APPENDIX 3.8-A

Baseline
Wetlands Assessment

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2007 WETLAND ASSESSMENT
FOR
POWERTECH USA INC.
DEWEY-BURDOCK URANIUM PROJECT
REGULAR MINE PERMIT APPLICATION

PRE-MINING WETLAND ASSESSMENT

Prepared for:

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August 5, 2008

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INTRODUCTION

The following report is based upon the May 2007 request by Powertech (USA), Inc., (Powertech) of Greenwood Village, Colorado, to provide technical consulting services in the form of wetland delineations for the Dewey-Burdock Uranium Project (Dewey-Burdock) in Custer County near Edgemont, South Dakota to support the Source Materials License for the Nuclear Regulatory Commission (NRC). The project area comprises 8,272.24 acres. BKS Environmental Associates, Inc. (BKS) of Gillette, Wyoming conducted field surveys from September 17, 2007 through September 20, 2007.

The Dewey-Burdock Uranium Project is located in all or parts of:

- Township 6S, Range 1E in Sections 28-34.
- Township 7S, Range 1E in Sections 1-4, and 9-16.

The wetland delineation was conducted as part of the baseline assessment for Dewey-Burdock. The wetland delineation will be utilized for reclamation planning and mining infrastructure location.

Powertech plans on reclaiming the entire area and revegetating the disturbed areas following the closure of the project. Powertech plans on utilizing existing waterway crossings and does not plan on constructing any new waterway crossings. The disturbance areas are located on the uranium rollfront deposits throughout the project area. The disturbance areas are primarily located in the northwest permit area in Sections 29, 30, 32, and 33 of T6S and R1E. There is also another roll front deposit on the eastern side of the project area in Sections 1, 3, 10, 11, and 12 in T7S R1E. This roll front includes the old uranium mine pits.

Addendum 1: Figure 1 identifies the general area location on a color infrared (CIR) map; and Figure 2 identifies Beaver Creek, Figure 3 identifies the Pass Creek, and Figure 4 identifies the concentration of old mine pits.

Construction, operation, or reclamation activities, which cause disturbance or impacts to jurisdictional wetlands on the proposed Dewey-Burdock Project, will be performed in accordance with appropriate Nationwide Permits, if applicable. Nationwide Permit (NWP) 44 non-coal mining activities, which requires Pre-construction Notification (PCN) for all activities, NWP 12 utility line activities, which requires a PCN for an area where a section 10 permit is required, discharges that result in the loss of >1/10 acre, and NWP 14 linear transportation projects, which requires a PCN for 1/2 acre in non-tidal waters. NWP 44 has an acreage limit of half an acre for Waters of the United States (WoUS), NWP 12 and 14 also has a half an acre disturbance limit. Impacts to Other Waters of the

United States (OWUS) are not considered under the acreage limit. (Federal Register V. 72, No. 47/ Monday, March 12, 2007 Notices) The wetlands found along Beaver Creek are recommended to be jurisdictional since Beaver Creek connects to the Cheyenne River which is a significant nexus. All other wetlands presented in this study are recommended to be non-jurisdictional since the wetlands are all isolated and do not support interstate commerce.

METHODOLOGY

The wetland surveys were conducted in accordance with the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region. All WoUS and OWUS were assessed during the surveys. The routine wetland delineation approach with onsite inspection was utilized, and the survey was conducted by pedestrian reconnaissance and review of exisiting maps of the project area. Identification of potential wetlands was based on visual assessment of vegetation and hydrology indicators, as well as intrusive soil sampling to determine the presence of wetland criteria indicators. Wetland Determination Data Forms-Great Plains Region (DRAFT), were utilized for each observation point. Hydrology and soils were evaluated whenever a plant community type met hydrophytic vegetation parameters based on the Dominance Test and Prevalence Index (as defined by the Great Plains Regional Supplement), or whenever indicators suggested the potential presence of a seasonal wetland area under normal circumstances.

Natural Resources Conservation Service (NRCS) soils mapping for Custer and Fall River Counties, South Dakota, (2007) and BKS soil mapping of the project area were reviewed for general soils information.

Potential wetlands (WoUS) and OWUS were initially identified via review of area maps to include the following:

1) 1977 USFWS NWI mapping for the Dewey, Burdock and Twentyone Quads
2) Custer Quad Digital Elevation Model
3) Burdock Quad Digital Elevation Model

Wetland indicator categories were identified for each dominant plant species noted through use of the National List of Vascular Plant Species that Occur in Wetlands, 1996 National Summary. Region 4 (North Plains) indicator categories were utilized for the project area.

Field sample locations and resulting wetland boundaries were recorded with a hand-held Garmin GPSmap 60Cx Global Positioning System (GPS) unit in NAD 1983 UTM Zone 13. BKS provided drafting services for the project.

RESULTS

The project area was generally characterized by Big Sagebrush Shrubland, Greasewood Shrubland, and Ponderosa Pine Woodland with pockets of Upland Grassland and Agricultural land, mine pit, Silver Sagebrush Shrubland, Shale Outcrop, or Pass Creek. Beaver Creek had Agricultural land to the south and Greasewood Shrubland and Big Sagebrush Shrubland to the north. Agricultural land comprised of 399.83 acres, Greasewood Shrubland comprised 2,252.15 acres and Big Sagebrush Shrubland comprised 2,738.85 acres. Beaver Creek had water present continuously in the drainage and wetland species near the banks. The upper banks were comprised mainly of *Artemisia tridentata* (big sagebrush), *Sarcobatus vermiculatus* (Greasewood), and *Elymus smithii* (Western wheatgrass). The wetland indicator status of these plants are UPL (upland), UPL, and FACU (facultative upland) respectively. The Pass Creek comprised of the Cottonwood Gallery vegetation community comprised mainly of *Bromus inermis* (smooth brome), western wheatgrass, and *Populus deltoides* (cottonwood trees). The wetland indicator statuses of these plants are UPL, FACU, and FAC (facultative) respectively. Please refer to Appendix 2 2007 Baseline Vegetation Assessment for further information regarding the vegetation within the project area.

The project area generally occurred on uplands, with inclusions of two main drainages, Beaver Creek and Pass Creek and several depressed areas. Beaver Creek and Pass Creek were evaluated using pedestrian reconnaissance, while the remaining small drainages were evaluated based on existing mapping. Wetlands were identified throughout the Beaver Creek drainage; however Pass Creek only had wetlands present near an old open flowing well close to the project boundary. Wetlands were also identified in the majority of the old mine pits as well as depressed areas throughout the project area. The wetland classification along Beaver Creek was Riverine Lower Perennial Emergent (R2EM) and Palustrine Emergent (PEM) WoUS inPass Creek and other small drainages. The mine pits were primarily designated as Palustrine Unconsolidated Bottom (PUB) OWUS and depressions were typically PEM or PUB designations.

The proposed Uranium Mine may affect a total of 35.114 acres of R2EM, R4SB7 (Riverine Intermittent Streambed vegetated), and PEM stream channel, Palustrine Aquatic Bed Intermittently Flooded Diked (PABJh), Palustrine Unconsolidated Shore Temporarily Flooded (PUSA), PEM, PUB, PUS, and PEMC (seasonally flooded) isolated ponds, and open water (OW). The acreage of OW consists of approximately 9.451 acres.

The area had previously been mined for Uranium through several open pit mines; some of the mines had been filled in with water. One livestock watering tank was identified on the survey.

Soils information for the project area was obtained by NRCS Web Soil Survey for Custer and Fall River Counties, South Dakota, (2007). Soils within the project area were mapped as the following:

There are two main drainage basins located in the project area; each of the drainages had different soil types. Beaver Creek had Haverson loam, 0-2% slopes throughout the drainage. Pass Creek had Barnum silt loam in the south half of the drainage and Barnum-Winetti complex, 0-6% slopes. The old mine pits were also classified as Barnum silt loam and Barnum-Winetti complex.

None of the soil map units were found on the hydric soils list for Fall River County or Custer County, South Dakota.

Table 1: Summary of Wetlands within the Project Area

Map and Plot ID (no Data Form if italicized)	Legal Description	Roll # Photo #	2007 Delineation Designation	Cowardin Classification	Acreage of Cowardin Classification	Geomorphic Setting	Comments	Jurisdictional Recommendation
W1	Sec 32 T6S R1E	R1 P1	Wetland	PEMC	0.005	Depression in tributary	--	Non-jurisdictional
W2	Sec 32, T6S R1E	No photos	Wetland	R2EM	0.017	Tributary to Beaver Creek, wetland channel	--	Jurisdictional
W3	Sec 32, T6S R1E	R1 P12 R1 P13	Non-wetland	--	--	Tributary to Beaver Creek	--	--
W4	Sec. 32, T6S R1E	R1 P2 R1 P3 R1 P4	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional
W5	Sec 32, T6S R1E	R1 P5	Non- wetland	--	--	Drainage	Bank of Beaver Creek	--
W6	Sec. 32, T6S R1E	R1 P16	Non-wetland	--	--	Upland tributary	--	--
W7	Sec. 32, T6S R1E	R1 P17 R1 P18	Wetland	R4SB7	0.002	Upland tributary, wetland channel	--	Non-jurisdictional
W8	Sec. 31, T6S R1E	R1 P19 R1 P20	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional
W9	Sec. 32, T6S R1E	R1 P23 R1 P24	Wetland	PABJh	0.26	Depression w/ berm	Previously mapped as PABFh	Non-jurisdictional
W10	Sec. 32, T6S R1E	R2 P1 R2 P2	Wetland	PUSA	0.03	Depression	Previously mapped as PEMF	Non-jurisdictional
W11	Sec. 32 T6S R1E	R2 P3 R2 P4	Non-wetland	--	--	Drainage by berm	Previously mapped as PEMF	--
W12	Sec. 32 T6S R1E	R2 P5 R2 P6	Non-wetland	--	--	Drainage	Previously mapped as PEMF	--
W13	Sec. 32 T6S R1E	No photos	Wetland	R4US	0.036	Drainage, wetland channel	Beaver Creek	Jurisdictional
W14	Sec. 32 T6S R1E	R2 P7 R2 P8 R2 P9	Wetland	R4US	0.012	Isolated Drainage, wetland channel	Tributary	Non-jurisdictional
W15	Sec. 30 T6S R1E	R2 P12 R2 P13	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional
W16	Sec. 31 T6S R1E	R2 P18 R2 P19	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional

Map and Plot ID (no Data Form if italicized)	Legal Description	Roll # Photo #	2007 Delineation Designation	Cowardin Classification	Acreage of Cowardin Classification	Geomorphic Setting	Comments	Jurisdictional Recommendation
W17	Sec. 31 T6S R1E	R2 P22 R2 P23	Non-Wetland	--	--	Ditch around Agricultural area	Previously mapped as PEMA	--
W18	Sec. 31 T6S R1E	R3 P1 R3 P2	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional
W19	Sec. 31 T6S R1E	R3 P3 R3 P4	Non-wetland	--	--	Low area	Previously mapped as PEMF	--
W20	Sec. 9 T7S R1E	R3 P8 R3 P9	Wetland	PEM	0.503	Drainage, wetland channel	Pass Creek	Non-jurisdictional
W21	Sec. 9 T7S R1E	R3 P10 R3 P11 R3 P12	Wetland					
W22	Sec. 9 T7S R1E	R3 P13 R3 P14	Wetland					
W23	Sec. 10 T7S R1E	R3 P17 R3 P18	Wetland					
W25	Sec. 34 T6S R1E	R4 P1 R4 P2	Non-wetland	--	--	Drainage	Pass Creek	--
W26	Sec. 34 T6S R1E	R4 P3 R4 P4	Non-wetland	--	--	Drainage	Pass Creek	--
W27	Sec. 34 T6S R1E	R4 P11 R4 P12	Non-wetland	--	--	Drainage	Pass Creek	--
W28	Sec. 34 T6S R1E	R4 P13 R4 P14	Non-wetland	--	--	Drainage	Pass Creek	--
W29	Sec. 3 T7S R1E	R4 P17 R4 P18	Non-wetland	--	--	Drainage	Pass Creek	--
W30	Sec. 10 T7S R1E	R4 P19 R4 P20	Non-wetland	--	--	Depression	--	--
W31	Sec. 10 T7S R1E	R4 P21 R4 P22	Wetland	PUB	1.801	Depression	--	Non-jurisdictional
W32	Sec. 10 T7S R1E	R4 P24 R4 P25	Wetland	PUB	1.475	Depression	--	Non- jurisdictional
W33	Sec. 14 T7S R1E	R5 P1 R5 P2	Wetland	PEM	1.417	Pond	--	Non- jurisdictional
W34	Sec. 14 T7S R1E	R5 P9 R5 P10	Non-wetland	--	--	Drainage	--	--

Map and Plot ID (no Data Form if italicized)	Legal Description	Roll # Photo #	2007 Delineation Designation	Cowardin Classification	Acreage of Cowardin Classification	Geomorphic Setting	Comments	Jurisdictional Recommendation
W35	Sec. 14 T7S R1E	R5 P11 R5 P12	Wetland	PUB	1.972	Depression	--	Non-jurisdictional
W36	Sec. 10 T7S R1E	R5 P20 R5 P21	Wetland	PEM	0.253	Outfall	Drainage	Non-jurisdictional
W37	Sec. 34 T6S R1E	R6 P6 R6 P7 R6 P8 R6 P9 R6 P10	Non-wetland	OW	7.635	Old Mine Pit	--	--
W38	Sec. 2 T7S R1E	R6 P13 R6 P14	Wetland	PUS	1.099	Depression	--	Non-jurisdictional
W39	Sec. 2 T7S R1E	R6 P16 R6 P17	Wetland	PUS	0.308	Depression w/ manmade berm	--	Non-jurisdictional
W40	Sec. 1 T7S R1E	R6 P18	Wetland	PEM	0.213	Pond	--	Non-jurisdictional
W41	Sec. 1 T7S R1E	R6 P19 R6 P20	Wetland	PUB	0.008	Old Mine Pit	--	Non-jurisdictional
W42	Sec. 1 T7S R1E	R6 P22 R6 P23 R6 P24	Wetland	PUB	0.167	Old Mine Pit	--	Non-jurisdictional
W43	Sec. 36 T6S R1E	Outside of Project Area, deleted photographs from Addendum 2 and datasheet from Addendum 3						
W44	Sec. 2 T7S R1E	R7 P24 R8 P1 R8 P2	Wetland	PEM	0.378	Depression near drainage	--	Non-jurisdictional
W45	Sec. 1 T7S R1E	R8 P4 R8 P5	Wetland	PEM	0.035	Depression	--	Non-jurisdictional
Wpt 3	Sec. 32 T6S R1E	R1 P6 R1 P7	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional
Wpt 4	Sec. 32 T6S R1E	R1 P8 R1 P9	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional
Wpt 22	Sec. 30 T6S R1E	R2 P14 R2 P15	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional
Wpt 26	Sec. 31 T6S R1E	R2 P24	Wetland	R2EM	13.376 total	Drainage, wetland channel	Beaver Creek	Jurisdictional

Map and Plot ID (no Data Form if italicized)	Legal Description	Roll # Photo #	2007 Delineation Designation	Cowardin Classification	Acreage of Cowardin Classification	Geomorphic Setting	Comments	Jurisdictional Recommendation
Wpt 27	Sec. 31 T6S R1E	R3 P5	Non-wetland	--	--	Depression	Previously mapped as PEMFh, no longer present	--
Wpt 29	Sec. 30 T6S R1E	R3 P6 R3 P7	Non-wetland	--	--	Depression	Previously mapped as PEMC and PEMFx, no longer present	--
Wpt. 35	Sec. 3 T7S R1E	R3 P23 R3 P24	Non-wetland	--	--	Drainage	Cottonwood Drainage	--
Wpt. 56	Sec. 3 T7S R1E	R5 P3 R5 P4	Non-wetland	--	--	Depression	Previously mapped as PEMAf- not present	--
Wpt. 57	Sec. 14 T7S R1E	R5 P5	Non-wetland	--	--	Depression	--	--
Wpt. 58	Sec. 14 T7S R1E	R5 P8	Wetland	PEM	1.417	Pond	Same as W33	Non- jurisdictional
Wpt. 60 and Wpt. 61	Sec. 15 T7S R1E	R5 P13 R5 P14 R5 P15	Non-wetland	--	--	Depression	Salt Crust present	--
Wpt. 62	Sec. 10 T7S R1E	R5 P16 R5 P17	Non-wetland	--	--	Depression	Previously mapped as PEMCh, not present	
Wpt. 68	Sec. 10 T7S R1E	R5 P18 R5 P19	Wetland	PEM	0.253	Outfall	Same as W36	Non-jurisdictional
Wpt. 74	Sec. 11 T7S R1E	R6 P1 R6 P2	Non-wetland	--	--	Depression	Previously mapped as PEMCh, not present	
Wpt. 78	Sec. 12 T7S R1E	R6 P5	Non-wetland	--	--	Depression	Previously mapped as PEMCh, not present. Nor the PEMCh just north of the point.	
Wpt. 83	Sec. 2 T7S R1E	R6 P15	Wetland	PUS	0.308	Depression w/ manmade berm	Same as W39	Non-jurisdictional
Wpt. 88 and Wpt. 89	Sec. 1 T7S R1E	R7 P1 R7 P2	Non-wetland	--	--	Old Mine Pit	Dominated by rabbit brush and	--

Map and Plot ID (no Data Form if italicized)	Legal Description	Roll # Photo #	2007 Delineation Designation	Cowardin Classification	Acreage of Cowardin Classification	Geomorphic Setting	Comments	Jurisdictional Recommendation
							Hordeum jubatum	
Wpt. 92	Sec. 1 T7S R1E	R7 P5 R7 P6 R7 P7	Non-wetland	OW	0.452	Old Mine Pit	Mine Pit filled with water	--
Wpt. 94	Sec. 1 T7S R1E	R7 P9	Non-wetland	--	--	Old Mine Pit	Mine pit is dry, no vegetation	--
Wpt. 97	Sec. 1 T7S R1E	R7 P14	Non-wetland	--	--	Depression	Previously mapped PEMCh not present	--
Wpt 103	Sec. 2 T7S R1E	R7 P20	Wetland	PEM and OW	2.364	Old Mine Pit	--	Non-jurisdictional
Wpt 104	Sec. 2 T7S R1E	R7 P21 R7 P22 R7 P23	Wetland	PUS	1.299	Depression	--	Non-jurisdictional

Table 2: Summary of 2007 Wetland Delineation Results

Summary		
Number of Features	**Name**	**Acres**
2	Wetland Channel (PEM)	0.756
2	Wetland Channel (R2EM)	13.393
1	Wetland Channel (R4SB7)	0.002
2	Wetland Channel (R4US)	0.048
4	PEM Isolated Ponds	2.043
1	PEMC Isolated Pond	0.005
1	PABJh Isolated Ponds	0.260
1	PUSA Isolated Ponds	0.030
3	PUB Isolated Depression	5.248
3	PUS Isolated Depression	2.706
5	Mine Pits PUB, PEM, OW	10.626
	Total	**35.114 acres**
	Wetland Channel (PEM)	1,842.05 Linear Feet (0.35 mi)
	Wetland Channel (R2EM)	34,079.65 Linear Feet (6.45 mi)

DISCUSSION

Beaver Creek

Beaver Creek is located in the northwest of the project area in Sections 30, 31, and 32 in T6S, R1E. The entire stretch of Beaver Creek within the project boundary is designated as a R2EM wetland, for a total of 13.376 acres. Seven data forms were filled out for the variety of lengths in the drainage as well as four photo waypoints. The most common vegetation that was identified along the drainage was *Spartina pectinata* (prairie cordgrass), *Juncus balticus* (Baltic rush), and *Schoenoplectus pungens* (common threesquare). These plants have an indicator status of FACW (facultative wet), FACW, and OBL (obligate) respectively.

Pass Creek

Pass Creek is centrally located within the project area in T7S, R1E in Sections 3, 9, and 10, and T6S, R1E in Section 34. Pass Creek only had wetlands present in Section 9, primarily due to an old open flowing well on the other side of the road outside the project boundary. The wetland totaled 0.503 acres of PEM, a total of four datasheets were filled out. The common vegetation found within the wetland was prairie cordgrass and common threesquare. The remaining drainage was walked and delineated, however no other wetlands were present. Five non-wetland datasheets were filled out and photo points were taken. Refer to Table 1, Summary of Wetlands within the Project Area for more details.

Previously Mapped Wetlands Confirmed as a non-wetland

There were several National Wetlands Inventory 1977 previously mapped wetlands that were confirmed as non-wetland or not present during the 2007 field survey. The areas generally lacked hydrophytic vegetation, hydric soils, and hydrology. Most areas had geomorphic position but often lacked another secondary indicator. Datasheets were filled out to confirm no presence of these wetlands and can be found in Table 1, Summary of Wetlands within the Project Area for more details. Previously mapped wetlands that are no longer present do not appear on the map (Figure 1).

Old Mine Pits

There are seven old uranium open pits present within the project area. Four of the mine pits were classified as non-wetland primarily due to lack of hydrophytic vegetation and/or hydrology presence. Two mine pits located in T7S, R1E in Section 1 were classified as PUB wetlands. The only mine pit in Section 2 was classified as both a PEM and Open Water (OW). The PEM is located along the bank of the pit and OW throughout the rest of the pit. The mine pit in Section 34 T6S R1E was classified as OW and totaled 7.635 acres another small mine pit located at waypoint 92 is Section 1 T7S R1E was classified as OW at 0.452 acres. There were approximately 1.172 acres of wetlands and 9.451 acres of open water within old mine pits in the project area. Refer to Table 1, Summary of Wetlands within the Project Area for more details.

Depressional Areas and Ponded Areas Identified as Wetlands

All the depressional areas identified as wetlands in 2007 were also previously identified during the 1977 NWI mapping. All of these wetlands are recommended to be non-jurisdictional based on the isolated nature of the wetlands. The wetlands were primarily classified as PEM, PEMC, PABJh, PUS, PUSA and PUB wetlands based primarily on the hydrology conditions of each waypoint. There were approximately 10.292 acres of wetland depressions and ponds present within the project area. Refer to Table 1, Summary of Wetlands within the Project Area for more details.

IMPACT ANALYSIS

Powertech plans to construct several wellfields atop the multiple disturbance areas located throughout the permit area. Process facilities are planned to be located adjacent to the uranium rollfront areas.

In the northwest section of the project area the ore bodies lie to the northeast of Beaver Creek, the wetlands along Beaver Creek will not be directly impacted by the disturbance areas. Erosion potential is present due to the construction of the wells near the drainage; however, disturbance is short-term.

An old mine pit located at Waypoint 37 was determined to be a non-wetland area. Although surface water was present, there was no hydrophytic vegetation or hydric soils. This old mine pit is also located along a disturbance area. The concentration of old mine pits along the eastern edge of the permit area contained small PUB wetlands (0.175 acres) that are a product of the old mine pits. The wetlands associated with old mine pits are not planned to be disturbed.

The remaining disturbance areas in the project area are located near a few small wetlands. These wetlands are likely not to have direct impacts from the wellfields presence but there may be indirect impacts due to the construction of the wellfields.

CONCLUSION

The majority of the wetlands in the project area fall within Beaver Creek, the remaining wetlands are dispersed throughout the project area as small depressions and ponds, old mine pits, and an old open flowing well. The wetlands within the old mine pits are not planned to be disturbed and these areas are likely to be excluded from the disturnbance areas. The remaining wetlands in the project area are likely not to suffer a direct impact due to the construction of the wellfields. There may be some minimal indirect effects to a few of the small depressional wetlands.

The Dewey Burdock Uranium Project Permit area had 14.199 acres of wetland channel, 2.338 acres of isolated PEM, PEMC, PABJh, and PUSA ponds; 5.248 acres of PUB isolated depressions, 2.706 acres of PUS isolated depressions, and 10.623 acres of old mine pits classified as PUB, PEM, or OW. Wetlands found along Beaver Creek totaled 13.376 acres of wetland channel. These wetlands found along Beaver Creek are recommended to be jurisdictional because Beaver Creek connects to a significant nexus, the Cheyenne River. The remaining wetlands are recommended to be non-jurisdictional as they are isolated and do not connect to a jurisdictional source.

Final determination of jurisdictional decision lies within the U.S. Army Corp of Engineers.

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ADDENDUM 1

- Permit Area Wetland Map -

-Beaver Creek-

-Pass Creek (Cottonwood Gallery)-

-Old Mine Pits-

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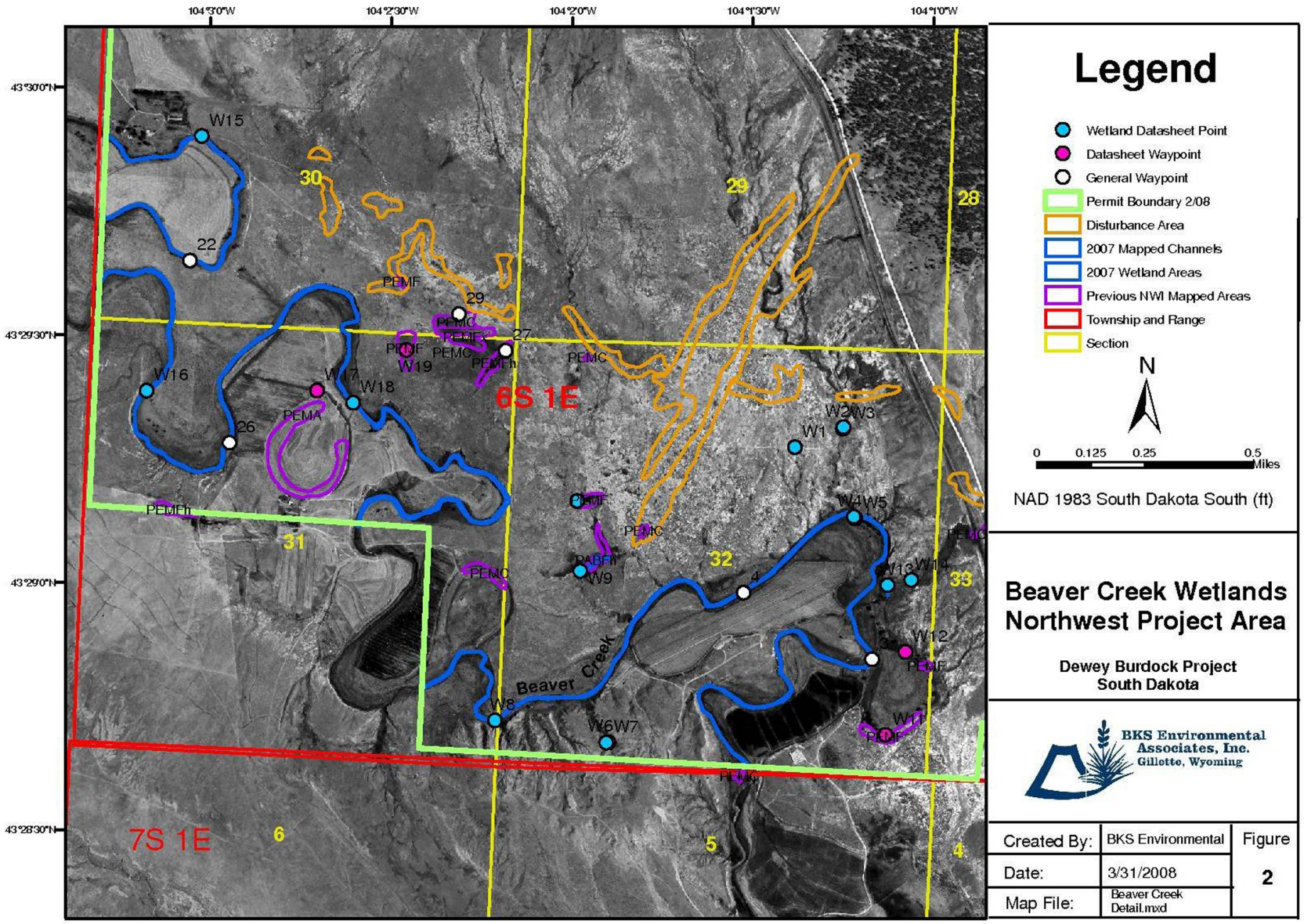
Refer to Plate 3.8-1 for the wetland assessment of the permit area.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Disturbance Area
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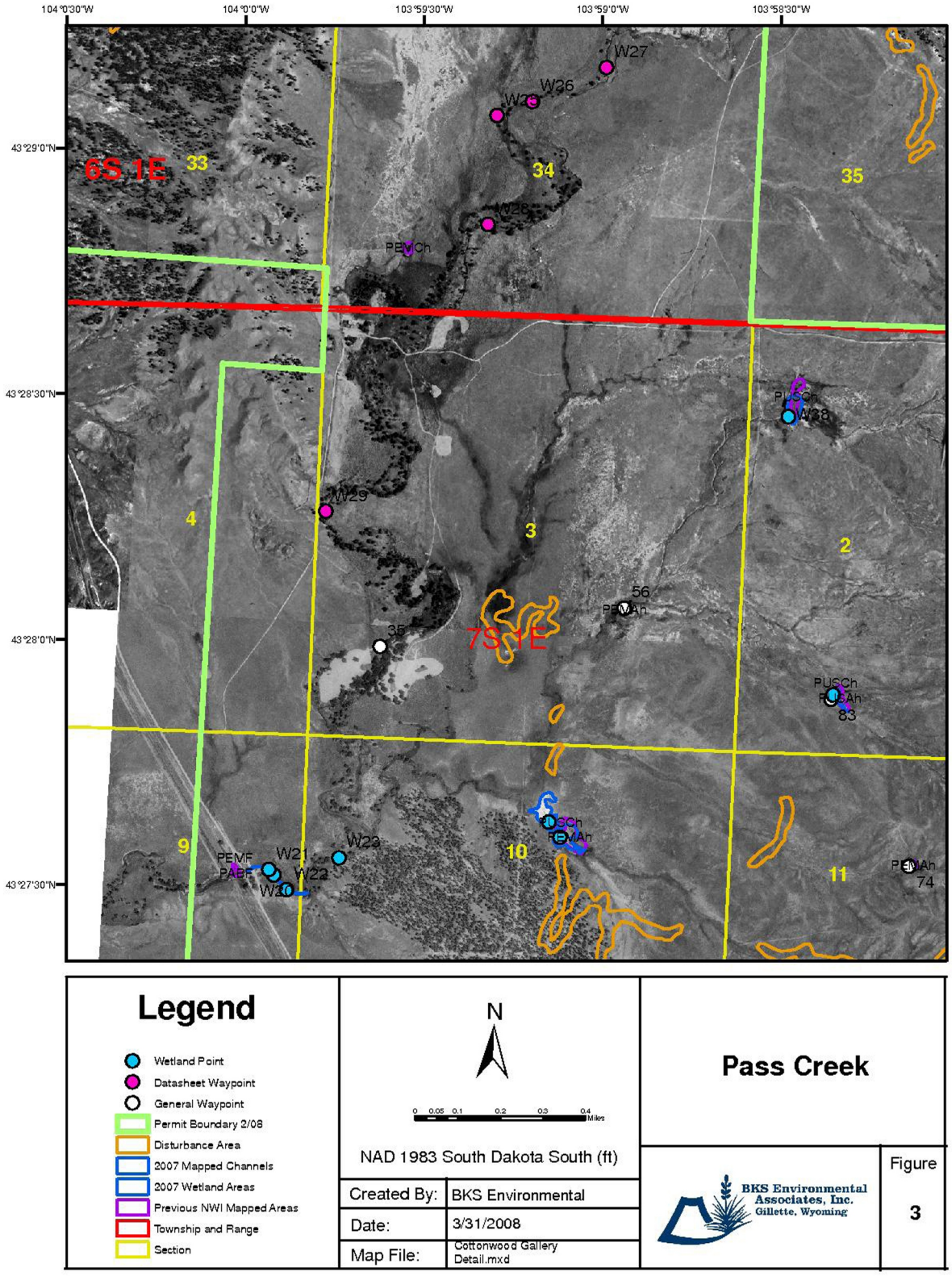
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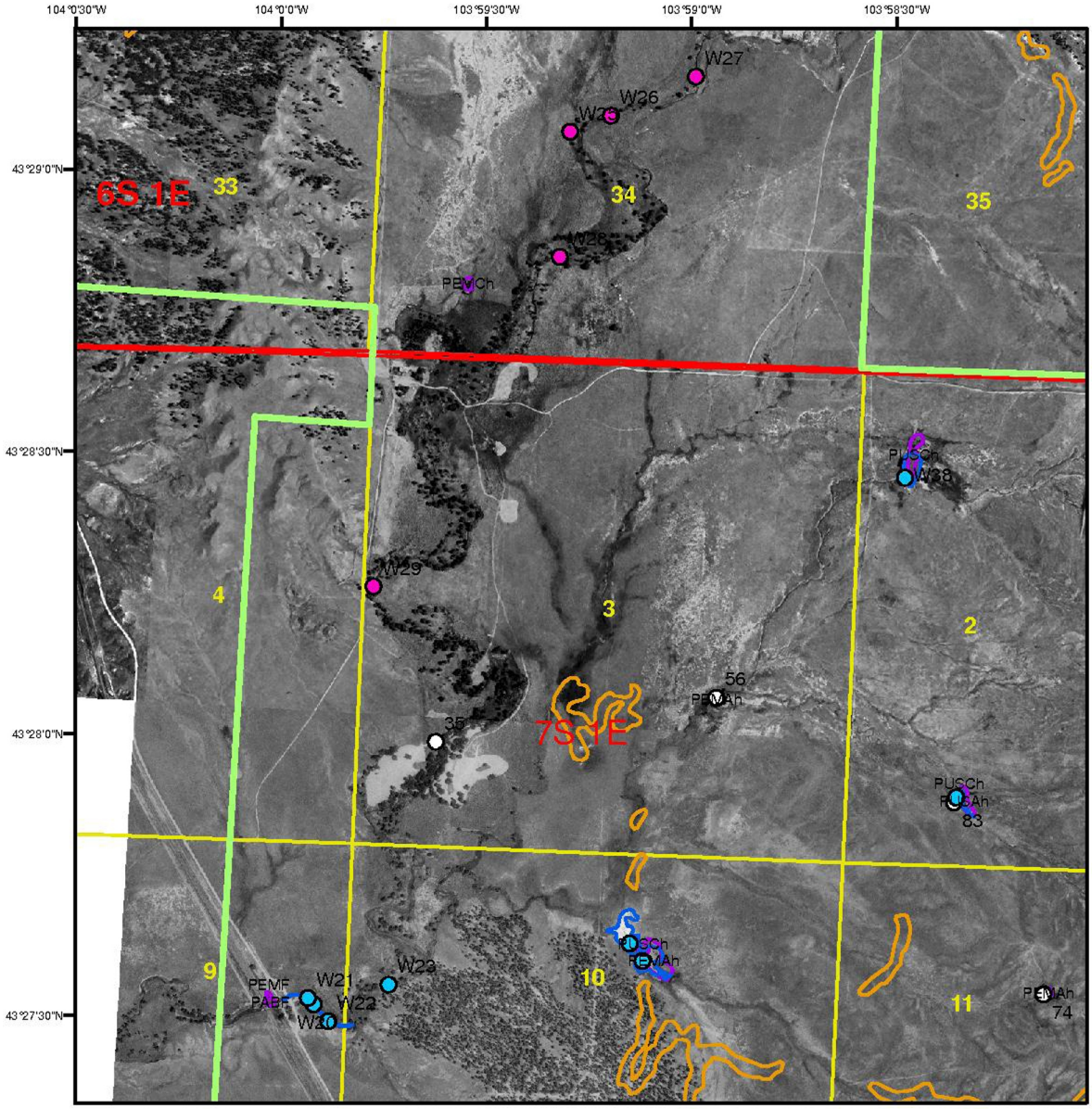
104°0'0"W
103°59'30"W
103°59'0"W
103°58'30"W
43°29'0"N
43°28'30"N
43°28'0"N
43°27'30"N
6S 1E
7S 1E
33
34
35
4
3
2
9
10
11
W27
W26
W25
W24
W29
W28
W23
W22
W21
W20
PEMCh
PEMF
PABF
PUSCh
PEMAh
56
35
83
74
Legend
Wetland Point
Datasheet Waypoint
General Waypoint
Permit Boundary 2/08
Disturbance Area
2007 Mapped Channels
2007 Wetland Areas
Previous NWI Mapped Areas
Township and Range
Section
N
0 0.05 0.1 0.2 0.3 0.4 Miles
NAD 1983 South Dakota South (ft)
Created By: BKS Environmental
Date: 3/31/2008
Map File: Cottonwood Gallery Detail.mxd
Pass Creek
BKS Environmental Associates, Inc. Gillette, Wyoming
Figure 3



Legend

- Wetland Point
- Datasheet Waypoint
- General Waypoint
- Permit Boundary 2/08
- Disturbance Area
- 2007 Mapped Channels
- 2007 Wetland Areas
- Previous NWI Mapped Areas
- Township and Range
- Section

N

0 0.05 0.1 0.2 0.3 0.4 Miles

NAD 1983 South Dakota South (ft)

Created By:	BKS Environmental
Date:	3/31/2008
Map File:	Cottonwood Gallery Detail.mxd

Pass Creek

BKS Environmental Associates, Inc. Gillette, Wyoming

Figure 3

ADDENDUM 2

WETLAND SPECIES LIST

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Wetlands Species List

Scientific Name	Common Name	Indicator Status
Andropogon scoparius	Little bluestem	NI
Asclepias speciosa	Showy milkweed	FAC
Astragalus species	Milkvetch	UPL
Bassia sieveriana	Summer cypress	FACU
Bromus inermis	Smooth brome	FACU
Bromus japiconus	Japanese brome	FACU
Calamovilfa longifolia	Prairie sandreed	NI
Camelina microcarpa	Littlepod false flax	NI
Carex filifolia	Threadleaf sedge	UPL
Cirsium arvense	Canada thistle	FACU
Chenopodium album	Lambsquarters	FAC
Chenopodium berlandieri	Pitseed goosefoot	NI
Cynoglossum officinale	Hounds tongue	NI
Descurainia pinnata	Western tansymustard	NI
Distichlis stricta	Saltgrass	FACW
Echinochloa muricata	rough barnyard grass	OBL
Eleocharis acicularis	Slender spikerush	OBL
Eleocharis palustris	Creeping spikerush	OBL
Elymus canadensis	Canada wildrye	FACU
Elymus cinereus	Basin wildrye	NI
Elymus smithii	Western wheatgrass	UPL
Glycyrrhiza lepidota	American licorice	FACU
Grindelia squarrosa	Curlycup gumweed	UPL
Helianthus annuus	Sunflower	FACU
Hordeum jubatum	Foxtail barley	FACW
Juncus balticus	Baltic rush	FACW
Kochia scoparia	Burningbush	FAC
Lepidium densiflorum	Pepper grass	FACU
Melilotus alba	Yellow sweetclover	FACU-
Melilotus officinalis	Yellow sweetclover	FACU
Melilotus species	Sweetclover	FACU
Mimulus guttatus	Seep monkeyflower	OBL
Nassella viridula	Green needlegrass	UPL
Phalaris arundinacea	Reed canarygrass	FACW
Poa pratensis	Kentucky bluegrass	FACU
Polygonum aviculare	Prostrate knotweed	FACU
Populus deltoides	Plains Cottonwood	FAC
Ratibida columnifera	Upright prairieconeflower	UPL
Rumex occidentalis	Western dock	OBL
Salsola tragus	Russian thistle	FACU-

Scientific Name	Common Name	Indicator Status
Schoenoplectus pungens	Common threesquare	OBL
Schoenoplectus tabernaemontani	Softstem bulrush	OBL
Spartina pectinata	Prairie cordgrass	FACW
Suckleya suckleyanna	Suckleya	OBL
Sisymbrium altissimum	Tall tumblemustard	UPL
Sporobolus airoides	Dropseed	FAC
Symphoricarpos albus	Common snowberry	FACU-
Symphoricarpos species	Snowberry	NI
Symphyotrichum ericoides	White heath aster	FACU
Thlaspi arvense	Field pennycress	FACU
Typha latifolia	Common cattail	OBL
Xanthium strumarium	Cocklebur	FAC

ADDENDUM 3

PHOTOGRAPHS

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W1, R1 P1: Depression, non-wetland

W3, R1 P12: Upstream, non-wetland

W3, R1 P13: Downstream, non-wetland

W4, R1 P2: Upstream, wetland

W4, R1 P3: Downstream, wetland

W4, R1 P4: Tributary


Wpt. 3, R1 P6: Upstream, wetland


Wpt. 3, R1 P7: Downstream, wetland


Wpt. 4, R1 P8: Upstream, wetland


Wpt. 4, R1 P9: Downstream, wetland


W5, R1 P5: Upland, non-wetland


W6, R1 P16: View of the drainage

W7, R1 P17: Upstream, wetland

W7, R1 P18: Downstream

W8, R1 P19: Upstream, wetland

W8, R1 P20: Downstream, wetland

W9, R1 P23: Upstream depression, wetland

W9, R1 P24: Downstream depression, wetland


W10, R2 P1: Downstream, wetland


W10, R2 P2: Upstream, wetland


W11, R2 P3: West


W11, R2 P4: East


W12, R2 P5: West, non-wetland


W12, R2 P6: East, non-wetland


W14, R2 P7: Upstream, wetland


W14, R2 P8: Downstream, wetland


W14, R2 P9: General area of PEMC


W15, R2 P12: Upstream, wetland


W15, R2 P13: Downstream, wetland


Wpt. 22, R2, P14: Upstream wetland


Wpt. 22, R2, P15: Downstream, wetland


W16, R2 P18: Upstream, wetland


W16, R2 P19: Downstream, wetland


W17, R2 P22: Upstream, non-wetland


W17, R2 P23: Downstream, non-wetland


Wpt. 26, R2 P24: Similar to W18, wetland


W18, R3 P1: Upstream, wetland


W18, R3 P2: Downstream, wetland


W19, R3 P3: Northwest, non-wetland


W19, R3 P4: East, non-wetland


Wpt. 27, R3 P5: Drainage, non-wetland


Wpt. 29, R3 P6: Depression, non-wetland


Wpt. 29, R3 P7: Depression, non-wetland


W20, R3 P8: Upstream, wetland


W20, R3 P9: Downstream, wetland


W21, R3 P10: Upstream, wetland


W21, R3 P11: Downstream, wetland


W21, R3 P12: Bridge

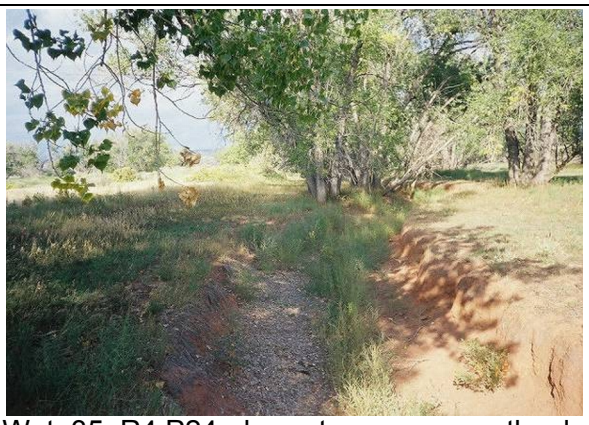

W22, R3 P13: Upstream, wetland


W22, R3 P14: Downstream, wetland


W23, R3 P17: Upstream, wetland


W23, R3 P18, Downstream, wetland


Wpt. 35, R4 P23: Upstream, non-wetland

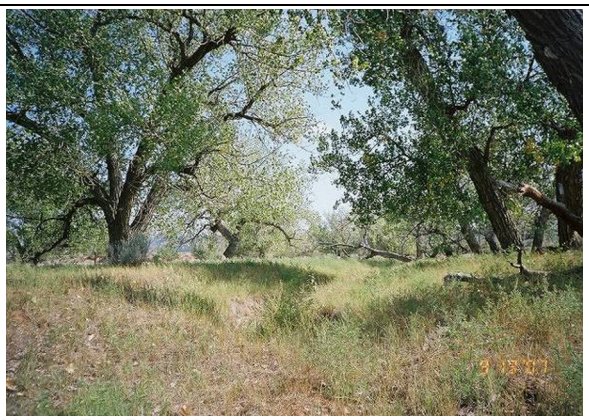

Wpt. 35, R4 P24: downstream, non-wetland


W25, R4 P1: Upstream, non-wetland


W25, R4 P2: Downstream, non-wetland


W26, R4 P3: Upstream, non-wetland


W26, R4 P4: Downstream, non-wetland


W27, R4 P11: Upstream, non-wetland


W27, R4 P12: Downstream, non-wetland

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

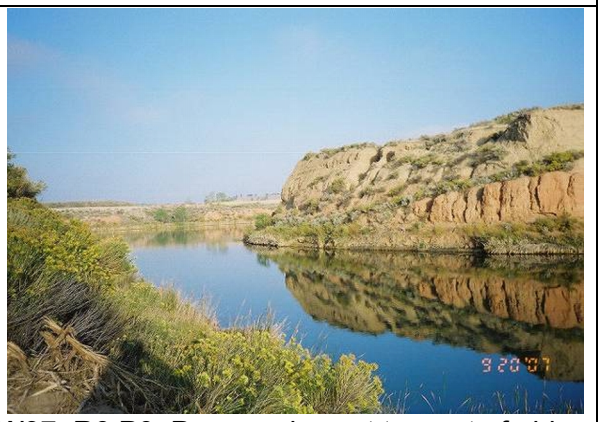
Wpt. 74, R6 P2: Depression, non-wetland

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

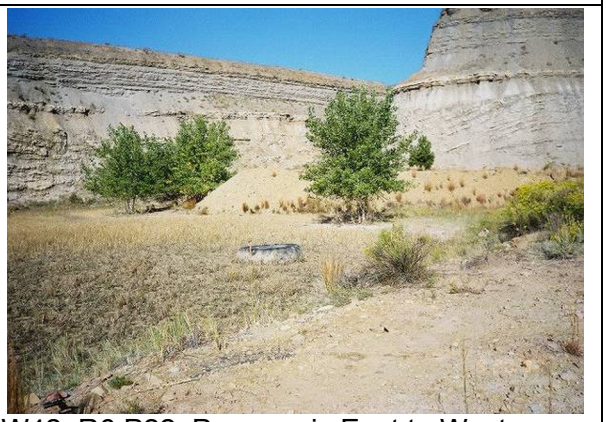
W39, R6 P16: Depression, wetland

W39, R6 P17: Drainage to the East, wetland


W40, R6 P18: Pond, wetland

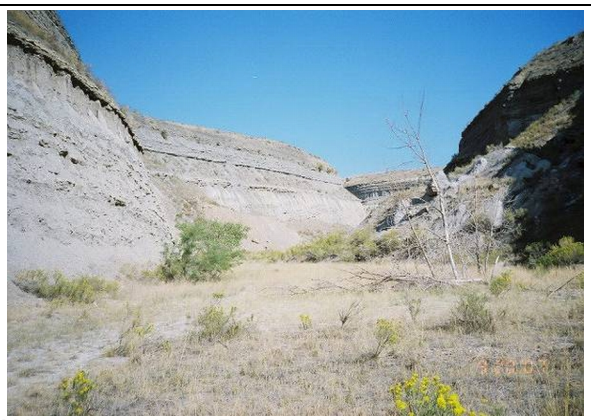

W41, R6 P19: Wetland


W41, R6 P20: General area, wetland

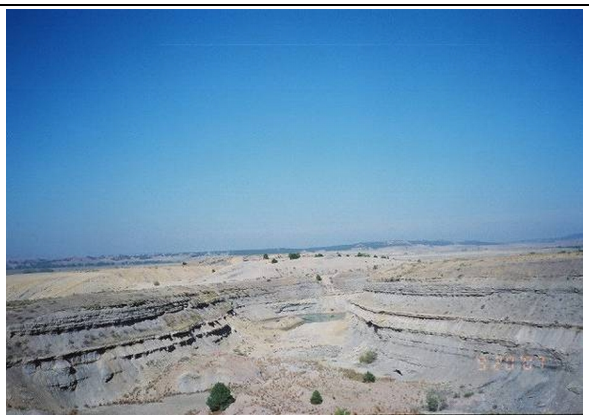

W42, R6 P22: Panoramic East to West, wetland

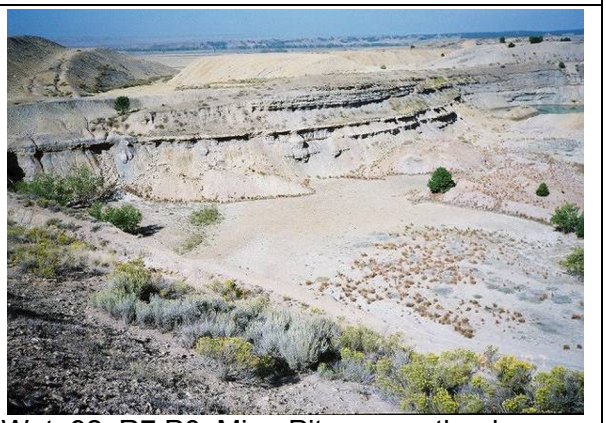

W42, R6 P23: Panoramic East to West, wetland


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

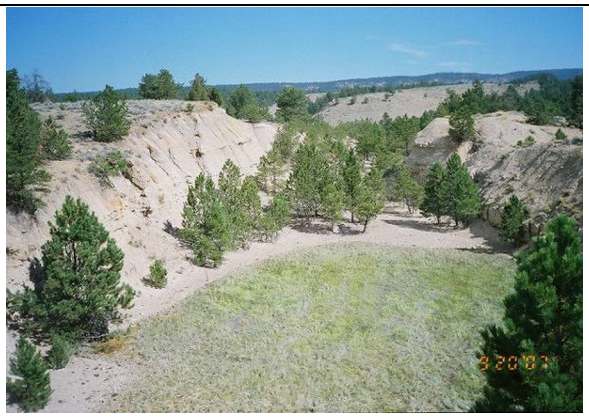

Wpt. 92, R7 P6: Mine Pit, non-wetland


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

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ADDENDUM 3

**WETLAND DETERMINATION DATA FORMS-
GREAT PLAINS REGION (DRAFT)**

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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: W1

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 32, T6S, R1E

Landform (hillslope, terrace, etc.) Depression into tributary | Local relief (concave, convex, none): Convex | Slope (%): 0%

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: PEMC

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	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present	Yes		No	X

Is the Sampled Area Within a Wetland Yes X No

Remarks:
R1 P1 - Depression
~10' x 15'

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. *Rosa woodsii*	100	X	FACU
2.			
3.			
4.			
5.			
Total Cover:	100		
Herb Stratum			
1. *Hordeum jubatum*	15		FACW
2. *Elymus smithii*	5		FACU
3. *Polygonum aviculare*	5		FACU
4. *Eleocharis palustris*	75	X	OBL
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:		
OBL species	75	x1=	75	
FACW species	15	x2=	30	
FAC species		x3=		
FACU species	110	x4=	440	
UPL species		x5=		
Column Totals:	200 (A)		545	(B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%

X Prevalence Index is ≤ 3.0[1]

____ Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers | Great Plains - DRAFT 8-30-2006

SOIL Sampling Point W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 3/1	90	10YR 4/8	10	C	RC	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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: W2

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
Isolated wetland

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Hordeum jubatum*	10		FACW
2. *Elymus smithii*	15		FACU
3. *Spartina pectinata*	60	X	FACW
4. *Bromus japonicus*	5		FACU
5. *Xanthium strumarium*	2		FAC
6. *Poa pratensis*	3		FACU
7. *Melilotus officinalis*	5		FACU
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1=	0
FACW species	70	x2=	140
FAC species	2	x3=	6
FACU species	28	x4=	112
UPL species	0	x5=	0
Column Totals:	100 (A)		258 (B)

Prevalence Index = B/A = 2.58

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

X Prevalence Index is ≤ 3.0[1]

___ Morphological Adaptations[1] (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 X No

Remarks:

SOIL Sampling Point W2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	95	7.5YR 3/3	5	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- 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 (B7)
- ___ Water Stained Leaves (B9)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 5

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

Soil is moist but not saturated. A definable channel is present.

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: W3

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 (%): 0

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
R1 P 12: Upstream
R1 P13: Downstream

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Elymus smithii*	40	X	FACU
2. *Xanthium strumarium*	1		FAC
3. *Bromus japonicus*	20	X	FACU
4. *Polygonum aviculare*	5		FACU
5. *Lepidium densiflorum*	15		FACU
6. *Poa pratensis*	6		FACU
7. *Melilotus officinalis*	10		FACU-
8. *Symphoricarpos sp.*	3		NI
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

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SOIL Sampling Point W3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	100					SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)

- 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 (B7)
- ___ Water Stained Leaves (B9)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

Definable channel is present.

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: 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
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 % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	35	X	FACW
2. *Cirsium arvense*	10		FACU
3. *Schoenoplectus pungens*	20	X	OBL
4. *Eleocharis palustris*	35	X	OBL
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
Prevalence Index is ≤ 3.0[1]
Morphological Adaptations[1] (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 X No

Remarks:

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SOIL Sampling Point W4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	Gley1 2.5/N	100					SCL	
2-10	Gley1 3/N	100					SCL	
10-14	Gley1 4/5GY	95	7.5YR 4/6	5			SC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)	X	Sandy Gleyed Matrix (S4)		1 cm Muck (A9) (**LRR C**)
	Histic Epipedon (A2)		Sandy Redox (S5)		Coast Prairie Redox (A16) (LRR F, G, H)
	Black Histic (A3)		Stripped Matrix (S6)		Dark Surface (S7) (**LRR G**)
X	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)		High Plains Depressions (F16)
	Stratified Layers (A5) (**LRR F**)		Loamy Gleyed Matrix (F2)		(**LRR H outside MLRA 72 & 73**)
X	1 cm Muck (A9) (**LRR F, G, H**)		Depleted Matrix (F3)		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)		Redox Depressions (F8)		
X	2.5 cm Mucky Peat or Peat (S2) (**LFF G, H**)		High Plains Depressions (F16)		[3]Indicators of hydrophytic vegetation
	5 cm Mucky Peat or Peat (S3) (**LRR F**)				and wetland hydrology must be present.

Indicators for Problematic Hydric Soils[3]:

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? Yes X No

Remarks:
Faint hydrogen sulfide odor was present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

X	Surface Water (A1)		Salt Crusts (B11)		Surface Soil Cracks (B6)
X	High Water Table (A2)		Aquatic Invertebrates (B13)		Sparsely Vegetated Concave Surfaces (B8)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)	X	Drainage Patterns (B10)
	Water Marks (B1)		Dry-Season Water Table (C2)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)		Crayfish Burrows (C8)
X	Drift Deposits (B3)		Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)		Other (Explain in Remark)		Frost-Heave Hummocks (C11) (**LRR F**)
	Iron Deposits (B5)			X	Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)				FAC-Neutral Test (D5)
	Water Stained Leaves (B9)				Local Soil Survey Data (D8)

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present?	Yes	X	No		Depth (inches):	
Water Table Present?	Yes	X	No		Depth (inches):	2
Saturation Present? (includes capillary fringe)	Yes	X	No		Depth (inches):	2

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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: W5

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 32, T6S, R1E

Landform (hillslope, terrace, etc.) Uplands | Local relief (concave, convex, none): None | Slope (%): 2

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present	Yes		No	X

Is the Sampled Area Within a Wetland Yes No X

Remarks:
R1 P5: Upland area near Beaver Creek

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Poa pratensis*	45	X	FACU
2. *Cirsium arvense*	15		FACU
3. *Chenopodium album*	25	X	FAC
4. *Helianthus annuus*	15		FACU
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species	25	x3=	75
FACU species	75	x4=	300
UPL species		x5=	
Column Totals:	100 (A)		375 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators

- Dominance Test is > 50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptations[1] (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

Remarks:

US Army Corps of Engineers

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SOIL Sampling Point W5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (**LRR F)**
- ____ 1 cm Muck (A9) (**LRR F, G, H**)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick 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**)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ____ 1 cm Muck (A9) (**LRR C**)
- ____ Coast Prairie Redox (A16) (LRR F, G, H)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)
- ____ 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 Crusts (B11)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Oder (C1)
- ____ Dry-Season Water Table (C2)
- ____ Presence of Reduced Iron (C4)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surfaces (B8)
- ____ Drainage Patterns (B10)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ 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): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 J. Eberly | Section, Township, Range: Section 32, T6S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): convex | Slope (%): 2

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present	Yes		No	X

Is the Sampled Area Within a Wetland Yes ____ No X

Remarks:
R1 P 17: Upstream
R1 P18: Downstream

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. *Rosa woodsii*	100	X	FACU
2.			
3.			
4.			
5.			
Total Cover:	100		
Herb Stratum			
1. *Elymus smithii*	85	X	FACU
2. *Astragalus* sp.	5		UPL
3. *Nassella viridula*	5		NI
4. *Ratibida columnifera*	5		NI
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species		x3=	
FACU species	85	x4=	340
UPL species	5	x5=	25
Column Totals:	90 (A)		365 (B)

Prevalence Index = B/A = 4.05

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

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SOIL Sampling Point W6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	100					SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)
- ___ 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 Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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: W7

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 (%): 2

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: R4SB7

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
Hydric Soil Present?	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
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Elymus smithii*	5		FACU
2. *Cirsium arvense*	5		FACU
3. *Spartina pectinata*	75	X	FACW
4. *Helianthus annuus*	10		FACU
5. *Cynoglossum officinale*	5		NI
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
___ Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptations[1] (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 ____

Remarks:

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SOIL Sampling Point W7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	70	7.5 YR 4/6	30	C	RC	SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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: W8

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 31, T6S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Convex | Slope (%): 1

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R1 P19 Upstream
R1 P20 Downstream
Similar to W4 and all in between

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	15		FACW
2. *Eleocharis palustris*	35	X	OBL
3. *Schoenoplectus pungens*	25	X	OBL
4. *Eleocharis acicularis*	25	X	OBL
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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 X No

Remarks:

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SOIL Sampling Point W8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	Gley1 3/10Y	70	7.5YR 4/4	20	C	M, RC	SC	
			2.5N	10	D	M	SC	
5+	Rock							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)	X	Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	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 Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	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**)		

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) (**LRR C**)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

X	Surface Water (A1)		Salt Crusts (B11)
	High Water Table (A2)		Aquatic Invertebrates (B13)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)
	Water Marks (B1)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Thin Muck Surface (C7)
	Algal Mat or Crust (B4)		Other (Explain in Remark)
	Iron Deposits (B5)		
	Inundation Visible on Aerial Imagery (B7)		
	Water Stained Leaves (B9)		

Secondary Indicators (2 or more required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surfaces (B8)
X	Drainage Patterns (B10)
X	Oxidized Rhizospheres on Living Roots (C3)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Frost-Heave Hummocks (C11) (**LRR F**)
X	Geomorphic Position (D2)
	FAC-Neutral Test (D5)
	Local Soil Survey Data (D8)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches):	5	
Water Table Present?	Yes X	No	Depth (inches):	5	
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	5	**Wetland Hydrology Present?** Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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: W9

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 30-31, T6S R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Convex | Slope (%):

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: PABJH

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	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present	Yes	X	No	

Is the Sampled Area Within a Wetland Yes X No

Remarks:
R1 P23 Upstream
R1 P24 Downstream

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Xanthium strumarium*	40	X	FAC
2. *Suckleya suckleyanna*	60	X	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
Prevalence Index is ≤ 3.0[1]
Morphological Adaptations[1] (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 X No

Remarks:

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SOIL Sampling Point W9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	50	5YR 4/6	50	C	RC/M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

Slight soil cracks were present.

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: W10

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 32, T6S, R1E

Landform (hillslope, terrace, etc.) Drainage/ Depression | Local relief (concave, convex, none): Convex | Slope (%):

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: PUSA

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		No	X	**Is the Sampled Area Within a Wetland** Yes X No
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
NWI previously mapped: PEMF
R2 P1: Downstream
R2 P2: Upstream
Transitioning area changing to an upland area.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Carex filifolia*	80	X	UPL
2. *Hordeum jubatum*	20	X	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	20	x2=	40
FAC species		x3=	
FACU species		x4=	
UPL species	80	x5=	400
Column Totals:	100	(A)	440 (B)

Prevalence Index = B/A = 4.40

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

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SOIL Sampling Point W10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/1	75	5YR 5/8	25	C	RC	C	
5-9	10YR 4/1	93	10YR 5/8	7	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Gleyed Matrix (S4)		1 cm Muck (A9) (**LRR C**)
	Histic Epipedon (A2)		Sandy Redox (S5)		Coast Prairie Redox (A16) (LRR F, G, H)
	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)		(**LRR H outside MLRA 72 & 73**)
	1 cm Muck (A9) (**LRR F, G, H**)	X	Depleted Matrix (F3)		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)		[3]Indicators of hydrophytic vegetation
	5 cm Mucky Peat or Peat (S3) (**LRR F**)				and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No _____

Remarks:

A few oxidized root channels existed, with a greater percentage in the top five inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

	Surface Water (A1)		Salt Crusts (B11)		Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Invertebrates (B13)		Sparsely Vegetated Concave Surfaces (B8)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)		Drainage Patterns (B10)
	Water Marks (B1)		Dry-Season Water Table (C2)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)		Crayfish Burrows (C8)
	Drift Deposits (B3)		Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)		Other (Explain in Remark)		Frost-Heave Hummocks (C11) (**LRR F**)
	Iron Deposits (B5)			X	Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)				FAC-Neutral Test (D5)
	Water Stained Leaves (B9)				Local Soil Survey Data (D8)

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present?	Yes	_____	No	X	Depth (inches):	_____
Water Table Present?	Yes	_____	No	X	Depth (inches):	_____
Saturation Present? (includes capillary fringe)	Yes	_____	No	X	Depth (inches):	_____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W11

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 (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes		No	X	

Remarks:
NWI previously mapped: PEMF
Cottonwoods in area but not in five foot radius
R2 P3: West
R2 P4: East

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Bassia sieveriana*	70	X	FACU
2. *Hordeum jubatum*	5		FACW
3. *Chenopodium album*	15		FAC
4. *Cirsium arvense*	5		FACU
5. *Thlaspi arvense*	5		FACU
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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 of:		Multiply by:	
OBL species		x1=	
FACW species	5	x2=	10
FAC species	15	x3=	45
FACU species	80	x4=	320
UPL species		x5=	
Column Totals:	100 (A)		375 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

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SOIL Sampling Point W11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	100					SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)
- ___ 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 Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W12

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 (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes		No	X	

Remarks:
NWI previously mapped: PEMF
R2 P5: West
R2 P6: East

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	5		FACW
2. *Chenopodium album*	50	X	FAC
3. *Cirsium arvense*	15		FACU
4. *Thlaspi arvense*	30	X	FACU
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	5	x2=	10
FAC species	50	x3=	150
FACU species	45	x4=	180
UPL species		x5=	
Column Totals:	100 (A)		340 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

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SOIL Sampling Point W12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	75	10YR 5/8	25	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Gleyed Matrix (S4)		1 cm Muck (A9) (**LRR C**)
	Histic Epipedon (A2)		Sandy Redox (S5)		Coast Prairie Redox (A16) (LRR F, G, H)
	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)		(**LRR H outside MLRA 72 & 73**)
	1 cm Muck (A9) (**LRR F, G, H**)	X	Depleted Matrix (F3)		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)		[3]Indicators of hydrophytic vegetation
	5 cm Mucky Peat or Peat (S3) (**LRR F**)				and wetland hydrology must be present.

Indicators for Problematic Hydric Soils[3]:

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

	Surface Water (A1)		Salt Crusts (B11)		Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Invertebrates (B13)		Sparsely Vegetated Concave Surfaces (B8)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)		Drainage Patterns (B10)
	Water Marks (B1)		Dry-Season Water Table (C2)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)		Crayfish Burrows (C8)
	Drift Deposits (B3)		Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)		Other (Explain in Remark)		Frost-Heave Hummocks (C11) (**LRR F**)
	Iron Deposits (B5)			X	Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)				FAC-Neutral Test (D5)
	Water Stained Leaves (B9)				Local Soil Survey Data (D8)

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present?	Yes		No	X	Depth (inches):
Water Table Present?	Yes		No	X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes		No	X	Depth (inches):

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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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, Powertech | State: South Dakota | Sampling Point: W13

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 (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: R4US

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
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
Just North of the area little bluestem is creeping into the drainage but it is still dominated by *Spartina pectinata*.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	90	X	FACW
2. *Andropogon scoparius*	5		NI
3. *Chenopodium album*	5		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers

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SOIL Sampling Point W13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	50	7.5YR 5/8	50	C	M	SiCL	
4-10	10YR 4/1	100					SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes ___ No X

Remarks:
There were small inclusions of mottles present in depths 4-10 in the matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X 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:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W14

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 (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: R4US

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R2 P7: Upstream area extends from waypoints 015-019
R2P8: Downstream
R2 P9: General area of PEMC

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	40	X	FACW
2. *Typha latifolia*	20	X	OBL
3. *Juncus balticus*	40	X	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x1=	20
FACW species	80	x2=	160
FAC species		x3=	
FACU species		x4=	
UPL species		x5=	
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.80

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
X Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers | Great Plains - DRAFT 8-30-2006

SOIL Sampling Point W14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	Gley1 4/N	55	7.5YR 5/8	45	C	RC	SiCL	
4-14	Gley1 4/N	80	7.5YR 4/6	20	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ 1 cm Muck (A9) (**LRR C**)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Coast Prairie Redox (A16) (LRR F, G, H)
___ 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**)	X Loamy Gleyed Matrix (F2)	(**LRR H outside MLRA 72 & 73**)
___ 1 cm Muck (A9) (**LRR F, G, H**)	___ Depleted Matrix (F3)	___ 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)	___ Redox Depressions (F8)	
___ 2.5 cm Mucky Peat or Peat (S2) (**LFF G, H**)	___ High Plains Depressions (F16)	[3]Indicators of hydrophytic vegetation
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)		and wetland hydrology must be present.

Indicators for Problematic Hydric Soils[3]:

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No ___

Remarks:
There were small inclusions of mottles present in depths 4-10 in the matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)	___ Salt Crusts (B11)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Invertebrates (B13)	___ Sparsely Vegetated Concave Surfaces (B8)
___ Saturation (A3)	___ Hydrogen Sulfide Oder (C1)	X Drainage Patterns (B10)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)	X Oxidized Rhizospheres on Living Roots (C3)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Other (Explain in Remark)	___ Frost-Heave Hummocks (C11) (**LRR F**)
___ Iron Deposits (B5)		X Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ FAC-Neutral Test (D5)
___ Water Stained Leaves (B9)		___ Local Soil Survey Data (D8)

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes ___	No X	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___	**Wetland Hydrology Present?**	Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W15

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 30, T6S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Concave | Slope (%): 1

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R2 P12: Upstream
R2 P13: Downstream
Wetland is upstream and the channel width is about 8 feet wide.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	55	X	FACW
2. *Eleocharis palustris*	15		OBL
3. *Juncus balticus*	10		FACW
4. *Kochia scoparia*	10		FAC
5. *Bassia sieveriana*	10		FACU
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)
Prevalence Index = B/A =		

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
Prevalence Index is ≤ 3.0[1]
Morphological Adaptations[1] (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 X No

Remarks:

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SOIL Sampling Point W15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 4/1	90	7.5YR 4/6	10	C	RC, M	CL	
8-10	Gley1 3/N	70	7.5YR 5/8	30	C	M	SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)
	Stratified Layers (A5) (**LRR F**)	X	Loamy Gleyed Matrix (F2)
	1 cm Muck (A9) (**LRR F, G, H**)	X	Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	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**)		

Indicators for Problematic Hydric Soils[3]:

	1 cm Muck (A9) (**LRR C**)
	Coast Prairie Redox (A16) (LRR F, G, H)
	Dark Surface (S7) (**LRR G**)
	High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

X	Surface Water (A1)		Salt Crusts (B11)
	High Water Table (A2)		Aquatic Invertebrates (B13)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)
	Water Marks (B1)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Thin Muck Surface (C7)
	Algal Mat or Crust (B4)		Other (Explain in Remark)
	Iron Deposits (B5)		
	Inundation Visible on Aerial Imagery (B7)		
	Water Stained Leaves (B9)		

Secondary Indicators (2 or more required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surfaces (B8)
X	Drainage Patterns (B10)
X	Oxidized Rhizospheres on Living Roots (C3)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Frost-Heave Hummocks (C11) (**LRR F**)
X	Geomorphic Position (D2)
	FAC-Neutral Test (D5)
	Local Soil Survey Data (D8)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches):	10	
Water Table Present?	Yes	No X	Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):		

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W16

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 31, T6S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Concave | Slope (%): 1

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R2 P18: Upstream
R2 P19: Downstream
Aquatic animals present

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	30	X	FACW
2. *Cirsium arvense*	5		FACU
3. *Eleocharis palustris*	40	X	OBL
4. *Juncus balticus*	15		FACW
5. *Xanthium strumarium*	5		FAC
6. *Chenopodium album*	3		FAC
7. *Schoenoplectus pungens*	2		OBL
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
Prevalence Index is ≤ 3.0[1]
Morphological Adaptations[1] (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 X No

Remarks:

SOIL Sampling Point W16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y 4/1	37	7.5YR 4/6	3	C	RC	C	
			Gley1 2.5/N	60	D	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)
	Stratified Layers (A5) (**LRR F)**		Loamy Gleyed Matrix (F2)
	1 cm Muck (A9) (**LRR F, G, H**)	X	Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	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**)		

Indicators for Problematic Hydric Soils[3]:

	1 cm Muck (A9) (**LRR C**)
	Coast Prairie Redox (A16) (LRR F, G, H)
	Dark Surface (S7) (**LRR G**)
	High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

X	Surface Water (A1)		Salt Crusts (B11)
X	High Water Table (A2)		Aquatic Invertebrates (B13)
X	Saturation (A3)		Hydrogen Sulfide Oder (C1)
	Water Marks (B1)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Thin Muck Surface (C7)
	Algal Mat or Crust (B4)		Other (Explain in Remark)
	Iron Deposits (B5)		
	Inundation Visible on Aerial Imagery (B7)		
	Water Stained Leaves (B9)		

Secondary Indicators (2 or more required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surfaces (B8)
X	Drainage Patterns (B10)
	Oxidized Rhizospheres on Living Roots (C3)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Frost-Heave Hummocks (C11) (**LRR F**)
X	Geomorphic Position (D2)
	FAC-Neutral Test (D5)
	Local Soil Survey Data (D8)

Field Observations:

Surface Water Present?	Yes	X	No		Depth (inches):	5
Water Table Present?	Yes	X	No		Depth (inches):	5
Saturation Present? (includes capillary fringe)	Yes	X	No		Depth (inches):	5

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W17

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 31, T6S, R1E

Landform (hillslope, terrace, etc.) Ditch around agricultural area | Local relief (concave, convex, none): convex | Slope (%): 2

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present	Yes		No	X

Is the Sampled Area Within a Wetland Yes No X

Remarks:
R2 P22: Upstream
R2 P23: Downstream
Previously mapped as PEMA

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Bromus inermis*	95	X	FACU
2. *Cirsium arvense*	2		FACU
3. *Chenopodium album*	3		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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 of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species	3	x3=	9
FACU species	97	x4=	388
UPL species		x5=	
Column Totals:	100 (A)		397 (B)

Prevalence Index = B/A = 3.97

Hydrophytic Vegetation Indicators

_____ Dominance Test is > 50%
_____ Prevalence Index is ≤ 3.0[1]
_____ Morphological Adaptations[1] (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

Remarks:

US Army Corps of Engineers | Great Plains - DRAFT 8-30-2006

SOIL Sampling Point W17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	2.5Y 2.5/1	100					C	
2-8	2.5Y 4/3	100					C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)
- ___ 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 Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W18

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 31, T6S, R1E

Landform (hillslope, terrace, etc.) Drainage bank | Local relief (concave, convex, none): Concave | Slope (%): 5

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R3 P1: Upstream
R3 P2: Downstream
Wpt 026 is similar to W18, R2 P24: Upstream
Width of wetland is about 17', width of channel is about 12'

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	80	X	FACW
2. *Xanthium strumarium*	5		FAC
3. *Schoenoplectus pungens*	10		OBL
4. *Juncus balticus*	5		FACW
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
___ Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptations[1] (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 X No

Remarks:

SOIL Sampling Point W18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	Gley1 4/5GY	97	2.5YR 7/8	3	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- X 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 Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	___	
Water Table Present?	Yes X	No ___	Depth (inches):	8	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	___	**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

The water table was present within 8" of the surface.

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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, Powertech | State: South Dakota | Sampling Point: W19

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 31, T6S, R1E

Landform (hillslope, terrace, etc.) Low area | Local relief (concave, convex, none): Concave | Slope (%):

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes		No	X	

Remarks:
Low vegetation cover, Normal circumstances present within an active prairie dog community. Previously NWI mapped as PEMF.
R3 P3: Northwest
R3 P4: East

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Chenopodium berlandieri*	99	X	FAC
2. *Bassia sieveriana*	1		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 65 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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 of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species	99	x3=	297
FACU species	1	x4=	4
UPL species		x5=	
Column Totals:	100 (A)		301 (B)

Prevalence Index = B/A = 3.01

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

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SOIL Sampling Point W19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/1	95	7.5YR 5/8	5	C	M	SiCL	
2-4	10YR 4/1	100					SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

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 County | Sampling Date: 9/18/07

Applicant/Owner: Knight Piesold, Powertech | State: South Dakota | Sampling Point: W20

Investigator(s): C. Robinson and J. Eberly | 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: | 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 ____

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
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
R2 P12: Upstream
R2 P13: Downstream
Wetland is upstream and the channel width is about 8 feet wide.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Schoenoplectus pungens*	90	X	OBL
2. *Cirsium arvense*	5		FACU
3. *Bassia sieveriana*	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers

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SOIL Sampling Point W20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	98	5YR 5/8	2	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)

- 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 (B7)
- ___ Water Stained Leaves (B9)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 5

Water Table Present? Yes ___ No X 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:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W21

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 9, T7S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Concave | Slope (%): 2

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 ____

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R3 P10: Upstream
R3 P11: Downstream
R3 P12: Bridge
Channel crosses the boundary and extends to the road

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Typha latifolia*	55	X	OBL
2. *Asclepias speciosa*	10		FAC
3. *Glycyrrhiza lepidota*	15		FACU
4. *Spartina pectinata*	5		FACW
5. *Helianthus annuus*	5		FACU
6. *Melilotus sp.*	5		FACU
7. *Schoenoplectus pungens*	5		OBL
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

___ Prevalence Index is ≤ 3.0[1]

___ Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers

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SOIL Sampling Point W21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 3/4	100					SCL	
3-5	10YR 2/2	50	5YR 4/6	50	C	M	SCL	water filled the hole

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- 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 (B7)
- ___ Water Stained Leaves (B9)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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 X No ___ Depth (inches): 0

Water Table Present? Yes X No ___ Depth (inches): ___

Saturation Present? Yes X No ___ Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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, Powertech | State: South Dakota | Sampling Point: W22

Investigator(s): C. Robinson and J. Eberly | 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: | 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 ____

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
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
R3 P13: Upstream
R3 P14: Downstream

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	81	X	FACW
2. *Cirsium arvense*	19		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species 81	x2=	162
FAC species	x3=	
FACU species 19	x4=	76
UPL species	x5=	
Column Totals: 100 (A)		238 (B)

Prevalence Index = B/A = 2.38

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

____ Prevalence Index is ≤ 3.0[1]

____ Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers | Great Plains - DRAFT 8-30-2006

SOIL Sampling Point W22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/6	100					SC	
1-4	2.5YR 3/2	100					SC	Hit rock at 4 inches

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)
- ___ 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 Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- X Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

Dry throughout the area and there was encroachment of upland species.

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, Powertech | State: South Dakota | Sampling Point: W23

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 10, T7S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Concave | Slope (%): 1

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 ____

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes		No	X	

Remarks:
R3 P17: Upstream
R3 P18: Downstream
Possible low spot that collects water, dying cattails present.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	9		FACW
2. *Cirsium arvense*	20	X	FACU
3. *Bassia sieveriana*	10		FACU
4. *Typha latifolia*	60	X	OBL
5. *Chenopodium album*	1		FAC
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x1=	60
FACW species	9	x2=	18
FAC species	1	x3=	3
FACU species	30	x4=	120
UPL species		x5=	
Column Totals:	100 (A)		201 (B)

Prevalence Index = B/A = 2.01

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
X Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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 X No

Remarks:

SOIL Sampling Point W23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					SiC	
2-6	5YR 4/6	95	7.5YR 5/8	5	C	RC	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:
Orange coloration due to parent material

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? Yes ___ No X Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 | State: South Dakota | Sampling Point: W25

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 34, T6S, 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: | NWI Classification:

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		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present	Yes		No	X

Is the Sampled Area Within a Wetland Yes ____ No X

Remarks:
R4 P1: Upstream
R4 P2: Downstream

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	100	X	FAC
2.			
3.			
4.			
Total Cover:	100		

Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			

Herb Stratum			
1. *Elymus smithii*	95	X	FACU
2. *Chenopodium album*	5		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		

Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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 of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species	105	x3=	315
FACU species	95	x4=	380
UPL species		x5=	
Column Totals:	200 (A)		695 (B)

Prevalence Index = B/A = 3.48

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:
Upland species in drainage and banks, there were two living *Populus deltoids* present.

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SOIL Sampling Point W25

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR 2.5/1	60					SiCL	
Parent material	5YR 4/4	40						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- X Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes ___ No X

Remarks:
Orange coloration due to parent material

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 | State: South Dakota | Sampling Point: W26

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 34, T6S, 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: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R4 P3: Upstream
R4 P4: Downstream
Upland vegetation has moved down the banks and in the area of the drainage on either side.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Elymus smithii*	30	X	FACU
2. *Elymus canadensis*	25	X	FACU
3. *Thlaspi arvense*	5		FACU
4. *Bassia sieveriana*	10		FACU
5. *Phalaris arundinacea*	15		FACW
6. *Chenopodium album*	5		FAC
7. *Xanthium strumarium*	5		FAC
8. *Helianthus annuus*	5		FACU
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	15	x2=	30
FAC species	10	x3=	30
FACU species	75	x4=	300
UPL species		x5=	
Column Totals:	100 (A)		360 (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

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SOIL Sampling Point W26

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	2.5YR 4/8	100					C	
1-7	7.5YR 4/2	100					C	
7-9	Gley2 2.5/10B	100					C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ 1 cm Muck (A9) (**LRR C**)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Coast Prairie Redox (A16) (LRR F, G, H)
___ 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**)	X Loamy Gleyed Matrix (F2)	(**LRR H outside MLRA 72 & 73**)
___ 1 cm Muck (A9) (**LRR F, G, H**)	___ Depleted Matrix (F3)	___ Reduced Vertic (F18)
___ Depleted Below Dark Surface (A11)	___ Redox Dark Surface (F6)	X 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)	[3]Indicators of hydrophytic vegetation
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)		and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No ___

Remarks:
Orange coloration due to parent material

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)	___ Salt Crusts (B11)	**Secondary Indicators (2 or more required)**
___ High Water Table (A2)	___ Aquatic Invertebrates (B13)	X Surface Soil Cracks (B6)
___ Saturation (A3)	___ Hydrogen Sulfide Oder (C1)	___ Sparsely Vegetated Concave Surfaces (B8)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Thin Muck Surface (C7)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Other (Explain in Remark)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)		___ Frost-Heave Hummocks (C11) (**LRR F**)
___ Inundation Visible on Aerial Imagery (B7)		X Geomorphic Position (D2)
___ Water Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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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 | State: South Dakota | Sampling Point: W27

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 34, T6S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
R4 P1: Upstream
R4 P2: Downstream

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Elymus smithii*	40	X	FACU
2. *Elymus canadensis*	30	X	FACU
3. *Chenopodium album*	10		FAC
4. *Xanthium strumarium*	10		FAC
5. *Helianthus annuus*	10		FACU
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 98 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species	20	x3=	60
FACU species	80	x4=	320
UPL species		x5=	
Column Totals:	100 (A)		380 (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:
The vegetation is only on the banks and not in the drainage; the percent bare ground in channel is 98%.

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SOIL Sampling Point W27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	2.5Y 5/3	100					C	
0.75	2.5YR 4/8	100					C	
1-8	2.5Y 5/3	100					C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- X Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes ___ No X

Remarks:
One inch to the red layer (red layer is about 2 cm thick). The black layer is organic.

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:
Soil is moist but not saturated.

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 | State: South Dakota | Sampling Point: W28

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 34, T6S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes		No	X	

Remarks:
R4 P13: Upstream
R4 P14: Downstream

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	100	X	FAC
2.			
3.			
4.			
Total Cover:	100		
Sapling/Shrub Stratum			
1. *Symphoricarpos albus*	100	X	FACU-
2.			
3.			
4.			
5.			
Total Cover:	100		
Herb Stratum			
1. *Elymus smithii*	35	X	FACU
2. *Bassia sieveriana*	20	X	FACU
3. *Calamovilfa longifolia*	12		NI
4. *Descurainia pinnata*	1		NI
5. *Thlaspi arvense*	3		FACU
6. *Chenopodium album*	17		FAC
7. *Asclepias speciosa*	2		FAC
8. *Elymus cinerius*	15		NI
9. *Sisymbrium altissimum*	2		UPL
10. *Camelina microcarpa*	1		NI
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species	119	x3=	357
FACU species	158	x4=	632
UPL species	2	x5=	10
Column Totals:	279 (A)		999 (B)

Prevalence Index = B/A = 3.58

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

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SOIL Sampling Point W28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 4/6	100					SC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- X Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes ___ No X

Remarks:
Orange coloration due to parent material

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? Yes ___ No X Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 | State: South Dakota | Sampling Point: W29

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 3, T7S, R1E

Landform (hillslope, terrace, etc.) Drainage | Local relief (concave, convex, none): Concave | Slope (%): 2

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes		No	X	

Remarks:
R4 P17: Upstream
R4 P18: Downstream
Area is similar through the drainage; the upland species are dominant in the drainage. The Drainage is about 3' across on average.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	100	X	FAC
2.			
3.			
4.			
Total Cover:	100		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Elymus smithii*	10		FACU
2. *Bassia sieveriana*	5		FACU
3. *Elymus canadensis*	40	X	FACU
4. *Helianthus annuus*	5		FACU
5. *Nassella viridula*	10		NI
6. *Chenopodium album*	3		FACU
7. *Asclepias speciosa*	2		FAC
8. *Bromus inermis*	20	X	FACU
9. *Sisymbrium altissimum*	5		UPL
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species	102	x3=	306
FACU species	83	x4=	332
UPL species	5	x5=	25
Column Totals:	190 (A)		663 (B)

Prevalence Index = B/A = 3.49

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

SOIL Sampling Point W29

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	5YR 4/6	100					C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- X Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes ___ No X

Remarks:
Hard to dig soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Frost-Heave Hummocks (C11) (**LRR F**)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 | State: South Dakota | Sampling Point: W30

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 10, T7S, R1E

Landform (hillslope, terrace, etc.) Depression | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes		No	X	

Remarks:
R4 P19: East
R4 P20: West
Waypoints 46-49 mark the boundary

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Elymus smithii*	85	X	FACU
2. *Carex filifolia*	15		UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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 of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species		x3=	
FACU species	85	x4=	340
UPL species	15	x5=	75
Column Totals:	100	(A)	415 (B)

Prevalence Index = B/A = 4.15

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

US Army Corps of Engineers | Great Plains - DRAFT 8-30-2006

SOIL Sampling Point W30

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 4/1	70	7.5YR 4/6	30	C	M	SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ 1 cm Muck (A9) (**LRR C**)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Coast Prairie Redox (A16) (LRR F, G, H)
___ 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)	(**LRR H outside MLRA 72 & 73**)
___ 1 cm Muck (A9) (**LRR F, G, H**)	X Depleted Matrix (F3)	___ 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)	[3]Indicators of hydrophytic vegetation
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)		and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No ___

Remarks:
Orange coloration due to parent material

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)	___ Salt Crusts (B11)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Invertebrates (B13)	___ Sparsely Vegetated Concave Surfaces (B8)
___ Saturation (A3)	___ Hydrogen Sulfide Oder (C1)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Other (Explain in Remark)	___ Frost-Heave Hummocks (C11) (**LRR F**)
___ Iron Deposits (B5)		___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ FAC-Neutral Test (D5)
___ Water Stained Leaves (B9)		___ Local Soil Survey Data (D8)

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 | State: South Dakota | Sampling Point: W31

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 10, T7S, R1E

Landform (hillslope, terrace, etc.) Depression | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: PUB

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
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
R4 P21: Northeast
R4 P22: East- southeast

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Distichlis stricta*	35	X	FACW
2. *Sporobolus airoides*	20	X	FAC
3. *Salsola tragus*	45	X	FACU-
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	35	x2=	70
FAC species	20	x3=	60
FACU species	45	x4=	180
UPL species		x5=	
Column Totals:	100 (A)		310 (B)

Prevalence Index = B/A = 3.10

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptations[1] (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 X No

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.5	White salt crust							
0.5-14	10YR 4/3	100					C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (**LRR F)**
- ____ 1 cm Muck (A9) (**LRR F, G, H**)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick 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**)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ____ 1 cm Muck (A9) (**LRR C**)
- ____ Coast Prairie Redox (A16) (LRR F, G, H)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)
- ____ 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)
- X Salt Crusts (B11)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Oder (C1)
- ____ Dry-Season Water Table (C2)
- ____ Presence of Reduced Iron (C4)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surfaces (B8)
- ____ Drainage Patterns (B10)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ 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): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 | State: South Dakota | Sampling Point: W32

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 10, T7S R1E

Landform (hillslope, terrace, etc.) Depression | 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: PUS

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes		No	X	

Remarks:
R4 P24: Of the previously mapped PEM wetland
R4 P25: from the berm

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Echinochloa muricata*	100	X	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers | Great Plains - DRAFT 8-30-2006

SOIL Sampling Point W32

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR 4/1	50	7.5YR 4/6	50	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary 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)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 | State: South Dakota | Sampling Point: W33

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 14, T7S, R1E

Landform (hillslope, terrace, etc.) Pond | 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 ____

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R4 P1: Upstream
R4 P2: Downstream

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Juncus balticus*	20	X	FACW
2. *Distichlis stricta*	50	X	FACW
3. *Schoenoplectus tabernaemontani*	30	X	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:		
OBL species		x1=	
FACW species		x2=	
FAC species		x3=	
FACU species		x4=	
UPL species		x5=	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

___ Prevalence Index is ≤ 3.0[1]

___ Morphological Adaptations[1] (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 X No

Remarks:
Schoenoplectus tabernaemontani dominant on the fringe of the pond.

SOIL Sampling Point W33

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/6	90	Gley1 2.5/N	10	D	M	C	
4-8	Gley1 3/N	100					C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:
Orange coloration due to parent material

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- X 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 Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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 X	No ___	Depth (inches):	___	
Water Table Present?	Yes X	No ___	Depth (inches):	2	
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches):	4	

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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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 | State: South Dakota | Sampling Point: W34

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 14, 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: | NWI Classification:

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes		No	X	

Remarks:
R5 P9: Upstream
R5 P10: Downstream
Waypoint 58 indicates the end of surface water (R5 P8)

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Hordeum jubatum*	15	X	FACW
2. *Xanthium strumarium*	10		FAC
3. *Chenopodium album*	10		FACU
4. *Grindelia squarrosa*	15	X	UPL
5. *Cirsium arvense*	10		FACU
6. *Polygonum aviculare*	35	X	FACU
7. *Elymus smithii*	5		FACU
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	15	x2=	30
FAC species	10	x3=	30
FACU species	60	x4=	240
UPL species	15	x5=	75
Column Totals:	100 (A)		375 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:

US Army Corps of Engineers | Great Plains - DRAFT 8-30-2006

SOIL Sampling Point W34

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	Gley1 2.5/N	95	2.5YR 4/8	5	C	M, RC	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Gleyed Matrix (S4)		1 cm Muck (A9) (**LRR C**)
	Histic Epipedon (A2)		Sandy Redox (S5)		Coast Prairie Redox (A16) (LRR F, G, H)
	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**)	X	Loamy Gleyed Matrix (F2)		(**LRR H outside MLRA 72 & 73**)
	1 cm Muck (A9) (**LRR F, G, H**)		Depleted Matrix (F3)		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)		Redox Depressions (F8)		
	2.5 cm Mucky Peat or Peat (S2) (**LFF G, H**)		High Plains Depressions (F16)		[3]Indicators of hydrophytic vegetation
	5 cm Mucky Peat or Peat (S3) (**LRR F**)				and wetland hydrology must be present.

Indicators for Problematic Hydric Soils[3]:

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

	Surface Water (A1)		Salt Crusts (B11)		Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Invertebrates (B13)		Sparsely Vegetated Concave Surfaces (B8)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)		Drainage Patterns (B10)
	Water Marks (B1)		Dry-Season Water Table (C2)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)		Crayfish Burrows (C8)
	Drift Deposits (B3)		Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)		Other (Explain in Remark)		Frost-Heave Hummocks (C11) (**LRR F**)
	Iron Deposits (B5)			X	Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)				FAC-Neutral Test (D5)
	Water Stained Leaves (B9)				Local Soil Survey Data (D8)

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present?	Yes		No	X	Depth (inches):	
Water Table Present?	Yes		No	X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes		No	X	Depth (inches):	

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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 | State: South Dakota | Sampling Point: W35

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 14, T7S, R1E

Landform (hillslope, terrace, etc.) Depression | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: PUB

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
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
R5 P11: Facing east
R5 P12: Facing south
Possible stock dam

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Distichlis stricta*	80	X	FACW
2. *Melilotus sp.*	20		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species	80	x2=	160
FAC species		x3=	
FACU species	20	x4=	80
UPL species		x5=	
Column Totals:	100 (A)		240 (B)

Prevalence Index = B/A = 2.40

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
X Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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 X No

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 2.5/1	80	2.5YR 4/8	20	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

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)
- ___ 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 Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- X Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

Soil is moist but not saturated.

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 | State: South Dakota | Sampling Point: W36

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 10, T7S, R1E

Landform (hillslope, terrace, etc.) Outfall | 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 ____

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R5 P20: Downstream
R5 P21: Upstream to stock tank
Stock tank overflow
-waypoint 60- end of N
- waypoint 68, R5 P18: Upstream, R5 P19: Downstream
- waypoint 67 end of W, further SW there is *Hordeum jubatum was* dominant in channel and water disappears.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Hordeum jubatum*	20	X	FACW
2. *Juncus balticus*	65	X	FACW
3. *Melilotus alba*	10		FACU-
4. *Rumex occidentalis*	5		OBL
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 2 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
___ Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptations[1] (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 X No

Remarks:
Overflow area from stockpond.

SOIL Sampling Point W36

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	70	10YR 5/8	30	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ 1 cm Muck (A9) (**LRR C**)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Coast Prairie Redox (A16) (LRR F, G, H)
___ 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)	(**LRR H outside MLRA 72 & 73**)
___ 1 cm Muck (A9) (**LRR F, G, H**)	X Depleted Matrix (F3)	___ 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)	___ Redox Depressions (F8)	
___ 2.5 cm Mucky Peat or Peat (S2) (**LFF G, H**)	___ High Plains Depressions (F16)	[3]Indicators of hydrophytic vegetation
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)		and wetland hydrology must be present.

Indicators for Problematic Hydric Soils[3]:

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

X Surface Water (A1)	___ Salt Crusts (B11)	**Secondary Indicators (2 or more required)**
___ High Water Table (A2)	___ Aquatic Invertebrates (B13)	___ Surface Soil Cracks (B6)
___ Saturation (A3)	___ Hydrogen Sulfide Oder (C1)	___ Sparsely Vegetated Concave Surfaces (B8)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Thin Muck Surface (C7)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Other (Explain in Remark)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)		___ Frost-Heave Hummocks (C11) (**LRR F**)
___ Inundation Visible on Aerial Imagery (B7)		___ Geomorphic Position (D2)
___ Water Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches):	4	
Water Table Present?	Yes ___	No X	Depth (inches):	___	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	___	**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:
Soil is moist, but 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 County | Sampling Date: 9/20/07

Applicant/Owner: Knight Piesold, Powertech | State: South Dakota | Sampling Point: W37

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 34, T6S R1E

Landform (hillslope, terrace, etc.) Outfall | 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: Open water

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		No	X	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	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

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Typha latifolia*	25	X	OBL
2. *Cirsium arvense*	75	X	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x1=	25
FACW species		x2=	
FAC species		x3=	
FACU species	75	x4=	300
UPL species		x5=	
Column Totals:	100 (A)		325 (B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators

____ Dominance Test is > 50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (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

Remarks:
Cattails dominate on water edge. *Cirsium arvense* dominate from water edge to 3 feet out. Rabbitbrush on upland bank.

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SOIL Sampling Point W37

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5Y 5/3	100					SCL	Fibrous root channel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes ___ No X

Remarks:
Soils likely hydric where cattails are- across unavailable due to steep drop in to pit
Soils are moist not saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- 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 (B7)
- ___ Water Stained Leaves (B9)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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 X No ___ Depth (inches): ___
Water Table Present? Yes ___ No X 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:

Remarks:
Soil is moist, but not saturated.
Duck swimming in pond

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: W38

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 2, T7S, R1E

Landform (hillslope, terrace, etc.) Depression | 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: PUS

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R6 P13: East
R6 P14: North
300-500 feet across and 80 or 81 feet long

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populous deltoides*	100	X	FAC
2.			
3.			
4.			
Total Cover:	100		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Juncus balticus*	50	X	FACW
2. *Distichlis stricta*	50	X	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

___ Prevalence Index is ≤ 3.0[1]

___ Morphological Adaptations[1] (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 X No

Remarks:

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SOIL Sampling Point W38

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/2	60	7.5YR 5/8	40	C	M	C	Lots of cow prints in area

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ 1 cm Muck (A9) (**LRR C**)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Coast Prairie Redox (A16) (LRR F, G, H)
___ 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)	(**LRR H outside MLRA 72 & 73**)
___ 1 cm Muck (A9) (**LRR F, G, H**)	___ Depleted Matrix (F3)	___ 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)	[3]Indicators of hydrophytic vegetation
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)		and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No ___

Remarks:
Soils likely hydric where cattails are- across unavailable due to steep drop in to pit
Soils are moist not saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)	___ Salt Crusts (B11)	**Secondary Indicators (2 or more required)**
___ High Water Table (A2)	___ Aquatic Invertebrates (B13)	X Surface Soil Cracks (B6)
___ Saturation (A3)	___ Hydrogen Sulfide Oder (C1)	X Sparsely Vegetated Concave Surfaces (B8)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Thin Muck Surface (C7)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Other (Explain in Remark)	Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)		___ Frost-Heave Hummocks (C11) (**LRR F**)
___ Inundation Visible on Aerial Imagery (B7)		X Geomorphic Position (D2)
___ Water Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X 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:

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: W39

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range:

Landform (hillslope, terrace, etc.) Depression w/ manmade berm | 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: PUS

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R6 P16: of depression
R6 P17: of drainage to East
Waypoint 83, *Hordeum jubatum* depression with like soils as W39. R6 P15
Down the drainage there is HORJUB on banks and in bottom with same soil and hydrology

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Hordeum jubatum*	95	X	FACW
2. *Melilotus officinalis*	5		FACU-
3. *Descurainia pinnata*	5		NI
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
___ Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptations[1] (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 X No

Remarks:

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SOIL Sampling Point W39

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5YR 4/1	55	2.5YR 4/6	45	C	M, RC	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Gleyed Matrix (S4)		1 cm Muck (A9) (**LRR C**)
	Histic Epipedon (A2)		Sandy Redox (S5)		Coast Prairie Redox (A16) (LRR F, G, H)
	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)		(**LRR H outside MLRA 72 & 73**)
	1 cm Muck (A9) (**LRR F, G, H**)	X	Depleted Matrix (F3)		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)		[3]Indicators of hydrophytic vegetation
	5 cm Mucky Peat or Peat (S3) (**LRR F**)				and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

X	Surface Water (A1)		Salt Crusts (B11)		Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Invertebrates (B13)	X	Sparsely Vegetated Concave Surfaces (B8)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)		Drainage Patterns (B10)
	Water Marks (B1)		Dry-Season Water Table (C2)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)		Crayfish Burrows (C8)
	Drift Deposits (B3)		Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)		Other (Explain in Remark)		Frost-Heave Hummocks (C11) (**LRR F**)
	Iron Deposits (B5)			X	Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)				FAC-Neutral Test (D5)
	Water Stained Leaves (B9)				Local Soil Survey Data (D8)

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present?	Yes	_____	No	X	Depth (inches):	_____
Water Table Present?	Yes	_____	No	X	Depth (inches):	_____
Saturation Present? (includes capillary fringe)	Yes	_____	No	X	Depth (inches):	_____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

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: W40

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 1, T7S, R1E

Landform (hillslope, terrace, etc.) Pond | Local relief (concave, convex, none): Concave | Slope (%): 1

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 ____

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R6 P18: Pond

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	100	X	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptations[1] (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 X No

Remarks:

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SOIL Sampling Point W40

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 5/2	65	Gley1 5/N	15	D	RC	SiC	
			10YR 5/8	20	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Gleyed Matrix (S4)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)
	Stratified Layers (A5) (**LRR F)**		Loamy Gleyed Matrix (F2)
	1 cm Muck (A9) (**LRR F, G, H**)	X	Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)
	Sandy Mucky Mineral (S1)	X	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**)		

Indicators for Problematic Hydric Soils[3]:

	1 cm Muck (A9) (**LRR C**)
	Coast Prairie Redox (A16) (LRR F, G, H)
	Dark Surface (S7) (**LRR G**)
	High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No _____

Remarks:
Soil is moist but not saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

X	Surface Water (A1)		Salt Crusts (B11)
	High Water Table (A2)		Aquatic Invertebrates (B13)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)
	Water Marks (B1)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Thin Muck Surface (C7)
	Algal Mat or Crust (B4)		Other (Explain in Remark)
	Iron Deposits (B5)		
	Inundation Visible on Aerial Imagery (B7)		
	Water Stained Leaves (B9)		

Secondary Indicators (2 or more required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surfaces (B8)
	Drainage Patterns (B10)
	Oxidized Rhizospheres on Living Roots (C3)
	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 X	No _____	Depth (inches):	3	
Water Table Present?	Yes _____	No X	Depth (inches):	_____	
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches):	_____	

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

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: W41

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 1, T7S, R1E

Landform (hillslope, terrace, etc.) Mine pit | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: PUB

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	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present	Yes		No	X

Is the Sampled Area Within a Wetland Yes X No

Remarks:
R6 P19: Wetland
R6 P20: General area
Wetland has about a 20' circumference. This area may be a problematic wetland as some of the vegetation was dead.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Typha latifolia*	20	X	OBL
2. *Grindelia squarrosa*	15		UPL
3. *Symphyotrichum ericoides*	15		FACU
4. *Distichlis stricta*	50	X	FACW
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%
Prevalence Index is ≤ 3.0[1]
Morphological Adaptations[1] (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 X No

Remarks:
Grindelia squarrosa, Symphyotrichum ericoides, and rabbit brush are encroaching into the depression.

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SOIL Sampling Point W41

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	Gley1 5/10Y	95	10YR 6/8	5	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ 1 cm Muck (A9) (**LRR C**)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Coast Prairie Redox (A16) (LRR F, G, H)
___ 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**)	X Loamy Gleyed Matrix (F2)	(**LRR H outside MLRA 72 & 73**)
___ 1 cm Muck (A9) (**LRR F, G, H**)	___ Depleted Matrix (F3)	___ 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)	___ Redox Depressions (F8)	
___ 2.5 cm Mucky Peat or Peat (S2) (**LFF G, H**)	___ High Plains Depressions (F16)	[3]Indicators of hydrophytic vegetation
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)		and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes X No ___

Remarks:
Soil is moist but not saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)	___ Salt Crusts (B11)	**Secondary Indicators (2 or more required)**
___ High Water Table (A2)	___ Aquatic Invertebrates (B13)	___ Surface Soil Cracks (B6)
___ Saturation (A3)	___ Hydrogen Sulfide Oder (C1)	___ Sparsely Vegetated Concave Surfaces (B8)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Thin Muck Surface (C7)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Other (Explain in Remark)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)		___ Frost-Heave Hummocks (C11) (**LRR F**)
___ Inundation Visible on Aerial Imagery (B7)		X Geomorphic Position (D2)
___ Water Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Local Soil Survey Data (D8)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

Other pits within the area are filled with water.

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: W42

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 1, T7S, R1E

Landform (hillslope, terrace, etc.) Mine Pit | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRP): Black Hills MLRA62 | Lat: | Long: | Datum: NAD 1983, UTM Zone 13

Soil Map Unit Name: | NWI Classification: PUB

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
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
R6 P22- 24: Panoramic west to east.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Spartina pectinata*	40	X	FACW
2. *Distichlis stricta*	60	X	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptations[1] (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 X No

Remarks:
Little bluestem dominates the upper banks.

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SOIL Sampling Point W42

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/1	45	Gley1 4/N	5	D		SC	
			10YR 5/6	50	C			

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes ___ No X

Remarks:
Soil is moist but not saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- 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 (B7)
- ___ Water Stained Leaves (B9)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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 X	No ___	Depth (inches):	6	
Water Table Present?	Yes ___	No X	Depth (inches):	___	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	___	

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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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: Section 36, T6S, R1E (Outside of Project Boundary)

Landform (hillslope, terrace, etc.) Depression, ponded area due to berm | 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 ____

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
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	Yes	X	No		

Remarks:
R7 P15: West R7 P17: East of pond
R7 P16: Middle
Cattle grazed here. On the other side of the berm there are *Pinus ponderosa*.

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Juncus balticus*	60	X	FACW
2. *Typha latifolia*	40	X	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptations[1] (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 X No

Remarks:
Moss is present. *Distichlis stricta* present in the middle of the pond.

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SOIL Sampling Point W43

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 5/3	75	Gley1 3/N	20	D	M	C	
			5YR 5/8	5	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes ___ No X

Remarks:
Soil is moist but not saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- X 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 Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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 X	No ___	Depth (inches):	4	
Water Table Present?	Yes X	No ___	Depth (inches):	3	
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches):	3	

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks:

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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: W44

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 2, T7S, R1E

Landform (hillslope, terrace, etc.) Depression | Local relief (concave, convex, none): Concave | Slope (%): 1

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 ____

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R7 P24: Northwest
R8 P1: North
R8 P2: East

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Juncus balticus*	85	X	FACW
2. *Distichlis stricta*	15		FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers

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SOIL Sampling Point W44

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5Y 5/2	68	7.5YR 5/8	30	C	M	SiC	
			Gley1 3/N	2	D	M	SiC	
6-8	10YR 3/1	98	7.5YR 5/8	2	C	M	SiC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F)**
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick 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**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ High Plains Depressions (F16)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soils Present? Yes X No ___

Remarks:
Soil is moist, concentrations sparse in the 6-8 inches layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- 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 (B7)
- ___ Water Stained Leaves (B9)
- ___ Salt Crusts (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Oder (C1)
- ___ Dry-Season Water Table (C2)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remark)

Secondary Indicators (2 or more required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surfaces (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ 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 X	No ___	Depth (inches):	3	
Water Table Present?	Yes ___	No X	Depth (inches):	___	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	___	

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

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: W45

Investigator(s): C. Robinson and J. Eberly | Section, Township, Range: Section 1, T7S, R1E

Landform (hillslope, terrace, etc.) Depression | Local relief (concave, convex, none): Concave | Slope (%): 1

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 ____

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
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present	Yes	X	No		

Remarks:
R8 P4: Upstream
R8 P5: Downstream
Stockwater pond (20' wide by 50' long)

VEGETATION

Tree Stratum (Use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Mimulus guttatus*	70	X	OBL
2. *Distichlis stricta*	30	X	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
3.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test Worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

X Dominance Test is > 50%

___ Prevalence Index is ≤ 3.0[1]

___ Morphological Adaptations[1] (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 X No

Remarks:

US Army Corps of Engineers

Great Plains - DRAFT 8-30-2006

SOIL Sampling Point W45

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	Gley1 5/10Y	60	7.5Y 5/6	35	C	M, RC	C	
			Gley1 4/N	5	D	M		
8-10	2.5Y 5/4	90	5YR 5/6	10	C	M	SC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Gleyed Matrix (S4)		1 cm Muck (A9) (**LRR C**)
	Histic Epipedon (A2)		Sandy Redox (S5)		Coast Prairie Redox (A16) (LRR F, G, H)
	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**)	X	Loamy Gleyed Matrix (F2)		(**LRR H outside MLRA 72 & 73**)
	1 cm Muck (A9) (**LRR F, G, H**)		Depleted Matrix (F3)		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)		[3]Indicators of hydrophytic vegetation
	5 cm Mucky Peat or Peat (S3) (**LRR F**)				and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? Yes X No

Remarks:
Soil is moist but not saturated.
Black parent material in 8-10 inch layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

X	Surface Water (A1)		Salt Crusts (B11)		Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Invertebrates (B13)		Sparsely Vegetated Concave Surfaces (B8)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)		Drainage Patterns (B10)
	Water Marks (B1)		Dry-Season Water Table (C2)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)		Crayfish Burrows (C8)
	Drift Deposits (B3)		Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
	Algal Mat or Crust (B4)		Other (Explain in Remark)		Frost-Heave Hummocks (C11) (**LRR F**)
	Iron Deposits (B5)				Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)				FAC-Neutral Test (D5)
	Water Stained Leaves (B9)				Local Soil Survey Data (D8)

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present?	Yes	X	No		Depth (inches):	3-5
Water Table Present?	Yes		No	X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes		No	X	Depth (inches):	

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection), if available:

Remarks: