Surface (F1)  Some Depleted Dark Surface (F1)  Some Depleted Dark Surface (F1)  Thick Dark Surface (A12)  See Depleted Dark Surface (F1)  Thick Dark Surface (A12)  See Dark Surface (A12)  Depleted Dark Surface (F1)  Thick Dark Surface (A12)  Thick Dark Surface (A12)  See Dark Surface (A12)  Some Dark Surface (A12)  Some Dark Surface (A12)  Surface Water (A11)  Thick Dark Surface (A12)  Thick Dark Surface (A12)  Thick Dark Surface (A12)  Thick Dark Surface (A12)  See Dark Surface (A12)  Surface Water (A12)  Thick Dark Surface (A12)  Thick Dark Surface (A12)  Thick Dark Surface (A12)  Thick Dark Surface (A12)  Saturation Visible on Aerial Imagery (CB)  Thick Dark Surface (A12)  Thin Muck Surface						.=Pore Lining,			At - 11 - 4-1 - 0 - 11 - 3.
Histic Epipedon (A2) Black Histic (A3) Slack Histic (A3) Slack Histic (A3) Slack Parties (A5) (LRR F, G) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) Stratified Layers (A5) (LRR F, G, H) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Peat or Peat (S2) (LFF G, H) Strictive Layer (if present):  Depleted Dark Surface (A12) Sandy Mucky Peat or Peat (S2) (LFF G, H) Strictive Layer (if present):  Depleted Mucky Peat or Peat (S3) (LRR F)  Depleted Mucky Peat or Peat (S2) (LFF G, H)  High Plains Depresent?  Yes			to all LKKS			Aatriy (SA)	inai		
Black Histic (A3)   Stripped Matrix (S6)   Dark Surface (S7) (LRR G)   Hydrogen Sulfide (A4)   Loamy Mucky Mineral (F1)   High Plains Depressions (F16)   Stratified Layers (A5) (LRR F)   Loamy Gleyed Matrix (F2)   Reduced Vertic (F18)   Depleted Below Dark Surface (A11)   Redox Dark Surface (F6)   Red Parent Material (TF2)   Thick Dark Surface (A12)   Depleted Dark Surface (F7)   Other (Explain in Remarks)   Sandy Mucky Mineral (S1)   X Redox Depressions (F8)   2.5 cm Mucky Peat or Peat (S2) (LFF G, H)   High Plains Depressions (F16)   Strictive Layer (If present):  DEC.  DEC.  DEC.  DEC.  DEC.  DEC.  Hydric Soils Present? Yes X No    DEC.  DEC.  Hydric Soils Present? Yes X No    DEC.  DEC.  DEC.  DEC.  Hydric Soils Present? Yes X No    DEC.  DEC							-		
Stratified Layers (A5) (LRR F)  Loamy Gleyed Matrix (F2)  To Muck (A9) (LRR F, G, H)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Red Parent Material (TF2)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  2.5 cm Mucky Peat or Peat (S2) (LFF G, H)  2.5 cm Mucky Peat or Peat (S2) (LRF F)  Strictive Layer (If present):  Pet pth (inches):  BRODLOGY  High Plains Depressions (F16)  Brodlators (R16)  Surface Soil Cracks (B6)  Surface Water (A1)  Surface Soil Cracks (B6)  Surface Water (A1)  Surface Water (A1)  Surface Water (A1)  Surface Water (A1)  Surface Soil Cracks (B6)  Surface Water (A1)  Surface Water (A1)  Surface Water (A1)  Surface Soil Cracks (B6)  Surface Water (A1)  Surface Soil Cracks (B6)  Surface Surfaces on Living Roots  Craylish Burrows (C8)  Surface Water Present (B1)  Oxidized Rhizospheres on Living Roots  Reduced Invertebrates (B13)  Thin Muck Surface (C7)  Frost-Heave Hurmmocks (C11) (LRR F)  Algal Mat or Crust (B4)  In Deposits (B3)  Thin Muck Surface (C7)  Frost-Heave Hurmmocks (C11) (LRR F)  Local Soil Survey Data (D8)  Water Stained Leaves (B9)  Id Observations:  Indeed Matrix (F2)  Wetland Hydrology Present? Yes No X  Depth (inches):  Local Soil Survey Data (D8)			•						
1 cm Muck (A9) (LRR F, G, H)	Hydroge	en Sulfide (A4)		Loa	my Mucky M	lineral (F1)		High Plains Der	pressions (F16)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Dark Surface (F7) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) Scm Mucky Peat or Peat (S2) (LRR F) Strictive Layer (if present):  De: Doth (inches):  Description of the deplet of the parent material  DROLOGY Hand Hydrology Indicators: Inge coloration due to parent material  DROLOGY Hand Hydrology Indicators: Surface Water (A1) Saturation (A3) Hydrogen Sulfide Oder (C1) Surface Water (A1) Surface Reduced Iron Surface Water (A1) Surface Reduced Iron Surface (B13) Drainage Patterns (B10) Surface Water (A1) Surface Reduced Iron Surface (B13) Surface Reduced Iron Surface (B10) Surface Reduced Iron Water Marks (B1) Dry-Season Water Table (C2) Drift Deposits (B3) Thin Muck Surface (C7) Frost-Heave Hummocks (C11) (IRR F) Iron Deposits (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Id Observations:  If ce Water Present? Yes No X Depth (inches): Lucation Present? Yes No X Depth (inches							•	•	·
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S2) (LFF G, H) Scm Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F16) Scm Mucky Peat or Peat (S3) (LRR F) Scm Mucky Peat or Peat (S3) (LRR F)  Be: both (inches):  Be: both (inches):  Branks:  Inge coloration due to parent material  BROLOGY  Itland Hydrology Indicators:  Inge coloration due to parent material  BROLOGY  Itland Hydrology Indicators (any one indicator is sufficient)  Surface Water (A1) Saturation (A3) Saturation (A3) Saturation (A3) Hydrogen Sulfide Oder (C1) Sediment Deposits (B2) Dry-Season Water Table (C2) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) In Deposits (B3) Thin Muck Surface (C7) Water Mator Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Id Observations:  Wetland Hydrology Present? Yes No X Depth (inches):								<del></del>	, ,
Sandy Mucky Mineral (S1)			e (A11)						
2.5 cm Mucky Peat or Peat (S2) (LFF G, H) 5 cm Mucky Peat or Peat (S2) (LRR F)  Strictive Layer (if present):  DR: oth (inches): Inge coloration due to parent material  DROLOGY  Italiand Hydrology Indicators: Inge coloration due to parent material  DROLOGY  Italiand Hydrology Indicators: Inge coloration due to parent material  DROLOGY  Italiand Hydrology Indicators: Inge coloration due to parent material  DROLOGY  Italiand Hydrology Indicators: Inge coloration due to parent material  DROLOGY  Italiand Hydrology Indicators: Inge coloration due to parent material  DROLOGY  Italiand Hydrology Indicators (2 or more required)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surfaces (B1)  Drainage Patterns (B10)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots  Water Marks (B1)  Dry-Season Water Table (C2)  Craylish Burrows (C8)  Sediment Deposits (B3)  Thin Muck Surface (C7)  Frost-Heave Hummocks (C11) (LRR F)  Algal Mat or Crust (B4)  Inon Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Id Observations:  Iface Water Present? Yes No X Depth (inches):  Local Soil Survey Data (D8)  Wettand Hydrology Present? Yes No X Depth (inches):  Luration Present? Yes No X Depth (inches):								Other (Explain)	ii Reiliaiks)
Scm Mucky Peat or Peat (S3) (LRR F)  and wetland hydrology must be prese strictive Layer (if present):  De: Dth (inches):  Independent of the present of the			S2) (LFF G.				1	3Indicators of hy	drophytic vegetation
DROLOGY  Itland Hydrology Indicators: mary Indicators (any one indicator is sufficient)  Surface Water (A1) Salt Crusts (B11) Saturation (A3) Hydrogen Sulfide Oder (C1) Sedimarks (B1) Sedimar Deposits (B1) Dry-Season Water Table (C2) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B3) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Id Observations:  If ace Water Present? Yes No X Depth (inches): Irrace Water Alproports (Posent? Yes No X Depth (inches): Irrace Water Present? Yes No X				, <u> </u>	ia io		,		
tland Hydrology Indicators: mary Indicators (any one indicator is sufficient)  Surface Water (A1)  Salt Crusts (B11)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Indicators (any one indicator is sufficient)  Salt Crusts (B11)  Salt Crusts (B11)  Sparsely Vegetated Concave Surfaces of Surfaces					Hy 	dric Soils Pre	esent? Y	es X No	
Atland Hydrology Indicators: mary Indicators (any one indicator is sufficient)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Drift Deposits (B3)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Algal Moder Present?  Water Present?  Yes  No  X  Depth (inches):  mary Indicators (any one indicators (2 or more required)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surfaces of Surfaces of Surfaces of Surfaces of Surfaces of Surface (C1)  Driting Roots  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9  Frost-Heave Hummocks (C11) (LRR F)  Algal Mat or Crust (B4)  Under (Explain in Remark)  Water Stained Leaves (B9)  Water Stained Leaves (B9)  Wetland Hydrology Present? Yes  No  X  Depth (inches):  Surface Water Present?  Yes  No  X  Depth (inches):  Unuration Present?  Yes  No  X	marks:	n due to parent mate	rial		Hy 	dric Soils Pre	esent? Y	es X No	
mary Indicators (any one indicator is sufficient)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Ald Observations:  rface Water Present?  Yes  No  X  Depth (inches):  urical water Table (A2)  Saturatior (A3)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surfaces (B13)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots  Facuration Visible on Aerial Imagery (C9  Frost-Heave Hummocks (C11) (LRR F)  Thin Muck Surface (C7)  Frost-Heave Hummocks (C11) (LRR F)  A Geomorphic Position (D2)  FAC-Neutral Test (D5)  Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes  No  X  Cludes capillary fringe)  Wetland Hydrology Present? Yes  No  X  Depth (inches):  Wetland Hydrology Present? Yes  No  X	marks: ange coloratio	n due to parent mate	rial		( Ну	dric Soils Pre	esent? Y	es X No	
High Water Table (A2) Saturation (A3) Hydrogen Sulfide Oder (C1) Seturation (A3) Hydrogen Sulfide Oder (C1) Seturation (A3) Setimation (A3) Setimation (A3) Hydrogen Sulfide Oder (C1) Seturation (C2) Setimation Deposits (B2) Setimation Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C5) Iron Deposits (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Ind Observations:  Indication Present?  Indication Present Present Present Present Present Present Present Present Present Prese	marks: ange coloratio		rial		( Ну	dric Soils Pre		•	or more required)
Saturation (A3)	marks: ange coloratio	ogy Indicators:			( Ну	dric Soils Pre		ndary Indicators (2	
Water Marks (B1)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Saturation Visible on Aerial Imagery (C5)  Prost-Heave Hummocks (C11) (LRR F)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Indid Observations:  Irface Water Present? Yes  No  X  Depth (inches):  Inter Table Present? Yes  No  X  Depth (inches):  Inter T	marks: ange coloration  DROLOGY tland Hydrol	ogy Indicators: rs (any one indicator			s (B11)			ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate	ks (B6) ed Concave Surfaces (E
Sediment Deposits (B2)  Drift Deposits (B3)  Thin Muck Surface (C7)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Ind Observations:  Indae Water Present?  Table Present?  Yes  No  X  Depth (inches):  Inurdation Visible on Aerial Imagery (B7)  Water Table Present?  Yes  No  X  Depth (inches):	marks: ange coloratio  DROLOGY tland Hydrol mary Indicato Surface W High Wate	ogy Indicators: rs (any one indicator /ater (A1) er Table (A2)		Aquatic In	s (B11) vertebrates (	B13)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns	ks (B6) ed Concave Surfaces (B (B10)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Id Observations:  rface Water Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration Present? Yes No X Depth (inches): Ituration Present? Ituration	DROLOGY Itland Hydrol mary Indicator Surface W High Wate	ogy Indicators: rs (any one indicator /ater (A1) er Table (A2)		Aquatic In Hydrogen	s (B11) vertebrates ( Sulfide Oder	B13)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl	ks (B6) ed Concave Surfaces (B (B10) neres on Living Roots (
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Id Observations:  rface Water Present? Yes No X Depth (inches):  Iter Table Present? Yes No X Depth (inches):  Uturation Present? Y	DROLOGY  Itland Hydrol mary Indicator Surface W High Wate Saturation Water Mar	ogy Indicators: rs (any one indicator /ater (A1) er Table (A2) (A3) rks (B1)		Aquatic In Hydrogen Dry-Seaso	s (B11) vertebrates ( Sulfide Ode on Water Tab	(B13) r (C1) ole (C2)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows	ks (B6) ed Concave Surfaces (B (B10) neres on Living Roots ( (C8)
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Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Ind Observations:  Indee Water Present? Yes No X Depth (inches): Inter Table Present? Yes N	marks: ange coloratio  DROLOGY  Etland Hydrol mary Indicator — Surface W High Wate — Saturation — Water Ma — Sediment — Drift Depo	ogy Indicators: rs (any one indicator later (A1) er Table (A2) i (A3) rks (B1) Deposits (B2) sits (B3)		Aquatic In Hydrogen Dry-Seasc Presence Thin Muck	s (B11) vertebrates ( Sulfide Oder on Water Tab of Reduced c Surface (C7	B13) r (C1) ole (C2) lron (C4)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum	ks (B6) cd Concave Surfaces (B de Concave Surfaces (B de Concave Surfaces (B de Concave Surfaces (CB) on Aerial Imagery (C9) mocks (C11) ( <b>LRR F</b> )
rface Water Present? Yes NoX _ Depth (inches): ter Table Present? Yes NoX _ Depth (inches): turation Present? Yes NoX _ Depth (inches): turation Present? Yes NoX _ Depth (inches):	marks: ange coloration  DROLOGY  Itland Hydrolom mary Indicator — Surface W — High Wate — Saturation — Water Mar — Sediment — Drift Depo	ogy Indicators: rs (any one indicator later (A1) er Table (A2) i (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)		Aquatic In Hydrogen Dry-Seasc Presence Thin Muck	s (B11) vertebrates ( Sulfide Oder on Water Tab of Reduced c Surface (C7	B13) r (C1) ole (C2) lron (C4)		ndary Indicators (2 Surface Soil Cract Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit	ks (B6) ad Concave Surfaces (B be (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2)
rface Water Present? Yes No X Depth (inches): ter Table Present? Yes No X Depth (inches): turation Present? Yes No X Depth (inches): Cludes capillary fringe)  Wetland Hydrology Present? Yes No X	marks: ange coloratio  DROLOGY  Itland Hydrol mary Indicator Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo	ogy Indicators: rs (any one indicator /ater (A1) er Table (A2) i (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	is sufficient)	Aquatic In Hydrogen Dry-Seasc Presence Thin Muck	s (B11) vertebrates ( Sulfide Oder on Water Tab of Reduced c Surface (C7	B13) r (C1) ole (C2) lron (C4)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ad Concave Surfaces (B (B10) neres on Living Roots ( (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5)
ater Table Present? Yes No X Depth (inches): turation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Cludes capillary fringe)	DROLOGY Itland Hydrol Mary Indicator Surface W High Water Saturation Water Mar Sediment Drift Depod Algal Mat Iron Depo Inundation Water Sta	ogy Indicators: rs (any one indicator /ater (A1) er Table (A2) n (A3) rtks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial Im ined Leaves (B9)	is sufficient)	Aquatic In Hydrogen Dry-Seasc Presence Thin Muck	s (B11) vertebrates ( Sulfide Oder on Water Tab of Reduced c Surface (C7	B13) r (C1) ole (C2) lron (C4)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ad Concave Surfaces (B (B10) neres on Living Roots ( (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5)
ater Table Present? Yes No X Depth (inches): turation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Cludes capillary fringe)	marks: ange coloration  DROLOGY  Stland Hydrol  mary Indicator  Surface W  High Wate  Saturation  Water Mar  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundation  Water Sta	ogy Indicators: rs (any one indicator /ater (A1) er Table (A2) n (A3) rtks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial Im ined Leaves (B9)	is sufficient)	Aquatic In Hydrogen Dry-Seasc Presence Thin Muck	s (B11) vertebrates ( Sulfide Oder on Water Tab of Reduced c Surface (C7	B13) r (C1) ole (C2) lron (C4)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ad Concave Surfaces (B (B10) neres on Living Roots ( (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5)
turation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X cludes capillary fringe)	marks: ange coloration  DROLOGY  Stland Hydrol mary Indicator Surface W High Water Saturation Water Mar Sediment Drift Depot Algal Mar Iron Depot Inundation Water Sta	ogy Indicators: rs (any one indicator /ater (A1) er Table (A2) r(A3) rks (B1) Deposits (B2) sists (B3) or Crust (B4) sits (B5) n Visible on Aerial Im ined Leaves (B9) ons:	is sufficient)	Aquatic In Hydrogen Dry-Seasc Presence Thin Muck Other (Exp	s (B11) vertebrates ( Sulfide Oder on Water Tak of Reduced c Surface (Co	B13) r (C1) ole (C2) lron (C4)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ad Concave Surfaces (B (B10) neres on Living Roots ( (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5)
cludes capillary fringe)	marks: ange coloratio  DROLOGY etland Hydrol mary Indicator Surface W High Water Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Inundatior Water Sta	ogy Indicators: rs (any one indicator /ater (A1) er Table (A2) r(A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) inded Leaves (B9) ons: resent? Yes	is sufficient) agery (B7)	Aquatic In Hydrogen Dry-Seasc Presence Thin Muck Other (Exp	s (B11) vertebrates ( Sulfide Oder on Water Tab of Reduced of Surface (Complain in Remo	B13) r (C1) ole (C2) lron (C4)		ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	ks (B6) ad Concave Surfaces (B (B10) neres on Living Roots ( (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5)
scribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	marks: ange coloration  DROLOGY  Itland Hydrol mary Indicator Surface W High Water Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Inundation Water Sta Ind Observation  Frace Water Peter Table Pre	ogy Indicators: rs (any one indicator /ater (A1) rer Table (A2) r(A3) rks (B1) Deposits (B2) risits (B3) or Crust (B4) sits (B5) r Visible on Aerial Im ined Leaves (B9) ons: resent? Yes sent? Yes	is sufficient) agery (B7) No	Aquatic In Hydrogen Dry-Seasc Presence Thin Muck Other (Exp	s (B11) vertebrates ( Sulfide Oder on Water Tab of Reduced c Surface (Co plain in Rema	(B13) r (C1) ble (C2) Iron (C4) 7) ark)	Seco	ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ad Concave Surfaces (B6) (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
scribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	marks: ange coloration  DROLOGY  Hand Hydrol mary Indicator Surface W High Water Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Inundation Water Sta eld Observation  rface Water Peter Table Preservation Preservation	ogy Indicators: rs (any one indicator /ater (A1) re Table (A2) r (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) r Visible on Aerial Im ined Leaves (B9) ons: resent? Yes sent? Yes	is sufficient) agery (B7) No	Aquatic In Hydrogen Dry-Seasc Presence Thin Muck Other (Exp	s (B11) vertebrates ( Sulfide Oder on Water Tab of Reduced c Surface (Co plain in Rema	(B13) r (C1) ble (C2) Iron (C4) 7) ark)	Seco	ndary Indicators (2 Surface Soil Cracl Sparsely Vegetate Drainage Patterns Oxidized Rhizospl Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	ks (B6) ad Concave Surfaces (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
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#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County: 0	Custer County	Sampling Date: 9/19/07
Applicant/Owner: Knight Piesold, Pov	vertech		South Dakota	
Investigator(s): C. Robinson and J.		Section, Townsh	nip, Range:	Section 34, T6S, R1E
Landform (hillslope, terrace, etc.)	)rainage	Loc	cal relief (conc	ave, convex, none): Concave Slope (%): 0
Subregion (LRP): Black Hills MLRA			Long:	
Soil Map Unit Name:			ssification:	
Are climatic/hydrologic conditions on the	e site typical for th	is time of year?	Yes	X No (If no, explain in Remarks.)
			tly disturbed?	Are "Normal Circumstances" present? Yes X No
<del></del>				(If needed, explain any answers in Remarks.)
	tach site map	showing sam	pling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes	_ NoX	Is	the Sampled Area
Hydric Soil Present?	Yes	_ NoX	W	lithin a Wetland Yes NoX
Wetland Hydrology Present Remarks:	Yes	No X		- annum annum annum
R4 P1: Upstream	,			
R4 P2: Downstream				
VEGETATION				
Tree Stratum (Use scientific names)	Absolute	Dominant Species 2	Indicator	Dominance Test Worksheet:
1 Populus deltoides	<u>% Cover</u> 100	Species?	Status FAC	Number of Dominant Species
2.				That are OBL, FACW, or FAC: 0 (A)
4.				Total Number of Dominant
Total Cov	ver: 100			Species Across All Strata: 1 (B)
Sapling/Shrub Stratum				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 0 (A/B)
2. 3.				Prevalence Index Worksheet:
4. 5.				Total % Cover of: Multiply by:
Total Cov	/er:			Total % Cover of: Multiply by:
Herb Stratum				OBL species x1= x2= x2=
1. Elymus smithii	95	X	FACU	FAC species 105 x3= 315
2. <u>Chenopodium album</u> 3.	5		FAC	FACU species 95 x4= 380 UPL species x5=
4.				Column Totals: 200 (A) 695 (B)
5.				Prevalence Index = B/A = 3.48
6. 7.	·			Hydrophytic Vegetation Indicators
8.				
9.				Dominance Test is > 50% Prevalence Index is ≤ 3.0¹
Total Cov	ver: 100			Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratum		4		Problematic Hydrophytic Vegetation (Explain)
1. 2.				Indicators of hydric soils and wetland hydrology must be present
3.				Hydrophytic
Total Cov	ver:			Vegetation   Present? Yes No X
% Bare Ground in Herb Stratum	% (	Cover of Biotic Cru	st	100
Remarks: Upland species in drainage and banks,	there were two liv	ring <i>Populus deltoi</i>	ds present.	

US Army Corps of Engineers



Depth	Matrix			Redox F		··		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	5YR 2.5/1	60					SiCL	
Parent	5YR 4/4	40						
material								
						_		
				_				
	<del>-</del>				·			
		<del></del>						
					-			
	entration, D=Depletion				PL=Pore Lining,	RC=Root C	hannel, M=Matrix.	
	licators: (Applicable	to all LRRs,	unless otherw		4.84-4-5- (0.4)	Indi	cators for Problem	
	ol (A1)			Sandy Gleyed			1 cm Muck (A9)	
	Epipedon (A2) Histic (A3)			Sandy Redox Stripped Matr	, .		Dark Surface (S	edox (A16) (LRR F, G, H)
	gen Sulfide (A4)				/ Mineral (F1)			pressions (F16)
	ed Layers (A5) ( <b>LRR</b>	F)		Loamy Gleye				side MLRA 72 & 73)
	Muck (A9) (LRR F, G,			Depleted Mat			Reduced Vertic	
	ed Below Dark Surface		***************************************	Redox Dark S		X	Red Parent Ma	` '
	Dark Surface (A12)	,			k Surface (F7)		Other (Explain	
Sandy	Mucky Mineral (S1)			Redox Depre	ssions (F8)	<del></del>		
	Mucky Peat or Peat		H)	High Plains D	epressions (F16	6)		ydrophytic vegetation
	Mucky Peat or Peat (S /er (if present):	3) (LRR F)_					and wetland hy	drology must be present.
Type: Depth (inches)	<u>:</u>	·····			Hydric Soils Pre	esent? Y	′es No	X
Depth (inches) Remarks:	on due to parent mate	erial			Hydric Soils Pro	esent? Y	res No	<u>x</u>
Depth (inches) Remarks: Orange colorati		erial			Hydric Soils Pro	esent? Y	res No	<u>x</u>
Depth (inches) Remarks: Orange colorati HYDROLOGY	on due to parent mate	erial			Hydric Soils Pro			
Depth (inches) Remarks: Orange colorati HYDROLOGY Wetland Hydro					Hydric Soils Pro		ndary Indicators (2	or more required)
Depth (inches) Remarks: Orange colorati HYDROLOGY Wetland Hydro	on due to parent mate		Salt C	Crusts (B11)	Hydric Soils Pro		ndary Indicators (2 Surface Soil Crac	or more required)
Depth (inches) Remarks: Orange colorati HYDROLOGY Wetland Hydro Primary Indicat Surface	on due to parent mate						ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns	? or more required) ks (B6) ed Concave Surfaces (B8) s (B10)
Depth (inches) Remarks: Orange colorati HYDROLOGY Wetland Hydro Primary Indicat Surface	on due to parent mate		Aqua Hydro	Crusts (B11) tic Invertebrate ogen Sulfide O	es (B13) der (C1)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp	e or more required) ks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3
Depth (inches) Remarks: Orange colorati  HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatic Water M.	on due to parent mate plogy Indicators: ors (any one indicator Water (A1) ter Table (A2) on (A3) arks (B1)		Aqua Hydro Dry-S	Crusts (B11) tic Invertebrate ogen Sulfide Or eason Water 1	es (B13) der (C1) Fable (C2)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows	e or more required) ks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8)
Depth (inches) Remarks: Orange colorati  HYDROLOGY Wetland Hydro Primary Indicate High Wa Saturatic Water M. Sedimen	on due to parent mate blogy Indicators: ors (any one indicator Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)		Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide Or leason Water T ence of Reduce	es (B13) der (C1) Fable (C2) ed Iron (C4)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible	e or more required) lks (B6) lks (B6) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9)
Remarks: Orange colorati  HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatic Water M Sedimen Drift Dep	on due to parent materials of the parent materials of		Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide Or leason Water T ence of Reduce Muck Surface (	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7)		ndary Indicators (2 Surface Soil Crace Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum	Por more required) ks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9)
Remarks: Orange colorati  HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	on due to parent materials and the parent mate		Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide Or leason Water T ence of Reduce	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi	Por more required) lks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
HYDROLOGY Wetland Hydro Primary Indicate High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	on due to parent materials and the parent mate	is sufficient)	Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide Or leason Water T ence of Reduce Muck Surface (	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	Por more required) lks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
Depth (inches) Remarks: Orange colorati HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatic Water M. Sedimen Drift Dep Algal Ma Iron Dep Inundatio	on due to parent materials and the state of	is sufficient)	Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide Or leason Water T ence of Reduce Muck Surface (	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi	Por more required) lks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
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Depth (inches) Remarks: Orange colorati HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatic Water M. Sedimen Drift Dep Algal Ma Iron Dep Inundatio	on due to parent materials and the state of	is sufficient)	Aqua Hydro Dry-S Prese	Crusts (B11) tic Invertebrate ogen Sulfide Or leason Water T ence of Reduce Muck Surface (	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test	Por more required) lks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2)
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Remarks: Orange colorati  HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatio Water M Sedimen Drift Dep Inundatio Water St Field Observat  Surface Water Water Table Pr	on due to parent material mate	nagery (B7)	Aqua Hydro Dry-S Prese Thin I Other	Crusts (B11) tic Invertebrate ogen Sulfide Oc season Water T ence of Reduce Muck Surface ( r (Explain in Re	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7) emark)	Seco	ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	e or more required) ks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
Depth (inches) Remarks: Orange colorati  HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatio Water M. Sedimen Drift Dep Algal Ma Iron Depi Inundatio Water St Field Observat  Surface Water Water Table Pr Saturation Pres (includes capilla	on due to parent material processing (any one indicators) or (any one indicators) or (A3) arks (B1) to Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) tions:  Present? Yes esent? Yes ary fringe)	nagery (B7) No No No	X Depti X Depti X Depti	Crusts (B11) tic Invertebrate ogen Sulfide Oc season Water 1 ence of Reduce Muck Surface ( (Explain in Re	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7) emark)	Seco	ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	e or more required) ks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
Depth (inches) Remarks: Orange colorati  HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatio Water M. Sedimen Drift Dep Algal Ma Iron Depi Inundatio Water St Field Observat  Surface Water Water Table Pr Saturation Pres (includes capilla	on due to parent material mate	nagery (B7) No No No	X Depti X Depti X Depti	Crusts (B11) tic Invertebrate ogen Sulfide Oc season Water 1 ence of Reduce Muck Surface ( (Explain in Re	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7) emark)	Seco	ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	e or more required) ks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)
Depth (inches) Remarks: Orange colorati  HYDROLOGY Wetland Hydro Primary Indicate Surface High Wa Saturatio Water M. Sedimen Drift Dep Algal Ma Iron Depi Inundatio Water St Field Observat  Surface Water Water Table Pr Saturation Pres (includes capilla	on due to parent material processing (any one indicators) or (any one indicators) or (A3) arks (B1) to Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) tions:  Present? Yes esent? Yes ary fringe)	nagery (B7) No No No	X Depti X Depti X Depti	Crusts (B11) tic Invertebrate ogen Sulfide Oc season Water 1 ence of Reduce Muck Surface ( (Explain in Re	es (B13) der (C1) Fable (C2) ed Iron (C4) (C7) emark)	Seco	ndary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	e or more required) ks (B6) ed Concave Surfaces (B8) s (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5) Data (D8)



## WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Landform (hillslope, terrace, etc.) Drainage Local relief (concave, convex, none): Concave Slope (%): 0 Subregion (LRP): Black Hills MLRA62 Lat: Long: Datum: NAD 1983, UTM Zone 13 Solid Map Unit Name: NWI Classification: Are climatichydrologic conditions on the site typical for this time of year? Yes: X No (If no, explain in Remarks.) Are Vegetation Soli or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes: X No Are Vegetation Soli or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transacts, important features, etc. Hydrophytic Vegetation Present? Yes: No X Is the Sampled Area Within a Wetland Yes: No X Wetland Hydrology Present Yes: X No X No Wetland Hydrology Present Yes: X No X No X No X No Yes: X No X N	Project/Site: Dewey	Burdock	City/County:	Custer County	Saı	mpling Date: 9/19/07
Landform (hillslope, terrace, etc.)   Drainage	Applicant/Owner: Knight I	Piesold, Powertech	State:	South Dakota	Sai	mpling Point: W26
Subtraction   Color	Investigator(s): C. Robi	nson and J. Eberly	Section, Towr	nship, Range: <u>Se</u>	ction 34, T6S, R1E	
New	Landform (hillslope, terrace,	etc.) <u>Drainage</u>	I	Local relief (concave	, convex, none): _Con	ncave Slope (%): 0
New		<u></u>				
Are climatichydrologic conditions on the site typical for this time of year?  Are Vegetation Soil or Hydrology Significantly disturbed? Are "Normal Circumstances" present?  Are Vegetation Soil or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?  Yes No X Is the Sampled Area Within a Wetland Yes No X  Wetland Hydrology Present Yes X No  Wetland Hydrology Hydrolo	***************************************		<u> </u>			
Are Vegetation				Yes	X No	(If no, explain in Remarks.)
Are Vegetation . Soil or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No	, ,	• •	•	-		•
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?		<del></del>		•		
Hydrophytic Vegetation Present?   Yes	<del>- ,</del>		•			•
Wetland Hydrology Present   Yes   X   No     Within a Wetland   Yes   No   X	SUMMARY OF FINDI	NGS - Attach site ma	o showing sa	mpling point lo	cations, transects	s, important features, etc.
Wetland Hydrology Present   Yes   X   No     Within a Wetland   Yes   No   X	Hydrophytic Vegetation Pre	sent? Yes	No	Xls the	Sampled Area	
Remarks   Rat P3: Upstream   Rat P4: Downstream   Upland vegetation has moved down the banks and in the area of the drainage on either side.	Hydric Soil Present?	Yes X	No		•	No <u>X</u>
R4 P3: Upstream R8 P4: Dworstream Upland vegetation has moved down the banks and in the area of the drainage on either side.  VEGETATION  Tree Stratum (Use scientific names)  Absolute	Wetland Hydrology Present	Yes X	No			
VEGETATION   Tree Stratum (Use scientific names)	l .	<del>-</del>				
VEGETATION   Tree Stratum (Use scientific names)	R4 P4: Downstream					
Absolute   Species   Species   Status   Species   S	Upland vegetation has move	ed down the banks and in the	e area of the drain	nage on either side.		
Number of Dominant Species   That are OBL, FACW, or FAC:   0   (A)						
Number of Dominant Species	Tree Stratum (Use scientific				Dominance Test Wo	rksheet:
Total Number of Dominant Species Across All Strata:	1		opecies:	Otatus	Number of Dominant	Species
Total Cover:   Species Across All Strata: 2 (B)	2.		***************************************		That are OBL, FACW,	, or FAC:0 (A)
Percent of Dominant Species   That Are OBL, FACW, or FAC: 0 (A/B)	4.				Total Number of Domi	inant
1.		Total Cover:			Species Across All Str	rata: <u>2</u> (B)
2. 3. 4. 5.	Sapling/Shrub Stratum	•		•		
Prevalence Index Worksheet:				······	That Are OBL, FACW	, or FAC: 0 (A/B)
Total Cover		***************************************			Prevalence Index Wo	orksheet:
Total Cover:   Herb Stratum	4.					
Herb Stratum	5.	Total Cover:		·	Total % Cover of:	Multiply by:
1. Elymus smithii         30         X         FACU FACU FACU FACU FACU FACU FACU Species         10         x3 = 30           2. Elymus canadensis         25         X         FACU FACU FACU Species         75         x4 = 300           3. Thlaspi arvense         5         FACU FACU FACU FACU FACU FACU FACU FACU	111. 011					
2.         Elymus canadensis         25         X         FACU FACU FACU UPL species         75         x4= 300           3.         Thlaspi arvense         5         FACU FACU UPL species         x5=		30	×	FACU		
4.       Bassia sieveriana       10       FACU FACW       Column Totals: 100 (A) 360 (B)       (A) 360 (B)         5.       Phalaris arundinacea       15       FACW       Prevalence Index = B/A = 3.60         7.       Xanthium strumarium       5       FAC       Hydrophytic Vegetation Indicators         8.       Helianthus annuus       5       FACU         9.       Dominance Test is > 50% Prevalence Index is ≤ 3.0¹ Morphological Adaptations¹ (Providing supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)         1.       Problematic Hydrophytic Vegetation (Explain)         1.       ¹Indicators of hydric soils and wetland hydrology must be present         Hydrophytic Vegetation (Explain)       Yes No X				FACU		
5. Phalaris arundinacea 6. Chenopodium album 7. Xanthium strumarium 8. Helianthus annuus 9. 10.  Total Cover: 100  Woody Vine Stratum 1. 2. 3. Total Cover: Tota						
6. Chenopodium album 7. Xanthium strumarium 8. Helianthus annuus 9. 10.						100 (A) 360 (B)
7. Xanthium strumarium 8. Helianthus annuus 9. 10.  Total Cover: 100  Woody Vine Stratum 1. 2. 3. Total Cover:  T			<del>-</del>		Prevalence Index = B	/A = <u>3.60</u>
8. Helianthus annuus 9. Dominance Test is > 50% 10. Prevalence Index is ≤ 3.0¹ Morphological Adaptations¹ (Providing supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)  1. Problematic Hydrophytic vegetation (Explain)  1. Hydrophytic Vegetation Present? Yes No X  No X					Hydrophytic Vegetat	tion Indicators
10. Prevalence Index is ≤ 3.0¹ Morphological Adaptations¹ (Providing supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)  1. Indicators of hydric soils and wetland hydrology must be present  Hydrophytic Vegetation Present? Yes No X  % Bare Ground in Herb Stratum 10 % Cover of Biotic Crust	8. Helianthus annuus					
Total Cover: 100 Morphological Adaptations¹ (Providing supporting data in Remarks or on a separate sheet)  Woody Vine Stratum  1. Problematic Hydrophytic Vegetation (Explain)  1. Indicators of hydric soils and wetland hydrology must be present  Hydrophytic Vegetation  Total Cover: Vegetation  Present? Yes No X  8 Bare Ground in Herb Stratum 10 % Cover of Biotic Crust				<del></del>		
Moody Vine Stratum  1. 2. 3. Total Cover:  We Bare Ground in Herb Stratum  Moody Vine Stratum  data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)  Indicators of hydric soils and wetland hydrology must be present  Hydrophytic Vegetation Present?  Yes No X  No X	ΙΟ	Total Cover 100		_		
Woody Vine Stratum     Problematic Hydrophytic Vegetation (Explain)       1.     Indicators of hydric soils and wetland hydrology must be present       3.     Hydrophytic Vegetation       Vegetation     Vegetation       Present?     Yes		. 3101 00701	•		data in Remarks or	on a separate sheet)
2. Indicators of hydric soils and wetland hydrology must be present  3. Hydrophytic  Vegetation Present? Yes No X  No X	· · · · · · · · · · · · · · · · · · ·			-		
3	2.				<sup>1</sup> Indicators of hydric soil	s and wetland hydrology must be present
% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust Yes NoX						
% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust		l otal Cover:			1 -	Yes No X
Remarks:		atum 10 %	Cover of Biotic C	rust		
	Remarks:			•	•	

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SOIL						Sampli	ng Point W26
Profile Description	n: (Describe to the	depth neede	ed to document th	e indicator or cor	firm the absenc	e of indicators.)	<u> </u>
Depth	Matrix			Redox Features			
(inches)	Color (moist)	%	Color (moist)	% Type	e <sup>1</sup> Loc <sup>2</sup>	 Texture	Remarks
0-1	2.5YR 4/8	100				С	
1-7	7.5YR 4/2	100					<del> </del>
7-9	Gley2 2.5/10B	100					
<del></del>	0.072 2.07 102						
		<del></del>		<del></del>	<del></del>		
· · · · · · · · · · · · · · · · · · ·		\$1717 \\ \tag{\tag{\tag{\tag{\tag{\tag{\tag{	4				
					<del></del>	<del> </del>	
<sup>1</sup> Type: C=Concent	ration, D=Depletion	. RM=Reduce	d Matrix. 2Lo	ocation: PL=Pore	Linina. RC=Root	Channel, M=Matrix.	
	tors: (Applicable					dicators for Problema	atic Hydric Soils³:
Histosol (/		,		dy Gleyed Matrix (S		1 cm Muck (A9)	
Histic Epi	pedon (A2)			dy Redox (S5)		Coast Prairie Re	edox (A16) (LRR F, G, H)
Black Hist	tic (A3)		Strip	ped Matrix (S6)		Dark Surface (S	
	Sulfide (A4)		Loar	ny Mucky Mineral (	(F1)	High Plains Dep	ressions (F16)
Stratified	Layers (A5) (LRR F	)	X Loan	ny Gleyed Matrix (	F2)	LRR H outs	ide MLRA 72 & 73)
	k (A9) (LRR F, G, H		Depl	eted Matrix (F3)		Reduced Vertic	(F18)
Depleted	Below Dark Surface	(A11)	Redo	ox Dark Surface (F	6)	X Red Parent Mat	erial (TF2)
	k Surface (A12)			eted Dark Surface		Other (Explain i	n Remarks)
	icky Mineral (S1)	•		ox Depressions (F	3)		•
	ucky Peat or Peat (S		) High	Plains Depression	ıs (F16)		drophytic vegetation
	ky Peat or Peat (S3	) (LRR F)				and wetland hyd	drology must be present.
Restrictive Layer	(if present):						
Type:							
Depth (inches):				Hydric Sc	ils Present?	Yes X No	
Remarks:							
Orange coloration	due to parent mater	ıaı					
					•		•
HYDROLOGY							
Wetland Hydrolog	y Indicators:				Sec	condary Indicators (2	or more required)
	(any one indicator is	s sufficient)				Surface Soil Crack	
Surface Wat			Salt Crusts	(B11)			ed Concave Surfaces (B8)
High Water				ertebrates (B13)		Drainage Patterns	
Saturation (/	` '		Hydrogen S	Sulfide Oder (C1)			nères on Living Roots (C3)
Water Marks			Dry-Seasor	n Water Table (Ć2)		Crayfish Burrows	
Sediment De				of Reduced Iron (C			on Aerial Imagery (C9)
Drift Deposit	ts (B3)			Surface (C7)	,		mocks (C11) (LRR F)
Algal Mat or	Crust (B4)			lain in Remark)	X		
Iron Deposit				,	<del></del>	FAC-Neutral Test	
	/isible on Aerial Ima	gery (B7)				Local Soil Survey	Data (D8)
	ed Leaves (B9)	• , , ,				<del></del>	
Field Observation	ıs:						
Surface Water Pre		No _	X Depth (inch				
Water Table Prese		No _	X Depth (inch		141-41	da and Dura series and and and	- V M
Saturation Present		No _	X Depth (inch	ies):	vvetiand Hydro	ology Present? Ye	s <u>X</u> No
(includes capillary	iringe)						
Describe Recorder	d Data (stream gaug	e monitorina	well, aerial photos	previous inspection	n), if available:		
2 3331130 Recorded	. Data (Stream gaut	, o, mornioring	, aonai priotos,	providuo mapeone	,, ii avaliable.		
•							
		,					
Remarks:							

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Great Plains - DRAFT Version 8-30-06



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	Custer Cou	nty	Sampling Date:	9/19/07	
Applicant/Owner: Knight Piesold, Pow	ertech		South Dake		_ Sampling Point:	W27	
Investigator(s): C. Robinson and J. I	Eberly	Section, Tow	nship, Range:	Section 34, T6S, R1E	=		
Landform (hillslope, terrace, etc.)Dr	ainage		Local relief (c	oncave, convex, none):	Concave Slop	e (%): <u>1</u>	
Subregion (LRP): Black Hills MLRA6	2	Lat:	Lo	ong:	Datum: NAD 1	983, UTM Zone 13	3
Soil Map Unit Name:		NWI	Classification:				
Are climatic/hydrologic conditions on the	site typical for thi	s time of year?	? Y	es <u>X</u> No	(If no, expla	in in Remarks.)	
Are Vegetation , Soil	, or Hydrology	Signifi	cantly disturbe	d? Are "Normal Circums	tances" present?	Yes X No	
Are Vegetation , Soil	, or Hydrology	Natura	ally problemation	? (If needed, explain an	y answers in Remar	rks.)	
SUMMARY OF FINDINGS AM	h -:4			intlandiana turus			
SUMMARY OF FINDINGS - Atta				int locations, trans	ects, importan	t reatures, etc	•
Hydrophytic Vegetation Present?	Yes		X	Is the Sampled Area			
Hydric Soil Present?	Yes	_ No	<u>X</u>	Within a Wetland	Yes No	, <u>x</u>	
Wetland Hydrology Present Remarks:	Yes X	No					
R4 P1: Upstream							
R4 P2: Downstream							
VEGETATION							
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?		l	st Worksheet:		
1	76 COVE	species :	Statu	Number of Dom			
2.				That are OBL, F	ACW, or FAC:	(A)	
4.				Total Number of			
Total Cove	er:			Species Across	All Strata:	2 (B)	
Sapling/Shrub Stratum				Percent of Domi		0 (4(5)	
1	<del></del>			That Are OBL, F	ACW, or FAC:	0 (A/B)	
3.				Prevalence Ind	ex Worksheet:		***************************************
4 5.				Total % Cover o	of: !	Multiply by:	
Total Cove	er:	"				viditipity by:	-
Herb Stratum				OBL species FACW species	x1= x2=		-
1. Elymus smithii	40	X	FAC	U FAC species	20 x3=	60	_
2. Elymus canadensis	30	X	FAC		80x4=	320	_
Chenopodium album     Xanthium strumarium	10 10		FAC		100 x5=	380	– (B)
5. Helianthus annuuus	10		FAC			3.80	_ (0)
6. 7.				Hydrophytic Ve	egetation Indicator	re	
8.				Tiyarophytic ve	rgetation indicator	3	
9.			<del></del>		nce Test is > 50%		
10Total Cove	er: 100				nce Index is ≤ 3.0 <sup>1</sup> ogical Adaptations <sup>1</sup>	(Providing support	ina
				data in Rema	rks or on a separate	sheet)	9
Woody Vine Stratum 1.				Problem	atic Hydrophytic Ve	getation (Explain)	
2.					Iric soils and wetland h	ydrology must be pre	sent
3Total Cove				Hydrophytic Vegetation			
	<u>—</u>			Present?	Yes	NoX	_
% Bare Ground in Herb Stratum 98 Remarks:	% C	Cover of Biotic	Crust				
The vegetation is only on the banks and	not in the drainag	ge; the percent	t bare ground i	n channel is 98%.			

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SOIL							Samplir	g Point W27
Profile Descri	ption: (Describe to t	ne depth ne	eded to docume	nt the indica	tor or confirm	the absence c		
Depth	Matrix		0.1(		eatures	1 2	<b>-</b> .	<b>5</b>
(inches)	Color (moist) 2.5Y 5/3		Color (moist)	%	Type'	/ Loc²	Texture	Remarks
0-1		100						
0.75	2.5YR 4/8	100		<del></del>			С	
1-8	2.5Y 5/3	100					C	
								······································
		***						
		***************************************				<u> </u>		
							·	
Type: C=Con	centration, D=Depletio	n RM=Redi	iced Matrix	<sup>2</sup> l ocation:	PI =Pore Linin	na RC=Root Ch	annel, M=Matrix.	
	dicators: (Applicable				I L-I OIG LIIII		ators for Problema	tic Hydric Soils <sup>3</sup> :
	sol (A1)		,		d Matrix (S4)		1 cm Muck (A9)	
	Epipedon (A2)			Sandy Redo		<del></del>		dox (A16) (LRR F, G, H)
<del></del>	Histic (A3)		-	Stripped Mat	, ,		Dark Surface (S	
	gen Sulfide (A4)		***************************************		y Mineral (F1)		High Plains Dep	
	fied Layers (A5) (LRR	F) ·	-		ed Matrix (F2)	•		de MLRA 72 & 73)
**************	Muck (A9) (LRR F, G,	•	· ·	Depleted Ma			Reduced Vertic	•
	ted Below Dark Surface		<del></del>	Redox Dark		X	<del>_</del>	
	Dark Surface (A12)	, ,			rk Surface (F7)	)	Other (Explain in	
Sand	y Mucky Mineral (S1)		<del></del>	Redox Depre	essions (F8)	· · ·	_ ` ` '	•
2.5 cr	n Mucky Peat or Peat	(S2) (LFF G	, H)	High Plains (	Depressions (F	16)	3Indicators of hy	drophytic vegetation
5 cm	Mucky Peat or Peat (S	3) (LRR F)		_			and wetland hyd	rology must be present.
Restrictive La	yer (if present):							
Туре:						•		
Depth (inches	);				Hydric Soils I	Present? Ye	es No	Χ .
, , ,	<i>-</i>				•			
	e red layer (red layer is		,					
HYDROLOGY								
	ology Indicators:					Secon	dary Indicators (2	
Primary Indicat	tors (any one indicator	is sufficient)	)			X	Surface Soil Crack	s (B6)
Surface	Water (A1)		Salt C	rusts (B11)	·		Sparsely Vegetate	d Concave Surfaces (B8)
	ater Table (A2)			ic Invertebrat			Drainage Patterns	
Saturati				gen Sulfide C				eres on Living Roots (C3
	larks (B1)			eason Water			Crayfish Burrows (	
	nt Deposits (B2)			nce of Reduc				on Aerial Imagery (C9)
	posits (B3)			luck Surface				nocks (C11) (LRR F)
	at or Crust (B4)		Other	(Explain in R	emark)	X	Geomorphic Positi	
	oosits (B5)						FAC-Neutral Test	
	on Visible on Aerial Im	agery (B7)			•		Local Soil Survey I	Data (D8)
	tained Leaves (B9)		···				,	
Field Observa	itions:							
Surface Water	Present? Yes	No	X Depth	(inches):	ļ			•
Water Table P		—— No		(inches):	—— I			
Saturation Pre	-	No		(inches):	w	etland Hydrolo	nv Present? Yes	s X No
includes capil				(	——   <b>''</b> '		a, /	
Describe Reco	rded Data (stream gai	uge, monitor	ing well, aerial ph	otos, previou	s inspection), it	f available:		
			·				•	
							*	
Damasilia:			***************************************			*		
<b>Remarks:</b> Soil is moist bu	ut not saturated.							
Son is moist bt	at not saturated.						Ŧ	



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	Custer Cou	ntySampling Date: 9/19/07
Applicant/Owner: Knight Piesold, Power	ertech	State:	South Dako	ta Sampling Point: W28
Investigator(s): _ C. Robinson and J. I	Eberly	Section, Town	ship, Range:	Section 34, T6S, R1E
Landform (hillslope, terrace, etc.)	ainage	L	ocal relief (co	oncave, convex, none): <u>Concave</u> Slope (%): <u>1</u>
Subregion (LRP): Black Hills MLRA6	2	Lat:	Lo	ng: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWIC	lassification:	
Are climatic/hydrologic conditions on the	site typical for thi	s time of year?	Ye	es X No (If no, explain in Remarks.)
Are Vegetation , Soil	, or Hydrology	Significa	antly disturbed	d? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Naturall	y problematic	? (If needed, explain any answers in Remarks.)
SHAMADY OF FINDINGS AM	ach cita man	chowing co	malina na	int locations, transects, important features, etc.
				int locations, transects, important leatures, etc.
Hydrophytic Vegetation Present?	Yes			Is the Sampled Area
Hydric Soil Present?	Yes			Within a Wetland Yes NoX
Wetland Hydrology Present Remarks:	Yes	No X		
R4 P13: Upstream R4 P14: Downstream				
K4 F14. Downstream				
VEGETATION	······			
<u>Tree Stratum</u> (Use scientific names)	Absolute % Cover	Dominant Species?	Indicat Status	
Populus deltoides	100	X	FAC	Number of Dominant Species
2. 3.				That are OBL, FACW, or FAC:1(A)
4.				Total Number of Dominant
Total Cove	er: 100			Species Across All Strata: 4 (B)
Sapling/Shrub Stratum  1. Symphoricarpos albus	100	Х	FACU	Percent of Dominant Species  That Are OBL, FACW, or FAC: 25 (A/B)
2.				
3. 4.				Prevalence Index Worksheet:
5.				Total % Cover of: Multiply by:
Total Cove	er: <u>100</u>			OBL species x1=
Herb Stratum	25	V	FACI	FACW species x2=
Elymus smithii     Bassia sieveriana	<u>35</u> 20	X	_ FACL	
3. Calamovilfa longifolia	12		NI	UPL species 2 x5= 10
4. Descurainia pinnata	1		NI	Column Totals: 279 (A) 999 (B)
Thlaspi arvense     Chenopodium album	17	www	_ FACL	
7. Asclepias speciosa	2		FAC	
8. Elymus cinerius	15		NI	
Sisymbrium altissimum     Camelina microcarpa	2		UPL NI	Dominance Test is > 50% Prevalence Index is < 3.01
10. <u>Camelina microcarpa</u> Total Cove				Morphological Adaptations¹ (Providing supporting
1				data in Remarks or on a separate sheet)
Woody Vine Stratum				Problematic Hydrophytic Vegetation (Explain)
1. 2.				<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3.				Hydrophytic
Total Cove	er:			Vegetation Vegetation
% Bare Ground in Herb Stratum 20	% C	Cover of Biotic Ci	rust	Present? Yes NoX
Remarks:				
				<u> </u>

US Army Corps of Engineers



OIL							Sampli	ng Point W28
rofile Descrip	otion: (Describe to t	he depth nee	eded to docume	nt the indicator or	confirm the a	absence o	f indicators.)	
Depth	Matrix			Redox Feature	25			
(inches)	Color (moist)	%	Color (moist)			Loc²	Texture	Remarks
0-3	5YR 4/6	100					SC	
***************************************								WATER AND ADDRESS OF THE PARTY
			***************************************				······································	
	h**//		· · · · · ·				·	
	**************************************	-	-					
	***************************************				<u> </u>			
	**************************************							
	ttion D-Donlotic	DM-Dodu	· 1 1 4 n t m/s	21tion: DI -D	Lining DC		1 Na-Motriy	·
	centration, D=Depletion dicators: (Applicable			<sup>2</sup> Location: PL=Perise noted.)	ore Lining, KU		annel, M=Matrix. ators for Problema	atic Hydric Soils <sup>3</sup> :
	sol (A1)	, to an =,		Sandy Gleyed Matri	ix (S4)	11141-	1 cm Muck (A9)	
	Epipedon (A2)			Sandy Redox (S5)			Coast Prairie Re	edox (A16) (LRR F, G, F
	Histic (A3)			Stripped Matrix (S6			Dark Surface (S	
	gen Sulfide (A4) ied Layers (A5) ( <b>LRR</b>	· E\		Loamy Mucky Mine Loamy Gleyed Matr			High Plains Dep (LBB H outs)	
	led Layers (A5) (LRR Muck (A9) (LRR F, G,		<del></del>	Depleted Matrix (F3	ΠΧ (Γ∠ <i>)</i> 3\		Reduced Vertic	ide MLRA 72 & 73) (F18)
*****	ted Below Dark Surface	. ,		Redox Dark Surface		X		, ,
Thick E	Dark Surface (A12)		-	Depleted Dark Surfa	face (F7)		Other (Explain i	` '
	Mucky Mineral (S1)	::::::::::::::::::::::::::::::::::::::		Redox Depressions	` '	_	 3	
	n Mucky Peat or Peat	, , ,	н)	High Plains Depres	isions (F16)			drophytic vegetation
	Mucky Peat or Peat (S yer (if present):	33) (LKK I )					and welland my	drology must be present
rpe:	,							
epth (inches):	) <del>:</del>			Hydrid	c Soils Prese	nt? Ye	s No	Χ .
				<u>· · · · · · · · · · · · · · · · · ·</u>				
lemarks:	ter due to naront mat							
range colorau	ion due to parent mate	епаі						
							44	
YDROLOGY (etland Hydro	ology Indicators:					Sacan	deni Indiantora /2	mara raquirod)
•	ors (any one indicators	r ie erifficient)				Secon	Surface Soil Crack	or more required)
	Water (A1)	15 Sumoioniy		rusts (B11)	<del></del>			d Concave Surfaces (B
	ter Table (A2)			ic Invertebrates (B13	3)		Drainage Patterns	
Saturation	on (A3)		Hydrog	gen Sulfide Oder (C	:1)		U	neres on Living Roots (
Water Ma				eason Water Table (	· ,		Crayfish Burrows	
	nt Deposits (B2)			nce of Reduced Iron Juck Surface (C7)	ı (C4)			on Aerial Imagery (C9)
	oosits (B3) at or Crust (B4)			(Explain in Remark)	١		Geomorphic Positi	mocks (C11) (LRR F)
	osits (B5)		Other	(Explain in Remark)	,		FAC-Neutral Test	
	on Visible on Aerial Im	nagery (B7)					Local Soil Survey	\ <i>\</i>
	tained Leaves (B9)							
eld Observat	ions:		•					
urface Water F	Present? Yes	No	X Depth	(inches):				
ater Table Pre		No		(inches):	-	•		
aturation Prese	_	No No		(inches):	Wetland	1 Hydrolog	gy Present? Ye	s No _X
ncludes capilla	ary fringe)		<del></del>		-	-	,-	
cccribo Recor	rdad Data (etream da	ac monitorio	ac wall parial ph	estas provious inenc	ation\ if avail	l-bla:		
escribe recon	rded Data (stream ga	uge, monitorii	ng well, aeriai pri	otos, previous inspe	ection), ii avaiii	abie:		
						<del></del>	***************************************	
emarks:								
			Þ					•



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site:	Dewey Burdock		City/County:	Custer Cou	ınty	Samplin	ng Date:9/19/0	17
Applicant/Owner:	Knight Piesold, Powe	rtech	_State:	South Dake	ota	Samplin	ng Point: W29	
Investigator(s):	C. Robinson and J. E	berly	Section, Tow	nship, Range	Section 3, T	7S, R1E		
Landform (hillslope	e, terrace, etc.) <u>Dra</u>	ainage	·	Local relief (c	oncave, convex,	none): Concave	Slope (%):	_2
Subregion (LRP):	Black Hills MLRA62		Lat:	Lo	ong:	Datum:	NAD 1983, UTI	M Zone 13
Soil Map Unit Nan	ne:		NWI	Classification:		•		
Are climatic/hydro	logic conditions on the	site typical for th	is time of year?	Y	es X I	No(If	no, explain in Rer	narks.)
Are Vegetation	, Soil ,	or Hydrology	Signifi	cantly disturbe	ed? Are "Normal	l Circumstances" pro	esent? Yes	_X_ No
Are Vegetation	, Soil ,	or Hydrology	Natura	ılly problemati	c? (If needed, e	xplain any answers	in Remarks.)	
SUMMARY O	F FINDINGS - Atta	ch site map	showing s	ampling po	oint locations	s, transects, im	portant featu	res, etc.
Hydrophytic Vege	•	Yes		<u>x</u>		•	•	
Hydric Soil Preser		Yes	- · · · · · · · · · · · · · · · · · · ·	x .	Is the Sample Within a Wetl		No X	•
Wetland Hydrolog		············		<u>X</u>	, within a vicu		110	_
Remarks:	y Present	Yes	No	^				
R4 P17: Upstream R4 P18: Downstre			•					
	ough the drainage; the u	ıpland species a	re dominant in	the drainage.	The Drainage is	s about 3' across on	average.	
VECETATION								
VEGETATION Tree Stratum (Use	e scientific names)	Absolute	Dominant	Indica	tor <b>Domin</b>	ance Test Worksh	eet:	
1 Populus del	toidos	<u>% Cover</u> 100	Species?	Statu FAC		er of Dominant Spec	ole e	
1. Populus del	loides	100				re OBL, FACW, or F		(A)
3.						lumber of Demisent		
4	Total Cove	r: 100				lumber of Dominant s Across All Strata:		(B)
Cooling/Church Cta	at				Doron	at of Dominant Succ		
Sapling/Shrub Str. 1.	atum					nt of Dominant Spec re OBL, FACW, or F		(A/B)
2.								
3. 4.					Prevai	ence Index Works	neet:	
5.	<del></del>				Total %	6 Cover of:	Multiply b	oy: ·
	Total Cove	r:			OBL s	pecies	x1=	
Herb Stratum		40	٠.	=10	FACW	species	x2=	
1. Elymus sm. 2. Bassia siev		<u>10</u> 5	***************************************	FAC FAC	'	pecies 102 species 83	<del></del>	306 332
3. Elymus car		40	X	FAC	U UPL s	pecies 5	x5=	25
4. Helianthus		5		FAC		n Totals: 190	_ ` `	663 (B)
6. Nassella vi.		10 3		FAC		ence Index = B/A =	3.49	
7. Asclepias s		2	,	FAC		phytic Vegetation	Indicators	
8. Bromus ine	ermis	20	X	FAC				
	n altissimum	5		UP		Dominance Test is		
10.	Total Cove	r: 100	***************************************		<del></del>	Prevalence Index is Morphological Ada		a oupporting
	Total Cove	1			data	in Remarks or on a		ig supporting
Woody Vine Strat	<u>um</u>					Problematic Hydro		(Explain)
1. 2.					Indica	tors of hydric soils and	wetland hydrology i	must be present
3.				<del>-</del> -		phytic	Totalia Hydrology I	naor bo prosont
	Total Cove	r:			Veget			V
% Bare Ground in	Herb Stratum 50	% (	Cover of Biotic	Crust	Prese	nt <i>r</i> Yes	No	X
Remarks:								
7								· · · · · · · · · · · · · · · · · · ·



Depth	Matrix			Radov	Features			
(inches)	Color (moist)	%	Color (moist)		Type <sup>1</sup>	Loc²	Texture	Remarks
0-3	5YR 4/6	100						
						******		
	-						· -	
			and Matrix	21 costion	DI =Doso Lining	DC=Boot C	hannel, M=Matrix.	
ric Soil Indic	ntration, D=Depletic ators: (Applicable	e to all I RRs	unless other	vise noted )	i. PL-Pole Lilling		icators for Problem	atic Hydric Soils3:
Histosol		, 10 an E1110,	unicoo omeri		ed Matrix (S4)		1 cm Muck (A9)	
Histic E	oipedon (A2)			Sandy Red	ox (S5)		Coast Prairie R	edox (A16) (LRR F, G,
	stic (A3)			Stripped Ma			Dark Surface (S	
	en Sulfide (A4)				ky Mineral (F1)		High Plains Dep	
	d Layers (A5) (LRR				yed Matrix (F2)		,	ide MLRA 72 & 73)
	ick (A9) (LRR F, G,	•	<del></del>	Depleted M			Reduced Vertic	· /
	d Below Dark Surfa	ce (A11)			Surface (F6)		Red Parent Mat	
	ark Surface (A12)				ark Surface (F7) ressions (F8)		Other (Explain i	n Remarks)
	Mucky Mineral (S1) Mucky Peat or Peat	/S2) /I EE G	ы, ———		Depressions (F1	6)	3Indicators of h	drophytic vegetation
	ucky Peat or Peat (S		'''	Thyll I lains	Depressions (i i	0,		drology must be prese
oth (inches): marks:					Hydric Soils Pi	resent? `	Yes No	_X
pth (inches): marks: rd to dig soil.				***************************************	Hydric Soils Pi	resent? `	Yes No	<u>X</u> .
oth (inches): marks: rd to dig soil. DROLOGY					Hydric Soils Pi			
oth (inches): marks: d to dig soil. DROLOGY tland Hydrole	ogy Indicators:				Hydric Soils Pi		ondary Indicators (2	or more required)
oth (inches): marks: d to dig soil.  DROLOGY tland Hydrole mary Indicator	s (any one indicator	· is sufficient)			Hydric Soils Pi		ondary Indicators (2 Surface Soil Crac	or more required)
pth (inches): marks: d to dig soil.  DROLOGY tland Hydrole mary Indicator Surface W	s (any one indicator ater (A1)	r is sufficient)		Crusts (B11)			ondary Indicators (2 Surface Soil Crac Sparsely Vegetate	or more required) ks (B6) ed Concave Surfaces (
pth (inches): marks: d to dig soil.  DROLOGY tland Hydrole mary Indicator Surface W High Wate	s (any one indicator ater (A1) r Table (A2)	r is sufficient)	Aqua	itic Invertebra	ates (B13)		ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns	or more required) ks (B6) ed Concave Surfaces ( s (B10)
pth (inches): marks: d to dig soil.  DROLOGY tland Hydrole mary Indicator Surface W High Wate Saturation	s (any one indicator ater (A1) r Table (A2) (A3)	r is sufficient)	Aqua	itic Invertebra ogen Sulfide	ates (B13) Oder (C1)		ondary Indicators (2 Surface Soil Crace Sparsely Vegetate Drainage Patterns Oxidized Rhizospi	or more required) ks (B6) ed Concave Surfaces (I s (B10) heres on Living Roots (
pth (inches): marks: rd to dig soil.  DROLOGY tland Hydrole mary Indicator Surface W High Wate Saturation Water Mar	s (any one indicator ater (A1) r Table (A2) (A3) ks (B1)	r is sufficient)	Aqua Hydro	itic Invertebra ogen Sulfide Season Wate	ates (B13) Oder (C1) r Table (C2)		ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows	or more required) ks (B6) ed Concave Surfaces ( 6 (B10) heres on Living Roots ( (C8)
pth (inches): marks: d to dig soil.  DROLOGY tland Hydrole mary Indicator Surface W High Wate Saturation Water Mar Sediment	s (any one indicator later (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	r is sufficient)	Aqua Hydre Dry-S Prese	itic Invertebra ogen Sulfide Season Wate	ates (B13) Oder (C1) r Table (C2) aced Iron (C4)		ondary Indicators (2 Surface Soil Craci Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible	or more required) ks (B6) ed Concave Surfaces ( 6 (B10) heres on Living Roots ( (C8)
DROLOGY tland Hydrolomary Indicator Surface W High Wate Saturation Water Mar Drift Depo	s (any one indicator later (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	r is sufficient)	Aqua Hydro Dry-S Preso Thin	itic Invertebra ogen Sulfide Season Wate ence of Redu	ates (B13) Oder (C1) r Table (C2) aced Iron (C4) e (C7)		ondary Indicators (2 Surface Soil Craci Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible	or more required) ks (B6) ed Concave Surfaces ( s (B10) heres on Living Roots ( (C8) on Aerial Imagery (C9 mocks (C11) (LRR F)
DROLOGY tland Hydrolomary Indicator Surface W High Wate Saturation Water Mar Drift Depo	s (any one indicator later (A1) r Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	r is sufficient)	Aqua Hydro Dry-S Preso Thin	itic Invertebra ogen Sulfide Season Wate ence of Redu Muck Surfac	ates (B13) Oder (C1) r Table (C2) aced Iron (C4) e (C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posil FAC-Neutral Test	or more required) ks (B6) cd Concave Surfaces ( s (B10) heres on Living Roots (C8) on Aerial Imagery (C9 mocks (C11) (LRR F) tion (D2) (D5)
DROLOGY tland Hydrolomary Indicator Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depoi	s (any one indicator later (A1) r Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on Aerial In		Aqua Hydro Dry-S Preso Thin	itic Invertebra ogen Sulfide Season Wate ence of Redu Muck Surfac	ates (B13) Oder (C1) r Table (C2) aced Iron (C4) e (C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit	or more required) ks (B6) cd Concave Surfaces ( s (B10) heres on Living Roots (C8) on Aerial Imagery (C9 mocks (C11) (LRR F) tion (D2) (D5)
DROLOGY tland Hydrolomary Indicator Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Inundatior Water Sta	s (any one indicator later (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on Aerial In ined Leaves (B9)		Aqua Hydro Dry-S Preso Thin	itic Invertebra ogen Sulfide Season Wate ence of Redu Muck Surfac	ates (B13) Oder (C1) r Table (C2) aced Iron (C4) e (C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posil FAC-Neutral Test	or more required) ks (B6) cd Concave Surfaces ( s (B10) heres on Living Roots (C8) on Aerial Imagery (C9 mocks (C11) (LRR F) tion (D2) (D5)
DROLOGY tland Hydrolomary Indicator Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Inundatior Water Sta	s (any one indicator later (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on Aerial In ined Leaves (B9)		Aqua Hydro Dry-S Preso Thin	itic Invertebra ogen Sulfide Season Wate ence of Redu Muck Surfac	ates (B13) Oder (C1) r Table (C2) aced Iron (C4) e (C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posil FAC-Neutral Test	or more required) ks (B6) cd Concave Surfaces ( s (B10) heres on Living Roots (C8) on Aerial Imagery (C9 mocks (C11) (LRR F) tion (D2) (D5)
DROLOGY tland Hydrole mary Indicator Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depos Inundatior Water Sta	s (any one indicator later (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on Aerial In ined Leaves (B9) ons:	nagery (B7)	Aqua Hydr Dry-5 Presi Thin Othe	itic Invertebra ogen Sulfide Season Wate ence of Redu Muck Surfac r (Explain in	ates (B13) Oder (C1) r Table (C2) aced Iron (C4) e (C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posil FAC-Neutral Test	or more required) ks (B6) cd Concave Surfaces ( s (B10) heres on Living Roots (C8) on Aerial Imagery (C9 mocks (C11) (LRR F) tion (D2) (D5)
DROLOGY tland Hydrole mary Indicator Surface W High Water Saturation Water Mar Sediment Drift Depo Algal Mater Iron Depoin Water Sta	s (any one indicator later (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) t Visible on Aerial In ined Leaves (B9) ons: resent? Yes	nagery (B7)	Aqua Hydri Dry-S Presi Thin Othe	itic Invertebra ogen Sulfide Season Wate ence of Redu Muck Surfac r (Explain in	ates (B13) Oder (C1) r Table (C2) aced Iron (C4) e (C7)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posil FAC-Neutral Test	or more required) ks (B6) cd Concave Surfaces (6) (B10) heres on Living Roots (C8) on Aerial Imagery (C9) mocks (C11) (LRR F) tion (D2) (D5)
pth (inches): marks: rd to dig soil.  DROLOGY stland Hydrole mary Indicator Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depoir Unundation Water Sta	s (any one indicator later (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) or Visible on Aerial In ined Leaves (B9) ons: resent? Yes sent? Yes	nagery (B7)  No	Aqua Hydri Dry-S Presc Thin Othe	tic Invertebrate orgen Sulfide Season Wate ence of Redu Muck Surfact (Explain in https://www.encesteads.com/linches):  https://www.encesteads.com/linches.com/linc	ates (B13) Oder (C1) r Table (C2) seed Iron (C4) e (C7) Remark)	Seco	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	or more required) ks (B6) ed Concave Surfaces (6 (B10) heres on Living Roots (C8) on Aerial Imagery (C9 mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
DROLOGY tland Hydrole mary Indicator Surface W High Water Mar Sediment Drift Depo Algal Mat Iron Depo: Inundatior Water Sta Id Observation Frace Water Peter Table Prese	s (any one indicator later (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) or Visible on Aerial In lined Leaves (B9) ons: resent? Yes sent? Yes ont? Yes	nagery (B7)	Aqua Hydri Dry-S Presc Thin Othe	itic Invertebra ogen Sulfide Season Wate ence of Redu Muck Surfac r (Explain in	ates (B13) Oder (C1) r Table (C2) seed Iron (C4) e (C7) Remark)	Seco	ondary Indicators (2 Surface Soil Crace Sparsely Vegetate Drainage Patterns Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	or more required) ks (B6) ed Concave Surfaces ( 6 (B10) heres on Living Roots (C8) on Aerial Imagery (C9 mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
DROLOGY tland Hydrolomary Indicator Surface W High Water Saturation Water Mar Sediment Iron Depo Inundatior Water Sta Id Observation Frace Water Peter Table Presectures capillar	s (any one indicator later (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) l Visible on Aerial In lined Leaves (B9) ons: resent? Yes sent? Yes nt? Yes y fringe)	nagery (B7)  No No No	X Dept X Dept X Dept	itic Invertebrates ogen Sulfide Season Wate ence of Redu Muck Surfactr (Explain in h (inches): h (inches):	ates (B13) Oder (C1) r Table (C2) iced Iron (C4) e (C7) Remark)  Wef	Secondary Second	ondary Indicators (2 Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posit FAC-Neutral Test Local Soil Survey	or more required) ks (B6) ed Concave Surfaces ( 6 (B10) heres on Living Roots (C8) on Aerial Imagery (C9 mocks (C11) (LRR F) ion (D2) (D5) Data (D8)
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### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Bu	urdock	City/County:	Custer Count	ty Sampling Date: 9/19/07
Applicant/Owner: Knight Pie	esold, Powertech	State:	South Dakota	Sampling Point: W30
Investigator(s): C. Robins	son and J. Eberly	Section, Town	ıship, Range:	Section 10, T7S, R1E
Landform (hillslope, terrace, e	tc.) Depression	L	ocal relief (con	ncave, convex, none): Concave Slope (%): 1
Subregion (LRP): Black Hi	ills MLRA62	Lat:	Lone	g: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI C	Classification:	
Are climatic/hydrologic conditi	ons on the site typical for thi	s time of year?	Yes	X No (If no, explain in Remarks.)
Are Vegetation , Soil	, or Hydrology	Significa	antly disturbed?	? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Naturall	y problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDING	CC Attach sits man	-h-:i		at languigns, transports, improved the footives of
				nt locations, transects, important features, etc.
Hydrophytic Vegetation Prese				Is the Sampled Area
Hydric Soil Present?	Yes X	_ No	'	Within a Wetland Yes NoX
Wetland Hydrology Present Remarks:	Yes	No X	X ]	
R4 P19: East				
R4 P20: West Waypoints 46-49 mark the boo	undarv			·
		·············		
VEGETATION Tree Stratum (Use scientific n	ames) Absolute	Dominant	Indicator	r Dominance Test Worksheet:
,	% Cover	Species?	Status	
1				Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
3. 4.				Total Number of Dominant
	Total Cover:			Species Across All Strata:1(B)
Sapling/Shrub Stratum				Percent of Dominant Species
1.	,			That Are OBL, FACW, or FAC: 0 (A/B)
2. 3.	,	***************************************		Prevalence Index Worksheet:
4.				Prevalence index worksneet:
5.	Total Cover:			Total % Cover of: Multiply by:
	Total Cover.			OBL species x1=
Herb Stratum  1. Elymus smithii	85	¥	FACU	FACW species x2=
2. Carex filifolia	. 15	^	UPL	FACU species 85 x4= 340
3.		-		UPL species 15 x5= 75
4		<u></u>		Column Totals: 100 (A) 415 (B) Prevalence Index = B/A = 4.15
6.				
7. 8.		******		Hydrophytic Vegetation Indicators
9.				Dominance Test is > 50%
10.	Total Cover: 100			Prevalence Index is ≤ 3.0¹  Morphological Adaptations¹ (Providing supporting
				data in Remarks or on a separate sheet)
Woody Vine Stratum  1				Problematic Hydrophytic Vegetation (Explain)
2.				<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3.	Total Cover:		<del></del>	Hydrophytic Vegetation
	***************************************			Present? Yes No X
% Bare Ground in Herb Strate Remarks:	um 30 % C	Cover of Biotic C	rust	

US Army Corps of Engineers



Depth	Matrix			Redox Fe				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-8	7.5YR 4/1	70	7.5YR 4/6	30	C	M	SiC	
					•			
					<del></del>			
	<del></del>							***************************************
	<del></del>		***************************************					
	·	***************************************						
ne: C=Con	centration, D=Depletio	n DM-Dodi	rood Matrix	<sup>2</sup> l ocation: F	DI -Dore Lining	PC-Post C	hannel, M=Matrix.	
	licators: (Applicable				-E-Fore Lining,			natic Hydric Soils³:
	ol (A1)	to an Livina		Sandy Gleyed	Matrix (S4)	mu	1 cm Muck (As	-
	Epipedon (A2)			Sandy Redox				Redox (A16) (LRR F, G, I
	Histic (A3)			Stripped Matrix			Dark Surface	
	gen Sulfide (A4)			Loamy Mucky				epréssions (F16)
Stratif	ied Layers (A5) (LRR	F)		Loamy Gleyed	Matrix (F2)		(LRR H out	side MLRA 72 & 73)
1 cm I	Muck (A9) (LRR F, G,	H)	X	Depleted Matri	ix (F3)		Reduced Verti	ic (F18)
Deple	ted Below Dark Surfac	e (A11)		Redox Dark Si	urface (F6)		Red Parent Ma	aterial (TF2)
Thick	Dark Surface (A12)	, ,		Depleted Dark	Surface (F7)		Other (Explain	in Remarks)
Sandy	Mucky Mineral (S1)		X	Redox Depres	sions (F8)			
	n Mucky Peat or Peat		, H)	High Plains De	epressions (F16	ô)		hydrophytic vegetation
	Mucky Peat or Peat (S yer (if present):	3) (LRR F)					and wetland h	ydrology must be presen
pe: pth (inches marks: ange colorat	ion due to parent mate	erial		Н	lydric Soils Pr	esent? \	es X No	
pth (inches		erial		н	lydric Soils Pr	esent? \	ves X No	
pth (inches marks: ange colorat		erial		н	lydric Soils Pr	esent? \	ves X No	
pth (inches marks: ange colorat	ion due to parent mate	erial		н	lydric Soils Pr	- Mariana		2 or more required)
pth (inches marks: ange colorat DROLOGY	ion due to parent mate			H	lydric Soils Pr	- Mariana	endary Indicators (	2 or more required)
pth (inches marks: ange colorat DROLOGY etland Hydromary Indicat	ion due to parent mate				lydric Soils Pr	- Mariana	andary Indicators (	cks (B6)
pth (inches marks: ange colorat  DROLOGY etland Hydri mary Indicat Surface	ology Indicators: ors (any one indicator Water (A1)		Salt C	rusts (B11)		- Mariana	ndary Indicators ( Surface Soil Cra Sparsely Vegeta	cks (B6) ted Concave Surfaces (E
pth (inches marks: ange colorat  DROLOGY tiland Hydri mary Indicat Surface High Wa	on due to parent mate blogy Indicators: ors (any one indicator Water (A1) tter Table (A2)		Salt C Aquati	rusts (B11) c Invertebrates	s (B13)	- Mariana	ondary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr	cks (B6) ted Concave Surfaces (E ns (B10)
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pth (inches marks: ange colorat  DROLOGY stland Hydre mary Indicat Surface High Wa Saturatic Water M Sedimer	blogy Indicators: ors (any one indicator Water (A1) iter Table (A2) on (A3) arks (B1) it Deposits (B2)		Salt C Aquati Hydro Dry-Se Presei	rusts (B11) c Invertebrates gen Sulfide Od eason Water Ta nce of Reduced	s (B13) ler (C1) able (C2) d Iron (C4)	- Mariana	surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visible	cks (B6) ted Concave Surfaces (Ens (B10) pheres on Living Roots ( s (C8) e on Aerial Imagery (C9)
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pth (inches marks: ange colorat  "DROLOGY etland Hydre mary Indicat Surface High Water M Sedimer Sedimer Algal Mater Inon Dep Inundation Water S eld Observa  rface Water ater Table Precludes capill	plogy Indicators: ors (any one indicator Water (A1) tter Table (A2) on (A3) arks (B1) ot Deposits (B2) posits (B3) ot or Crust (B4) posits (B5) on Visible on Aerial Im tained Leaves (B9) tions: Present? Yes esent? Yes	agery (B7)  No No No	X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Od eason Water Ta ce of Reduced fuck Surface (C (Explain in Rer  (inches): (inches):	s (B13) er (C1) able (C2) d Iron (C4) C7) mark)  Wet	Seco	ondary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos FAC-Neutral Tes Local Soil Surve	cks (B6) ted Concave Surfaces (Ens (B10) pheres on Living Roots (is (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5) y Data (D8)
PROLOGY etland Hydromary Indicat Surface High Water M Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Water S eld Observa Irface Water ater Table Potenturation Presidudes capill	blogy Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) arks (B1) It Deposits (B2) oosits (B3) It or Crust (B4) iosits (B5) on Visible on Aerial Im tained Leaves (B9) tions:  Present? Yes esent? Yes ary fringe)	agery (B7)  No No No	X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Od eason Water Ta ce of Reduced fuck Surface (C (Explain in Rer  (inches): (inches):	s (B13) er (C1) able (C2) d Iron (C4) C7) mark)  Wet	Seco	ondary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos FAC-Neutral Tes Local Soil Surve	cks (B6)  ted Concave Surfaces (Ens (B10)  pheres on Living Roots (is (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  stition (D2)  y Data (D8)
pth (inches marks: ange colorat  "DROLOGY etland Hydre mary Indicat Surface High Water M Sedimer Sedimer Algal Mater Inon Dep Inundation Water S eld Observa  rface Water ater Table Precludes capill	blogy Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) arks (B1) It Deposits (B2) oosits (B3) It or Crust (B4) iosits (B5) on Visible on Aerial Im tained Leaves (B9) tions:  Present? Yes esent? Yes ary fringe)	agery (B7)  No No No	X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Od eason Water Ta ce of Reduced fuck Surface (C (Explain in Rer  (inches): (inches):	s (B13) er (C1) able (C2) d Iron (C4) C7) mark)  Wet	Seco	ondary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos FAC-Neutral Tes Local Soil Surve	cks (B6) ted Concave Surfaces (Ens (B10) pheres on Living Roots (is (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5) y Data (D8)
pth (inches marks: ange colorat  DROLOGY etland Hydre mary Indicat Surface High Water M Sedimer Sedimer Algal Mater Inon Dep Inundation Water S eld Observa  rface Water ater Table Precludes capill	blogy Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) arks (B1) It Deposits (B2) oosits (B3) It or Crust (B4) iosits (B5) on Visible on Aerial Im tained Leaves (B9) tions:  Present? Yes esent? Yes ary fringe)	agery (B7)  No No No	X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Od eason Water Ta ce of Reduced fuck Surface (C (Explain in Rer  (inches): (inches):	s (B13) er (C1) able (C2) d Iron (C4) C7) mark)  Wet	Seco	ondary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos FAC-Neutral Tes Local Soil Surve	cks (B6) ted Concave Surfaces (Ens (B10) pheres on Living Roots (is (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) sition (D2) st (D5) y Data (D8)



#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock	City/County: Custer County	Sampling Date: 9/19/07
Applicant/Owner: Knight Piesold, Powertech	<u> </u>	
Investigator(s): C. Robinson and J. Eberly	·	
Landform (hillslope, terrace, etc.) Depression	·	
		Datum: NAD 1983, UTM Zone 13
	NWI Classification:	PUB
Are climatic/hydrologic conditions on the site typical for thi		X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology	Significantly disturbed? A	re "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology	Naturally problematic? (If	needed, explain any answers in Remarks.)
CHAMADY OF FINDINGS. Attack site man	shawing campling paint l	
		ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X	-   Is th	ne Sampled Area
Hydric Soil Present? Yes		hin a Wetland Yes X No
Wetland Hydrology Present Yes X Remarks:	No	
R4 P21: Northeast		
R4 P22: East- southeast		
VEGETATION		
Tree Stratum (Use scientific names)  Absolute % Cover	Dominant Indicator Species? Status	Dominance Test Worksheet:
1.	— Otatus	Number of Dominant Species
2		That are OBL, FACW, or FAC: 2 (A)
i		Total Number of Dominant
Total Cover:		Species Across All Strata:3 (B)
Sapling/Shrub Stratum	•	Percent of Dominant Species
1		That Are OBL, FACW, or FAC: 66.67 (A/B)
3.		Prevalence Index Worksheet:
4		Total % Cover of: Multiply by:
Total Cover:	**************************************	
Herb Stratum		OBL species
1. Distichlis stricta 35	X FACW	FAC species 20 x3= 60
2.         Sporobolus airoides         20           3.         Salsola tragus         45	X FAC FACU-	FACU species
4.		Column Totals: 100 (A) 310 (B)
6.	···············	Prevalence Index = B/A = 3.10
7.		Hydrophytic Vegetation Indicators
9.		X Dominance Test is > 50%
10		Prevalence Index is ≤ 3.0¹  Morphological Adaptations¹ (Providing supporting
		data in Remarks or on a separate sheet)
Woody Vine Stratum 1.		Problematic Hydrophytic Vegetation (Explain)
2.		<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3. Total Cover:		Hydrophytic Vegetation
		Present? Yes X No
% Bare Ground in Herb Stratum 70 % C Remarks:	Cover of Biotic Crust	

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SOIL Profile Description: (Describe to the	denth needed to d	ocument the indicat	or or confirm th	e absence of		g Point W31
·	uepui needed to d			e absence of	mulcators.,	
Depth Matrix (inches) Color (moist)	% Color	Redox Fe (moist) %	Type <sup>1</sup>	Loc²	Texture	Remarks
0-0.5 White salt	<u> </u>	(110131) 70	туре	LOC	i exture	Remarks
crust						
0.5-14 10YR 4/3	100					
			<del></del>		<del></del> _	
			· <u> </u>			
			. <u> </u>		·	
		<del></del>	<del></del> -			
				<del> </del>		
<del></del>						
ype: C=Concentration, D=Depletion,	RM=Reduced Matr	x. <sup>2</sup> Location:	PL=Pore Lining,	RC=Root Cha	annel. M=Matrix.	
ydric Soil Indicators: (Applicable to					tors for Problemat	tic Hydric Soils <sup>3</sup> :
Histosol (A1)	, , , , , , , , , , , , , , , , , , , ,	Sandy Gleyed	d Matrix (S4)		1 cm Muck (A9) (	
Histic Epipedon (A2)		Sandy Redox	, ,			dox (A16) (LRR F, G, H
Black Histic (A3)		Stripped Matr			Dark Surface (S7	
Hydrogen Sulfide (A4)	*******	Loamy Mucky			High Plains Depr	
Stratified Layers (A5) (LRR F)	_	Loamy Gleye				de MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H)		Depleted Mat			Reduced Vertic (	•
Depleted Below Dark Surface (	******	Redox Dark S		<del> </del>	Red Parent Mate	,
Thick Dark Surface (A12)	····/ —		k Surface (F7)		Other (Explain in	, ,
Sandy Mucky Mineral (S1)		Redox Depre		<del></del>		,
2.5 cm Mucky Peat or Peat (S2	) (LFF G. H)		epressions (F16)	)	3Indicators of hyd	rophytic vegetation
5 cm Mucky Peat or Peat (S3)		g				rology must be present.
estrictive Layer (if present):	<u> </u>		,			
Type:		1.	Under Oalla Des	10 V-	- 11-	V
Depth (inches):	<del> </del>	. [1	Hydric Soils Pre	sent? Te	s No _	X
Bananka.	***					
Remarks:						
•						
,						
IYDROLOGY						
Vetland Hydrology Indicators:				Secon	dary Indicators (2 d	or more required)
rimary Indicators (any one indicator is	sufficient)				Surface Soil Cracks	
Surface Water (A1)	X	Salt Crusts (B11)				Concave Surfaces (B8
High Water Table (A2)		Aquatic Invertebrate	s (B13)		Drainage Patterns	(B10)
Saturation (A3)	***********	Hydrogen Sulfide Od			•	eres on Living Roots (C
Water Marks (B1)		Dry-Season Water T			Crayfish Burrows (	
Sediment Deposits (B2)		Presence of Reduce	, ,			on Aerial Imagery (C9)
Drift Deposits (B3)		Thin Muck Surface (				nocks (C11) (LRR F)
Algal Mat or Crust (B4)	***************************************	Other (Explain in Re			Geomorphic Position	
	***************************************	Other (Explain in Re	mark)			
Iron Deposits (B5)	(DZ)				FAC-Neutral Test (	
Inundation Visible on Aerial Imag	ery (B7)				Local Soil Survey D	Data (D8)
Water Stained Leaves (B9)			· · · · · · · · · · · · · · · · · · ·			
ield Observations:						
			ļ			4.
Surface Water Present? Yes	NoX	Depth (inches): _				,
Vater Table Present? Yes	NoX	Depth (inches):				.,
aturation Present? Yes	NoX	Depth (inches):	Wetla	and Hydrolog	y Present? Yes	XNo
ncludes capillary fringe)						
				<del></del>		
Describe Recorded Data (stream gauge	e, monitoring well, a	erial photos, previous	s inspection), if av	/ailable:		
		•				
temarks:						
					•	



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County: _Cı	uster County	Sampling Date: 9/19/07
Applicant/Owner: Knight Piesold, Power	ertech	State: So	outh Dakota	Sampling Point: W32
Investigator(s): C. Robinson and J. E	Eberly	Section, Township	o, Range: <u>Se</u>	ection 10, T7S R1E
Landform (hillslope, terrace, etc.) De	pression	Loca	I relief (concave	e, convex, none): Concave Slope (%): 0
Subregion (LRP): Black Hills MLRA62	2	Lat:	Long:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI Class	sification:	PUS
Are climatic/hydrologic conditions on the	site typical for this	s time of year?	Yes	X No (If no, explain in Remarks.)
Are Vegetation, Soil	, or Hydrology	Significantly	disturbed? Are	re "Normal Circumstances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Naturally pr	oblematic? (If r	needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Atta	ach site map	showing samp	ling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes X	No	- le th	ne Sampled Area
Hydric Soil Present?	Yes X	No		nin a Wetland Yes X No
Wetland Hydrology Present	Yes	No X		•
Remarks: R4 P24: Of the previously mapped PEM	wetland			
R4 P25: from the berm				
VECETATION				
VEGETATION  Tree Stratum (Use scientific names)	Absolute	Dominant	Indicator	Dominance Test Worksheet:
1	_% Cover_	Species?	Status_	Number of Dominant Species
2.				That are OBL, FACW, or FAC:1 (A)
3.				Total Number of Dominant
Total Cove	er:		*****	Species Across All Strata:1 (B)
Sapling/Shrub Stratum				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 100 (A/B)
2. 3.				Prevalence Index Worksheet:
4.				Total 9/ Course of
5 Total Cove	er: .		***************************************	Total % Cover of: Multiply by:
Host Charles				OBL species
Herb Stratum  1. Echinochloa muricata	100	X	OBL	FACW species x2- FAC species x3=
2.				FACU species x4= UPL species x5=
3. 4.				Column Totals: (A) (B)
5.				Prevalence Index = B/A =
6. 7.				Hydrophytic Vegetation Indicators
8.				X Dominance Test is > 50%
9.				Prevalence Index is ≤ 3.0 <sup>1</sup>
Total Cove	er: 100			Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratum 1.				Problematic Hydrophytic Vegetation (Explain)
2.				<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3. Total Cove	er:			Hydrophytic Vegetation
		Annual Alberta Cons		Present? Yes X No
% Bare Ground in Herb Stratum Remarks:	% C	over of Biotic Crust		A SAMPA MANAGEMENT AND

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D 41				<b>5</b> · -				
Depth	Matrix	04	0-1 ( -1:0)	Redox Fe		12	T	Damada
(inches) 0-8	Color (moist) 5YR 4/1	<u>%</u> 50	Color (moist) 7.5YR 4/6	- <u>%</u> 50	Type¹ C	Loc² M	Texture C	Remarks
	31K 4/1		7.31K 4/0			101		
						<del></del>	-	
				_				
	***************************************							
		- DM-D-4		214: 1	DIDava Linina	BC=D==4.0		****
	centration, D=Depletion licators: (Applicable			Location: I	PL=Pore Lining,	RC=ROOLC	hannel, M=Matrix.	natic Hydric Soils <sup>3</sup> :
	iol (A1)	to an LKKS		Sandy Gleyed	Matrix (S4)	mur	1 cm Muck (A	
	Epipedon (A2)			Sandy Redox				Redox (A16) (LRR F, G,
	Histic (A3) gen Sulfide (A4)			Stripped Matri Loamy Mucky			Dark Surface (	epressions (F16)
	. ,	E/			, ,			tside MLRA 72 & 73)
<del></del>	ied Layers (A5) (LRR	•		Loamy Gleyed			•	,
	Muck (A9) ( <b>LRR F, G,</b>		***************************************	Depleted Matr	` '		Reduced Verti	•
	ted Below Dark Surface	ce (ATT)		Redox Dark S			Red Parent Ma	
	Dark Surface (A12)			Depleted Dark			Other (Explain	in Remarks)
	Mucky Mineral (S1)	(00) // FF O		Redox Depres		**	31	h
	n Mucky Peat or Peat Mucky Peat or Peat (S		п)	righ Plains D	epressions (F16	P)		hydrophytic vegetation ydrology must be prese
	ver (if present):	3) (LIXIX I )			1		and welland n	ydrology must be prese
· `	):			F	lydric Soils Pr	esent? Y	es <u>X</u> No	
	):			1	lydric Soils Pr	esent? Y	es X No	
marks:				1	lydric Soils Pr	esent? Y	es X No	
marks:					lydric Soils Pr			(2 or more required)
marks:  DROLOGY tland Hydro	ology Indicators:	is sufficient)		1	lydric Soils Pr		ndary Indicators (	(2 or more required)
DROLOGY tland Hydro	ology Indicators: ors (any one indicator	is sufficient)			lydric Soils Pr	Seco	ndary Indicators (	cks (B6)
DROLOGY tland Hydronary Indicate Surface	ology Indicators: ors (any one indicator Water (A1)	is sufficient)	Salt Cr	rusts (B11)	Allower and Allowe	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta	cks (B6) ited Concave Surfaces (
DROLOGY tland Hydro nary Indicat Surface High Wa	ology Indicators: ors (any one indicator Water (A1) iter Table (A2)	is sufficient)	Salt Cr Aquati	rusts (B11) c Invertebrates	s (B13)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr	icks (B6) ited Concave Surfaces ( ns (B10)
DROLOGY tland Hydri mary Indicat Surface High Wa Saturatic	plogy Indicators: ors (any one indicator Water (A1) on (A3)	is sufficient)	Salt Cr Aquati Hydrog	rusts (B11) c Invertebrate: gen Sulfide Oc	s (B13)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos	cks (B6) Ited Concave Surfaces ( ns (B10) pheres on Living Roots
DROLOGY tland Hydr mary Indicat Surface High Wa Saturatic Water M	ology Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) arks (B1)	is sufficient)	Salt Cr Aquati Hydroo Dry-Se	rusts (B11) c Invertebrate: gen Sulfide Oc eason Water T	s (B13) ler (C1) able (C2)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows	cks (B6) ited Concave Surfaces ( ns (B10) pheres on Living Roots s (C8)
DROLOGY tland Hydrinary Indicat Surface High Wa Saturatic Water M	ology Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) arks (B1) nt Deposits (B2)	is sufficient)	Salt Cr Aquati Hydrog Dry-Se Preser	rusts (B11) c Invertebrate: gen Sulfide Oc asson Water T nce of Reduce	s (B13) ler (C1) able (C2) d Iron (C4)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows	cks (B6)  Ited Concave Surfaces ( Ites (B10)  Item (B1
DROLOGY tland Hydrinary Indicat Surface High Wa Saturatic Water M Sedimer Drift De	plogy Indicators: ors (any one indicator Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)	is sufficient)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrate: gen Sulfide Oc aason Water T nce of Reduce luck Surface (	s (B13) ler (C1) able (C2) d Iron (C4) C7)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hu	cks (B6)  Ited Concave Surfaces ( Ins (B10)
DROLOGY tland Hydr mary Indicat Surface High Wa Saturatic Water M Sedimer Drift Der	plogy Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) Iarks (B1) Int Deposits (B2) Dosits (B3) It or Crust (B4)	is sufficient)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrate: gen Sulfide Oc asson Water T nce of Reduce	s (B13) ler (C1) able (C2) d Iron (C4) C7)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos	cks (B6)  Ited Concave Surfaces ( Ins (B10)  Ins (B10)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C9)
DROLOGY tland Hydrimary Indicat Surface High Wa Saturatic Water M Sedimer Drift Deg Algal Ma Iron Dep	plogy Indicators: ors (any one indicator Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrate: gen Sulfide Oc aason Water T nce of Reduce luck Surface (	s (B13) ler (C1) able (C2) d Iron (C4) C7)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Pattern Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos	cks (B6)  Ited Concave Surfaces ( Ins (B10)  Ins (B10)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C9)
DROLOGY tland Hydre mary Indicat Surface High Wa Saturate Saturate Sedimer Drift Der Algal Ma Iron Der Inundati	plogy Indicators: ors (any one indicator Water (A1) ter Table (A2) on (A3) arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Im		Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrate: gen Sulfide Oc aason Water T nce of Reduce luck Surface (	s (B13) ler (C1) able (C2) d Iron (C4) C7)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos	cks (B6)  Ited Concave Surfaces ( Ins (B10)  Ins (B10)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C9)
DROLOGY tland Hydre mary Indicat Surface High Wa Saturati Saturati Saturati Drift Dep Algal Ma Iron Dep Inundati Water S	plogy Indicators: ors (any one indicator Water (A1) ter Table (A2) on (A3) arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9)		Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrate: gen Sulfide Oc aason Water T nce of Reduce luck Surface (	s (B13) ler (C1) able (C2) d Iron (C4) C7)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Pattern Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos	cks (B6)  Ited Concave Surfaces ( Ins (B10)  Ins (B10)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C9)
DROLOGY tland Hydrimary Indicat Surface High Wa Saturer M Sedimer Drift Der Algal Ma Iron Der Inundati Water S	plogy Indicators: ors (any one indicator Water (A1) ter Table (A2) on (A3) arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9)		Salt Cr Aquati Hydrog Dry-Se Preser Thin M	rusts (B11) c Invertebrate: gen Sulfide Oc aason Water T nce of Reduce luck Surface (	s (B13) ler (C1) able (C2) d Iron (C4) C7)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Pattern Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos	cks (B6)  Ited Concave Surfaces ( Ins (B10)  Ins (B10)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C9)
DROLOGY etland Hydrimary Indicat Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Incom Dep Inundati Water S	plogy Indicators: ors (any one indicator Water (A1) tter Table (A2) on (A3) arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) tions:	nagery (B7)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other	rusts (B11) c Invertebrate: gen Sulfide Oc eason Water T nce of Reduce luck Surface ( (Explain in Re	s (B13) ler (C1) able (C2) d Iron (C4) C7)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Pattern Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos	cks (B6)  Ited Concave Surfaces ( Ins (B10)  Ins (B10)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C9)
DROLOGY etland Hydri mary Indicat Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water S	plogy Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) Iarks (B1) Int Deposits (B2) Int Ocrust (B4) Int Ocrust (B4) Int Ocrust (B5) Int Ocrust (B9) Italianed Leaves (B9) Italianed Leaves (B9) Italianed Yes Interval I	nagery (B7) No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other	rusts (B11) c Invertebrate: gen Sulfide Oceason Water T nce of Reduce fuck Surface (i (Explain in Re	s (B13) ler (C1) able (C2) d Iron (C4) C7)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Pattern Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos	cks (B6)  Ited Concave Surfaces ( Ins (B10)  Ins (B10)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C8)  Ins (C9)
DROLOGY tland Hydrimary Indicat Surface High Wa Saturatic Water M Sedimer Drift Der Algal Ma Iron Der Inundatic Water Seld Observa	plogy Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) Iarks (B1) Int Deposits (B2) posits (B3) Int or Crust (B4) Int Deposits (B5) Int or Leaves (B9) Itions:  Present? Yes Interpretation Present? Present?  Present?  Present?  Presented  Prese	nagery (B7)	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other	rusts (B11) c Invertebrate: gen Sulfide Oc asson Water T nce of Reduce fuck Surface (i (Explain in Re	s (B13) ler (C1) able (C2) d Iron (C4) C7) mark)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Surve	cks (B6)  Ited Concave Surfaces ( Ins (B10)  pheres on Living Roots (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  sition (D2)  st (D5)  y Data (D8)
DROLOGY Atland Hydrimary Indicate Surface High Wa Saturatic Water M Sedimer Drift Der Algal Ma Iron Der Inundatic Water Seld Observa	blogy Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) arks (B1) In Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) tions: Present? Yes resent? Yes resent? Yes	nagery (B7)  No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other	rusts (B11) c Invertebrate: gen Sulfide Oceason Water T nce of Reduce fuck Surface (i (Explain in Re	s (B13) ler (C1) able (C2) d Iron (C4) C7) mark)	Seco	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Pos FAC-Neutral Tes Local Soil Surve	cks (B6)  Ited Concave Surfaces ( Ins (B10)  pheres on Living Roots (C8)  e on Aerial Imagery (C9)  mitted (C11) (LRR F)  stition (D2)  y Data (D8)
marks:  DROLOGY etland Hydrimary Indicat Surface High Wa Saturatic Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water S eld Observa rface Water ater Table Pituration Pre- cludes capill	plogy Indicators: ors (any one indicator Water (A1) ther Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) tions:  Present? Yes resent? Yes ary fringe)	nagery (B7)  No No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other  X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Oc eason Water T nce of Reduce fuck Surface ( (Explain in Re  (inches): (inches):	s (B13) ler (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco X	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Surve	cks (B6)  Ited Concave Surfaces ( Ins (B10)  pheres on Living Roots (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  sition (D2)  st (D5)  y Data (D8)
DROLOGY etland Hydri mary Indicat Surface High Wa Saturatic Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water S eld Observa	blogy Indicators: ors (any one indicator Water (A1) Iter Table (A2) on (A3) arks (B1) In Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) tions: Present? Yes resent? Yes resent? Yes	nagery (B7)  No No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other  X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Oc eason Water T nce of Reduce fuck Surface ( (Explain in Re  (inches): (inches):	s (B13) ler (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco X	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Surve	cks (B6)  Ited Concave Surfaces ( Ins (B10)  pheres on Living Roots (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  sition (D2)  st (D5)  y Data (D8)
imary Indicat Surface High Water Mater Mater Mater Mater Mater Mater Sedimer Iron Deplation Deplation Mater Sedi Observa Irface Water atter Table Petaturation Presidudes capill	plogy Indicators: ors (any one indicator Water (A1) ther Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) tions:  Present? Yes resent? Yes ary fringe)	nagery (B7)  No No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other  X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Oc eason Water T nce of Reduce fuck Surface ( (Explain in Re  (inches): (inches):	s (B13) ler (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco X	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Surve	cks (B6)  Ited Concave Surfaces ( Ins (B10)  pheres on Living Roots (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  sition (D2)  st (D5)  y Data (D8)
marks:  DROLOGY etland Hydrimary Indicat Surface High Wa Saturatic Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water S eld Observa  urface Water ater Table Peturation Precludes capill	plogy Indicators: ors (any one indicator Water (A1) ther Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) tions:  Present? Yes resent? Yes ary fringe)	nagery (B7)  No No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other  X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Oc eason Water T nce of Reduce fuck Surface ( (Explain in Re  (inches): (inches):	s (B13) ler (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco X	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Surve	cks (B6)  Ited Concave Surfaces ( Ins (B10)  pheres on Living Roots (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  sition (D2)  st (D5)  y Data (D8)
marks:  DROLOGY  tland Hydri mary Indicat Surface High Wa Saturatic Water M Sedimer Drift Deg Algal Ma Iron Deg Inundati Water S eld Observa  rface Water ater Table Pi turation Pre- cludes capill	plogy Indicators: ors (any one indicator Water (A1) ther Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) tions:  Present? Yes resent? Yes ary fringe)	nagery (B7)  No No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other  X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Oc eason Water T nce of Reduce fuck Surface ( (Explain in Re  (inches): (inches):	s (B13) ler (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco X	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Surve	cks (B6)  Ited Concave Surfaces ( Ins (B10)  pheres on Living Roots (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  sition (D2)  st (D5)  y Data (D8)
DROLOGY  Itland Hydrimary Indicat Surface High Wa Saturatic Water M Sedimer Drift Deg Algal Ma Iron Deg Inundati Water S Ind Observa  rface Water ater Table Peturation Precludes capill	plogy Indicators: ors (any one indicator Water (A1) ther Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) tions:  Present? Yes resent? Yes ary fringe)	nagery (B7)  No No No	Salt Cr Aquati Hydrog Dry-Se Preser Thin M Other  X Depth X Depth X Depth	rusts (B11) c Invertebrates gen Sulfide Oceason Water T nce of Reduce fuck Surface ( (Explain in Re  (inches): (inches):	s (B13) ler (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco X	ndary Indicators ( Surface Soil Cra Sparsely Vegeta Drainage Patterr Oxidized Rhizos Crayfish Burrows Saturation Visibl Frost-Heave Hur Geomorphic Post FAC-Neutral Test Local Soil Surve	cks (B6)  Ited Concave Surfaces ( Ins (B10)  pheres on Living Roots (C8)  e on Aerial Imagery (C9)  mmocks (C11) (LRR F)  sition (D2)  st (D5)  y Data (D8)

US Army Corps of Engineers

Great Plains - DRAFT Version 8-30-06



#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site:	Dewey Burdock		City/County:	Custer County	Sampling Date: 9/19/07
Applicant/Owner:	Knight Piesold, Pow	ertech	State:	South Dakota	Sampling Point: W33
Investigator(s):	C. Robinson and J.	Eberly	_ Section, Town	ship, Range: S	ection 14, T7S, R1E
Landform (hillslope	e, terrace, etc.) Po	ond		ocal relief (concav	ve, convex, none): Concave Slope (%): 0
Subregion (LRP):	Black Hills MLRA6	2	Lat:	Long:	Dátum: NAD 1983, UTM Zone 13
Soil Map Unit Nam	ne:		NWI C	lassification:	PEM
Are climatic/hydrol	ogic conditions on the	site typical for the	nis time of year?	Yes	X No (If no, explain in Remarks.)
Are Vegetation	, Soil	, or Hydrology	Signific	antly disturbed? A	re "Normal Circumstances" present? Yes X No
Are Vegetation _	, Soil	, or Hydrology	Natural	y problematic? (If	needed, explain any answers in Remarks.)
CUMMADVO	EINDINGS A	aab aita mam	. obowine oo	mmlina maint l	
			W William William	mpling point i	ocations, transects, important features, etc.
Hydrophytic Veget			No		ne Sampled Area
Hydric Soil Presen		Yes X	<del></del>	With	hin a Wetland Yes X No
Wetland Hydrology Remarks:	y Present	Yes X	No		
R4 P1: Upstream		•			
R4 P2: Downstrea	m 				
VEGETATION	•				·
Tree Stratum (Use	scientific names)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1		76 Cover	Species :	Status	Number of Dominant Species
2.					That are OBL, FACW, or FAC:3 (A)
Š			West of the second		Total Number of Dominant
	Total Cove	er:			Species Across All Strata:3 (B)
Sapling/Shrub Stra	<u>atum</u>				Percent of Dominant Species
1.					That Are OBL, FACW, or FAC: 100 (A/B)
3.					Prevalence Index Worksheet:
4. 5.					Total % Cover of: Multiply by:
	Total Cov	er:	_		
Herb Stratum					OBL species x1= x2=
1. Juncus balt		20	X	FACW	FAC species x3=
2. <u>Distichlis sti</u> 3. Schoenople		<u>50</u> 30	X	<u>FACW</u> OBL	FACU species x4= UPL species x5=
tabernaemo		30	^	OBL	UPL species x5= Column Totals: (A) (B)
5.					Prevalence Index = B/A =
6. 7.					Hydrophytic Vegetation Indicators
8.					
9. 10.					X Dominance Test is > 50% Prevalence Index is ≤ 3.0¹
	Total Cov	er: 100			Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratu	<u>ım</u>				Problematic Hydrophytic Vegetation (Explain)
1.			*		1 Indicators of hydric pails and welland hydrology must be associated
3.		<u> </u>	<del> </del>		<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present <b>Hydrophytic</b>
	Total Cov	er:			Vegetation Present? Yes X No
% Bare Ground in	Herb Stratum 0	%	Cover of Biotic C	rust	Present?         Yes         X         No
Remarks:	tahamaan sata ili		:		
Schoenopiecius	<i>tabernaemontani</i> d	ommant on the fr	inge of the pond.		



SOIL							Sampli	ng Point W33
Profile Descrip	tion: (Describe to the	ne depth ne	eded to documen	t the indicat	tor or confirm th	ne absence	of indicators.)	
Depth	Matrix	•		Redox F	eatures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Remarks
0-4	10YR 4/6	90	Gley1 2.5/N	10	D	М	С	
4-8	Gley1 3/N	100			-		<u> </u>	
								***************************************
·····								
			-					
					<del></del>	<del></del>	·	
		***************************************						,
				2			<del></del>	
	entration, D=Depletio				PL=Pore Lining,		hannel, M=Matrix.	At 11 d. t . O . 11 . 3.
	licators: (Applicable ol (A1)	to all LKKS			d Matrix (S4)	inai	cators for Problema 1 cm Muck (A9)	
	Epipedon (A2)			Sandy Redox		**********		edox (A16) (LRR F, G, H)
Black	Histic (A3)			Stripped Matr			Dark Surface (S	
	gen Sulfide (A4)				y Mineral (F1)		High Plains Dep	ressions (F16)
	ed Layers (A5) (LRR				d Matrix (F2)		•	ide MLRA 72 & 73)
	Muck (A9) (LRR F, G,	•		Depleted Mat	` '		Reduced Vertic	
	ed Below Dark Surfac Dark Surface (A12)	e (ATT)		Redox Dark S	k Surface (F7)	***************************************	Red Parent Mat Other (Explain in	
	Mucky Mineral (S1)			Redox Depre			Other (Explain)	ii Nemarks)
	Mucky Peat or Peat	(S2) (LFF G,			epressions (F16	)	3Indicators of hy	drophytic vegetation
	Mucky Peat or Peat (S	3) (LRR F)					and wetland hyd	drology must be present.
Restrictive Lay	er (if present):			1		,		
				İ				
Type:				1.				
Depth (inches)	·			1	Hydric Soils Pre	esent? Y	'es <u>X</u> , No	
Remarks:								
Orange colorati	on due to parent mate	erial						
							***	
HYDROLOGY								
	logy Indicators:				<del></del>	Seco	ndary Indicators (2	or more required)
	ors (any one indicator	is sufficient)				0000	Surface Soil Crack	
	Water (A1)			usts (B11)				d Concave Surfaces (B8)
	ter Table (A2)			Invertebrate			Drainage Patterns	
X Saturatio				en Sulfide O				neres on Living Roots (C3)
Water Ma				ason Water T			_ Crayfish Burrows (	
	t Deposits (B2) osits (B3)			ce of Reduce ick Surface (				on Aerial Imagery (C9) mocks (C11) (LRR F)
	t or Crust (B4)			Explain in Re			Geomorphic Positi	
	osits (B5)				indik)	-	FAC-Neutral Test	, ,
	on Visible on Aerial Im	agery (B7)					Local Soil Survey	
	ained Leaves (B9)							: `
ield Observat	ions:							
Surface Water I	Present? Yes	X No	Denth (	inches):				
Nater Table Pr	_	X No		inches):	2			
Saturation Pres		X No		inches):		and Hydrolo	ogy Present? Ye	s X No
includes capilla	_						0,	· <u></u> · · · ·
D						** * * *		
Describe Recor	ded Data (stream gau	ige, monitori	ng well, aerial pho	tos, previous	s inspection), if a	vailable:		
Remarks:								".
	<del></del>							

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Great Plains - DRAFT Version 8-30-06



#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	Custer Cour	ity	Sampling Date: 9/19/07
Applicant/Owner: Knight Piesold, Power	ertech	State:	South Dakot	a	Sampling Point: W34
Investigator(s): C. Robinson and J. E	berly	Section, Town	 nship, Range:	Section 14, T7S, R1E	
Landform (hillslope, terrace, etc.). Dra	ainage	L	ocal relief (co	ncave, convex, none):	Concave Slope (%): 0
Subregion (LRP): Black Hills MLRA62	2	Lat:	Loi	ng:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:	•	NWI C	Classification:		
Are climatic/hydrologic conditions on the	site typical for thi	s time of year?	Ye	s <u>X</u> No	(If no, explain in Remarks.)
Are Vegetation , Soil	, or Hydrology	Significa	antly disturbed	? Are "Normal Circumsta	ances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Naturall	ly problematic	? (If needed, explain any	answers in Remarks.)
				4.1 4. 4	
SUMMARY OF FINDINGS - Atta	ich site map			nt locations, transe	ects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No <u>&gt; &gt;</u>	<u> </u>	Is the Sampled Area	
Hydric Soil Present?	Yes X			Within a Wetland	Yes NoX
Wetland Hydrology Present	Yes	No >	<u> </u>		· · · · · · · · · · · · · · · · · · ·
Remarks: R5 P9: Upstream		•		•	
R5 P10: Downstream Waypoint 58 indicates the end of surface	water (DE D9)				
waypoint 36 indicates the end of surface	water (NO FO)		<del></del>		
VEGETATION		· · ·			
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicate Status		t Worksheet:
1.				Number of Domir	
2			_	That are OBL, FA	ACW, or FAC:1(A)
4.				Total Number of	
Total Cove	r:			Species Across A	All Strata:3 (B)
Sapling/Shrub Stratum				Percent of Domin	nant Species
2.			_	That Are OBL, FA	ACW, or FAC: 33.33 (A/B)
3.				Prevalence Inde	x Worksheet:
5.				Total % Cover of	: Multiply by:
Total Cove	PT:	•		Total /6 Cover of	. ividitiply by.
Herb Stratum				OBL species FACW species	x1= 30
1. Hordeum jubatum	15	×	FACV		$\frac{19}{10}$ $\frac{x^2}{x^3}$ $\frac{30}{30}$
2. Xanthium strumarium	10		FAC	FACU species	60 x4= 240
Chenopodium album     Grindelia squarrosa	10 15	X	FACU	'	15 x5= 75
5. Cirsium arvense	10		FACL	Column Totals: .  Prevalence Index	x = B/A =  (A) 375 (B)
6. Polygonum aviculare	35	X	FACL		
7. Elymus smithii	5		FACL	Hydrophytic Ve	getation Indicators
8. 9.	t				ce Test is > 50%
10.					ce Index is ≤ 3.0 <sup>1</sup>
Total Cove	er: 100	***************************************	***************************************	Morpholo	gical Adaptations <sup>1</sup> (Providing supporting
Woody Vine Stratum				II	ks or on a separate sheet) itic Hydrophytic Vegetation (Explain)
1.					
2.					ic soils and wetland hydrology must be present
3.		***************************************	<u>.</u>	Hydrophytic	
Total Cove	er:			Vegetation Present?	Yes NoX
% Bare Ground in Herb Stratum 0	% C	over of Biotic C	rust	i resenti	140
Remarks:					

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Depth	non. (Describe to the	ne debui nee		nt the indica		the absence	Samp	
Depth			ded to docume			tile absence	oi maicators.	
(inches)	Matrix Color (moist)	%	Color (moist)		Features	1.002	Toytura	Domorko
0-5	Gley1 2.5/N	95	2.5YR 4/8	<u>%</u> 5	Type'	Loc² M, RC	Texture CL	Remarks
	Gicy 1 2.0/11		2.511(4/0					
				_				
			***************************************		- :		<del></del>	
				_			***************************************	
		<del></del>						
							<del></del>	tintmitmen
	entration, D=Depletion			<sup>2</sup> Location:	PL≃Pore Linin		hannel, M=Matrix.	
	cators: (Applicable	to all LRRs,				Indi		natic Hydric Soils <sup>3</sup> :
Histoso					ed Matrix (S4)		1 cm Muck (A9	
	pipedon (A2)			Sandy Redo				Redox (A16) (LRR F, G, H
<del></del>	Histic (A3)			Stripped Mar			Dark Surface (	
	en Sulfide (A4)	E\			ky Mineral (F1)			pressions (F16)
	ed Layers (A5) (LRR				ed Matrix (F2)			side MLRA 72 & 73)
	luck (A9) ( <b>LRR F, G,</b> ed Below Dark Surfac			Depleted Ma	Surface (F6)		Reduced Verti	
	o Below Dark Surial Dark Surface (A12)	æ (ATT)			rk Surface (F6)		Red Parent Ma Other (Explain	
<del></del>	Mucky Mineral (S1)			Redox Depre			Other (Explain	in Remarks)
	Mucky Peat or Peat	(S2) (LEE G			Depressions (F	16)	3Indicators of h	ydrophytic vegetation
	lucky Peat or Peat (S		•••	riigiri iailis	Depressions (i	10)		drology must be present.
	er (if present):	, <u>, , , , , , , , , , , , , , , , , , </u>					and wonand m	, are legy must be present.
,	( p							
_				i				
ype:								
Depth (inches):				J	Hydric Soils f	resent? Y	es X No	
Remarks:								·
veillaiks.								
								***************************************
IYDROLOGY								
IIDROLOGI								
	logy Indicators:					Seco	ndary Indicators (	2 or more required)
Vetland Hydro Primary Indicato	rs (any one indicator	is sufficient)				Seco	Surface Soil Crad	cks (B6)
Vetland Hydro Primary Indicato Surface V	rs (any one indicator Vater (A1)	is sufficient)		rusts (B11)		Seco	Surface Soil Crac Sparsely Vegetat	cks (B6) ed Concave Surfaces (B8
Vetland Hydro Primary Indicato Surface V High Wat	ors (any one indicator Vater (A1) er Table (A2)	is sufficient)	Aquati	c Invertebrat		Seco	Surface Soil Crac Sparsely Vegetat Drainage Pattern	cks (B6) ed Concave Surfaces (B8 s (B10)
Vetland Hydro Primary Indicate Surface V High Wate Saturation	ors (any one indicator Vater (A1) er Table (A2) n (A3)	is sufficient)	Aquati	c Invertebrat gen Sulfide C	Oder (C1)	Seco	Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp	cks (B6) ed Concave Surfaces (B8 s (B10) pheres on Living Roots (C
Vetland Hydro Primary Indicato Surface V High Wat Saturation Water Ma	ors (any one indicator Vater (A1) er Table (A2) n (A3) orks (B1)	is sufficient)	Aquati Hydrog	c Invertebrat gen Sulfide C eason Water	Oder (C1) Table (C2)	Seco	Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp Crayfish Burrows	cks (B6) ed Concave Surfaces (B6 s (B10) bheres on Living Roots (C (C8)
Vetland Hydro Primary Indicate Surface V High Wat Saturation Water Ma	ors (any one indicator Vater (A1) er Table (A2) n (A3) orks (B1) Deposits (B2)	is sufficient)	Aquati Hydrog	c Invertebrat gen Sulfide C eason Water	Oder (C1)	Seco	Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp Crayfish Burrows	cks (B6) ed Concave Surfaces (B8 s (B10) pheres on Living Roots (C
Vetland Hydro Primary Indicato Surface V High Wat Saturation Water Ma	ors (any one indicator Vater (A1) er Table (A2) n (A3) orks (B1) Deposits (B2)	is sufficient)	Aquati Hydrog Dry-Se Preser	c Invertebrat gen Sulfide C eason Water	Oder (C1) Table (C2) ed Iron (C4)	Seco	Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible	cks (B6) ed Concave Surfaces (B6 s (B10) bheres on Living Roots (C (C8)
Vetland Hydro Primary Indicato Surface V High Wat Saturation Water Ma Sediment Drift Depo	ors (any one indicator Vater (A1) er Table (A2) n (A3) orks (B1) Deposits (B2)	is sufficient)	Aquati Hydrog Dry-Se Preser Thin M	c Invertebrat gen Sulfide C eason Water nce of Reduc	Oder (C1) Table (C2) ed Iron (C4) (C7)	Seco	Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible	cks (B6) ed Concave Surfaces (B6 s (B10) bheres on Living Roots (C (C8) on Aerial Imagery (C9) nmocks (C11) (LRR F)
Vetland Hydro rimary Indicate Surface V High Wat Saturation Water Mat Sediment Drift Depo Algal Mat Iron Depo	ors (any one indicator Vater (A1) er Table (A2) in (A3) orks (B1) Deposits (B2) or Crust (B4) osits (B5)		Aquati Hydrog Dry-Se Preser Thin M	c Invertebrat gen Sulfide C eason Water nce of Reduc luck Surface	Oder (C1) Table (C2) ed Iron (C4) (C7)		Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Pos FAC-Neutral Tes	cks (B6) ed Concave Surfaces (B6 s (B10) cheres on Living Roots (C (C8) on Aerial Imagery (C9) nmocks (C11) (LRR F) ition (D2) t (D5)
Vetland Hydro rimary Indicate Surface V High Wat Saturation Water Mat Sediment Drift Depo Algal Mat Iron Depo	ors (any one indicator Vater (A1) er Table (A2) n (A3) orks (B1) Deposits (B2) or Crust (B4)		Aquati Hydrog Dry-Se Preser Thin M	c Invertebrat gen Sulfide C eason Water nce of Reduc luck Surface	Oder (C1) Table (C2) ed Iron (C4) (C7)		Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Pos	cks (B6) ed Concave Surfaces (B6 s (B10) cheres on Living Roots (C (C8) on Aerial Imagery (C9) nmocks (C11) (LRR F) ition (D2) t (D5)
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Wetland Hydro Primary Indicato Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water Sta Field Observati Surface Water F Water Table Prese Saturation Prese includes capilla	ors (any one indicator Vater (A1) er Table (A2) n (A3) orks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial Implications: Present? Yes esent? Yes ent? Ves error Vater (A2) one indicator value (A3) one indicator value (A	nagery (B7)  No No No	Aquati Hydrog Dry-Se Preser Thin M Other  X Depth X Depth X Depth	c Invertebrategen Sulfide Ceason Water noce of Reduction Recording to the Ceason Water noce of Reduction in Recording to the Ceason Water noce of Reduction in Recording to the Ceason Recording to th	Oder (C1) Table (C2) ed Iron (C4) (C7) emark)  We	X X	Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Pos FAC-Neutral Tes Local Soil Survey	cks (B6) ed Concave Surfaces (B8 s (B10) wheres on Living Roots (C (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) ition (D2) t (D5) v Data (D8)
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Jetland Hydro rimary Indicato Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water Sta ield Observati urface Water F Jurface Water F	ors (any one indicator Vater (A1) er Table (A2) n (A3) orks (B1) Deposits (B2) or Crust (B4) osits (B5) n Visible on Aerial Implications: Present? Yes eresent?	nagery (B7)  No No No	Aquati Hydrog Dry-Se Preser Thin M Other  X Depth X Depth X Depth	c Invertebrategen Sulfide Ceason Water noce of Reduction Recording to the Ceason Water noce of Reduction in Recording to the Ceason Water noce of Reduction in Recording to the Ceason Recording to th	Oder (C1) Table (C2) ed Iron (C4) (C7) emark)  We	X X	Surface Soil Crac Sparsely Vegetal Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Pos FAC-Neutral Tes Local Soil Survey	cks (B6) ed Concave Surfaces (B6 s (B10) otheres on Living Roots (C (C8) e on Aerial Imagery (C9) nmocks (C11) (LRR F) ition (D2) t (D5) v Data (D8)

US Army Corps of Engineers

Great Plains - DRAFT Version 8-30-06



#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	Custer Count	ty	Sampling Date: 9/19/07	
Applicant/Owner: Knight Piesold, Pow	ertech	State:	South Dakota	3	Sampling Point: _W35	
Investigator(s): C. Robinson and J.	Eberly	Section, Town	iship, Range:	Section 14, T7S, R1E		
Landform (hillslope, terrace, etc.) De	epression	L	.ocal relief (con	ncave, convex, none):	Concave Slope (%): 1	
Subregion (LRP): Black Hills MLRA6	2	Lat:	Lon-	g:	Datum: NAD 1983, UTM Zo	one 13
Soil Map Unit Name:		NWI C	lassification:	PUB		
Are climatic/hydrologic conditions on the	site typical for thi	s time of year?	Yes	X No	(If no, explain in Remark	is.)
Are Vegetation , Soil	, or Hydrology	Significa	antly disturbed	? Are "Normal Circumsta	ances" present? Yes X	No
Are Vegetation , Soil	, or Hydrology	Naturall	ly problematic?	' (If needed, explain any	answers in Remarks.)	
SUMMARY OF FINDINGS - Att	ach site map	showing sa	mpling poir	nt locations, transe	ects, important features	, etc.
Hydrophytic Vegetation Present?	Yes X			<del></del>		
Hydric Soil Present?	Yes	No X		Is the Sampled Area Within a Wetland	Yes X No	!
Wetland Hydrology Present	Yes X			1		
Remarks: R5 P11: Facing east						
R5 P12: Facing east						
Possible stock dam		······································				
VEGETATION						
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status		t Worksheet:	
1.		Species:		Number of Domir		
2. 3.				That are OBL, FA	ACW, or FAC:1	(A)
4.				Total Number of I		
Total Cove	er:		•	Species Across A	All Strata: 2	(B)
Sapling/Shrub Stratum				Percent of Domin		
1.		***************************************		That Are OBL, FA	ACW, or FAC: 50	(A/B)
3.				Prevalence Inde	x Worksheet:	
4. 5.				Total % Cover of	f: Multiply by:	
Total Cove	er:					
Herb Stratum				OBL species FACW species	80 x1=160	
1. Distichlis stricta	80	X	FACW	FAC species	x3=	
2. Melilotus sp. 3.	20	***************************************	FACU	FACU species UPL species	20 x4= 80 x5=	
4.	<del></del> .			Column Totals:	100 (A) 240	(B)
5.				Prevalence Index	x = B/A = 2.40	
6. 7.		<del>-</del>	<del> </del>	Hydrophytic Ve	getation Indicators	
8. 9.				Daminani	ce Test is > 50%	
10.					ce Index is ≤ 3.0 <sup>1</sup>	•
Total Cov	er: 100				ogical Adaptations <sup>1</sup> (Providing suks or on a separate sheet)	pporting
Woody Vine Stratum				Problema	ks or on a separate sneet) atic Hydrophytic Vegetation (Exp	olain)
1				- Indicators of hydri	ic soils and wetland hydrology must	he present
3.				Hydrophytic	o como and wettand nydrology must	DO PROSCIIL
Total Cov	er:			Vegetation Present?	Yes X No	
% Bare Ground in Herb Stratum 80	<u> </u>	Cover of Biotic C	rust	Fiesent	169 V INO	
Remarks:						

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SOIL						•	Sam	pling Point W35
Profile Descrip	tion: (Describe to the	e depth nee	ded to docume	nt the indicate	or or confirm (	the absence	of indicators.)	
Depth	Matrix			Redox Fe	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Remarks
0-8	7.5YR 2.5/1	80	2.5YR 4/8	20	C	M	C	
								6.004
	-						·	
¹Type: C=Conc	entration, D=Depletio	n DM-Dodu	and Matrix	<sup>2</sup> Location: E	DI Doro Linina	PC=Poot C	hannel, M=Matrix	
	icators: (Applicable				L-role Lilling			ematic Hydric Soils³:
Histos	ol (A1)	,		Sandy Gleyed	Matrix (S4)		1 cm Muck (A	
	Epipedon (A2)			Sandy Redox			Coast Prairie	Redox (A16) (LRR F, G, H)
	Histic (A3)			Stripped Matri:			_	(S7) (LRR G)
	gen Sulfide (A4)	=\		Loamy Mucky Loamy Gleyed				Depressions (F16) utside MLRA 72 & 73)
	ed Layers (A5) (LRR Nuck (A9) (LRR F, G,			Depleted Matr			Reduced Ver	
	ed Below Dark Surfac			Redox Dark S				Material (TF2)
Thick [	Dark Surface (A12)	` '		Depleted Dark				in in Remarks)
	Mucky Mineral (S1)			Redox Depres				
	Mucky Peat or Peat		H)	High Plains De	epressions (F1	6)		hydrophytic vegetation
Restrictive Lay	flucky Peat or Peat (S	3) (LRR F)	V <del>IIIITL.</del> III.	····			and wetland	hydrology must be present.
restrictive Lay	er (ii presenty.							•
Type:								
Depth (inches)	•			l H	lydric Soils Pr	esent? Y	'es No	. X
,								411114
Remarks:								
								- · · · · · · · · · · · · · · · · · · ·
HYDROLOGY								
	logy Indicators:					Seco	ndary Indicators	(2 or more required)
	ors (any one indicator	is sufficient)				X	_ Surface Soil Cr	
	Water (A1)			usts (B11)	(D40)	X		ated Concave Surfaces (B8)
High wai Saturatio	ter Table (A2)			c Invertebrates jen Sulfide Od			Drainage Patter	rns (B10) spheres on Living Roots (C3)
Water Ma				ason Water Ta			Crayfish Burrov	spheres on Living Roots (C3)
	t Deposits (B2)			ice of Reduced				ole on Aerial Imagery (C9)
	osits (B3)			uck Surface (0				ummocks (C11) (LRR F)
	t or Crust (B4)		Other (	Explain in Rer	nark)		Geomorphic Po	` '
	osits (B5)	<b></b> \					_ FAC-Neutral Te	
	on Visible on Aerial Im ained Leaves (B9)	agery (B7)					_ Local Soil Surv	ey Data (D8)
Field Observat	······································							
55501 141		•						
Surface Water I	- · · · · · -	No		(inches):				
Water Table Pre		No		(inches):			_	
Saturation Pres	_	No	X Depth	(inches):	Wet	land Hydrolo	ogy Present?	YesX No
(includes capilla	ary minge)							
Describe Recor	ded Data (stream gau	ge, monitorin	g well, aerial pho	otos, previous	inspection), if a	available:		
		-	- ·	•				
Remarks:								
Soil is moist but	t not saturated.							
								•

US Army Corps of Engineers

Great Plains - DRAFT Version 8-30-06



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site:	Dewey Burdock		(	City/County:	Custer Cou	nty	Sampling Date: 9/19/07
Applicant/Owner:	Knight Piesold, Po	wertech	;	State:	South Dake	ota	Sampling Point: W36
Investigator(s):	C. Robinson and J	. Eberly	;	Section, Town	ship, Range:	_Se	ction 10, T7S, R1E
Landform (hillslope	e, terrace, etc.)	Outfall	_	L	ocal relief (co	oncave	e, convex, none): Concave Slope (%): 0
Subregion (LRP):	Black Hills MLRA	62		_at:	Lo	ng:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Nam	ne:		_	NWI C	lassification:		PEM
Are climatic/hydrol	ogic conditions on th	e site typical f	or this t	ime of year?	Ye	es _	X No (If no, explain in Remarks.)
Are Vegetation	, Soil	, or Hydrolog	ду _	Significa	antly disturbe	d? Are	e "Normal Circumstances" present? Yes X No
Are Vegetation _	, Soil	, or Hydrolog	ду	Naturall	y problematio	? (If n	needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - At	tach site n	nap sl	howing sa	mpling po	int lo	ocations, transects, important features, etc.
Hydrophytic Veget	ation Present?	Yes	Х	No		1 - 44 -	0 1.14
Hydric Soil Presen	Hydric Soil Present? Ye		X	No			e Sampled Area in a Wetland Yes X No
Wetland Hydrology	y Present	Yes		No			
Remarks: R5 P20: Downstre R5 P21: Upstream		12-8			end of N R5 P18: Ups end of W, fur	ther S\	, R5 P19: Downstream W there is <i>Hordeum jubatum was</i> dominant in channel and appears.
VEGETATION							
Tree Stratum (Use	scientific names)	Absolut		Dominant	Indicat		Dominance Test Worksheet:
1.		_ % Cove	er	Species?	Statu	<u>s</u>	Number of Dominant Species
2. 3.			<u> </u>		_		That are OBL, FACW, or FAC: (A)
4.	Total Co	ver:	<del></del> -				Total Number of Dominant Species Across All Strata: 2 (B)
Sapling/Shrub Stra	atum		,				Percent of Dominant Species
1.						<del></del>	That Are OBL, FACW, or FAC: 100 (A/B)
2			— -				Prevalence Index Worksheet:
4.			_ :				
5	Total Co	ver:			<del>-</del>		Total % Cover of: Multiply by:
Horb Stroture							OBL species x1= x2=
Herb Stratum  1. Hordeum ju	batum	20		Х	FAC\	N	FACW species x2= FAC species x3=
Juncus balt     Melilotus all		<u>65</u>		Х	FAC\		FACU species x4=
3. Melilotus al. 4. Rumex occ			— -		FACU OBL		UPL species
5.							Prevalence Index = B/A =
7			<del>-</del> -				Hydrophytic Vegetation Indicators
8.							X Dominance Test is > 50%
10.							Prevalence Index is ≤ 3.0 <sup>1</sup>
	Total Co	ver: 100					Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratu							Problematic Hydrophytic Vegetation (Explain)
2.				•		_	<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3	Total Co				<del></del>		Hydrophytic Vegetation
		***					Present? Yes X No
% Bare Ground in Remarks:	Herb Stratum	2	% Cov	ver of Biotic C	rust		
Overflow area from	n stockpond.						

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Depth	Matrix			Redox Fe	eatures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 4/1	70	10YR 5/8	30	С	М	С	•
	***************************************							
<del></del>								
		<del></del>						
					<del></del>			
							•	
	- 17-17							
	entration, D=Depletion				PL=Pore Lining,		hannel, M≈Matrix	
	icators: (Applicable	to all LKKS,	uniess otnerw		I Matrix (CA)	inai		ematic Hydric Soils <sup>3</sup> :
Histos				Sandy Gleyed			1 cm Muck (/	
	Epipedon (A2)			Sandy Redox				Redox (A16) (LRR F, G,
	Histic (A3)			Stripped Matri				(S7) (LRR G)
	gen Sulfide (A4)			Loamy Mucky				Depressions (F16)
	ed Layers (A5) (LRR			Loamy Gleyed				utside MLRA 72 & 73)
	luck (A9) (LRR F, G,			Depleted Matr			Reduced Ver	
·	ed Below Dark Surfac	ce (A11)		Redox Dark S				Material (TF2)
	Dark Surface (A12)			Depleted Dark		<del></del>	Other (Expla	in in Remarks)
	Mucky Mineral (S1)			Redox Depres	, ,		3	
	Mucky Peat or Peat		H)	High Plains Do	epressions (F16	5)		f hydrophytic vegetation
	Mucky Peat or Peat (Sizer (if present):	3) (LRR F)					and wetland	hydrology must be presen
	:				Hydric Soils Pre	esent? Y	es X No	
pth (inches) marks:	:				Hydric Soils Pre	esent? Y	es X No	
	:			-	Hydric Soils Pre	esent? Y	res X No	)
marks:	:				Hydric Soils Pre	esent? Y	es <u>X</u> No	)
marks:					Hydric Soils Pre		* .	
marks:  DROLOGY tland Hydro	ology Indicators:			1	Hydric Soils Pre		ndary Indicators	(2 or more required)
DROLOGY tland Hydro	ology Indicators:	is sufficient)			Hydric Soils Pre		ndary Indicators Surface Soil Cr	(2 or more required) acks (B6)
DROLOGY tland Hydro mary Indicate Surface	ology Indicators: ors (any one indicator Water (A1)	is sufficient)		rusts (B11)			ndary Indicators Surface Soil Cr Sparsely Vegel	(2 or more required) acks (B6) ated Concave Surfaces (B
DROLOGY tland Hydro mary Indicate Surface V	ology Indicators: ors (any one indicator Water (A1) ter Table (A2)	is sufficient)	Aquati	rusts (B11)	s (B13)		ndary Indicators Surface Soil Cr Sparsely Vegel Drainage Patte	(2 or more required) acks (B6) tated Concave Surfaces (B10)
DROLOGY tland Hydro mary Indicate Surface High Wa Saturatio	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) n (A3)	is sufficient)	Aquati	rusts (B11) ic Invertebrates gen Sulfide Od	s (B13) der (C1)		ndary Indicators Surface Soil Cr Sparsely Vegel Drainage Patte Oxidized Rhizo	acks (B6) acks (B6) ated Concave Surfaces (B10) spheres on Living Roots (
DROLOGY tland Hydro mary Indicate Surface \(^1\) High Wa Saturatio Water Ma	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) n (A3) arks (B1)	is sufficient)	Aquati Hydrog	rusts (B11) ic Invertebrate gen Sulfide Od eason Water T	s (B13) der (C1) dable (C2)		ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov	(2 or more required) acks (B6) ated Concave Surfaces (B10) spheres on Living Roots (ws (C8)
DROLOGY tland Hydro mary Indicate Surface \(^1\) High Wa Saturatio Water Marco Sedimen	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	is sufficient)	Aquati Hydro Dry-Se Presei	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce	s (B13) der (C1) able (C2) d Iron (C4)		ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit	(2 or more required) acks (B6) ated Concave Surfaces (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9)
DROLOGY tland Hydro mary Indicate Surface High Wa Saturatio Water Mi Sedimen Drift Dep	ology Indicators: ors (any one indicator Water (A1) n (A3) arks (B1) t Deposits (B2) osits (B3)	is sufficient)	Aquati Hydro Dry-Se Presei	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fuck Surface (f	s (B13) ler (C1) able (C2) d Iron (C4) C7)		ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi	(2 or more required) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9) ummocks (C11) (LRR F)
DROLOGY tland Hydro mary Indicate Surface High Wa Saturatio Water Mi Sedimen Drift Dep	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	is sufficient)	Aquati Hydro Dry-Se Presei	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce	s (B13) ler (C1) able (C2) d Iron (C4) C7)		ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit	(2 or more required) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9) ummocks (C11) (LRR F)
DROLOGY tland Hydro mary Indicate Surface High Wa Saturatio Water Me Sedimen Drift Dep Algal Ma Iron Dep	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) nr (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)		Aquati Hydro Dry-Se Presei	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fuck Surface (f	s (B13) ler (C1) able (C2) d Iron (C4) C7)		ndary Indicators Surface Soil Cr Sparsely Vegel Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	acks (B6) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) bestition (D2) est (D5)
DROLOGY tland Hydro mary Indicate Surface High Wa Saturatio Water Me Sedimen Drift Dep Algal Ma Iron Dep	ology Indicators: ors (any one indicator Water (A1) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		Aquati Hydro Dry-Se Presei	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fuck Surface (f	s (B13) ler (C1) able (C2) d Iron (C4) C7)		ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi	acks (B6) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) bestition (D2) est (D5)
DROLOGY tland Hydro mary Indicate Surface High Wa Saturatio Water Me Sedimen Drift Dep Algal Ma Iron Dep Inundatio	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) nr (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)		Aquati Hydro Dry-Se Presei	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fuck Surface (f	s (B13) ler (C1) able (C2) d Iron (C4) C7)		ndary Indicators Surface Soil Cr Sparsely Vegel Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	acks (B6) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) besition (D2) est (D5)
DROLOGY tland Hydro mary Indicate Surface High Wa Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water St	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9)		Aquati Hydro Dry-Se Presei	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fuck Surface (f	s (B13) ler (C1) able (C2) d Iron (C4) C7)		ndary Indicators Surface Soil Cr Sparsely Vegel Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	acks (B6) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) bestition (D2) est (D5)
Marks:  DROLOGY  Itland Hydro  Surface V  High Wa  Saturatio  Water M  Sedimen  Drift Dep  Algal Ma  Iron Dep  Inundatic  Water St	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Im ained Leaves (B9)	nagery (B7)	Aquati Hydro Dry-Se Presel Thin M Other	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fuck Surface (( (Explain in Re	s (B13) ler (C1) able (C2) d Iron (C4) C7)		ndary Indicators Surface Soil Cr Sparsely Vegel Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	acks (B6) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) bestition (D2) est (D5)
marks:  DROLOGY  Istland Hydro mary Indicate Surface \(^1\) High Wa Saturatio Water Marticle Sedimen Drift Dep Algal Marticle Iron Dep Inundatio Water Steld Observation	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aerial Imained Leaves (B9) citons: Present? Yes	nagery (B7)	Aquati Hydro Dry-Se Presel Thin M Other	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fluck Surface (f (Explain in Ref	s (B13) ler (C1) able (C2) d Iron (C4) C7)		ndary Indicators Surface Soil Cr Sparsely Vegel Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	acks (B6) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) bestition (D2) est (D5)
marks:  DROLOGY  Stland Hydro mary Indicate Surface \(^1\) High Wa Saturatio Water Mary Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water St  Steld Observation  Index of the control of	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) clions: Present? Yes esent? Yes	x No	Aquati Hydro Dry-Se Presel Thin M Other  Depth X Depth	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fuck Surface (i (Explain in Rei (inches):	s (B13) ler (C1) lable (C2) d Iron (C4) C7) mark)	Seco	ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	(2 or more required) cacks (B6) cated Concave Surfaces (B rns (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5) ey Data (D8)
marks:  DROLOGY  Atland Hydro mary Indicate Surface \(^1\) High Wa Saturatio Water Marcon Dep Algal Ma Iron Dep Inundatio Water St  Ald Observation  Area Water Internable Presented Alger Pre	ology Indicators: ors (any one indicator Water (A1) In (A3) arks (B1) It Deposits (B2) osits (B3) It or Crust (B4) osits (B5) In Visible on Aerial Imained Leaves (B9) ilons: Present? Yes esent? Yes ent? Yes	nagery (B7)	Aquati Hydro Dry-Se Presel Thin M Other  Depth X Depth	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fluck Surface (f (Explain in Ref	s (B13) ler (C1) lable (C2) d Iron (C4) C7) mark)	Seco	ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po FAC-Neutral Te Local Soil Surv	acks (B6) acks (B6) acted Concave Surfaces (B10) spheres on Living Roots (ws (C8) ble on Aerial Imagery (C9) ummocks (C11) (LRR F) bestition (D2) est (D5)
DROLOGY  Itland Hydro mary Indicate Surface \(^1\) Saturatio Water Marcon Dep Algal Malor Dep Algal Malor Dep Algal Malor Dep Algal Malor Dep Algal Malor Dep Algal Malor Dep Algal Malor Dep Algal Malor Dep Algal Malor Dep	ology Indicators: ors (any one indicator Water (A1) In (A3) arks (B1) It Deposits (B2) osits (B3) It or Crust (B4) osits (B5) In Visible on Aerial Imained Leaves (B9) ilons: Present? Yes esent? Yes ent? Yes	x No	Aquati Hydro Dry-Se Presel Thin M Other  Depth X Depth	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduce fuck Surface (i (Explain in Rei (inches):	s (B13) ler (C1) lable (C2) d Iron (C4) C7) mark)	Seco	ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	(2 or more required) cacks (B6) cated Concave Surfaces (B rns (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5) ey Data (D8)
marks:  DROLOGY  Itland Hydro mary Indicate Surface Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water St Id Observat  rface Water ter Table Pr turation Press Cludes capilla	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) nn (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) cions: Present? Yes esent? Yes ent? Yes ary fringe)	X No No No	Aquati Hydro Dry-Se Preset Thin M Other  Depth X Depth X Depth	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduces fuck Surface (i (Explain in Rei (inches): (inches):	s (B13) der (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco	ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	(2 or more required) cacks (B6) cated Concave Surfaces (B rns (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5) ey Data (D8)
marks:  DROLOGY  Itland Hydro mary Indicate Surface Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water St Id Observat  rface Water ter Table Pr turation Press Cludes capilla	ology Indicators: ors (any one indicator Water (A1) In (A3) arks (B1) It Deposits (B2) osits (B3) It or Crust (B4) osits (B5) In Visible on Aerial Imained Leaves (B9) ilons: Present? Yes esent? Yes ent? Yes	X No No No	Aquati Hydro Dry-Se Preset Thin M Other  Depth X Depth X Depth	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduces fuck Surface (i (Explain in Rei (inches): (inches):	s (B13) der (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco	ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	(2 or more required) cacks (B6) cated Concave Surfaces (B rns (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5) ey Data (D8)
DROLOGY tland Hydro mary Indicate Surface Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water St Id Observat rface Water tter Table Pr turation Pres	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) nn (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) cions: Present? Yes esent? Yes ent? Yes ary fringe)	X No No No	Aquati Hydro Dry-Se Preset Thin M Other  Depth X Depth X Depth	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduces fuck Surface (i (Explain in Rei (inches): (inches):	s (B13) der (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco	ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	(2 or more required) cacks (B6) cated Concave Surfaces (Brns (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5) ey Data (D8)
DROLOGY tland Hydro mary Indicate Surface Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water St Id Observat rface Water tter Table Pr turation Pres	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) nn (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) cions: Present? Yes esent? Yes ent? Yes ary fringe)	X No No No	Aquati Hydro Dry-Se Preset Thin M Other  Depth X Depth X Depth	rusts (B11) ic Invertebrates gen Sulfide Od eason Water T nce of Reduces fuck Surface (i (Explain in Rei (inches): (inches):	s (B13) der (C1) able (C2) d Iron (C4) C7) mark)  Wetl	Seco	ndary Indicators Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo Crayfish Burrov Saturation Visit Frost-Heave Hi Geomorphic Po	(2 or more required) cacks (B6) cated Concave Surfaces (B rns (B10) spheres on Living Roots (ws (C8) ole on Aerial Imagery (C9) ummocks (C11) (LRR F) osition (D2) est (D5) ey Data (D8)

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Great Plains - DRAFT Version 8-30-06



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County:	· Custor Cou	unty Sampling Date: 9/20/07
Applicant/Owner: Knight Piesold, Pow	ertech	_	South Dake	
**************************************		_		e: Section 34, T6S R1E
		<del></del>		concave, convex, none): Concave Slope (%): 0
				ong: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:				
Are climatic/hydrologic conditions on the	••	•		/es X No (If no, explain in Remarks.)
			-	ed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Natur	ally problemati	ic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Att	ach site map	showing s	ampling po	oint locations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No	Χ	Is the Sampled Area
Hydric Soil Present?	Yes	_ No	<u> </u>	Within a Wetland Yes No _X
Wetland Hydrology Present	Yes X	No		
Remarks: R6 P6 - P10 Panoramic east to west				
Approximately 30 feet across				
Previously NWI mapped as PUBGx			<del></del>	
VEGETATION				
Tree Stratum (Use scientific names)	Absolute % Cover	Dominan Species?		
1	_/a Cover	Species:	Statu	Number of Dominant Species
2.				That are OBL, FACW, or FAC:1 (A)
3. 4.		-	<del></del>	Total Number of Dominant
Total Cove	er:			Species Across All Strata: 2 (B)
Sapling/Shrub Stratum				Percent of Dominant Species
1.				That Are OBL, FACW, or FAC: 50 (A/B)
2. 3.				Prevalence Index Worksheet:
3. 4.				Frevalence index Worksheet.
5.				Total % Cover of: Multiply by:
Total Cove	er:			OBL species 25 x1= 25
Herb Stratum				FACW species x2=
Typha latifolia     Cirsium arvense	- <u>25</u> 75	X	OBI FAC	
3.		^		UPL species x5=
4.				Column Totals: 100 (A) 325 (B)
5. 6.				Prevalence Index = B/A = 3.25
7.	***************************************		············	Hydrophytic Vegetation Indicators
8.				
9.				Dominance Test is > 50%  Prevalence Index is < 3.0 <sup>1</sup>
Total Cov	er: 100			Morphological Adaptations¹ (Providing supporting
Woody Vine Stratum				data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)
1				
2.				¹Indicators of hydric soils and wetland hydrology must be present
3. Total Cov	er:			Hydrophytic Vegetation
			_	Present? Yes NoX
% Bare Ground in Herb Stratum Remarks:	<u></u> %	Cover of Biotic	Crust	
Cattails dominate on water edge. Cirsia	ım arvense domi	nate from wate	r edge to 3 fee	et out. Rabbitbrush on upland bank.

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SOIL							Sar	npling Point W37
Profile Descrip	otion: (Describe to the	ne depth nee	eded to docum	ent the indicate	or or confirm t	the absence	of indicators.)	
Depth	Matrix			Redox Fe	eatures			•
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Remarks
0-6	5Y 5/3	100					SCL	Fibrous root channel
					<del></del>			
-	<del></del>							
							***************************************	
								·
	centration, D=Depletio				PL=Pore Lining		nannel, M=Matrix	c. ematic Hydric Soils³:
•	ol (A1)	to un Errito,	, arness other	Sandy Gleyed	Matrix (S4)	man		A9) (LRR C)
	Epipedon (A2)	•		Sandy Redox				e Redox (A16) (LRR F, G, H)
	Histic (A3)			Stripped Matri		-		e (S7) ( <b>LRR G</b> )
	gen Sulfide (A4) ied Layers (A5) (LRR	E)	<del></del>	Loamy Mucky Loamy Gleyed		-	_	Depressions (F16) utside MLRA 72 & 73)
	Muck (A9) (LRR F, G,	•		Depleted Matr			Reduced Ve	*
	ted Below Dark Surface		<del></del>	Redox Dark S		-		Material (TF2)
	Dark Surface (A12)			Depleted Dark			Other (Expla	ain in Remarks)
	Mucky Mineral (S1)	(CO) (LEE O		Redox Depres	` '	6)	3,	fl. d b. fl
	n Mucky Peat or Peat Mucky Peat or Peat (S		н)	High Plains De	epressions (F1	6)		of hydrophytic vegetation hydrology must be present.
soils are moist	ric where cattails are- not saturated.		· · · · · · · · · · · · · · · · · · ·					MANUSINAS MANUSINAS MANUSINAS MANUSINAS MANUSINAS MANUSINAS MANUSINAS MANUSINAS MANUSINAS MANUSINAS MANUSINAS M
YDROLOGY	ology Indicators:					Seco	ndary Indicator	s (2 or more required)
	ors (any one indicator	is sufficient)					Surface Soil C	
	Water (A1)			Crusts (B11)				tated Concave Surfaces (B8)
	ter Table (A2)			tic Invertebrates			Drainage Patte	
Saturation	on (A3) arks (B1)			ogen Sulfide Od Season Water Ta	` '		Oxidized Rhize Crayfish Burro	ospheres on Living Roots (C3
	nt Deposits (B2)			ence of Reduce				ble on Aerial Imagery (C9)
Drift Dep	oosits (B3)		Thin I	Muck Surface (0	C7)			ummocks (C11) (LRR F)
	t or Crust (B4)		Other	r (Explain in Rei	mark)		Geomorphic P	
	osits (B5)	ogon, (P7)					FAC-Neutral T	
	on Visible on Aerial Im tained Leaves (B9)	agery (b/)					Local Soil Sur	vey Data (D8)
ield Observat								
Surface Water	Present? Yes	X No	Denti	n (inches):				
Vater Table Pr		No		n (inches):				
Saturation Pres		No No		n (inches):	Wet	land Hydrolo	gy Present?	Yes X No
ncludes capilla	ary fringe)							
Describe Recor	rded Data (stream gau	ge, monitorir	ng well, aerial pl	hotos, previous	inspection), if a	available:		
Remarks:								<del></del>
Soil is moist, bi Duck swimming	ut not saturated.				•			
Swittining	5 pono							



#### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County: Custe	r County	Sampling Date: 9/20/07
Applicant/Owner: Knight Piesold, Powe	rtech		Dakota	Sampling Point: W38
			ange: Section 2, T7S, R1E	
Landform (hillslope, terrace, etc.) Dep				Concave Slope (%): 0
Subregion (LRP): Black Hills MLRA62				
				Datum. NAD 1963, OTM Zone 13
Soil Map Unit Name:				(If no, explain in Remarks.)
Are climatic/hydrologic conditions on the s		•	<del></del>	
Are Vegetation, Soil,				
Are Vegetation , Soil ,	or Hydrology	Naturally probl	ematic? (If needed, explain ar	ny answers in Remarks.)
SUMMARY OF FINDINGS - Atta	ch site map	showing samplin	g point locations, trans	sects, important features, etc.
Hydrophytic Vegetation Present?	Yes X	No		
Hydric Soil Present?	Yes X		Is the Sampled Area Within a Wetland	Yes X No
	Yes X	No		
Remarks:				
R6 P13: East R6 P14: North				
300-500 feet across and 80 or 81 feet long	g			
VEGETATION				
Tree Stratum (Use scientific names)	Absolute		ndicator Dominance Te	st Worksheet:
1. Populous deltoides	<u>% Cover</u> 100	Species?X	Status Number of Dom	ninant Species
2.			That are OBL, F	
3.			 Total Number o	f Dominant
Total Cover	100		Species Across	
Sapling/Shrub Stratum			Percent of Dom	ninant Species
1.				FACW, or FAC: 100 (A/B)
2. 3.			Broyslance Inc	lex Worksheet:
4.			Prevalence inc	Jex Worksneet.
5. Total Cover			Total % Cover	of: Multiply by:
Total Cover	•		OBL species	x1=
Herb Stratum	EO	V	FACW species FAC species	x2= x3=
Juncus balticus     Distichlis stricta	<u>50</u> 50	<u>X</u>	FACW FAC species FACU species	x4=
3.			UPL species	x5=
4. 5.		<del></del>	Column Totals:	(-)
6.				
7. 8.			Hydrophytic V	egetation Indicators
9.				nce Test is > 50%
10Total Cover	r: 100			nce Index is ≤ 3.0 <sup>1</sup> logical Adaptations <sup>1</sup> (Providing supporting
Total oover	100		data in Rema	arks or on a separate sheet)
Woody Vine Stratum  1.			Problem	natic Hydrophytic Vegetation (Explain)
2.			<del></del>	dric soils and wetland hydrology must be present
3. Total Cover	r. ————————————————————————————————————		Hydrophytic Vegetation	
Total Cover			Present?	Yes X No
% Bare Ground in Herb Stratum Remarks:	% C	over of Biotic Crust		
Noniains.				10 10 10 10 10 10 10 10 10 10 10 10 10 1

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SOIL								npling Point W38
Profile Descrip	tion: (Describe to th	ne depth nee	ded to docume	nt the indicate	or or confirm t	he absence c	of indicators.)	
Danth	NA-A-t-			Daday Fa				
Depth	Matrix	0/	Colon (maint)	Redox Fe		1.002	Taxtura	Domonico
(inches)	Color (moist)	<del>%</del>	Color (moist)		Type <sup>1</sup>	Loc² M	Texture	Remarks
0-2	7.5YR 3/2	60	7.5YR 5/8	40	C	IVI	C	Lots of cow prints in area
	•				***************************************			
					<del></del>			
	centration, D=Depletio				PL=Pore Lining	, RC=Root Ch	annel, M=Matrix	(.
	licators: (Applicable	to all LRRs,			14-41 (04)	Indic		ematic Hydric Solls <sup>3</sup> :
	ol (A1)			Sandy Gleyed				A9) (LRR C)
	Epipedon (A2)			Sandy Redox				Redox (A16) (LRR F, G, H)
	Histic (A3)			Stripped Matri				e (S7) (LRR G)
	gen Sulfide (A4)			Loamy Mucky				Depressions (F16)
	ed Layers (A5) (LRR			Loamy Gleyed				utside MLRA 72 & 73)
	Muck (A9) (LRR F, G,	•		Depleted Matr			Reduced Ve	
	ted Below Dark Surfac	:e (А11)		Redox Dark S				Material (TF2)
	Dark Surface (A12)			Depleted Dark			Other (Expla	in in Remarks)
	Mucky Mineral (S1)			Redox Depres			3	
	Mucky Peat or Peat		H)	High Plains De	epressions (F16	5)		f hydrophytic vegetation
	Mucky Peat or Peat (S	3) (LRR F)					and wetland	hydrology must be present.
Restrictive Lay	yer (if present):			,				
Туре:								
Depth (inches)	):		<del></del>		lydric Soils Pr	esent? Ye	es X No	o
, , ,			<del></del>	·				
Remarks:								
Soils likely hydr	ric where cattails are-	across unava	ilable due to ste	ep drop in to pi	it			
Soils are moist	not saturated.							
······			·····					
HYDROLOGY								
	ology Indicators:							s (2 or more required)
	ors (any one indicator	is sufficient)				X	Surface Soil C	
	Water (A1)			rusts (B11)		X_		tated Concave Surfaces (B8)
High Wa	ter Table (A2)			c Invertebrates	` '		Drainage Patte	
Saturatio	on (A3)			gen Sulfide Od				ospheres on Living Roots (C3)
Water M	arks (B1)		Dry-Se	eason Water Ta	able (C2)		Crayfish Burro	ws (C8)
	nt Deposits (B2)		Presei	nce of Reduce	d Iron (C4)		Saturation Visi	ble on Aerial Imagery (C9)
Drift Dep	osits (B3)		Thin M	luck Surface (6	C7)		Frost-Heave H	ummocks (C11) (LRR F)
Algal Ma	t or Crust (B4)		Other	(Explain in Rei	mark)	X	Geomorphic P	
Iron Dep	osits (B5)		·····				FAC-Neutral T	est (D5)
Inundation	on Visible on Aerial Im	agery (B7)					Local Soil Surv	vey Data (D8)
Water St	tained Leaves (B9)							
Field Observa	tions:							
								•
Surface Water	Present? Yes	No	X Depth	(inches):				•
Water Table Pr	resent? Yes	No		(inches):				
Saturation Pres	sent? Yes	No	X Depth	(inches):	Wet	land Hydrolo	gy Present?	Yes X No
(includes capilla	ary fringe)		<del></del>	` ′ —		_		
Describe Reco	rded Data (stream gau	uge, monitorin	ng well, aerial ph	otos, previous	inspection), if a	vailable:		
					· · · · · · · · · · · · · · · · · · ·			
Remarks:								



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site:	Dewey Burdock		_ City/County:	Custer Cou	nty Sampling Date: 9/20/07
Applicant/Owner:	Knight Piesold, Powe	ertech	_ State:	South Dake	ta Sampling Point: W39
Investigator(s):	C. Robinson and J. E	berly	_ Section, Tow	nship, Range:	**************************************
Landform (hillslope	e, terrace, etc.) <u>De</u>	pression w/ mar	made berm	Local relief (c	oncave, convex, none): Concave Slope (%): 0
Subregion (LRP):	Black Hills MLRA62	2	_ Lat:	Lo	ng: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Nam	ne:		NWI	Classification:	PUS
Are climatic/hydrol	ogic conditions on the	site typical for th	is time of year?	Y	s X No (If no, explain in Remarks.)
Are Vegetation	, Soil	, or Hydrology	Signific	cantly disturbe	d? Are "Normal Circumstances" present?  Yes X  No
Are Vegetation _	<sup>,</sup> , Soil	, or Hydrology	Natura	ılly problemati	? (If needed, explain any answers in Remarks.)
SUMMARY O	F FINDINGS - Atta	ch site map	showing sa	ampling po	int locations, transects, important features, etc.
Hydrophytic Veget	ation Present?	Yes X	No		In the Complete Avec
Hydric Soil Presen	it?	Yes X			Is the Sampled Area Within a Wetland Yes X No
Wetland Hydrology Remarks:	y Present	Yes X	No		· · · · · · · · · · · · · · · · · · ·
					logy
VEGETATION Tree Stratum (Use	coiontific names)	Absolute	Dominant	Indica	or   Dominance Test Worksheet:
Tree Stratum (Ose	solentine names)	% Cover	Species?		1
J	· · · · · · · · · · · · · · · · · · ·				Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
3.		``			
4	Total Cove	r:			Total Number of Dominant Species Across All Strata: 1 (B)
Carlina/Charle Char					
Sapling/Shrub Stra	<u> </u>				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2. 3.			·		Prevalence Index Worksheet:
4 5.		•	***************************************		Total % Cover of: Multiply by:
J	· Total Cove	r:			Total % cover of.
Herb Stratum					OBL species x1= FACW species x2=
1. Hordeum ju	batum	95	Х	FAC	
2. Melilotus of		5		FACI	
3. <u>Descurainia</u>	a pinnata	5	***************************************	NI	UPL species x5= (A) (B)
5.					Prevalence Index = B/A =
6.					Hada akada Waradaka Indiada a
7. 8.	,	•			Hydrophytic Vegetation Indicators
9.					X Dominance Test is > 50%
10.	Total Cove	100			Prevalence Index is ≤ 3.0¹  Morphological Adaptations¹ (Providing supporting
	, Total Cove	er: <u>100</u>			data in Remarks or on a separate sheet)
Woody Vine Strate	<u>'</u>			*	Problematic Hydrophytic Vegetation (Explain)
1. 2.					¹Indicators of hydric soils and wetland hydrology must be present
3.					Hydrophytic
	Total Cove	er:	,		Vegetation Present? Yes X No
% Bare Ground in	Herb Stratum	% (	Cover of Biotic	Crust	Present? Yes X No
Remarks:					

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Great Plains - DRAFT 8-30-2006



				5				
Depth	Matrix	٠,		Redox Fe				5 1
(inches)	Color (moist)		Color (moist)		Type'	Loc	Texture	Remarks
0-6	5YR 4/1	55	2.5YR 4/6	45	<u>C</u>	M, RC		
	<u> </u>			<u> </u>				
				_				
				2				
	centration, D=Depletion				PL=Pore Lining,		nannel, M=Matrix.	
	licators: (Applicable	to all LRRs	, unless otherw		(44.65.704)	Indic		natic Hydric Soils <sup>3</sup> :
	ol (A1)			Sandy Gleyed			1 cm Muck (A9	
	Epipedon (A2)			Sandy Redox	, ,	-		Redox (A16) (LRR F, G,
	Histic (A3)			Stripped Matri		•	Dark Surface (	
′	gen Sulfide (A4)			Loamy Mucky				pressions (F16)
	ied Layers (A5) (LRR	•	<del></del>	Loamy Gleyed	, ,		•	side MLRA 72 & 73)
	Muck (A9) (LRR F, G,	•	X	Depleted Mati		*****	Reduced Vertice	•
	ted Below Dark Surfac	æ (A11)		Redox Dark S			Red Parent Ma	` ,
	Dark Surface (A12)		<del></del>	Depleted Dark		-	Other (Explain	in Remarks)
	Mucky Mineral (S1)	<b></b> -	<u>X</u>	Redox Depres		~.	3	
	Mucky Peat or Peat		H)	High Plains D	epressions (F16	5)		ydrophytic vegetation
	Mucky Peat or Peat (S yer (if present):	3) (LRR F)					and wetland hy	drology must be presen
epth (inches	:	•			Hydric Soils Pr	esent? Yo	es X No	
pth (inches	):				Hydric Soils Pr	esent? Y	es X No	
pth (inches	):				Hydric Soils Pr	esent? Yo	es X No	
pth (inches marks: DROLOGY					Hydric Soils Pr			2 or more required)
pth (inches marks: DROLOGY	ology Indicators:	is sufficient)			Hydric Soils Pr		ndary Indicators (	2 or more required)
pth (inches marks: DROLOGY etland Hydro mary Indicat	plogy Indicators: ors (any one indicator	is sufficient)			Hydric Soils Pr	Secon	ndary Indicators (2	ks (B6)
pth (inches marks: DROLOGY tland Hydro mary Indicat Surface	ology Indicators: ors (any one indicator Water (A1)	is sufficient)	Salt C	Crusts (B11)			ndary Indicators (2 Surface Soil Crac Sparsely Vegetat	cks (B6) ed Concave Surfaces (E
DROLOGY tland Hydro mary Indicat Surface High Wa	ology Indicators: ors (any one indicator Water (A1) ter Table (A2)	is sufficient)	Salt C Aquat	Crusts (B11)	s (B13)	Secon	ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern	cks (B6) ed Concave Surfaces (E s (B10)
pth (inches marks:  DROLOGY tland Hydro mary Indicat Surface High Wa Saturatio	plogy Indicators: ors (any one indicator Water (A1) ter Table (A2) on (A3)	is sufficient)	Salt C Aquat Hydro	Crusts (B11) dic Invertebrate ogen Sulfide Oc	s (B13) der (C1)	Secon	ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp	cks (B6) led Concave Surfaces (B s (B10) pheres on Living Roots (
pth (inches marks:  DROLOGY etland Hydro mary Indicat Surface High Wa Saturatic Water M	ology Indicators: ors (any one indicator Water (A1) ter Table (A2) on (A3) arks (B1)	is sufficient)	Salt C Aquat Hydro Dry-S	Crusts (B11) tic Invertebrate gen Sulfide Oc eason Water T	s (B13) der (C1) dable (C2)	Secon	ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows	cks (B6) sed Concave Surfaces (B s (B10) cheres on Living Roots ( s (C8)
DROLOGY  Stland Hydro mary Indicat Surface High Wa Saturatic Water M Sedimer	plogy Indicators: ors (any one indicator Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2)	is sufficient)	Salt C Aquat Hydro Dry-S Prese	Crusts (B11) tic Invertebrate gen Sulfide Oc eason Water T ence of Reduce	s (B13) der (C1) dable (C2) d Iron (C4)	Secon	Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible	cks (B6) sed Concave Surfaces (B s (B10) cheres on Living Roots ( c (C8) c on Aerial Imagery (C9)
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### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

D 1 1/01	TO DETERMINE			ar r lamo riogn	0.1. (2.10.11.1)	\ <del>-</del>
Project/Site: Dewey Burdock						)/
Applicant/Owner: Knight Piesold, Power					_ Sampling Point: <u>W40</u>	
Investigator(s): C. Robinson and J. E		•		ection 1, T7S, R1E		·
Landform (hillslope, terrace, etc.) Po	nd	Loc	al relief (concave	e, convex, none):	Concave Slope (%):	_1
Subregion (LRP): Black Hills MLRA62	2	Lat:	Long:		Datum: <u>NAD 1983, UTI</u>	M Zone 13
Soil Map Unit Name:		NWI Clas	ssification:	PEM		
Are climatic/hydrologic conditions on the	site typical for thi	s time of year?	Yes	_X No	(If no, explain in Rer	marks.)
Are Vegetation, Soil	, or Hydrology	Significant	ly disturbed? Ar	re "Normal Circums	stances" present? Yes	_X_ No
Are Vegetation , Soil	, or Hydrology	Naturally p	problematic? (If	needed, explain an	y answers in Remarks.)	
SUMMARY OF FINDINGS - Atta	ich site man	showing sam	nling point k	ocations trans	sects important featu	ros otc
Hydrophytic Vegetation Present?	Yes X		pring point it	ocations, trans	sects, important reatu	163, 610.
. ,				e Sampled Area	V. V. N.	
Hydric Soil Present?	Yes X		VVIII	nin a Wetland	Yes <u>X</u> No	
Wetland Hydrology Present  Remarks:	Yes X	No			<del></del>	
R6 P18: Pond						
					<u>-</u>	
VEGETATION						
Tree Stratum (Use scientific names)	Absolute	Dominant	Indicator	Dominance Te	st Worksheet:	· · · · · · · · · · · · · · · · · · ·
1.	% Cover	Species?	Status	Number of Dom	inent Species	
2				That are OBL, F		(A)
3.						
4. Total Cove	r:			Total Number of Species Across		(B)
				1		_ (-/
Sapling/Shrub Stratum  1.				Percent of Dom That Are OBL, f		(A/B)
2.				111017110 052,1		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
3.		***		Prevalence Ind	lex Worksheet:	
4. 5.	<del></del>			Total % Cover of	of: Multiply t	ру: <u>.</u>
Total Cove	r:		<del></del>	70.07.70 00.07.0	Thursday i	<u> </u>
Herb Stratum				OBL species FACW species	x1= x2=	
Spartina pectinata	100	×	FACW	FACW species	x3=	····
2.				FACU species	x4=	
3. 4.				UPL species Column Totals:	x5=	(B)
5.				Prevalence Inde		(B)
6.				Under a budie V		
7. 8.				nyaropnytic V	egetation Indicators	
9.					nce Test is > 50%	
10. Total Cove	er: 100		<del></del>	Prevalei Morphol	nce Index is <u>&lt;</u> 3.0¹ logical Adaptations¹ (Providir	na supportina
				data in Rema	irks or on a separate sheet)	
Woody Vine Stratum  1.				Problem	natic Hydrophytic Vegetation	(Explain)
2.				<sup>1</sup> Indicators of hyd	dric soils and wetland hydrology	must be present
3.				Hydrophytic		
Total Cove	er	*		Vegetation Present?	Yes X No	
% Bare Ground in Herb Stratum	% C	over of Biotic Crus	st			
Remarks:						

US Army Corps of Engineers

Great Plains - DRAFT 8-30-2006



Depth Matrix Redox Features Color (most) % Color (most) % Type Loc Texture Remarks    Depth Matrix Redox Features	SOIL				***************************************				ing Point W40
(inches) Color (moist) % Color (moist) % Type* Loc* Texture Remarks  G-11 2 5Y 5/2 65 Gelyt 5/N 15 D RC SIC  10YR 5/8 20 C M M SIC  10YR 5/8 20 C M M SIC  10YR 5/8 20 C M M SIC  10YR 5/8 20 C M M SIC  10 Mickators for Problematic Hydric Solis*  10 Explored Martix (S4)  11 Explored Martix (S4)  12 Explored Martix (S5)  13 Explored Martix (S6)  14 Explored Martix (S6)  15 Explored Martix (S6)  16 Explored Martix (S6)  16 Explored Martix (S6)  17 Explored Martix (S6)  18 Explored Martix (S6)  19 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S7)  10 Explored Martix (S6)  10 Explored Martix (S7)  10	Profile Descrip	tion: (Describe to the	ne depth nee	eded to documen	t the indicate	or or confirm th	he absence	of indicators.)	
(inches) Color (moist) % Color (moist) % Type* Loc* Texture Remarks  G-11 2 5Y 5/2 65 Gelyt 5/N 15 D RC SIC  10YR 5/8 20 C M M SIC  10YR 5/8 20 C M M SIC  10YR 5/8 20 C M M SIC  10YR 5/8 20 C M M SIC  10 Mickators for Problematic Hydric Solis*  10 Explored Martix (S4)  11 Explored Martix (S4)  12 Explored Martix (S5)  13 Explored Martix (S6)  14 Explored Martix (S6)  15 Explored Martix (S6)  16 Explored Martix (S6)  16 Explored Martix (S6)  17 Explored Martix (S6)  18 Explored Martix (S6)  19 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S6)  10 Explored Martix (S7)  10 Explored Martix (S6)  10 Explored Martix (S7)  10	Depth	Matrix			Redox Fe	atures			
ype: C=Concentration, D=Deptetion, RM=Reduced Matrix.  **Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosci (A1)  Histosci (A1)  Histosci (A2)  Histosci (A3)  Histosci (A4)  H	•		%	Color (moist)			Loc²	Texture	Remarks
ype: _C=Concentration, D=Depletion, RM=Reduced Matrix.	0-11	2.5Y 5/2	65	Gley1 5/N	15	D	RC	SiC	
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Solis*   Histos (A)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Coast Prairie Redox (A17) (LRR C)   Coast Prairie Redox (A16) (LRR C)   Coast Prairie Redox (A17) (LRR C)   Coast (A17) (LRR C)   Coast (A17) (LRR C)   Coast (A17) (LRR C)   Coast (A17) (LRR C)   Coast (A17) (LR				10YR 5/8	20		M		
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Epipedon (A2) Sandy Redox (S5) Side Mistos (S6) Side Mistos (S	***************************************			·					
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Epipedon (A2) Sandy Redox (S5) Side Mistos (S6) Side Mistos (S					· ·				
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Solis*   Histos Epipedon (A2)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)									
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Solis*   Histos (A)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Coast Prairie Redox (A17) (LRR C)   Coast Prairie Redox (A16) (LRR C)   Coast Prairie Redox (A17) (LRR C)   Coast (A17) (LRR C)   Coast (A17) (LRR C)   Coast (A17) (LRR C)   Coast (A17) (LRR C)   Coast (A17) (LR		Yearn							
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Solis*   Histos Epipedon (A2)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)					· ·				
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Solis*   Histos Epipedon (A2)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Coast Redo			_						
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Solis*   Histos (A1)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)   Coast (A16) (LRR C)   Coast (A16) (LR C)   Coast (A16		<del></del>							
Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Solis*   Histos Epipedon (A2)   Sandy Redox (S5)   Coast Prairie Redox (A16) (LRR C)				1.6.4.1.	2,	N D 1:::-			
Histosol (A1)  Histosol (A2)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Coast Prairie Redox (A16) (LRR C)  Black Histic (A2)  Stripped Matrix (S6)  Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)  High Plains Depressions (F16)  Stratified Layers (A5) (LRR F)  Loamy Mucky Mineral (F1)  To Muck (A9) (LRR F, G, H)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F2)  Thick Dark Surface (A12)  Depleted Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Z5 cm Mucky Peat or Peat (S3) (LRR F)  Z5 cm Mucky Peat or Peat (S3) (LRR F)  Beth (inches):  Hydric Soils Present?  Present (A11)  From Muck Peat or Peat (S3) (LRR F)  Beth (Inches):  Beth (Inches):  Beth (Inches):  Beth (Inches):  Beth (A12)  Sandy Mucky Peat or Peat (S3) (LRR F)  Beth (Inches):						L=Pore Lining,			otio Uvdrio Coilo <sup>3</sup>
Histic Epipedon (A2) Black Histic (A3) Slardy Redox (S5) Coast Prairie Redox (A16) (LRR F) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR F) Loamy (Beyed Matrix (F2) I cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Dark Surface (A12) Depleted Dark Surface (A12) Depleted Dark Surface (F6) Red Parent Material (TF2) Sandy Mucky Mineral (S1) Z. 5 cm Mucky Peat or Peat (S2) (LFF G, H) S cm Mucky Peat or Peat (S3) (LRR F) Serificitive Layer (If present):  Ppe: Pph (Inches):  Ppe: Pph (Inches):  Surface Water (A1) High Valer Table (A2) Salt Crusts (B11) Surface Water (A1) Surface Soil Cracks (B6) Su			to an LRRS			Matrix (S4)	muie		
Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mukoy Mineral (F1) High Plains Depressions (F16) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F3) Reduced Vertic (F18)									
Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) Loamy (Deyed Matrix (F2) 1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) Depleted Matrix (F3) Some Mucky Peat or Peat (S2) (LFF G, H) Depleted Matrix (F3) Some Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S2) (LFF G, H) Depleted Matrix (F3) Some Mucky Peat or Peat (S3) (LRR F) Some Mucky Peat or Peat (S3) (LRR F) Depleted Matrix (F3) Some Mucky Peat or Peat (S3) (LRR F) Depleted Matrix (F3) Some Mucky Peat or Peat (S3) (LRR F) Depleted Matrix (F3) Depleted Matrix (F3) Some Mucky Peat or Peat (S2) (LFF G, H) Depleted Matrix (F3) Deple		, , , , ,							
Com Muck (A9) (LRR F, G, H)									, .
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) Som Mucky Peat or Peat (S3) (LRR F) Strictive Layer (if present):  Pe: pth (inches):    Hydric Soils Present?   Yes			F)					(LRR H outs	ide MLRA 72 & 73)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Meat or Peat (S2) (LFF G, H) High Plains Depressions (F8) Storm Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F16) To remarks:    Hydric Soils Present?   Yes						, ,		•	•
Sandy Mucky Mineral (S1)			ce (A11)						
2.5 cm Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F16) and welfland hydrophytic vegetating and welfland hydrology must be prestrictive Layer (if present):    Hydric Soils Present?   Yes X No		. ,						Other (Explain	in Remarks)
Strictive Layer (if present):  pe: pth (inches):								3	
pe: pth (inches):    Hydric Soils Present?   Yes   X   No				.H)	High Plains De	epressions (F16	5)		
pe:									
Secondary Indicators (2 or more required finary Indicators (2 or more required finary Indicators (any one indicator is sufficient)   Surface Water (A1)   Surface Water (A1)   Sparsely Vegetated Concave Surface (B10)   Drainage Patterns (B10)   Drainage Patterns (B10)   Oxidized Rhizospheres on Living Rose (B10)   Oxidized Rhizospher	oil is moist but	not saturated.							
Petland Hydrology Indicators: (any one indicator is sufficient) (Indicators (any one indicator is sufficient) (Indicators (any one indicator is sufficient) (Indicators (any one indicator is sufficient) (Indicators (any one indicator is sufficient) (Indicators (any one indicator is sufficient) (Indicators (any one indicator is sufficient) (Indicators (any one indicator is sufficient) (Indicators (any one indicator is sufficient) (Indicators (any one indicators	VDDOLOGY			·			······		
Surface Soil Cracks (B6)   Surface Water (A1)   Salt Crusts (B11)   Sparsely Vegetated Concave Surface Water (A1)   Salt Crusts (B11)   Sparsely Vegetated Concave Surface (B13)   Drainage Patterns (B10)   Saturation (A3)   Hydrogen Sulfide Oder (C1)   Oxidized Rhizospheres on Living Roil (C2)   Crayfish Burrows (C8)   Sediment Deposits (B2)   Presence of Reduced Iron (C4)   Saturation Visible on Aerial Imagery (B7)   Drift Deposits (B3)   Thin Muck Surface (C7)   Frost-Heave Hummocks (C11) (LRR (Geomorphic Position (D2) (Geomorphic Position (D2) (Geomorphic Position (D2) (Geomorphic Position (D2) (Geomorphic Position (D8) (Geomorphic Position (G8) (G8) (G8) (G8) (G8) (G8) (G8) (G8)		logy Indicators:					Seco	ndary Indicators (2	or more required)
Surface Water (A1) Salt Crusts (B11) Sparsely Vegetated Concave Surface High Water Table (A2) Aquatic Invertebrates (B13) Drainage Patterns (B10) Oxidized Rhizospheres on Living Rot Water Marks (B1) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery Drift Deposits (B3) Thin Muck Surface (C7) Frost-Heave Hummocks (C11) (LRR Algal Mat or Crust (B4) Other (Explain in Remark) Geomorphic Position (D2) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Peld Observations:  Inface Water Present? Yes X No Depth (inches): 3 Oepth (inches): Wetland Hydrology Present? Yes X No Cludes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			is sufficient)						
High Water Table (A2) Saturation (A3) Hydrogen Sulfide Oder (C1) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Pid Observations:  Irrace Water Present?  Yes No X Depth (inches): University of Agual Agu					usts (B11)	······································			
Water Marks (B1) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Peld Observations:  rface Water Present? Yes X No Depth (inches): turation Present? Yes No X Depth (inches): Uturation Present? Yes No X Depth (inches): Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:  Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Frost-Heave Hummocks (C11) (LRR Geomorphic Position (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes X No Solution (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes X No Solution (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes X No Solution (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes X No Solution (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes X No Solution (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes X No Solution (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes X No Solution (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Wetland Hydrology Present? Yes X No Solution (D8)  Wetland Hydrology Present? Yes X No Solution (D8)						s (B13)			
Sediment Deposits (B2)	Saturatio	n (A3)		Hydrog	en Sulfide Od	er (C1)		Oxidized Rhizosp	heres on Living Roots (
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Pid Observations:  rface Water Present? Table Present? Tyes No Depth (inches): Ituration Present? Yes No Depth (inches): Unique County (inches): Depth (in									
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Pld Observations:  Irrace Water Present? Yes X No Depth (inches): 3  Alter Table Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X Depth (inches): 4  Ituration Present? Yes No X No X Depth (inches): 4  Ituration Present? Yes No X No X Depth (inches): 4  Ituration Present? Yes No X No X Depth (inches): 4  Ituration Present? Yes No X No X Depth (inches): 4  Ituration Present? Yes No X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Ituration Present? Yes X No X No X Depth (inches): 4  Itura									
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Pld Observations:  Irrace Water Present? Yes X No Depth (inches): 3 Inter Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Inches Cludes capillary fringe)  Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:									
Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Eld Observations:  Inface Water Present? Yes X No Depth (inches): 3  Atter Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Cludes capillary fringe)  Escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:		, , ,		Other (	Explain in Rei	mark)			
Water Stained Leaves (B9)  Pld Observations:  Inface Water Present? Yes X No Depth (inches): 3  Ater Table Present? Yes No X Depth (inches): 4  Inturation Present? Yes No X Depth (inches): 4  Cludes capillary fringe)  Pescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			(D7)						
rface Water Present? Yes X No Depth (inches): 3  atter Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Cludes capillary fringe)  Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			lagery (b7)					_ Local Soil Survey	Data (Do)
Atter Table Present? Yes No X Depth (inches):								1.110	
ater Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No cludes capillary fringe)  Escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:									
Sturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No cludes capillary fringe)  Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			<del></del>			3			•,
cludes capillary fringe) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:		_				—			
escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:		<del></del>	No	X Depth (	inches):	Weti	and Hydrold	ogy Present? Ye	es <u>X</u> No
	ciudes capilla	ary mnge)							
	escribe Recor	ded Data (stream gai	uge, monitori	ng well, aerial pho	tos, previous	inspection), if a	vailable:		
emarks:		and Data (officially gai	ago, momon	ing iron, donar prio	itoo, providuo				
emarks:									
emarks:							•		
emarks:			······						
	∍marks:								



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site:	Dewey Burdock		City/County:	Custer Coun	ty Sampling Date: 9/20/07
Applicant/Owner:	Knight Piesold, Powe	ertech	State:	South Dakot	a Sampling Point: W41
Investigator(s):	C. Robinson and J. E	berly	Section, Tov	vnship, Range:	Section 1, T7S, R1E
Landform (hillslope	e, terrace, etc.) Mi	ne pit		Local relief (cor	ncave, convex, none): Concave Slope (%): 1
Subregion (LRP):	Black Hills MLRA62	2	Lat:	Lor	g: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Nam	ne:		NWI	Classification:	PUB ·
Are climatic/hydrol	logic conditions on the	site typical for t	his time of year	? Yes	X No (If no, explain in Remarks.)
Are Vegetation	, Soil	, or Hydrology	Signif	icantly disturbed	? Are "Normal Circumstances" present? Yes X No
Are Vegetation _	, Soil	, or Hydrology	Natur	ally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY O	F FINDINGS - Atta	ich site mai	showing s	ampling poi	nt locations, transects, important features, etc.
Hydrophytic Veget			No		•
Hydric Soil Presen	it?	Yes X	No		Is the Sampled Area Within a Wetland Yes X No
Wetland Hydrolog	y Present	Yes	No	х	100
Remarks: R6 P19: Wetland					
R6 P20: General a		This area may	he a problemati	c wetland as sor	ne of the vegetation was dead.
	tu 20 Gircumerence.	Tills area may	be a probleman	o welland as so	no of the vegetation was dead.
VEGETATION Tree Stratum (Use	scientific names)	Absolute	Dominan	l Indicato	Dominance Test Worksheet:
Tree Stratem (OSE	socialic names)	% Cover	Species?		
1.	<del></del>				Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
В.					(A)
4	Total Cove				Total Number of Dominant Species Across All Strata: 2 (B)
Sapling/Shrub Stra 1.	<u>atum</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2.					
3. 4.	,			<del></del>	Prevalence Index Worksheet:
5.					Total % Cover of: Multiply by:
	Total Cove	r:			OBL species x1=
Herb Stratum					FACW species x2=
1. <u>Typha latifo</u> 2. Grindelia so		<u>20</u> 15	X	OBL UPL	FAC species x3= x4=
	chum ericoides	15	***************************************	FACU	
4. Distichlis st	ricta	50	X	FACW	
5. 6.					Prevalence Index = B/A =
7.					Hydrophytic Vegetation Indicators
8. 9.					X Dominance Test is > 50%
10.					Prevalence Index is ≤ 3.0¹
i	Total Cove	er: 100	-		Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Strate	<u>um</u>				Problematic Hydrophytic Vegetation (Explain)
1. 2.					Indicators of hydric soils and wetland hydrology must be present
3.					Hydrophytic
	Total Cove	er:	•		Vegetation Present? Yes X No
% Bare Ground in Remarks:	Herb Stratum	%	Cover of Biotic	Crust	
<b>\</b>	sa, Symphyotrichum ei	icoides, and ra	bbit brush are e	ncroaching into	the depression.

US Army Corps of Engineers

Great Plains - DRAFT 8-30-2006



ofile Descript	ion: (Describe to th	e depth nee	ded to docume	nt the indicat	or or confirm th	ne absence		g Point W41
_		- acpairings						
Depth	Matrix			Redox F		<del></del>		
(inches)	Color (moist)	%	Color (moist)	%	Туре'	Loc <sup>2</sup>	Texture	Remarks
0-10	Gley1 5/10Y	95	10YR 6/8	5	С	М	С	
<del></del>								
*****	· · · · · · · · · · · · · · · · · · ·			···	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
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					. <del></del> .		<del></del>	
				-				
							·	
ype: C=Conce	entration, D=Depletion	n, RM=Redu	ced Matrix.	<sup>2</sup> Location:	PL=Pore Lining,	RC=Root C	hannel, M=Matrix.	
	cators: (Applicable			se noted.)		Indi	icators for Problema	tic Hydric Soils <sup>3</sup> :
Histoso	, , ,			Sandy Gleyed	Matrix (S4)		1 cm Muck (A9)	
	pipedon (A2)			Sandy Redox			Coast Prairie Re	dox (A16) (LRR F, G, H
	listic (A3)			Stripped Matr	, ,		Dark Surface (S7	
	en Sulfide (A4)			Loamy Mucky			High Plains Depr	, , ,
	ed Layers (A5) (LRR I	F)		Loamy Gleye				de MLRA 72 & 73)
	luck (A9) (LRR F, G,			Depleted Mat			Reduced Vertic (	
	ed Below Dark Surfac	•		Redox Dark S		•	Red Parent Mate	
	Park Surface (A12)	5 (****)			k Surface (F7)		Other (Explain in	
	Mucky Mineral (S1)			Redox Depre				riomanio,
	Mucky Peat or Peat (	S2) /L FF G			epressions (F16	a a	3Indicators of by	drophytic vegetation
	lucky Peat or Peat (S		•••	riigiri idilis b	oprobblena (r. 10	,		rology must be present
	er (if present):	3) (LIKIT)		— Т			and wording my	rology made be procon
Suicuve Lay	er (ii present).							
				1				
pe:	- <u></u>							
epth (inches):				J 1	Hydric Soils Pre	esent?	∕es <u>X</u> No .	
emarks:								
oil is moist but	not saturated.							
		···				<del></del>		
		-						
YDROLOGY								
	logy Indicators:					Seco	ondary Indicators (2	
imary Indicato	rs (any one indicator	is sufficient)					Surface Soil Crack	
Surface V	Vater (A1)		Salt C	rusts (B11)			Sparsely Vegetated	d Concave Surfaces (B
High Wat	er Table (A2)		Aquati	c Invertebrate	s (B13)	***************************************	Drainage Patterns	(B10)
Saturation			Hydro	gen Sulfide O	der (C1)		Oxidized Rhizosph	eres on Living Roots (0
Water Ma				eason Water 1	, ,	****	Crayfish Burrows (	
	Deposits (B2)			nce of Reduce				on Aerial Imagery (C9)
Drift Depo				luck Surface (				nocks (C11) (LRR F)
	or Crust (B4)	•		(Explain in Re		X	<del></del>	
Iron Depo				(Lxpiairi iri ite	marky	^_	FAC-Neutral Test (	DE)
		(DZ)						
	n Visible on Aerial Im	agery (B7)					Local Soil Survey [	Jata (D8)
	ained Leaves (B9)							
eld Observati	ions:				ł			
	)	A.I.	V D	(in aboch				
urface Water F	_	No		(inches): _				
	_	No		(inches):				
	_	No	X Depth	(inches):	Wetl	and Hydrol	ogy Present? Yes	No <u>X</u>
aturation Prese	ny fringe)				(			
aturation Prese	ny mige/				L			
aturation Presenctudes capilla			<del></del>					
aturation Presenctudes capilla	ded Data (stream gau	ge, monitorir	ng well, aerial ph	otos, previous	inspection), if a	vailable:		
aturation Presenctudes capilla		ige, monitorii	ng well, aerial ph	otos, previous	inspection), if a	vailable:		
later Table Pre aturation Prese ncludes capilla escribe Record		ge, monitorii	ng well, aerial ph	otos, previous	s inspection), if a	vailable:		
aturation Presenctudes capilla		ige, monitorii	ng well, aerial ph	otos, previous	s inspection), if a	vailable:		
aturation Prese ncludes capilla escribe Record		ige, monitorii	ng well, aerial ph	otos, previous	inspection), if a	vailable:		
aturation Prese acludes capilla escribe Record		ige, monitorii	ng well, aerial ph	otos, previous	inspection), if a	vailable:		
aturation Presenctudes capilla escribe Record			ng well, aerial ph	otos, previous	s inspection), if a	vailable:		

US Army Corps of Engineers

Great Plains - DRAFT Version 8-30-06



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County: Custer Cou	nty Sampling Date: 9/20/07
Applicant/Owner: Knight Piesold, Pow	vertech	State: South Dake	ota Sampling Point: W42
Investigator(s): C. Robinson and J.	Eberly	Section, Township, Range:	Section 1, T7S, R1E
Landform (hillslope, terrace, etc.)	line Pit	Local relief (co	oncave, convex, none): Concave Slope (%): 1
Subregion (LRP): Black Hills MLRA6	52	_ Lat: Lo	ong: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI Classification:	PUB
Are climatic/hydrologic conditions on the	e site typical for th	is time of year? Ye	es X No (If no, explain in Remarks.)
Are Vegetation , Soil	, or Hydrology	Significantly disturbe	d? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Naturally problematic	c? (If needed, explain any answers in Remarks.)
SHMMARY OF FINDINGS - AH	ach eita man	showing sampling po	int locations, transects, important features, etc.
			int locations, transects, important leatures, etc.
Hydrophytic Vegetation Present?	Yes X		is the Sampled Area
Hydric Soil Present?	Yes	NoX	Within a Wetland Yes X No
Wetland Hydrology Present  Remarks:	Yes X	No	
R6 P22- 24: Panoramic west to east.			•
			The Assertation of the Control of th
VEGETATION			
Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Indica Species? Statu	
1.			Number of Dominant Species
2. 3.	<del>-</del>		That are OBL, FACW, or FAC: (A)
4. Total Cov			Total Number of Dominant Species Across All Strata: 2 (B)
	ei		Species Acioss All Strata
Sapling/Shrub Stratum  1.			Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2.			(VB)
3.			Prevalence Index Worksheet:
4. 5.			Total % Cover of: Multiply by:
Total Cov	er:		OBL species x1=
Herb Stratum			FACW species x2=
Spartina pectinata     Distichlis stricta	<u>40</u> 60	X FAC	
2. Distichlis stricta 3.		A FAC	UPL species x5=
4.			Column Totals: (A) (B)
5. 6.	_		Prevalence Index = B/A =
7.			Hydrophytic Vegetation Indicators
8. 9.			X Dominance Test is > 50%
10.			Prevalence Index is ≤ 3.0 <sup>1</sup>
Total Cov	/er:100		Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratum			Problematic Hydrophytic Vegetation (Explain)
1. 2.		4444	<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3.			Hydrophytic Vocatation
Total Cov	/er		Vegetation       Present?     YesX No
% Bare Ground in Herb Stratum Remarks:	% (	Cover of Biotic Crust	
Little bluestem dominates the upper ba	nks.		

US Army Corps of Engineers

Great Plains - DRAFT 8-30-2006



SOIL Profile Descrip	otion: (Describe to t	a donth no	adad ta dagumant	the indicat	or or confirm t	ho obconco		ng Point W42
		ie deptri ned	eaea to accument			ne absence	or indicators.)	-
Depth	Matrix			Redox Fe	······	. 2		`
(inches)	Color (moist) 10YR 5/1	<u> %</u>	Color (moist)	<u></u> %	Type'	Loc²	Texture	Remarks
0-6	101R 5/1	<u>45</u>	Gley1 4/N	5	<u>D</u>		SC	,
			10YR 5/6	50	C ·			
							· <u></u>	
				·	<del></del>			
						***************************************		
			***************************************			`	-	
								industrial and and a second of the day of
Type: C=Cond	centration, D=Depletic	n PM-Pedi	reed Matrix	21 ocation: I	DI -Pore Lining	PC-Post C	hannel, M=Matrix.	
	licators: (Applicable		unless otherwise	noted )	-L-Fore Lining.	ndi	icators for Problema	tic Hydric Soils <sup>3</sup> :
	ol (A1)	to an Living			Matrix (S4)	ii iu	1 cm Muck (A9)	
	Epipedon (A2)			andy Redox				edox (A16) (LRR F, G, H)
	Histic (A3)			tripped Matri	, ,		Dark Surface (S	
	gen Sulfide (A4)				Mineral (F1)	**********	High Plains Dep	
	ied Layers (A5) (LRR	F)			Matrix (F2)		'	de MLRA 72 & 73)
	Muck (A9) (LRR F, G,	•		epleted Matr			Reduced Vertic	•
	ted Below Dark Surface			edox Dark S	` '	-	Red Parent Mat	
	Dark Surface (A12)	( /			Surface (F7)		Other (Explain in	
	Mucky Mineral (S1)			edox Depres		· <del>************************************</del>	Onlor (Explain)	·······································
	Mucky Peat or Peat	(S2) (LFF G.			epressions (F16	3)	<sup>3</sup> Indicators of hy	drophytic vegetation
	Mucky Peat or Peat (S			.g	op. 000.0 (1. 1.			Irology must be present.
oil is moist bu	t not saturated.	······································						
HYDROLOGY								
	ology Indicators:					Seco	ndary Indicators (2	
	ors (any one indicator	is sufficient)		·····	· · · · · · · · · · · · · · · · · · ·		<ul><li>Surface Soil Crack</li></ul>	
	Water (A1)			sts (B11)				d Concave Surfaces (B8)
	ter Table (A2)			nvertebrates			Drainage Patterns	
Saturatio	` '	•		n Sulfide Od				eres on Living Roots (C3
	arks (B1)			son Water T			_ Crayfish Burrows (	
	t Deposits (B2)			e of Reduce				on Aerial Imagery (C9)
	osits (B3)			ck Surface (				mocks (C11) (LRR F)
	t or Crust (B4)		Other (E	xplain in Rei	mark)		Geomorphic Positi	
	osits (B5) on Visible on Aerial Im	.ooon((D7)					FAC-Neutral Test	
	ained Leaves (B9)	agery (b/)					_ Local Soil Survey	Data (D6)
ield Observat		•	***************************************					
icia Observa	dons.							
Surface Water	Present? Yes	X No	Depth (ir	nches):	6			
Vater Table Pr	-	No	X Depth (ir					
Saturation Pres	_	No.	X Depth (ir		Weti	and Hydrol	ogy Present? Yes	s X No
ncludes capilla	ary fringe)			· —				***************************************
								· · · · · · · · · · · · · · · · · · ·
Describe Reco	rded Data (stream ga	ıge, monitori	ng well, aerial photo	os, previous	inspection), if a	vailable:		
							•	
7								·
Remarks:								



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock	City/County: Custer County	Sampling Date: 9/20/07
Applicant/Owner: Knight Piesold, Powertech	State: South Dakota	Sampling Point:W43
Investigator(s): C. Robinson and J. Eberly	Section, Township, Range: Sec	tion 36, T6S, R1E (Outside of Project Boundary)
Depression, ponder to berm		convex, none): Concave Slope (%): 0
Subregion (LRP): Black Hills MLRA62	·	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		PEM
Are climatic/hydrologic conditions on the site typical for the		X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology	Significantly disturbed? Are	"Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology	Naturally problematic? (If ne	eeded, explain any answers in Remarks.)
CHAMARY OF FINDINGS. Attack site was		
SUMMARY OF FINDINGS - Attach site map		cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X	- Is the	Sampled Area
Hydric Soil Present? Yes	_ NoX Within	n a Wetland Yes X No
Wetland Hydrology Present Yes X Remarks:	No	and the state of t
R7 P15: West R7 P17: East of pond		
R7 P16: Middle Cattle grazed here. On the other side of the berm there a	are Pinus ponderosa.	
VECETATION		
VEGETATION  Tree Stratum (Use scientific names)  Absolute	Dominant Indicator	Dominance Test Worksheet:
<u>% Cover</u>	Species? Status	Number of Dominant Species
2.		That are OBL, FACW, or FAC: 2 (A)
β		Total Number of Dominant
Total Cover:		Species Across All Strata: 2 (B)
Sapling/Shrub Stratum		Percent of Dominant Species
1.		That Are OBL, FACW, or FAC: 100 (A/B)
2. 3.		Prevalence Index Worksheet:
4. 5.		Total % Cover of: Multiply by:
Total Cover:		Total % Cover of: Multiply by:
Herb Stratum		OBL species x1= x2=
1. Juncus balticus 60	X FACW	FAC species x3=
2. Typha latifolia 40 3.	X OBL	FACU species x4= UPL species x5=
4.		Column Totals: (A) (B)
5		Prevalence Index = B/A =
7.		Hydrophytic Vegetation Indicators
8		X Dominance Test is > 50%
10.		Prevalence Index is < 3.01
. Total Cover: 100		Morphological Adaptations <sup>1</sup> (Providing supporting data in Remarks or on a separate sheet)
Woody Vine Stratum		Problematic Hydrophytic Vegetation (Explain)
1.   2.		<sup>1</sup> Indicators of hydric soils and wetland hydrology must be present
3. Total Covers		Hydrophytic
Total Cover:		Vegetation           Present?         Yes         X         No
% Bare Ground in Herb Stratum 90 % ( Remarks:	Cover of Biotic Crust	
Moss is present. Distichlis stricta present in the middle of	of the pond.	



OIL							Samp	ling Point W43
Profile Descri	ption: (Describe to t	ne depth nec	eded to document	the indicato	or or confirm	the absence		
Donth	Matrix			Bodov Eo	aturaa			
Depth (inches)	Color (moist)	%	Color (moist)	Redox Fe %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 5/3	75	Gley1 3/N	20	D	M	C	· · · · · · · · · · · · · · · · · · ·
			5YR 5/8					
					·			
	<del></del>			<del></del>		<del></del>		
					<del></del>			
		<del></del>						
	***************************************	******************	<del></del>		***************************************			
	centration, D=Depletion				L=Pore Lining		nannel, M=Matrix.	
	dicators: (Applicable	to all LRRs			Madrin (C4)	India		natic Hydric Soils <sup>3</sup> :
	sol (A1) : Epipedon (A2)			andy Gleyed andy Redox (		<del></del>	1 cm Muck (Al	Redox (A16) (LRR F, G, H)
	Histic (A3)			tripped Matrix			Dark Surface	
	ogen Sulfide (A4)			oamy Mucky			High Plains De	epressions (F16)
Strati	fied Layers (A5) (LRR	F)	Lo	oamy Gleyed	Matrix (F2)			side MLRA 72 & 73)
	Muck (A9) (LRR F, G,			epleted Matri	• •		Reduced Verti	
	eted Below Dark Surface	ce (A11)		edox Dark Sı			Red Parent M	
	Dark Surface (A12)  y Mucky Mineral (S1)			epieted Dark edox Depres	Surface (F7)		Other (Explain	in Remarks)
	m Mucky Peat or Peat	(S2) (L <b>FF G</b> .			epressions (F1	6)	3Indicators of I	nydrophytic vegetation
	Mucky Peat or Peat (S	. ,		igii i iaiiio Do	procesione (r ·	٠,		ydrology must be present.
Type: Depth (inches	s):			н	ydric Soils P	resent? Y	es No	X
Remarks: Soil is moist be	ut not saturated.				•			
UVDDOL OOV	•				•			
HYDROLOGY Wetland Hydr	ology Indicators:					Seco	ndary Indicators (	2 or more required)
	tors (any one indicator	is sufficient)					Surface Soil Cra	
X Surface	Water (A1)		Salt Cru	sts (B11)			Sparsely Vegeta	ted Concave Surfaces (B8)
	ater Table (A2)			Invertebrates			Drainage Patterr	
	on (A3)			n Sulfide Ode son Water Ta			Oxidized Rhizos Crayfish Burrows	pheres on Living Roots (C3)
	/larks (B1) nt Deposits (B2)			e of Reduced				e on Aerial Imagery (C9)
	posits (B3)			ck Surface (C	, ,			nmocks (C11) (LRR F)
	at or Crust (B4)			xplain in Ren			Geomorphic Pos	
	posits (B5)		<del></del>		•		FAC-Neutral Tes	
	ion Visible on Aerial Im	agery (B7)					Local Soil Surve	y Data (D8)
Field Observa	Stained Leaves (B9)				1			
Tield Observe								
Surface Water	Present? Yes _	X No	Depth (in	nches):	4			
Water Table P		X No	Depth (in		3			
Saturation Pre	_	X No	Depth (ii	nches):	_3   Wet	lland Hydrolo	gy Present? Y	es <u>X</u> No
(includes capil	iary iringe)							
Describe Reco	orded Data (stream ga	uge, monitori	ng well, aerial phot	os, previous i	inspection), if	available:		
					-			
Remarks:						<del></del>		
							•	



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site:	Dewey Burdock	0	City/County: _C	Custer Cour	nty Sampling Date: 9/20/07
Applicant/Owner:	Knight Piesold, Pow	ertech	_ State: _ S	South Dako	ta Sampling Point: W44
Investigator(s):	C. Robinson and J.	Eberly	_ Section, Townsh	ip, Range:	Section 2, T7S, R1E
Landform (hillslope	e, terrace, etc.) <u>De</u>	epression	Loc	al relief (co	oncave, convex, none): Concave Slope (%): 1
Subregion (LRP):	Black Hills MLRA6	2	Lat:	Lo	ng: Datum: NAD 1983, UTM Zone 13
Soil Map Unit Nam	ne:		NWI Clas	ssification:	PEM
Are climatic/hydrol	logic conditions on the	site typical for th	nis time of year?	Ye	s X No (If no, explain in Remarks.)
Are Vegetation	, Soil	, or Hydrology	Significant	lly disturbed	d? Are "Normal Circumstances" present? Yes X No
Are Vegetation	, Soil	, or Hydrology	Naturally p	oroblematic	? (If needed, explain any answers in Remarks.)
SUMMARY O	F FINDINGS - Att	ach site man	showing sam	nlina noi	int locations, transects, important features, etc.
Hydrophytic Veget		Yes X			introductions, transcoto, important reactives, cto.
Hydric Soil Presen	•	Yes X		<del></del> .	Is the Sampled Area Within a Wetland Yes X No
'	y Present				730 <u>X</u> 110
Remarks: R7 P24: Northwes R8 P1: North R8 P2: East		163 X	NO	I.	
VEGETATION					
Tree Stratum (Use	e scientific names)	Absolute % Cover	Dominant Species?	Indicate Status	
1.					Number of Dominant Species
2. 3.		<del>-</del>			That are OBL, FACW, or FAC:1 (A)
4.	Total Cour				Total Number of Dominant
	Total Cove	er			Species Across All Strata: 1 (B)
Sapling/Shrub Stra	atum				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
2.		·			
3.					Prevalence Index Worksheet:
5.					Total % Cover of: Multiply by:
	Total Cove	er:			OBL species x1=
Herb Stratum					FACW species x2=
Juncus balt     Distichlis st		<u>85</u> 15	X	FACV FACV	
3.	notu			17.01	UPL species x5=
4					Column Totals: (A) (B) Prevalence Index = B/A =
6.			·		
7. 8.			<del></del>	<del></del>	Hydrophytic Vegetation Indicators
9.					X Dominance Test is > 50%
10.	Total Cove	er: 100	<del></del>		Prevalence Index is ≤ 3.0¹  Morphological Adaptations¹ (Providing supporting
Woody Vine Strate					data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)
1. 2.					Indicators of hydric soils and wetland hydrology must be present
3.					Hydrophytic
	Total Cove	er:			Vegetation Present? Yes X No
% Bare Ground in	Herb Stratum 40	%	Cover of Biotic Crus	st	165 <u>A</u> NO
Remarks:					
<b></b>					



Profile Description: (Describ to the depth needed to document the indicator or confirm the absence of indicators.)  Depth Matrix Redox Features (Inches)	SOIL							Samplin	ng Point W44
(inches) Color (moist) % Color (moist) % Type Loc* Texture Remarks 0-6 2 SYSI2 68 7.5YR 58 30 C M SiC M SiC C	rofile Descrip	otion: (Describe to the	ne depth nee	eded to documer	nt the indicate	or or confirm	the absence	of indicators.)	
(inches) Color (moist) % Color (moist) % Color (moist) % Type Loc* Toxure Remarks 0-6 2 SY 9/2 68 7.5/R 5/8 30 C M SiC M SiC C	Donth	Matrix			Bodov Fo	aturas			
Geley 13/N 2 D M SiC Geley 13/N 2 D M Sic Geley 13/	•		%	Color (moist)			l oc²	Texture	Remarks
Cley 1 S/N   2   D   M   SiC									remane
ype: _C=Concentration, D=Depletion, RM=Reduced Matrix.									
ype: C=Concentration, D=Depletion, RM=Reduced Matrix.  2 Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  3 Indicators: (Applicable to all LRRs, unless otherwise noted.)  4 Histos (April Carl)  5 Sandy Redox (SS)  5 Sandy Redox (SS)  5 Coast Praine Redox (A16) (LRR F, G, Histos (LRR F, G)  5 Black histos (A2)  5 Simpled Matrix (S2)  5 Stratified Ayers (A5) (LRR F)  6 Hydrogen Sulfide (A4)  1 Com Muck (A9) (LRR F, G, H)  5 Depleted Matrix (F2)  6 Depleted Matrix (F2)  7 Com Muck (A9) (LRR F, G, H)  7 Depleted Matrix (F2)  7 Depleted Matrix (F2)  8 Depleted Matrix (F2)  9 Depleted Matrix (F2)  9 Depleted Matrix (F2)  9 Depleted Matrix (F2)  9 Depleted Matrix (F2)  1 Com Muck (A9) (LRR F, G, H)  1 Depleted Matrix (F2)  9 Depleted Matrix (F2)  9 Depleted Matrix (F2)  1 Com Muck (A9) (LRR F, G, H)  1 Depleted Matrix (F2)  9 Depleted Matrix (F2)  9 Depleted Matrix (F2)  1 Com Muck (A9) (LRR F, G, H)  1 Depleted Matrix (F2)  9 Depleted Matrix (F2)  1 Com Muck (A9) (LRR F, G, H)  1 Depleted Matrix (F2)  1 Com Muck (A9) (LRR F, G, H)  1 Depleted Matrix (F2)  1 Com Muck (A9) (LRR F, G, H)  1 Depleted Matrix (F2)  2 Sem Muck (A9) (LRR F, G, H)  2 Sem Muck (A9) (LRR F, G, H)  2 Sem Muck (A9) (LRR F, G, H)  3 Present Material (F1)  4 Present Material (F1)  5 Com Mucky Peat or Peat (S2) (LFF G, H)  4 High Plains Depressions (F8)  9 Presented Matrix (F2)  9 Presented Matrix (F2)  1 Present (F1)  1 Present (F1									
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Sandy Redox (S5) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F2) High Plains Depressions (F16) (LRR H outside MLRA 72 & 73) 1 om Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F) High Plains Depressions (F16)  2.5 om Mucky Peat or Peat (S2) (LRR F)  Belief Below Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F)  Wyper well (Inches):  Hydric Soils Present?  Yes X No  Working Water (A1) Surface (A1) Surface (A1) Surfac	6-8	10YR 3/1	98	7.5YR 5/8	2	C	M	SiC	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Epipedon (A2) Sandy Redox (S5) Histos Epipedon (A2) Sandy Redox (S5) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F2) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) High Plains Depressions (F16) (LRR H outside MLRA 72 & 73) Tom Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Z 5 orn Mucky Peat or Peat (S2) (LRR F) Jensel Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky								,	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Sandy Redox (S5) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F2) High Plains Depressions (F16) (LRR H outside MLRA 72 & 73) 1 om Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F) High Plains Depressions (F16)  2.5 om Mucky Peat or Peat (S2) (LRR F)  Belief Below Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F)  Wyper well (Inches):  Hydric Soils Present?  Yes X No  Working Water (A1) Surface (A1) Surface (A1) Surfac					-				
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A) Histos (A) Histos (B) (A) Histos (B) (A) Histos (B) (B) (LRR C) Histos (B) (LRR C) Histos (B) (LRR C) Histos (B) (LRR C) Histos (B) (LRR C) Histos (B) (LRR C) Histos (B) (LRR C) Histos (B) (LRR C) Histos (B) (LRR C) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR C) High Plains Depressions (F16) (LRR C) High Plains Depressions (F16) (LRR C) Hostide MLRA 72 & 73) How Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Wight Case (S1) Hydrogen Sulfide (S1) Sulface Soll Cracks (B6)  Water Marks (S1) Dry-Season Water Table (A2) Salt Crusts (B11) Salt Crusts (B1) Sparsely Vegetated Concave Surfaces High Water Table (A2) Salt Mineral Table (A2) Salt Mineral Table (A2) Salt Mineral Table (A2) Salt Mineral Table (A2) Salt Mineral Table (A2) Salt Mineral Table (A2) Salt Mineral Muck Surface (C1) Salt Mineral Muck Su								<del></del>	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Epipedon (A2) Sandy Redox (S5) Histos Epipedon (A2) Sandy Redox (S5) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F2) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) High Plains Depressions (F16) (LRR H outside MLRA 72 & 73) Tom Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Z 5 orn Mucky Peat or Peat (S2) (LRR F) Jensel Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky						<del></del>			
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Sandy Redox (S5) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F2) High Plains Depressions (F16) (LRR H outside MLRA 72 & 73) 1 om Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F) High Plains Depressions (F16)  2.5 om Mucky Peat or Peat (S2) (LRR F)  Belief Below Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F)  Wyper well (Inches):  Hydric Soils Present?  Yes X No  Working Water (A1) Surface (A1) Surface (A1) Surfac			***************************************						<del> </del>
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Sandy Redox (S5) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F2) High Plains Depressions (F16) (LRR H outside MLRA 72 & 73) 1 om Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F) High Plains Depressions (F16)  2.5 om Mucky Peat or Peat (S2) (LRR F)  Belief Below Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F)  Wyper well (Inches):  Hydric Soils Present?  Yes X No  Working Water (A1) Surface (A1) Surface (A1) Surfac									
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos (A1) Histos Epipedon (A2) Sandy Redox (S5) Histos Epipedon (A2) Sandy Redox (S5) Black Histo (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F2) High Plains Depressions (F16) (LRR H outside MLRA 72 & 73) 1 om Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F) High Plains Depressions (F16)  2.5 om Mucky Peat or Peat (S2) (LRR F)  Belief Below Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR F)  Wyper well (Inches):  Hydric Soils Present?  Yes X No  Working Water (A1) Surface (A1) Surface (A1) Surfac	vpe: C=Con	centration, D=Depletio	n, RM=Redu	iced Matrix.	<sup>2</sup> Location: F	PL=Pore Lining	, RC=Root C	hannel, M=Matrix.	
Histic Epipedon (A2)  Black Histic (A3)  Black Histic (A3)  Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)  Hydrogen Sulfide (A6)  Hydrogen Sulfide (A6)  Current Muck (A9) (LRR F)  Loamy Gleyed Matrix (F2)  Loamy Gleyed Matrix (F2)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Depleted Below Dark Surface (A12)  Sandy Mucky Mineral (S1)  Depleted Below Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Mucky Peat or Peat (S2) (LFF G, H)  Some Mucky Peat or Peat (S2) (LFF G, H)  Hydric Soils Present?  Yes X No  Proceed Water (A1)  Surface (F16)  Surfa						***************************************			itic Hydric Soils <sup>3</sup> :
Black Histic (A3) Stripped Matrix (\$6\$) Dark Surface (\$7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (£1) High Plains Depressions (£16) Stratified Layers (A5) (LRR F) Loamy Muck (A9) (LRR F, G, H) Depleted Matrix (£2) (LRR H outside MLRA 72 & 73) Per Depleted Below Dark Surface (A11) Redox Dark Surface (£12) Depleted Bark Surface (£12) Depleted Bark Surface (£12) Depleted Dark Surface (£12) Depleted Dark Surface (£12) Depleted Dark Surface (£12) Other (Explain in Remarks) Sandy Mucky Mineral (\$15) Surface (£12) X Redox Depressions (£16) Per Service (£12) A Redox Depressions (£16) Per Service (£12) Per Service (£13) Per Service (£13) Per Service (£14) Per Service (£15) Per Service	Histos	sol (A1)		:	Sandy Gleyed	Matrix (S4)		1 cm Muck (A9)	(LRR C)
Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)  Stratified Layers (A5) (LRR F)  Loamy Gleyed Matrix (F2)  1 cm Muck (A9) (LRR F, G, H)  Depleted Bow Dark Surface (A11)  Depleted Dark Surface (A11)  Trink Dark Surface (A12)  Sandy Mucky Mineral (S1)  2.5 cm Mucky Peat or Peat (S2) (LFF G, H)  High Plains Depressions (F6)  Send Parent Material (TF2)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Som Mucky Peat or Peat (S2) (LFF G, H)  High Plains Depressions (F6)  To mucky Peat or Peat (S3) (LRR F)  Seteritrictive Layer (if present):  Welland Hydrology Indicators:  Indicators (any one indicator is sufficient)  Welland Hydrology Indicators:  Secondary Indicators (2 or more required)  Intimary Indicators (any one indicator is sufficient)  X Surface Water (A1)  Salt Crusts (B11)  Salt Crusts (B11)  Salt Crusts (B13)  Salt Crusts (B13)  Salt Crusts (B13)  Salt Crusts (B13)  Salt May Drainage Patterns (B10)  Water Marks (B1)  Dry-Season Water Table (A2)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Salturation (A3)  Hydrogen Sulfide Oder (C1)  Oddized Rhizospheres on Living Roots  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B3)  Thin Muck Surface (C7)  Trink Deposits (B3)  Thin Muck Surface (C7)  Trink Leaves (B9)  Water Stained Leaves (B9)  Water Stained Leaves (B9)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	Histic	Epipedon (A2)		;	Sandy Redox	(S5)		Coast Prairie Re	edox (A16) (LRR F, G, H)
Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F2) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LFF G, H) Some Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F16)  Setrictive Layer (if present):    Wetland Hydrology Indicators:   Wetland Hydrology Indicators:   Warface Water (A1) Surface Soil Cracks (B6) Surface Water (A1) Surface Water (A1) Surface Soil Cracks (B6) Surface Water (A1) Surface Soil Cracks (B6) Surface Water (A1) Surface Soil Cracks (B6) Surface Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C5) Innudation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Indudes capillary fringe)  Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No No Depth (inches): Surface Water Present? Yes No No Depth (inches): Surface Water Present? Yes No No Depth (inches): Surface Water Present? Yes No No Depth (inches): Surface Water Presen	Black	Histic (A3)			Stripped Matri	x (S6)		Dark Surface (S	7) (LRR G)
1 cm Muck (A9) (LRR F, G, H)	— Hydro	gen Sulfide (A4)			Loamy Mucky	Mineral (F1)		High Plains Dep	ressions (F16)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Z sem Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F8) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Peat or Peat (S2) (LRR F)  Depleted Dark Surface (F7) Some Mucky Mucky Mucky Mucky Marky Mucky Muc	Stratif	fied Layers (A5) (LRR	F)		Loamy Gleyed	Matrix (F2)		(LRR H outs	de MLRA 72 & 73)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S2) (LFF G, H) Signature Mucky Peat or Peat (S2) (LFF G, H) High Plains Depressions (F8) Signature Mucky Peat or Peat (S2) (LRR F)  Why Plains Depressions (F16)  Indicators of hydrophytic vegetation and welland hydrology must be prese testrictive Layer (if present):    Wester of the present of the G-8 inches layer.    Wester of the G-8 inches layer.	1 cm !	Muck (A9) (LRR F, G,	H)		Depleted Matr	ix (F3)		Reduced Vertic	(F18)
Sandy Mucky Mineral (S1)	Deple	ted Below Dark Surface	ce (A11)		Redox Dark S	urface (F6)		Red Parent Mat	erial (TF2)
2.5 cm Mucky Peat or Peat (S2) (LFF G, H) S cm Mucky Peat or Peat (S3) (LRR F) S cm Mucky Peat or Peat (S3) (LRR F)  Hydric Soils Present?  Yes X No   Hydric Soils Present?  Hydric Soils Present?  Yes X No   Secondary Indicators (2 or more required)  Surface Soil Cracks (B6)  For Sufface Soil Cracks (B6)  In Induction Visible on Aerial Imagery (B7)  Water Table Present? Yes X No Depth (inches): 3  Water Table Present? Yes No X Depth (inches): 3  Water Table Present? Yes No X Depth (inches): 3  Water Table Present? Yes No X Depth (inches): 3  Wetland Hydrology Present? Yes X No Depth (inches): 3  Wetland Hydrology Present? Yes X No Depth (inches): 3  Wetland Hydrology Present? Yes X No Depth (inches): 3  Wetland Hydrology Present? Yes X No Depth (inches): 3  Wetland Hydrology Present? Yes X No Depth (inches): 3  Wetland Hydrology Present? Yes X No Depth (inches):	Thick	Dark Surface (A12)			Depleted Dark	Surface (F7)		Other (Explain i	n Remarks)
sestrictive Layer (if present):  ype:  wepth (inches):  Hydric Soils Present? Yes X No    Secondary Indicators (2 or more required)   Surface Soil Cracks (B6)   Sparsely Vegetated Concave Surfaces   High Water Table (A2)	Sandy	y Mucky Mineral (S1)		X	Redox Depres	sions (F8)	,		
Hydric Soils Present? Yes X No	2.5 cm	n Mucky Peat or Peat	(S2) (LFF G,	, H)	High Plains De	epressions (F1	6)		
Pyth (inches):	5 cm	Mucky Peat or Peat (S	3) (LRR F)				•	and wetland hyd	Irology must be present.
VPDROLOGY   Pettand Hydrology Indicators: rimary Indicators (any one indicator is sufficient)   Surface Soil Cracks (B6)   Surface Soil Cracks (B1)   Surface Soil Surface Soil Cracks (B1)   Surface Soil Cracks (B1)   Surface Soil Surface (C1)   Surface Soil Surface Soil Surface (C1)   Surface Soil Surface Soil Surface Soil Cracks (B1)   Surface Soil Soil Surface Soil Soil Surface Soil Soil Surface Soil Soil Surface Soil Soil Surface Soil Soil Surface Soil Soil Soil Soil Soil Soil Soil Soil		oncentrations sparse i	n the 6-8 incl	hes laver.					
Secondary Indicators (2 or more required)		- ·		,			<u>.</u>		
Primary Indicators (any one indicator is sufficient)  X Surface Water (A1)  X Surface Water (A2)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  In undation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Field Observations:  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surfaces  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Presence of Reduced Iron (C4)  Saturation Visible on Aerial Imagery (C9)  Frost-Heave Hummocks (C11) (LRR F)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Local Soil Survey Data (D8)  Field Observations:  Surface Water Present? Yes X No Depth (inches):  Saturation Present? Yes No X No Yes X No Y							Seco	ndary Indicators (2	or more required)
X Surface Water (A1) Salt Crusts (B11) Sparsely Vegetated Concave Surfaces High Water Table (A2) Aquatic Invertebrates (B13) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots Water Marks (B1) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9 Drift Deposits (B3) Thin Muck Surface (C7) Frost-Heave Hummocks (C11) (LRR F) Algal Mat or Crust (B4) Other (Explain in Remark) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes X No Depth (inches): 3 Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			ie cufficient)						
High Water Table (A2) Saturation (A3) Hydrogen Sulfide Oder (C1) Oxidized Rhizospheres on Living Roots Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No X Depth (inches): Saturation (A3) Hydrogen Sulfide Oder (C1) Oxidized Rhizospheres on Living Roots Oxidized Rhizospheres on Living Roots Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C5 Geomorphic Position (D2) Frost-Heave Hummocks (C11) (LRR F) Geomorphic Position (D2) FAC-Neutral Test (D5) Local Soil Survey Data (D8)  Water Stained Leaves (B9)  Wetland Hydrology Present? Yes No No No Depth (inches): Saturation Present?  Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			is sufficient)		uete (R11)		-		
Saturation (A3)		, ,			, ,	: (B13)	***************************************		
Water Marks (B1)		` '					****		
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes X No Depth (inches):  Saturation Visible on Aerial Imagery (C5)  Frost-Heave Hummocks (C11) (LRR F)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Local Soil Survey Data (D8)  Water Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes X No Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes X No		• •				, ,			
Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Surface Water Present? Yes X No Depth (inches):  Surface Water Table Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Second Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Second Present? Yes X No Y Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present									
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Surface Water Present? Yes X No Depth (inches):  Surface Water Table Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Security of the Method of Aerial Imagery (B7)  Wetland Hydrology Present? Yes X No Includes capillary fringe)		. , ,				, ,			0,1,
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)  Water Present? Yes X No Depth (inches): Saturation Present? Yes No X Depth (inches): Includes capillary fringe)  Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	<del></del> '								
Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Sield Observations:  Surface Water Present? Yes X No Depth (inches): 3 Vater Table Present? Yes No X Depth (inches): Staturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Depth (inches): Wetland Hydrology Present? Yes X No Depth (inches): Wetland Hydrology Present? Yes X No Depth (inches): Wetland Hydrology Present? Yes X No Depth (inches): Wetland Hydrology Present? Yes X No Depth (inches): No Depth (inch					,	,		FAC-Neutral Test	(D5)
Water Stained Leaves (B9)  Sield Observations:  Surface Water Present? Yes X No Depth (inches): 3  Vater Table Present? Yes No X Depth (inches): 5  Saturation Present? Yes No X Depth (inches): 6  Wetland Hydrology Present? Yes X No includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			agery (B7)						
Surface Water Present? Yes X No Depth (inches): 3 Vater Table Present? Yes No X Depth (inches): 5 Saturation Present? Yes No X Depth (inches): 6 Sincludes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:								,	( /
Surface Water Present? Yes X No Depth (inches): 3 Vater Table Present? Yes No X Depth (inches): 4 Saturation Present? Yes No X Depth (inches): 4 Saturation Present? Yes No X Depth (inches): 4 Security Present? Yes No X Depth (inches): 4 Security Present? Yes X No A No A No A No A No A No A No A No									
Vater Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes X No No X Depth (inches): Saturation Present? Yes X No No X Depth (inches): Saturation Present? Yes X No No X Depth (inches): Saturation Present? Yes X No X No X Depth (inches): Saturation Present? Yes X No X No X Depth (inches): Saturation Present? Yes X No X No X Depth (inches): Saturation Present? Yes X No X No X No X No X No X No X No X N	•								
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:			X No			3		•	, •
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	Vater Table P	resent? Yes _	No						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:	Saturation Pres	sent? Yes _	No	X_ Depth	(inches):	We	tland Hydrolo	ogy Present? Ye	s <u>X</u> No
	includes capill	lary fringe)	•						
	Danarik - D-	unded Date /stresses		المسامة	-too	inenceti> 'f	available:		
Remarks:	ревспре кесо	orded Data (stream gai	uge, monitori	ing well, aerial pho	οιοs, previous	inspection), if	avanable:		
Remarks:		•				•			
Remarks:									
Remarks:									
	Remarks:	,							

US Army Corps of Engineers

Great Plains - DRAFT Version 8-30-06



### WETLAND DETERMINATION DATA FORM-Great Plains Region (DRAFT)

Project/Site: Dewey Burdock		City/County: Custer Cou	ınty	Sampling Date: 9/20/07
Applicant/Owner: Knight Piesold, Power	ertech	State: South Dake		Sampling Point: W45
Investigator(s): C. Robinson and J. E	Eberly	Section, Township, Range	: Section 1, T7S, R1E	•
Landform (hillslope, terrace, etc.) De	pression			Concave Slope (%): 1
Subregion (LRP): Black Hills MLRA62			ong:	Datum: NAD 1983, UTM Zone 13
Soil Map Unit Name:		NWI Classification:	PEM	
Are climatic/hydrologic conditions on the			es X No	(If no, explain in Remarks.)
Are Vegetation , Soil	, or Hydrology	Significantly disturbe	ed? Are "Normal Circums	stances" present? Yes X No
Are Vegetation , Soil	, or Hydrology	Naturally problemati	c? (If needed, explain an	y answers in Remarks.)
SUMMARY OF FINDINGS - Atta	ach eita man	showing sampling po	oint locations trans	sacts important foatures atc
Hydrophytic Vegetation Present?	Yes X			sects, important reatures, etc.
Hydric Soil Present?	Yes X		Is the Sampled Area Within a Wetland	Yes X No
Wetland Hydrology Present	Yes X	No		<del></del>
Remarks:				No.
R8 P4: Upstream R8 P5: Downstream				
Stockwater pond (20' wide by 50' long)				
VEGETATION				
Tree Stratum (Use scientific names)	Absolute	Dominant Indica		st Worksheet:
1,	% Cover	Species? Statu	Number of Dom	inant Species
2.			That are OBL, F	
<b>3</b> . <b>4</b> .			Total Number of	f Dominant
Total Cove	er:		Species Across	All Strata: 2 (B)
Sapling/Shrub Stratum			Percent of Domi	
1,			That Are OBL, F	FACW, or FAC: 100 (A/B)
2. 3.			Prevalence Ind	lex Worksheet:
4.				and the state of t
5Total Cove	er:		Total % Cover of	of: Multiply by:
<u>.</u>			OBL species	x1=
Herb Stratum  1. Mimulus guttatus	70	X OB	FACW species  FAC species	x2= 
2. Distichlis stricta	30	X FAC		x4=
3.			UPL species	x5=
4.			Column Totals:	
5. 6.			Prevalence Inde	ex = B/A =
7.			Hydrophytic Ve	egetation Indicators
8				
9.				nce Test is > 50% nce Index is ≤ 3.0¹
Total Cove	er: 100			logical Adaptations <sup>1</sup> (Providing supporting
Woody Vine Stratum			data in Rema	arks or on a separate sheet) natic Hydrophytic Vegetation (Explain)
1.			- Indiana	duin calls and wollows budget
2. 3.			Hydrophytic	dric soils and wetland hydrology must be present
	er:		Vegetation	
   % Bare Ground in Herb Stratum	0/ (	Cover of Biotic Crust	Present?	YesX No
Remarks:		POACE OF DIOTIC CLASE	· · · · · · · · · · · · · · · · · · ·	
7				

US Army Corps of Engineers

Great Plains - DRAFT 8-30-2006



	Matrix			Redox Fe	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	Gley1 5/10Y	60	7.5Y 5/6	35	C	M, RC	C	
			Gley1 4/N	5	D	М		
8-10	2.5Y 5/4	90	5YR 5/6	10		М	SC	
<del></del>								
						-		
								1. 19m.
vne: C=Con	centration, D=Depletic	n RM=Redu	red Matrix	<sup>2</sup> Location: F	PI =Pore Lining	RC≔Root C	hannel, M=Matrix.	
dric Soil In	dicators: (Applicable	to all LRRs.	unless otherwis		Z T OTO Entities			atic Hydric Soils <sup>3</sup> :
Histo:	sol (A1)		s	andy Gleyed			1 cm Muck (A9	) (LRR C)
	Epipedon (A2)			andy Redox (				Redox (A16) (LRR F, G, H
	Histic (A3)			tripped Matrix			Dark Surface (	
	ogen Sulfide (A4) fied Layers (A5) ( <b>LRR</b>	E/		oamy Mucky oamy Gleyed				pressions (F16) side MLRA 72 & 73)
	Muck (A9) (LRR F, G,			epleted Matri			Reduced Vertic	•
	ted Below Dark Surface			ledox Dark Si			Red Parent Ma	
	Dark Surface (A12)	, .			Surface (F7)		Other (Explain	in Remarks)
	y Mucky Mineral (S1)			ledox Depres			a .	
	n Mucky Peat or Peat		H) H	ligh Plains De	epressions (F1	6)		ydrophytic vegetation
	Mucky Peat or Peat (S yer (if present):	3) (LRR F)					and wetland ny	drology must be present
strictive La	yer (ii present).			,				
ype:	<u>) </u>				lydric Soils Pi	resent? Y	′es X No	
ype: epth (inches	):		<u> </u>	н	lydric Soils Pı	resent? Y	es X No	-
	): ·		· · · · · · · · · · · · · · · · · · ·	н	lydric Soils Pi	resent? Y	'es <u>X</u> No	
epth (inches emarks: oil is moist bu	it not saturated.		·	н	lydric Soils Pi	resent? Y	es X No	
epth (inches emarks: oil is moist bu		ver.	·	н	lydric Soils Pi	resent? Y	es X No	
epth (inches emarks: oil is moist bu	it not saturated.	er.		н	lydric Soils P	resent? Y	ves X No	***************************************
epth (inches emarks: oil is moist bu lack parent m	ut not saturated. naterial in 8-10 inch lay	ver.		н	lydric Soils Pı			
epth (inches emarks: oil is moist bu lack parent m YDROLOGY /etland Hydr	at not saturated. saterial in 8-10 inch lay			н	lydric Soils Pi		ndary Indicators (2	2 or more required)
emarks: bil is moist bulack parent m  YDROLOGY fetland Hydr rimary Indica	at not saturated.  naterial in 8-10 inch lay  ology Indicators: tors (any one indicator		Salt Cru	•	lydric Soils Pi		ndary Indicators (2	cks (B6)
emarks: bil is moist buack parent m  YDROLOGY rimary Indica C Surface	ut not saturated. laterial in 8-10 inch lay ology Indicators: tors (any one indicator Water (A1)			ists (B11)			ndary Indicators (2	cks (B6) ed Concave Surfaces (B
emarks: bil is moist bulack parent m  YDROLOGY rimary Indica	ut not saturated. laterial in 8-10 inch lay  ology Indicators: tors (any one indicator Water (A1) later Table (A2)		Aquatic	•	s (B13)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern	cks (B6) ed Concave Surfaces (B
emarks: bil is moist buack parent m  YDROLOGY /etland Hydr rimary Indica  K Surface High Wa Saturati Water M	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1)		Aquatic Hydroge Dry-Sea	ists (B11) Invertebrates en Sulfide Od ison Water Ta	s (B13) er (C1) able (C2)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern: Oxidized Rhizosp Crayfish Burrows	cks (B6) ed Concave Surfaces (B6 s (B10) cheres on Living Roots (C (C8)
emarks: oil is moist bulack parent m  YDROLOGY /etland Hydr rimary Indica K Surface High Wa Saturati Water M Sedime	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2)		Aquatic Hydroge Dry-Sea Presence	ists (B11) Invertebrates en Sulfide Od ason Water Ta ce of Reduced	s (B13) er (C1) able (C2) d Iron (C4)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible	cks (B6) ed Concave Surfaces (B6) s (B10) cheres on Living Roots (C6) (C8) e on Aerial Imagery (C9)
epth (inches emarks: oil is moist bu lack parent m  YDROLOGY /etland Hydr rimary Indica K Surface High Wa Saturati Water M Sedime Drift De	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3)		Aquatic Hydroge Dry-Sea Presenc	ists (B11) Invertebrates en Sulfide Od- ison Water Ta te of Reduced ick Surface (C	s (B13) er (C1) able (C2) d Iron (C4)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum	cks (B6) ed Concave Surfaces (B6) s (B10) cheres on Living Roots (C) (C8) e on Aerial Imagery (C9) nmocks (C11) (LRR F)
epth (inches emarks: oil is moist bulack parent m  YDROLOGY /etland Hydrimary Indica X Surface High Water M Sedime Drift De Algal Ma	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Aquatic Hydroge Dry-Sea Presenc	ists (B11) Invertebrates en Sulfide Od ason Water Ta ce of Reduced	s (B13) er (C1) able (C2) d Iron (C4)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi	cks (B6) ed Concave Surfaces (B6) s (B10) cheres on Living Roots (C (C8) c on Aerial Imagery (C9) nmocks (C11) (LRR F) ition (D2)
emarks: oil is moist bulack parent m  YDROLOGY /etland Hydr rimary Indica K Surface High Wa Saturati Water M Sedime Drift De Algal Mi	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	is sufficient)	Aquatic Hydroge Dry-Sea Presenc	ists (B11) Invertebrates en Sulfide Od- ison Water Ta te of Reduced ick Surface (C	s (B13) er (C1) able (C2) d Iron (C4)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern: Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	cks (B6) ed Concave Surfaces (B6) s (B10) cheres on Living Roots (C) (C8) c on Aerial Imagery (C9) nmocks (C11) (LRR F) ition (D2) t (D5)
epth (inches emarks: bil is moist but ack parent m  YDROLOGY  Yetland Hydro imary Indicat  Surface  High Water M Sedime Drift De Algal Mater M Iron De Inundati	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Im	is sufficient)	Aquatic Hydroge Dry-Sea Presenc	ists (B11) Invertebrates en Sulfide Od- ison Water Ta te of Reduced ick Surface (C	s (B13) er (C1) able (C2) d Iron (C4)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hun Geomorphic Posi	cks (B6) ed Concave Surfaces (B6) s (B10) cheres on Living Roots (C) (C8) c on Aerial Imagery (C9) nmocks (C11) (LRR F) ition (D2) t (D5)
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emarks: oil is moist bulack parent m  YDROLOGY /etland Hydr rimary Indica X Surface High Water M Sedime Drift De Algal Mail Iron Det Inundati Water S ield Observa	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) costs (B5) on Visible on Aerial Instained Leaves (B9) titions: Present? Yes	nagery (B7)	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	ists (B11) Invertebrates en Sulfide Odi eson Water Ta e of Reduced ick Surface (Cexplain in Rer	s (B13) er (C1) able (C2) d Iron (C4)		ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern: Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test	cks (B6) ed Concave Surfaces (B6) s (B10) cheres on Living Roots (C) (C8) c on Aerial Imagery (C9) nmocks (C11) (LRR F) ition (D2) t (D5)
epth (inches emarks: oil is moist bu lack parent m  YDROLOGY /etland Hydr rimary Indica X Surface High Wa Saturati Water M Sedime Drift De Algal M: Iron De Inundati Water S ield Observa	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Intitations: Present? Yes resent? Yes	nagery (B7)	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	ists (B11) Invertebrates en Sulfide Odi eson Water Ta e of Reduced ick Surface (C explain in Rer inches):	s (B13) er (C1) able (C2) d Iron (C4) C7) nark)	Seco	ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	cks (B6) ed Concave Surfaces (B6) s (B10) wheres on Living Roots (C (C8) e on Aerial Imagery (C9) mmocks (C11) (LRR F) ition (D2) t (D5) v Data (D8)
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emarks: bil is moist bulack parent m  YDROLOGY Vetland Hydromary Indica C Surface High Water M Sedime Drift De Algal Millorn Del Inundati Water S  ield Observation Preaduration Preadures capil	ology Indicators: tors (any one indicator Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial Indicator stained Leaves (B9) attions:  Present? Yes resent? Yes sent? Yes lary fringe)	nagery (B7)	Aquatic Hydroge Dry-Sea Presenc Thin Mu Other (E	ists (B11) Invertebrates en Sulfide Od ison Water Ta ise of Reduced ick Surface (C explain in Rer inches): inches):	(B13) er (C1) able (C2) d Iron (C4) C7) mark)  3-5 We1	Seco	ndary Indicators (2 Surface Soil Crac Sparsely Vegetat Drainage Pattern Oxidized Rhizosp Crayfish Burrows Saturation Visible Frost-Heave Hum Geomorphic Posi FAC-Neutral Test Local Soil Survey	cks (B6) ed Concave Surfaces (B s (B10) beres on Living Roots (C (C8) e on Aerial Imagery (C9) emocks (C11) (LRR F) ition (D2) t (D5) Data (D8)

US Army Corps of Engineers

Great Plains - DRAFT Version 8-30-06



# APPENDIX 3.5-H APPROVED JURISDICTIONAL DETERMINATIONS



### **DEPARTMENT OF THE ARMY**

CORPS OF ENGINEERS, OMAHA DISTRICT SOUTH DAKOTA REGULATORY OFFICE 28563 POWERHOUSE ROAD, ROOM 118 PIERRE SD 57501-6174 1/19/09

January 14, 2009

South Dakota Regulatory Office 28563 Powerhouse Road, Room 118 Pierre, South Dakota 57501

Powertech (USA) Inc. ATTN: Mr. Richard Blubaugh 5575 DTC Parkway, Suite 140 Greenwood Village, Colorado 80111

Dear Mr. Blubaugh:

Reference is made to Powertech's November 18, 2008, request for approved jurisdictional determinations (JDs) for sites 1 through 17, located within proposed disturbance areas of the Dewey-Burdock In Situ Uranium Project. The project is located in portions of southern Custer County and northern Fall River Counties, South Dakota.

We have completed Approved JDs, for the requested sites, as well as sites 18 through 20. The Approved JDs (Enclosed) are valid for 5 years from the date of this letter. If you are not in agreement with the JDs, you may request an administrative appeal under Corps of Engineers regulations found at 33 C.F.R. 331. Enclosed you will also find a Notification of Administrative Appeal Options and Process and Request for Appeal form (RFA). Should you decide to submit an RFA form, it must be received by the Corps of Engineers Northwestern Division Office within 60 days from the date of this correspondence (March 15, 2009). If you request to appeal this determination you must submit a completed RFA form to the Northwest Division Office at the following address:

US Army Corps of Engineers Northwestern Division Attn: David Gesl Regulatory Program Manager PO Box 2870 Portland, OR 97208-2870 (503) 808-3888

It is not necessary to submit a RFA if you do not object to the JD.

Should your proposed project require work in any of the jurisdictional waterbodies identified in the JDs, prior Department of the Army (DA) authorization may be required and you should contact this office for a permit determination. In addition, should your project plans change or should the project require work in any other waters of the United

States, including wetlands, not previously identified in your August 21, 2008, JD request, you should notify this office and seek additional jurisdictional and permit determinations prior to the commencement of work in these waterbodies.

You can obtain additional information about the Regulatory Program and download forms from our website: <a href="https://www.nwo.usace.army.mil/html/od-rsd/frame.html">https://www.nwo.usace.army.mil/html/od-rsd/frame.html</a> .

If you have any questions concerning this determination, please feel free to contact this office at the above Regulatory Office address, or telephone Mr. Matthew Mikulecky at (605) 224-8531 and reference action ID NWO-2008-2206.

Sincerely,

Steven E. Naylor

Regulatory Program Manager,

Steven E. Jaylon

South Dakota

**Enclosures** 



# **USACOE** Approved Jurisdictional Determination of Wetlands at Dewey-Burdock, Action IS: NOW-2008-2206<sup>1</sup>

Site #	Latitude: Northing (GPS)	Longitude: Westing (GPS)	Description	COE Determination
1	43.50106	104.02757	Upland Swale	Nonjurisdictional
2	43.49590	104.02211	Upland Swale	Nonjurisdictional
3	43.48897	104.02025	Ephemeral Tributary	Jurisdictional
			to Beaver Creek	WOUS
4	43.48654	104.01299	Upland Swale	Nonjurisdictional
5	43.48819	104.01023	Upland Swale	Nonjurisdictional
6	43.46919	103.98704	Upland Swale	Nonjurisdictional
7	43.46591	103.98474	Ephemeral Tributary	Jurisdictional
			to Pass Creek	WOUS
8	43.45801	103.97643	Upland Swale	Nonjurisdictional
9	43.45117	103.98366	Upland Swale	Nonjurisdictional
10	43.47719	103.99297	Pass Creek	Jurisdictional
			(NonRPW)	WOUS
11	43.48869	103.96516	Upland Swale	Nonjurisdictional
12	43.48794	103.96532	Upland Swale	Nonjurisdictional
- 13	43.45098	103.96838	Upland Swale	Nonjurisdictional
14	43.45080	103.96185	Upland Vegetated	Nonjurisdictional
			Drainage lacking a	- !
			downstream	
			connection to WOUS	
15	43.47863	103.95662	Upland Swale	Nonjurisdictional
16	43.46359	103.94818	Upland Hillside Gully	Nonjurisdictional
17	NA	NA	Artificial Pond created	Nonjurisdictional
			by diking uplands	-
18	NA	NA	Beaver Creek	Jurisdictional
			(Perennial RPW)	WOUS
19	NA -	NA	Isolated Wetland	Nonjurisdictional
20	NA	NA	Isolated Wetland	Nonjurisdictional

<sup>&</sup>lt;sup>1</sup>Completion date for Approved Jurisdictional Determination (JD): January 13, 2009
District Office, File Name, and Number: Omaha – Powertech (USA) Inc.- NOW-2008-2206-3-PIE



# APPENDIX 3.5-I LAB RESULTS – ENERGY LABORATORIES, INC.



### **ANALYTICAL SUMMARY REPORT**

June 19, 2008

Jones and Stokes 1901 Energy Ct Ste 115 Gillette, WY 82718

Workorder No.: C08040910

Project Name: Dewey-Burdock 010996.07

Fish identifications corrected as marked.

A. Wones - ICF Jones & Stokes

Energy Laboratories, Inc. received the following 15 samples from Jones and Stokes on 4/18/2008 for analysis.

Sample ID	Client Sample ID	<b>Collect Date</b>	Receive Date	Matrix	Test	
C08040910-001	BVC01-Green Sunfish	04/16/08 00:00	04/18/08	Fish	Uranium, Total Digestion For Rad Lead 210 Polonium 210 Radium 226 Thorium, Isotopic Services Provided	•
08040910-002	BVC01-Plains Killfish	04/16/08 00:00	04/18/08	Fish	Same As Above	
C08040910-003	BVC01-Longnose Dace	04/16/08 00:00	04/18/08	Fish	Same As Above	
C08040910-004	BVC01-Emerald Shiner	04/16/08 00:00	04/18/08	Fish	Same As Above	Fathead Minnow
08040910-005	BVC04-Plains Killfish	04/16/08 00:00	04/18/08	Fish	Same As Above	
C08040910-006	BVC04-Quill Back	04/16/08 00:00	04/18/08	Fish	Same As Above	River Carpsucker
C08040910-007	BVC04-Green Sunfish	04/16/08 00:00	04/18/08	Fish	Same As Above	
08040910-008	BVC04-Emerald Shiner	04/16/08 00:00	04/18/08	Fish	Same As Above	Fathead Minnow
C08040910-009	BVC04-Channel Catfish	04/16/08 00:00	04/18/08	Fish	Same As Above	
C08040910-010	CHR05-Quill Back	04/15/08 00:00	04/18/08	Fish	Same As Above	River Carpsucker
C08040910-011	CHR05-Green Sunfish	04/15/08 00:00	04/18/08	Fish	Same As Above	
C08040910-012	CHR05-Mottled Sucker	04/15/08 00:00	04/18/08	Fish	Same As Ab Sho	rthead Redhorse Suck
C08040910-013	CHR05-Fine Scale Dace	04/15/08 00:00	04/18/08	Fish	Same As Above	Creek Chub
C08040910-014	CHR05-Plains Killfish	04/15/08 00:00	04/18/08	Fish	Same As Above	
C08040910-015	CHR05-Shiner	04/15/08 00:00	04/18/08	Fish	Same As Above	Sand Shiner

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By:



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-001

Client Sample ID: BVC01-Green Sunfish

Report Date: 06/19/08

Collection Date: 04/16/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCI.	Method	Analysis Date / By
METALS - TOTAL							
Uranium	ND	mg/kg		0.02		SW6020	05/11/08 01:09 / ts
Uranium, Activity	ND	uCi/kg	D	2.0E-05		SW6020	05/11/08 01:09 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	0.0E+00	uCi/kg	U	5.0E-05		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	6.0E-05	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	. 0.0E+00	uCi/kg	U	5.0E-05		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	2.0E-04	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	0.0E+00	uCi/kg	U	1.0E-05		E907.0	05/09/08 14:00 / dm
Thorium 230 precision (±)	2.0E-05	uCi/kg				E907.0	05/09/08 14:00 / dm
Radium 226	3.0E-04	uCi/kg				E903.0	05/15/08 15:31 / trs
Radium 226 precision (±)	9.0E-05	uCi/kg				E903.0	05/15/08 15:31 / trs
Radium 226 MDC	1.0E-04	uCl/kg				E903.0	05/15/08 15:31 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-002

Client Sample ID: BVC01-Plains Killfish

Report Date: 06/19/08

Collection Date: 04/16/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL	Method	Analysis Date / By
METALS - TOTAL		•					
Uranium	ND	mg/kg	D	0.3		SW6020	05/11/08 01:18 / ts
Uranium, Activity	ND	uCi/kg	D	2.0E-04		SW6020	05/11/08 01:18 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	0.0E+00	uCi/kg	ŲD	5.0E-04		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	8.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	2.0E-02	uCi/kg	D	5.0E-04		E909.0M	06/09/08 08:30 / dm
Lead 210 precision (±)	2.0E-02	uCi/kg				E909.0M	06/09/08 08:30 / dm
Thorium 230	2.0E-04	uCi/kg	D	1.0E-04		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	3.0E-04	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-4.0E-04	uCi/kg	U			E903.0	05/16/08 15:11 / trs
Radium 226 precision (±)	4.0E-04	uCi/kg				E903.0	05/16/08 15:11 / trs
Radium 226 MDC	9.0E-04	uCi/kg				E903.0	05/16/08 15:11 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-003

Client Sample ID: BVC01-Longnose Dace

Report Date: 06/19/08

Collection Date: 04/16/08 DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCT.	Method	Analysis Date / By
METALS - TOTAL		•					
Uranium	ND	mg/kg	Ð	0.9		SW6020	05/11/08 01:22 / ts
Uranium, Activity	ND	uCi/kg	D	6.0E-04		SW6020	05/11/08 01:22 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	2.0E-03	uCi/kg	D	1.0E-03		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	3.0E-03	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	UD	1.0E-03		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	7.0E-03	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	1.0E-03	uCi/kg	D	3.0E-04		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	1.0E-03	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-2.0E-03	uCi/kg	U			E903.0	05/16/08 15:11 / trs
Radium 226 precision (±)	1.0E-03	uCi/kg				E903.0	05/16/08 15:11 / trs
Radium 226 MDC	3.0E-03	uCi/kg				E903.0	05/16/08 15:11 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-004

Client Sample ID: BVC01-Emerald Shiner Fathead Minnow

Report Date: 06/19/08

Collection Date: 04/16/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	ND	mg/kg	D	0.1		SW6020	05/11/08 01:42 / ts
Uranium, Activity	ND	uCi/kg	D	1.0E-04		SW6020	05/11/08 01:42 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	4.0E-04	uCi/kg	D	2.0E-04		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	5.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	UD	2.0E-04		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	1.0E-03	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	0.0E+00	uCi/kg	UD	5.0E-05		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	7.0E-05	uCi/kg				E907.0	05/09/08 14:00 / dm
Radium 226	-1.0E-04	uCi/kg	U			E903.0	05/16/08 15:11 / trs
Radium 226 precision (±)	2.0E-04	uCi/kg				E903.0	05/16/08 15:11 / trs
Radium 226 MDC	5.0E-04	uCi/kg				E903.0	05/16/08 15:11 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-005

Client Sample ID: BVC04-Plains Killfish

Report Date: 06/19/08

Collection Date: 04/16/08

DateReceived: 04/18/08 Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/	Method	Analysis Date / By
METALS - TOTAL			· · · · · · · · · · · · · · · · · · ·				
Uranium	ND	mg/kg	D	0.8		SW6020	05/11/08 01:46 / ts
Uranium, Activity	ND	uCi/kg	Ð	5.0E-04		SW6020	05/11/08 01:46 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	0.0E+00	uCi/kg	Ú	1.0E-03		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	1.0E-03	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	QU	1.0E-03		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	8.0E-03	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	0.0E+00	uCi/kg	QU	3.0E-04		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	4.0E-04	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-1.0E-03	uCi/kg	U			E903.0	05/15/08 15:31 / trs
Radium 226 precision (±)	1.0E-03	uCi/kg				E903.0	05/15/08 15:31 / trs
Radium 226 MDC	2.0E-03	uÇi/kg				E903.0	05/15/08 15:31 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-006

Client Sample ID: BVC04-Quill Back River Carpsucker

Report Date: 06/19/08

Collection Date: 04/16/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL			*			4-0	Wan collection of the Collecti
Uranium	ND	mg/kg	D	0.03		SW6020	05/11/08 01:51 / ts
Uranium, Activity	ND	uCi/kg	D	2.0E-05		SW6020	05/11/08 01:51 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	4.0E-04	uCi/kg		5.0E-05		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	2.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	U	5.0E-05		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	3.0E-04	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	2.0E-05	uCi/kg		1.0E-05		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	3.0E-05	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-2.0E-05	uCi/kg	U			E903.0	05/15/08 15:31 / trs
Radium 226 precision (±)	6.0E-05	uCi/kg				E903.0	05/15/08 15:31 / trs
Radium 226 MDC	1.0E-04	uCi/kg				E903.0	05/15/08 15:31 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-007

Client Sample ID: BVC04-Green Sunfish

Report Date: 06/19/08

Collection Date: 04/16/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL		·					
Uranium	ND	mg/kg	D	0.3		SW6020	05/11/08 01:55 / ts
Uranium, Activity	ND	uCi/kg	D	2.0E-04		SW6020	05/11/08 01:55 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	6.0E-04	uCi/kg	D	4.0E-04		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	7.0 <b>E-0</b> 4	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	UD	4.0E-04		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	3.0E-03	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	8.0E-04	uCi/kg	D	9.0E-05		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	6.0E-04	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-3.0E-04	uCi/kg	U			E903.0	05/15/08 15:31 / trs
Radium 226 precision (±)	4.0E-04	uCi/kg				E903.0	05/15/08 15:31 / trs
Radium 226 MDC	9.0E-04	uCi/kg				E903.0	05/15/08 15:31 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-008

Client Sample ID: BVC04-Emerald-Shiner Fathead Minnow

Report Date: 06/19/08

Collection Date: 04/16/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	ND	mg/kg		0.02		SW6020	05/11/08 01:59 / ts
Uranium, Activity	ND	uCi/kg		1.0E-05		SW6020	05/11/08 01:59 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	0.0E+00	uCi/kg	U	5.0E-05		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	2.0E-05	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	U	5.0E-05		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	9.0E-05	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	1.0E-05	uCi/kg		1.0E-05		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	1.0E-05	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	1.0E-04	uCi/kg				E903.0	05/15/08 15:31 / trs
Radium 226 precision (±)	3.0E-05	uCi/kg				E903.0	05/15/08 15:31 / trs
Radium 226 MDC	3.0E-05	uCi/kg				E903.0	05/15/08 15:31 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-009

Client Sample ID: BVC04-Channel Catfish

Report Date: 06/19/08

Collection Date: 04/16/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/	Method	Analysis Date / By
METALS - TOTAL		·					
Uranium	0.05	mg/kg	D	0.05		SW6020	05/11/08 02:03 / ts
Uranium, Activity	3.0E-05	uCi/kg	D	3.0E-05		SW6020	05/11/08 02:03 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	9.0E-04	uCi/kg	D	8.0E-05		RMO-3008	06/02/08 11:15 / plj-
Polonium 210 precision (±)	3.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	UD	8.0E-05		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	5.0E-04	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	2.0E-05	uCi/kg	D	2.0E-05		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	3.0E-05	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-8.0E-05	uCi/kg	U			E903.0	05/15/08 15:31 / trs
Radium 226 precision (±)	6.0E-05	uCi/kg				E903.0	05/15/08 15:31 / trs
Radium 226 MDC	1.0E-04	uCi/kg				E903.0	05/15/08 15:31 / trs

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-010

Client Sample ID: CHR05-Quill-Back River Carpsucker

Report Date: 06/19/08

Collection Date: 04/15/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result		Qualifiers	RL	MCL	Method	Analysis Date / B	
METALS - TOTAL	100000000000000000000000000000000000000							
Uranium	ND	mg/kg	D	0.04		SW6020	05/11/08 02:07 / ts	
Uranium, Activity	ND	uCi/kg	D	3.0E-05		SW6020	05/11/08 02:07 / ts	
RADIONUCLIDES - TOTAL								
Polonium 210	8.0E-04	uCi/kg	D	7.0E-05		RMO-3008	06/02/08 11:15 / plj	
Polonium 210 precision (±)	3.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj	
Lead 210	0.0E+00	uCi/kg	UD	7.0E-05		E909.0M	05/21/08 09:00 / dm	
Lead 210 precision (±)	4.0E-04	uCi/kg				E909.0M	05/21/08 09:00 / dm	
Thorium 230	0.0E+00	uCi/kg	U	1.0E-05		E907.0	05/09/08 14:00 / dm	
Thorium 230 precision (±)	5.0E-05	uCi/kg				E907.0	05/09/08 14:00 / dm	
Radium 226	-9.0E-05	uCi/kg	U			E903.0	05/15/08 17:06 / trs	
Radium 226 precision (±)	5.0E-05	uCi/kg				E903.0	05/15/08 17:06 / trs	
Radium 226 MDC	1.0E-04	uCi/kg				E903.0	05/15/08 17:06 / trs	

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-011

Client Sample ID: CHR05-Green Sunfish

Report Date: 06/19/08

Collection Date: 04/15/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/	Method	Analysis Date / By
METALS - TOTAL							
Uranium	ND	mg/kg	D	0.04		SW6020	05/11/08 02:11 / ts
Uranium, Activity	ND	uCi/kg	ס	3.0E-05		SW6020	05/11/08 02:11 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	8.0E-05	uCi/kg	UD	7.0E-05		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	1.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	UD	7.0E-05		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	4.0E-04	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	1.0E-05	uCi/kg	U	1.0E-05		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	5.0E-05	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-6.0E-05	uCl/kg	U			E903.0	05/15/08 17:06 / trs
Radium 226 precision (±)	7.0E-05	uCi/kg				E903.0	05/15/08 17:06 / trs
Radium 226 MDC	1.0E-04	uCi/kg				E903.0	05/15/08 17:06 / trs

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-012

Client Sample ID: CHR05-Mottled Sucker Shorthead Redhorse Sucker

Report Date: 06/19/08

Collection Date: 04/15/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL	Method	Analysis Date / By
METALS - TOTAL	T. I.						
Uranium	ND	mg/kg		0.02		SW6020	05/11/08 02:15 / ts
Uranium, Activity	ND	uCi/kg		1.0E-05		SW6020	05/11/08 02:15 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	2.0E-04	uCi/kg		5.0E-05		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	1.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	U	5.0E-05		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	1.0E-04	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	2.0E-05	uCi/kg		1.0E-05		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	2.0E-05	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-1.0E-05	uCi/kg	U			E903.0	05/16/08 15:11 / trs
Radium 226 precision (±)	2.0E-05	uCi/kg				E903.0	05/16/08 15:11 / trs
Radium 226 MDC	3.0E-05	uCi/kg				E903.0	05/16/08 15:11 / trs

Report Definitions:

RL - Analyte reporting limit. QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-013

Client Sample ID: CHR05-Fine Scale Dace Creek Chub

Report Date: 06/19/08

Collection Date: 04/15/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / B	
METALS - TOTAL			7/897					
Uranium	ND	mg/kg	D	0.2		SW6020	05/11/08 02:36 / ts	
Uranium, Activity	ND	uCi/kg	D	1.0E-04		SW6020	05/11/08 02:36 / ts	
RADIONUCLIDES - TOTAL								
Polonium 210	0.0E+00	uCi/kg	UD	3.0E-04		RMO-3008	06/02/08 11:15 / plj	
Polonium 210 precision (±)	3.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj	
Lead 210	0.0E+00	uCi/kg	UD	3.0E-04		E909.0M	05/21/08 09:00 / dm	
Lead 210 precision (±)	2.0E-03	uCi/kg				E909.0M	05/21/08 09:00 / dm	
Thorium 230	0.0E+00	uCi/kg	UD	7.0E-05		E907.0	05/09/08 14:00 / dmf	
Thorium 230 precision (±)	2.0E-04	uCi/kg				E907.0	05/09/08 14:00 / dmf	
Radium 226	-2.0E-04	uCi/kg	U			E903.0	05/16/08 15:11 / trs	
Radium 226 precision (±)	3.0E-04	uCi/kg				E903.0	05/16/08 15:11 / trs	
Radium 226 MDC	6.0E-04	uCi/kg				E903.0	05/16/08 15:11 / trs	

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-014

Client Sample ID: CHR05-Plains Killfish

Report Date: 06/19/08

Collection Date: 04/15/08

DateReceived: 04/18/08 Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By	
METALS - TOTAL								
Uranium	ND	mg/kg	D	0.4		SW6020	05/11/08 02:40 / ts	
Uranium, Activity	ND	uCi/kg	D	3.0E-04		SW6020	05/11/08 02:40 / ts	
RADIONUCLIDES - TOTAL								
Polonium 210	0.0E+00	uCi/kg	UD	6.0E-04		RMO-3008	06/02/09 44:45 1=0	
Polonium 210 precision (±)	1.0E-03	uCi/kg	0.5	0.02-04		RMO-3008	06/02/08 11:15 / plj 06/02/08 11:15 / plj	
Lead 210	0.0E+00	uCi/ka	UD .	6.0E-04		E909.0M	05/21/08 09:00 / dm	
Lead 210 precision (±)	3.0E-03	uCi/kg				E909.0M	05/21/08 09:00 / dm	
Thorium 230	1.0E-03	uCi/kg	D	1.0E-04		E907.0	05/09/08 14:00 / dmf	
Thorium 230 precision (±)	8.0E-04	uCi/kg				E907.0	05/09/08 14:00 / dmf	
Radium 226	-5.0E-04	uCi/kg	U			E903.0	05/16/08 15:11 / trs	
Radium 226 precision (±)	5.0E-04	uCi/kg				E903.0	05/16/08 15:11 / trs	
Radium 226 MDC	1.0E-03	uCi/kg				E903.0	05/16/08 15:11 / trs	

Report Definitions:

RL - Analyte reporting limit. QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Lab ID:

C08040910-015

Client Sample ID: CHR05-Shiner

Sand Shiner

Report Date: 06/19/08

Collection Date: 04/15/08

DateReceived: 04/18/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL					-		2 2 11 2
Uranium	ND	mg/kg	D	0.4		SW6020	05/11/08 02:44 / ts
Uranium, Activity	ND	uCl/kg	D	3.0E-04		SW6020	05/11/08 02:44 / ts
RADIONUCLIDES - TOTAL							
Polonium 210	0.0E+00	uCi/kg	UD	6.0E-04		RMO-3008	06/02/08 11:15 / plj
Polonium 210 precision (±)	5.0E-04	uCi/kg				RMO-3008	06/02/08 11:15 / plj
Lead 210	0.0E+00	uCi/kg	UD	6.0E-04		E909.0M	05/21/08 09:00 / dm
Lead 210 precision (±)	3.0E-03	uCi/kg				E909.0M	05/21/08 09:00 / dm
Thorium 230	1.0E-03	uCi/kg	D	1.0E-04		E907.0	05/09/08 14:00 / dmf
Thorium 230 precision (±)	7.0E-04	uCi/kg				E907.0	05/09/08 14:00 / dmf
Radium 226	-3.0E-04	uCi/kg	U			E903.0	05/15/08 17:06 / trs
Radium 226 precision (±)	6.0E-04	uCi/kg				E903.0	05/15/08 17:06 / trs
Radium 226 MDC	1.0E-03	uCi/kg				E903.0	05/15/08 17:06 / trs

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



# **QA/QC Summary Report**

Client: Jones and Stokes

Report Date: 06/19/08

Project: Dewey-Burdock 010996.07

Work Order: C08040910

Analyte	Result Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit Qu	ıal
Method: E903.0			<del></del>		3		Batch: 1	8521
Sample ID: C08041154-001AMS	Sample Matrix Spike			Run: BERT	HOLD 770_080	508E	05/15/08	17:06
Radium 226	0.14pCi/L		84	70	130			
Sample ID: C08041154-001AMSD	Sample Matrix Spike Duplicate			Due DEDT	HOLD 770_080	EOOE	05/15/08	17.00
Radium 226	0.14pCi/L		87	70	130	0.4	23.7	17.00
	, <b>,</b>						40	
Sample ID: MB-18521	Method Blank			Run: BERT	HOLD 770_080	508E	05/16/08	
Radium 226	-0.7 pCi/L						U	1
Sample ID: LCS-18521	Laboratory Control Sample			Run: BERT	HOLD 770_080	508E	05/16/08	08:10
Radium 226	15 pCi/L		97	70	130			
Method: E907.0							Batch: 1	8521
Sample ID: C08041154-001AMS	Sample Matrix Spike			Run: EGG-	ORTEC_080509	9A	05/09/08	14:00
Thorium 230	0.23 pCi/g-dry	0.10	113	70	130			
Sample ID: C08041154-001AMSD	Sample Matrix Spike Duplicate			Run: EGG-	ORTEC_08050	9A	05/09/08	14:00
Thorium 230	0.15 pCi/g-dry	0.10	81	70	130	41	30 F	₹
- The RPD for the MSD is high. The individ	dual spike recoveries are within range, the	MB is ac	ceptable, a	and the LCS is	within range, there	fore the b	atch is approved.	
Sample ID: LCS-18521	Laboratory Control Sample				ORTEC_08050	9A	05/09/08	14:00
Thorium 230	0.0431 pCi/g-dry	0.10	93	70	130			
Sample ID: MB-18521	Method Blank			Run: EGG-	ORTEC_08050	9 <b>A</b>	05/09/08	14:00
Thorium 230	-0.0006 pCi/g-dry							
Method: E909.0M				<del></del>			Batch: 1	852
Sample ID: C08041154-001AMS	Sample Matrix Spike			Run: PAC	(ARD 3100TR_(	080521A	05/21/08	09:00
Lead 210	3.5 pCi/g-dry	0.10	130		130			
- Spike response is outside of the acceptar	nce range for this analysis. Since the LCS	and the l	VISD are a	cceptable the t	eatch is approved.			
Sample ID: C08041154-001AMSD	Sample Matrix Spike Duplicate			Run: PAC	KARD 3100TR_0	080521A	05/21/08	09:00
Lead 210	2.5 pCi/g-dry	0.10	91	70	130	36	30 F	₹
Sample ID: MB-R101975	Method Blank			Run: PAC	(ARD 3100TR_0	080521A	05/21/08	09:00
Lead 210	ND pCi/g-dry				_			
Sample ID: LCS-R101975	Laboratory Control Sample			Run: PACI	KARD 3100TR_0	0805214	05/21/08	<b>0</b> 9∙№
Lead 210	0.0528 pCi/g-dry	0.10	76		130	TOOL IF	. 5521100	J.J. U
	hand a.,	J	. •	. •				

### Qualifiers:



# **QA/QC Summary Report**

Client: Jones and Stokes

Report Date: 06/19/08

Project: Dewey-Burdock 010996.07

Work Order: C08040910

Analyte	Result Units	ŔL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0M							Batch	: R102568
Sample ID: C08050798-003AMS	Sample Matrix Spike			Run: PAC	CARD 3100TR	_080609A	06/0	9/08 08:30
Lead 210 - Spike response is outside of the acceptant	648 pCi/Filter	S and the &	48 ASD are a	70 ccentable the l	130 patch is approved	1.		s
Sample ID: C08050798-003AMSD	Sample Matrix Spike Duplicate	, and are n			CARD 3100TR		. 06/0	9/08 08:30
Lead 210	1350 pCi/Filter		108	70	130	70	30	R
Sample ID: MB-R102568	Method Blank			Run: PAC	KARD 3100TR	_080609A	06/0	9/08 08:30
Lead 210	10 pCi/L							
Sample ID: LCS-R102568	Laboratory Control Sample			Run: PAC	KARD 3100TR	_080609A	06/0	9/08 08:30
Lead 210	110 pCi/L		84	70	130			
Method: RMO-3008							Ва	tch: 18521
Sample ID: C08040910-015AMS	Sample Matrix Spike			Run: EGG	-ORTEC_0806	02A	06/0	2/08 11:15
Polonium 210	105 pCi/g-dry	0.10	96	70	130			
Sample ID: C08040910-015AMSD	Sample Matrix Spike Duplicate			Run: EGG	-ORTEC_0806	02A	06/0	2/08 11:15
Polonium 210	117 pCi/g-dry	0.10	107	70	130	11	30	
Sample ID: LCS-18521	Laboratory Control Sample			Run: EGG	-ORTEC_0806	02A	06/0	2/08 11:15
Polonium 210	79.2 pCi/g-dry	0.10	91	70	130			
Sample ID: MB-18521	Method Blank			Run: EGG	-ORTEC_0806	02A	06/0	2/08 11:15
Polonium 210	-0.3 pCi/g-dry							
Method: SW6020							Ва	itch: 18521
Sample ID: MB-18521	Method Blank			Run: ICPN	1S2-C_080510	В	05/1	1/08 01:01
Uranium	8E-05 mg/kg-dry	6E-05						
Sample ID: LCS1-18521	Laboratory Control Sample			Run: ICPN	/IS2-C_080510	В	05/1	1/08 01:05
Uranium	0.515 mg/kg-dry	0.015	103	75	125			
Sample ID: C08040910-015AMS	Sample Matrix Spike				AS2-C_080510	В	05/1	1/08 02:48
Uranium	316 mg/kg-dry	0.38	100	. 75	125			
Sample ID: C08040910-015AMSD	Sample Matrix Spike Duplicate				/S2-C_080510		05/1	1/08 02:52
Uranium	316 mg/kg-dry	0.38	101	75	125	0.2	20	

#### Qualifiers:



Date: 19-Jun-08

**CLIENT:** 

Jones and Stokes

Project:

Dewey-Burdock 010996.07

Sample Delivery Group: C08040910

## CASE NARRATIVE

#### THIS IS THE FINAL PAGE OF THE LABORATORY ANALYTICAL REPORT

#### ORIGINAL SAMPLE SUBMITTAL(S)

All original sample submittals have been returned with the data package.

#### SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

#### GROSS ALPHA ANALYSIS

Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

#### **RADON IN AIR ANALYSIS**

The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

#### SOIL/SOLID SAMPLES

All samples reported on an as received basis unless otherwise indicated.

#### ATRAZINE, SIMAZINE AND PCB ANALYSIS USING EPA 505

Data for Atrazine and Simazine are reported from EPA 525.2, not from EPA 505. Data reported by ELI using EPA method 505 reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

#### SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

#### **BRANCH LABORATORY LOCATIONS**

eli-b - Energy Laboratories, Inc. - Billings, MT eli-g - Energy Laboratories, Inc. - Gillette, WY eli-h - Energy Laboratories, Inc. - Helena, MT

eli-r - Energy Laboratories, Inc. - Rapid City, SD

eli-t - Energy Laboratories, Inc. - College Station, TX

#### CERTFICATIONS:

USEPA: WY00002; FL-DOH NELAC: E87641; Arizona: AZ0699; California: 02118CA Oregon: WY200001; Utah: 3072350515; Virginia: 00057; Washington: C1903

#### ISO 17025 DISCLAIMER:

The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER, WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.



# **ANALYTICAL SUMMARY REPORT**

August 22, 2008

Jones and Stokes 1901 Energy Ct Ste 115 Gillette, WY 82718

Workorder No.: C08070647

Project Name: Dewey Burdock 00996.07

Energy Laboratories, Inc. received the following 17 samples from Jones and Stokes on 7/15/2008 for analysis.

Sample ID species corrected.

A. Wones ICF Jones &
Stokes

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test	
C08070647-001	BVC01-ICF JSA-FHM	07/10/08 00:00	07/15/08	Fish	Uranium, Total Digestion For Rad Lead 210 Polonium 210 Radium 226 Thorium, Isotopic	ioChemistry
C08070647-002	BVC01-Plains Top Minow	07/10/08 00:00	07/15/08	Fish	Same As Above	
C08070647-003	BVC01-Plains Kill Fish	07/10/08 00:00	07/15/08	Fish	Same As Above	
C08070647-004	BVC01-Common Shiner	07/10/08 00:00	07/15/08	Fish	Same As Above	Sand Shiner
C08070647-005	BVC01-ICF JSA- CAP Carp	07/10/08 00:00	07/15/08	Fish	Same As Above	
C08070647-006	BVC04-Common Shiner	07/10/08 00:00	07/15/08	Fish	Same As Above	Sand Shiner
C08070647-007	BVC04-Short Head Red Horse Sucker	07/10/08 00:00	07/15/08	Fish	Same As Above	
C08070647-008	BVC04-Fathead Minow	07/10/08 00:00	07/15/08	Fish	Same As Above	
C08070647-009	BVC04-PLK	07/10/08 00:00	07/15/08	Fish	Same As Above	
C08070647-010	BVC04-Carp (Cap)	07/10/08 00:00	07/15/08	Fish	Same As Above	
C08070647-011	CHR04-WSM	07/09/08 00:00	07/15/08	Fish	Same As Above	Sand Shiner
C08070647-012	CHR04-FHM	07/09/08 00:00	07/15/08	Fish	Same As Above	
C08070647-013	CHR04-PLK	07/09/08 00:00	07/15/08	Fish	Same As Above	
C08070647-014	CHR04-SRS	07/09/08 00:00	07/15/08	Fish	Same As Above	
C08070647-015	CHR04-Carp	07/09/08 00:00	07/15/08	Fish	Same As Above	10 W 10 - 10 - 10 - 10 - 10 - 10 - 1
C08070647-016	CHR04-CHC	07/09/08 00:00	07/15/08	Fish	Same As Above	
C08070647-017	CHR04-RCS	07/09/08 00:00	07/15/08	Fish	Composite of two Uranium, Total Digestion For Rad Lead 210 Polonium 210 Radium 226 Thorium, Isotopic	



As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By: ⋝

STEVE CARLSTON



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-001

Client Sample ID: BVC01-ICF JSA-FHM

Report Date: 08/22/08

Collection Date: 07/10/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.026	mg/kg-dry		0.0050	,	SW6020	07/27/08 05:51 / sml
Uranium, Activity	1.8E-05	uCi/kg		3.4E-06		SW6020	07/27/08 05:51 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	4.0E-04	uÇi/kg	•	9.3E-05		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	2.3E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	1.4E-03	uCi/kg	U	÷		E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	3.6E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	6.0E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.2E-04	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	1.2E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	2.9E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	-1.2E-05	uCi/kg	U	1.9E-05		E907.0	. 08/08/08 00:16 / dmf
Thorium 230 precision (±)	6.2E-05	uCi/kg				E907.0	08/08/08 00:16 / dmf



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-002

Client Sample ID: BVC01-Plains Top Minow

Report Date: 08/22/08

Collection Date: 07/10/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers		MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL	•					,	
Uranium	0.021	mg/kg-dry	` <b>0</b> .	0050		SW6020	07/27/08 06:12 / sml
Uranium, Activity	1.4E-05	uCi/kg	3.4	4E-06		SW6020	07/27/08 06:12 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	3.5E-04	uCi/kg	1.1	1E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	2.8E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	-2.0E-03	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	4.2E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	7.1E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.0E-04	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	1.1E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	2.7E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	1.0E-04	uCi/kg	2.3	2E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	1.0E-04	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions:

RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-003

Client Sample ID: BVC01-Plains Kill Fish

Report Date: 08/22/08

Collection Date: 07/10/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCT.	Method	Analysis Date / By
METALS - TOTAL		·				i	
Uranium	0.035	mg/kg-dry		0.0050		SW6020	07/27/08 06:16 / sml
Uranium, Activity	2.4E-05	uCi/kg		3.4E-06		SW6020	07/27/08 06:16 / sml
RADIONUCLIDES - TOTAL	·						
Polonium 210	4.7E-04	uCi/kg		1.1E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	3.1E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	1.2E-03	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	4.2E-03	uCi/kg	•			E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	7.1E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.0E-04	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	1.1E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	2.8E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	5.7E-06	uCi/kg	U	2.2E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	1.0E-04	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-004

Client Sample ID: BVC01-Common Shiner

000070047-004

SAS sand shiner

Report Date: 08/22/08

Collection Date: 07/10/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCT.	Method	Analysis Date / By
METALS - TOTAL					1-70		
Uranium	0.031	mg/kg-dry		0.0050		SW6020	07/27/08 06:20 / sml
Uranium, Activity	2.1E-05	uCi/kg		3.4E-06		SW6020	07/27/08 06:20 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	2.3E-04	uCi/kg		1.6E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	2.6E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	3.8E-03	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	6.1E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	1.0E-02	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-3.0E-04	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	1.6E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	4.0E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	9.8E-05	uCi/kg		3.2E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	1.6E-04	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-005

Client Sample ID: BVC01-ICF JSA- CAP Carp

Report Date: 08/22/08

Collection Date: 07/10/08 DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.0098	mg/kg-dry		0.0050		SW6020	07/27/08 06:24 / sml
Uranium, Activity	6.7E-06	uCi/kg		3.4E-06		SW6020	07/27/08 06:24 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	7.8E-04	uCi/kg		5.0E-05		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	1.9E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	7.6E-05	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	5.0E-04	uCi/kg			•	E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	8.4E-04	uCl/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.3E-05	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	1.6E-05	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	3.6E-05	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	-7.4E-07	uCi/kg	U	2.6E-06	•	E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	9.2E-06	uCi/kg				E907.0	08/08/08 00:16 / dml

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-006

Client Sample ID: BVC04-Common Shiner

Sand Shiner

Report Date: 08/22/08

Collection Date: 07/10/08

DateReceived: 07/15/08

Matrix: Fish

A nalyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL				8	W-11-3/82		
Uranium	0.024	mg/kg-dry		0.0050		SW6020	07/27/08 06:28 / sml
Uranium, Activity	1.6E-05	uCi/kg		3.4E-06		SW6020	07/27/08 06:28 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	5.4E-04	uCi/kg		1.1E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	5.4E-04	uCl/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	6.4E-04	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	4.4E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	7.3E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-7.7E-05	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	1.3E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	2.5E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	2.7E-05	uCi/kg		2.3E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	1.0E-04	uCi/kg				E907.0	08/08/08 00:16 / dmf



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-007

Client Sample ID: BVC04-Short Head Red Horse Sucker

Report Date: 08/22/08

Collection Date: 07/10/08

DateReceived: 07/15/08 Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/	Method	Analysis Date / By
METALS - TOTAL						. <u> </u>	
Uranium	0.0072	mg/kg-dry		0.0050		SW6020	07/27/08 06:32 / smi
Uranium, Activity	4.9E-06	uCi/kg		3.4E-06		SW6020	07/27/08 06:32 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	1.7E-04	uCi/kg		5.0E-05		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	1.0E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	1.2E-04	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	1.2E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	2.0E-03	uCi/kg		•	•	E909.0M	07/28/08 11:15 / dm
Radium 226	-3.7E-05	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	3.2E-05	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	6.9E-05	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	1.9E-06	uCi/kg	U	6.3E-06		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	2.3E-05	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-008

Client Sample ID: BVC04-Fathead Minow

Report Date: 08/22/08

Collection Date: 07/10/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.031	mg/kg-dry		0.0050		SW6020	07/27/08 06:36 / sml
Uranium, Activity	2.1E-05	uCi/kg		3.4E-06		SW6020	07/27/08 06:36 / sml
RADIONUCLIDES - TOTAL	•						
Polonium 210	1.8E-04	uCi/kg		1.2E-04		RMQ-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	3.1E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	7.9E-04	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	4.7E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	7.9 <b>E-0</b> 3	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-1.2E-04	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	1.6E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	3.2E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	-1.2E-05	uCi/kg	υ	2.5E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	6.9E-05	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-009

Client Sample ID: BVC04-PLK

Report Date: 08/22/08 Collection Date: 07/10/08 DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.019	mg/kg-dry		0.0050		SW6020	07/27/08 06:40 / sml
Uranium, Activity	1.3E-05	uCi/kg		3.4E-06		SW6020	07/27/08 06:40 / sml
RADIONUCLIDES - TOTAL						·.	
Polonium 210	8.5E-05	uCi/kg	υ	1.2E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	1.3E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	3.2E-03	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	4.7E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	7.8E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.1E-04	uCi/kg	U			E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	1.1E-04	uCi/kg		,		E903.0	08/07/08 10:34 / dm
Radium 226 MDC	2.8E-04	uCi/kg				E903.0	08/07/08 10:34 / dm
Thorium 230	9.4E-05	uCi/kg		2.4E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	9.1E-05	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-010

Client Sample ID: BVC04-Carp (Cap)

Report Date: 08/22/08

Collection Date: 07/10/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL_	MCL	Method	Analysis Date / By
METALS - TOTAL		· · ·					
Uranium	0.014	mg/kg-dry		0.0050		SW6020	07/27/08 06:44 / sml
Uranium, Activity	9.4E-06	uCi/kg		3.4E-06		SW6020	07/27/08 06:44 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	1.5E-04	uCi/kg		4.0E-06		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	7.1E-05	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	9.2E-05	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	1.5E-04	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	2.6E-04	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-4.8E-06	uCi/kg	U			E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	4.2E-06	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 MDC	9.1E-06	uCi/kg				E903.0	08/07/08 10:34 / dm
Thorium 230	2.3E-06	uCi/kg		8.0E-07		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	3.7E-06	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-011

Client Sample ID: CHR04-WSM

C00070047-01

Report Date: 08/22/08

Collection Date: 07/09/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL	· · · · · · · · · · · · · · · · · · ·	·					
Uranium ,	0.040	mg/kg-dry	,	0.0050		SW6020	07/27/08 07:00 / sml
Uranium, Activity	2.7E-05	uCi/kg		3.4E-06		SW6020	07/27/08 07:00 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	4.9E-04	uCi/kg		1.4E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	3.2E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	4.5E-03	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	5.3E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	8.8E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.8E-04	uCi/kg	U			E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	1.5E-04	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 MDC	3.8E-04	uCl/kg			•	E903.0	08/07/08 10:34 / dm
Thorium 230	1.4E-04	uCi/kg		2.7E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	1.1E-04	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions:

RL - Analyte reporting limit. QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-012

Client Sample ID: CHR04-FHM

Report Date: 08/22/08

Collection Date: 07/09/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL	Method	Analysis Date / By
METALS - TOTAL		i	4.4.				
Uranium	0.024	mg/kg-dry		0.0050		SW6020	07/27/08 07:04 / sml
Uranium, Activity	1.6E-05	uCi/kg		3.4E-06		SW6020	07/27/08 07:04 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	4.2E-04	uCi/kg		1.1E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	2.8E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	1.5E-03	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	4.3E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	7.2E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.1E <b>-04</b>	uCi/kg	U			E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	1.3E-04	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 MDC	3.0E-04	uCi/kg				E903.0	08/07/08 10:34 / dm
Thorium 230	1.3E-05	uCi/kg	U	2.2E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	4.5E-05	uCi/kg				E907.0	08/08/08 00:16 / dmf



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-013

Client Sample ID: CHR04-PLK

Report Date: 08/22/08

Collection Date: 07/09/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/	Method	Analysis Date / By
METALS - TOTAL		•				<del></del> :	<del></del>
Uranium	0.017	mg/kg-dry		0.0050		SW6020	07/27/08 07:09 / sml
Uranium, Activity	1.2E-05	uCi/kg		3.4E-06		SW6020	07/27/08 07:09 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	4.7E-04	uCi/kg		1.7E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	3.5E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	-1.8E-03	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	6.5E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	1.1E-02	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.2E-Q4	uCi/kg	, <b>U</b>			E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	1.9E-04	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 MDC	4.1E-04	uCi/kg				E903.0	08/07/08 10:34 / dm
Thorium 230	1.6E-05	uCi/kg	U	3.4E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	8.9E-05	uCi/kg				E907.0	08/08/08 00:16 / dm

Report Definitions:

RL - Analyte reporting limit. QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-014

Client Sample ID: CHR04-SRS

Report Date: 08/22/08

Collection Date: 07/09/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/	Method	Analysis Date / By
METALS - TOTAL		·					
Uranium	0.0066	mg/kg-dry		0.0050		SW6020	07/27/08 07:13 / sml
Uranium, Activity	4.4E-06	uCi/kg		3.4E-06		SW6020	07/27/08 07:13 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	5.0E-04	uCi/kg		1.3E-05		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	1.3E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	2.3E-04	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	4.9E-04	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	8.1E-04	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-8.7E-06	uCi/kg	υ			E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	1.8E-05	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 MDC	3.4E-05	uCi/kg				E903.0	08/07/08 10:34 / dm
Thorium 230	3.2E-06	uCi/kg		2.5E-06		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	5.3E-06	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-015

Client Sample ID: CHR04-Carp

Report Date: 08/22/08

Collection Date: 07/09/08

DateReceived: 07/15/08 Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.010	mg/kg-dry		0.0050		SW6020	07/27/08 07:17 / sml
Uranium, Activity	6.9E-06	uCi/kg	-	3.4E-06		SW6020	07/27/08 07:17 / sml
RADIONUCLIDES - TOTAL							•
Polonium 210	7.4E-04	uCi/kg		3.1E-05		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	2.2E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	1.5E-04	uCi/kg	υ˙			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	1.2E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	2.0E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-6.4E-05	uCi/kg	U	•		E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	4.4E-05	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 MDC	1.0E-04	uCi/kg				E903.0	08/07/08 10:34 / dm
Thorium 230	1.7E-05	uCi/kg	•	6.1E-06	,	E907.0	08/08/08 11:00 / dmf
Thorium 230 precision (±)	2.7E-05	uCi/kg				E907.0	08/08/08 11:00 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-016

Client Sample ID: CHR04-CHC

Report Date: 08/22/08

Collection Date: 07/09/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	<b>OCF</b> WCF	Method	Analysis Date / By
METALS - TOTAL					,		
Uranium	0.017	mg/kg-dry		0.0050		SW6020	07/27/08 07:21 / sml
Uranium, Activity	1.2E-05	uCi/kg		3.4E-06		SW6020	07/27/08 07:21 / smi
RADIONUCLIDES - TOTAL							
Polonium 210	1.6 <b>E-04</b>	uCi/kg		3.5E-06		RMO-3008	07/31/08 14:15 / plj
Poionium 210 precision (±)	5.2E-05	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	3.2E-05	uCi/kg	υ			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	1.4E-04	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	2.3E-04	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-1.6E-06	uCi/kg	U			E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	4.4E-06	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 MDC	8.4E-06	uCi/kg			·	E903.0	08/07/08 10:34 / dm
Thorium 230	9.0E-06	uCi/kg		7.0E-07		E907.0	08/08/08 11:00 / dmf
Thorium 230 precision (±)	2.6E-05	uCi/kg				E907.0	08/08/08 11:00 / dmf

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Client:

Jones and Stokes

Project:

Dewey Burdock 00996.07

Lab ID:

C08070647-017

Client Sample ID: CHR04-RCS

OUDOA DOO

Report Date: 08/22/08

Collection Date: 07/09/08

DateReceived: 07/15/08

Matrix: Fish

Analyses	Result	Units	Qualifiers	RL	dcr Wcл	Method	Analysis Date / By
METALS - TOTAL	· · · · · · · · · · · · · · · · · · ·	•				· · ·	
Uranium	0.031	mg/kg-dry		0.0050		SW6020	07/27/08 07:25 / sml
Uranium, Activity	2.1E-05	uCi/kg		3.4E-06		SW6020	07/27/08 07:25 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	6.6E-07	uCi/kg	U	2.7E-06		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	3.2E-06	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	1.1E-05	uCi/kg	U		•	E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	1.0E-04	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	1.7E-04	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	8.0E-06	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 precision (±)	5.4E-06	uCi/kg				E903.0	08/07/08 10:34 / dm
Radium 226 MDC	7.3E-06	uCi/kg				E903.0	08/07/08 10:34 / dm
Thorium 230	-1.3E-05	uCi/kg	U	5.3E-07		E907.0	08/08/08 11:00 / dmf
Thorium 230 precision (±)	2.3E-05	uCi/kg				E907.0	08/08/08 11:00 / dmf
FIELD PARAMETERS							
Total Mass	4160	9				FIELD	07/22/08 17:12 / ***

Report Definitions:

RL - Analyte reporting limit.

QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



# **QA/QC Summary Report**

Client: Jones and Stokes

Report Date: 08/22/08

Project: Dewey Burdock 00996.07

Work Order: C08070647

Analyte	Result Units	RL	%REC	Low Limit	High Limit	RPD	RPOLimit	Qual
Method: E903.0							Bato	h: 19208
Sample ID: C08070647-008AMS	Sample Matrix Spike			Run: BER?	THOLD 770_080	0731C	08/07	/08 10:33
Radium 226	23 pCi/g-d	r <del>y</del>	117	70	130			
Sample ID: C08070647-008AMSD	Sample Matrix Spike I	•	400		FHOLD 770_080			/08 10:34
Radium 226	20 pCi/g-d	ry	103	70	130	13	25.9	
Sample ID: MB-19208	Method Blank			Run: BERT	THOLD 770_086	0731C	08/07	/08 16:17
Radium 226	-0.002 pCi/g-d	ry			_			U
Sample ID: LCS-19208	Laboratory Control Sa	•	400		THOLD 770_080	0/31C	08/07	/08 16:17
Radium 226	0.077 pCi/g-d	ry	102	70	130			
Method: E907.0							Bato	h: 19208
Sample ID: C08070647-013AMS	Sample Matrix Spike			Run: EGG	-ORTEC 08073	1C	08/11	/08 09:23
Thorium 230	15.1 pCi/g-d	ry 0.10	90		130		•	
Sample ID: C08070647-013AMSD	Sample Matrix Spike	•	400		-ORTEC_08073			/08 09:41
Thorium 230	18.0 pCi/g-d	ry 0.10	108	70	130	17	30	
Sample ID: LCS-19208	Laboratory Control Sa	imple		Run: EGG	-ORTEC 08073	31C	08/08	/08 11:00
Thorium 230	0.0398 pCi/g-d	•	90	70	130			
Sample ID: MB-19208	Method Blank			Run: EGG	-ORTEC_08073	31C	08/08	/08 11:00
Thorium 230	-0.0003 pCi/g-d	lry					****	U
Made also Connected				·			D-4	- L . 40000
Method: E909.0M							Bati	ch: 19208
Sample ID: C08070647-006AMS	Sample Matrix Spike			Run: PACI	KARD 3100TR_	0807280	07/28	/08 11:15
Lead 210	150 pCi/g-d	ry .	111	70	130		,	
Sample ID: C08070647-006AMSD	Sample Matrix Spike	Duplicate		Run: PACI	KARD 3100TR	0807280	07/28	/08 11:15
Lead 210	197 pCi/g-d		146		130	27	30	S
<ul> <li>Spike response is outside of the acceptanmatrix related. The batch is approved.</li> </ul>	, -	•						_
Sample ID: MB-R106080	Method Blank	•		Run: PACI	KARD 3100TR_	0807280	07/28	/08 11:15
Lead 210	0.0001 pCi/g-d	lry			<b>-</b>	,-30. 202		U .
	, -	•						
Sample ID: LCS-R106080	Laboratory Control Sa	-			KARD 3100TR_	0807280	07/28	/08 11:15
Lead 210	0.103 pCi/g-d	lry	88	70	130			
•	•							

## Qualiflers:

RL - Analyte reporting limit.

S - Spike recovery outside of advisory limits.



# **QA/QC Summary Report**

Client: Jones and Stokes

Report Date: 08/22/08

Project: Dewey Burdock 00996.07

Work Order: C08070647

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RMO-3008			•					Bate	ch: 19208
Sample ID: C08070647-017AMS	Sample Matrix	Spike			Run: EGG-	-ORTEC_080731	В	07/31	/08 14:15
Polonium 210		pCi/g-dry	0.10	161	70	130			S
- Spike response is outside of the acceptant	ce range for this an	alysis. Since the MB,	LCS and	he MSD a	re acceptable	the batch is approve	ed.		
Sample ID: C08070647-017AMSD	Sample Matrix	Spike Duplicate			Run: EGG	-ORTEC_080731	В	07/31	/08 14:15
Polonium 210	0.229	pCi/g-dry	0.10	100	70	130	47	30	R
Sample ID: LCS-R105592	Laboratory Co	ntrol Sample			Run: EGG	ORTEC_080731	В	07/31	/08 14:15
Polonium 210	0.0918	pCi/g-dry	0.10	106	70	130			
Sample ID: MB-R105592	Method Blank			•	Run: EGG	-ORTEC_080731	В	07/31	/08 14:15
Polonium 210	7E-05	pCi/g-dry							U
Method: SW6020								Bat	ch: 19208
Sample iD: MB-19208	Method Blank				Run: ICPM	IS4-C 080726A	,	07/27	708 05:43
Uranium		mg/kg-dry	2E-06			· = · · - <del>• =</del> · · ·			
Sample ID: LCS1-19208	Laboratory Co	ntrol Sample			Run: ICPM	IS4-C_080726A		07/27	7/08 05:47
Uranium	0.0485	mg/kg-dry	0.015	97	75	125			
Sample ID: C08070647-017AMS	Sample Matrix	c Spike			Run: ICPM	IS4-C_080726A		07/27	7/08 07:29
Uranium	1.41	mg/kg-dry	0.015	121	75	125			
Sample ID: C08070647-017AMSD	Sample Matrix	Spike Duplicate	•		Run: ICPN	IS4-C_080726A		07/27	7/08 07:33
Uranium	1.41	mg/kg-dry	0.015	120	75	125	0.6	20	

#### Qualifiers: