W28, R4 P13: Upstream, non-wetland

W28, R4 P14: Downstream, non-wetland

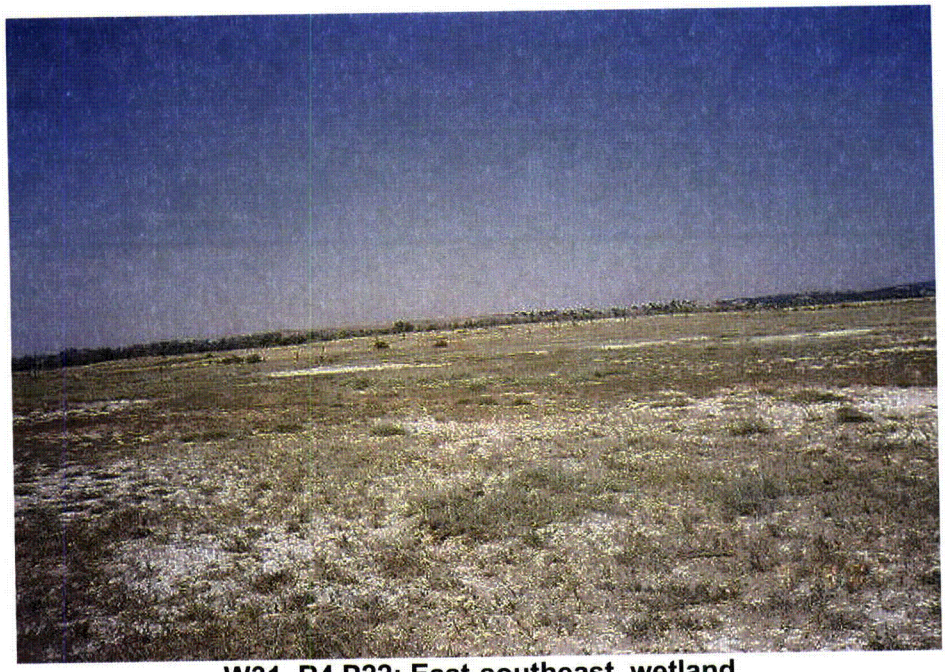
W29, R4 P17: Upstream, non-wetland

W29, R4 P18: Downstream, non-wetland

W30, R4 P19: East, non-wetland

W30, R4 P20: West, non-wetland

W31, R4 P21: Northeast, wetland



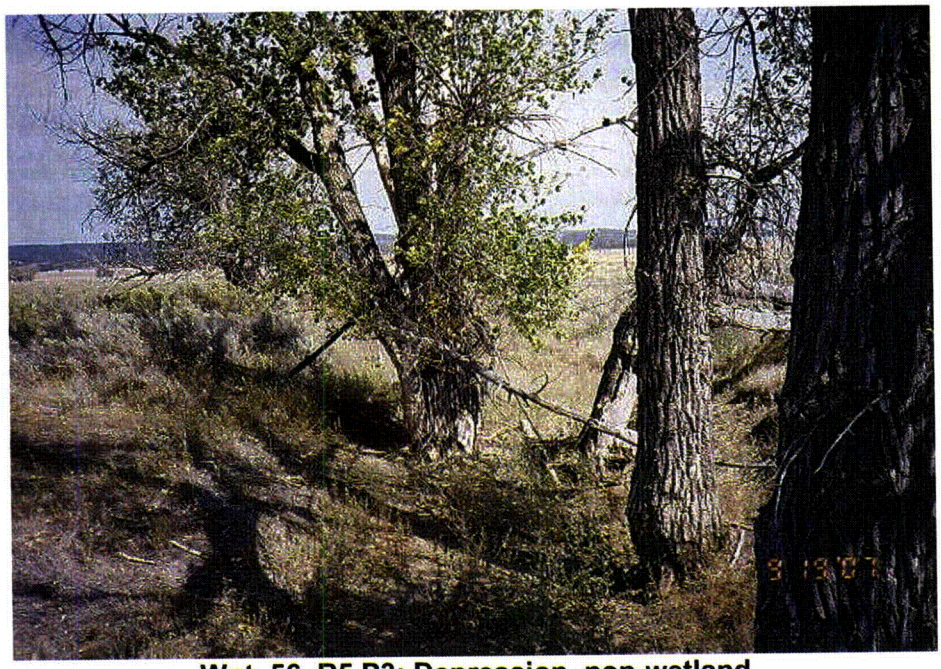
W31, R4 P22: East-southeast, wetland

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

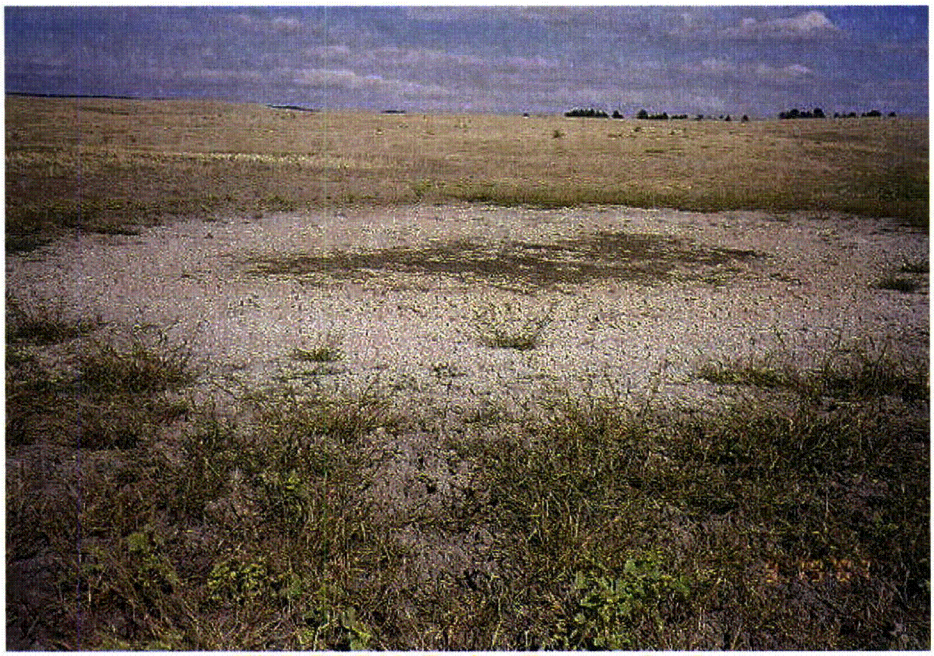
Wpt. 56, R5 P4: Depression, non-wetland

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



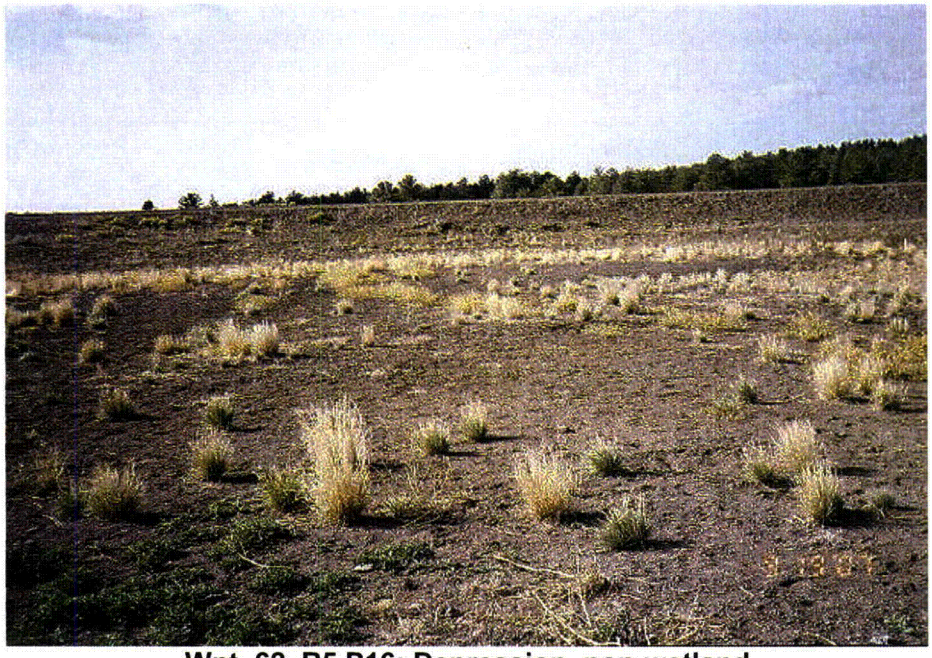
W35, R5 P11: Facing East, wetland

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



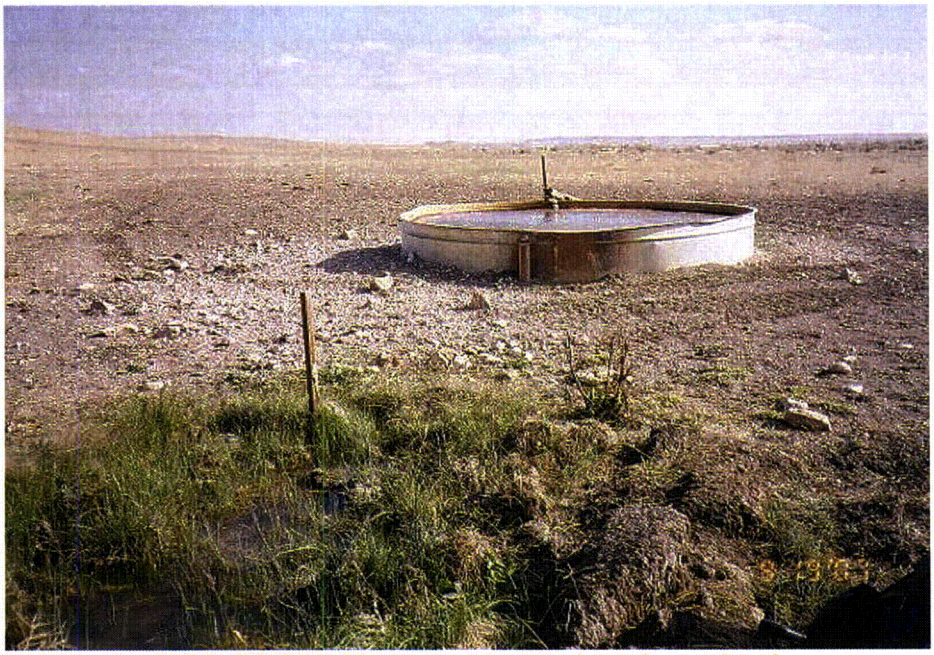
Wpt. 62, R5 P16: Depression, non-wetland

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

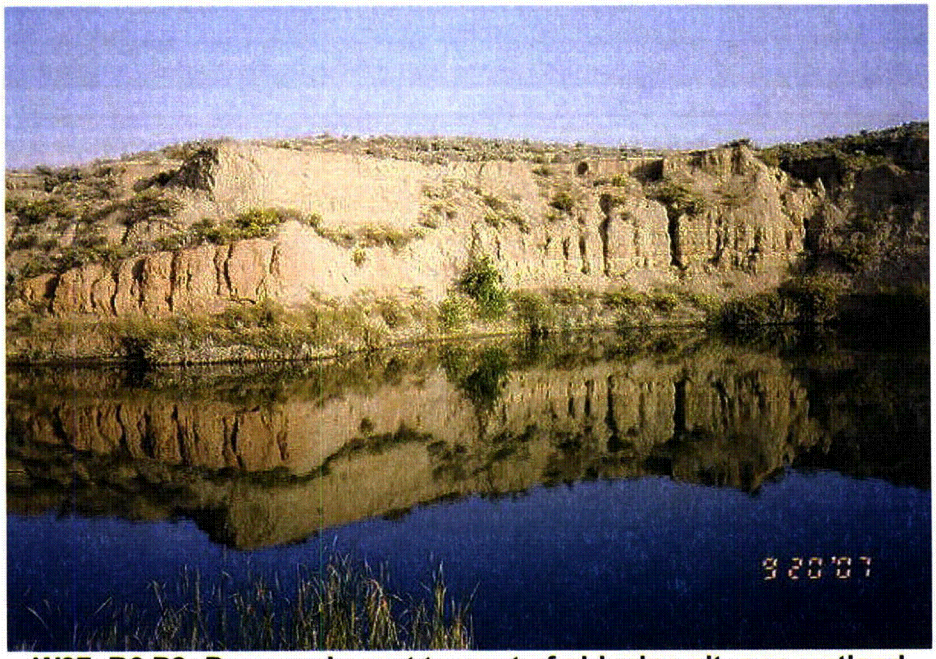
Wpt. 74, R6 P1: Depression, non-wetland

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

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

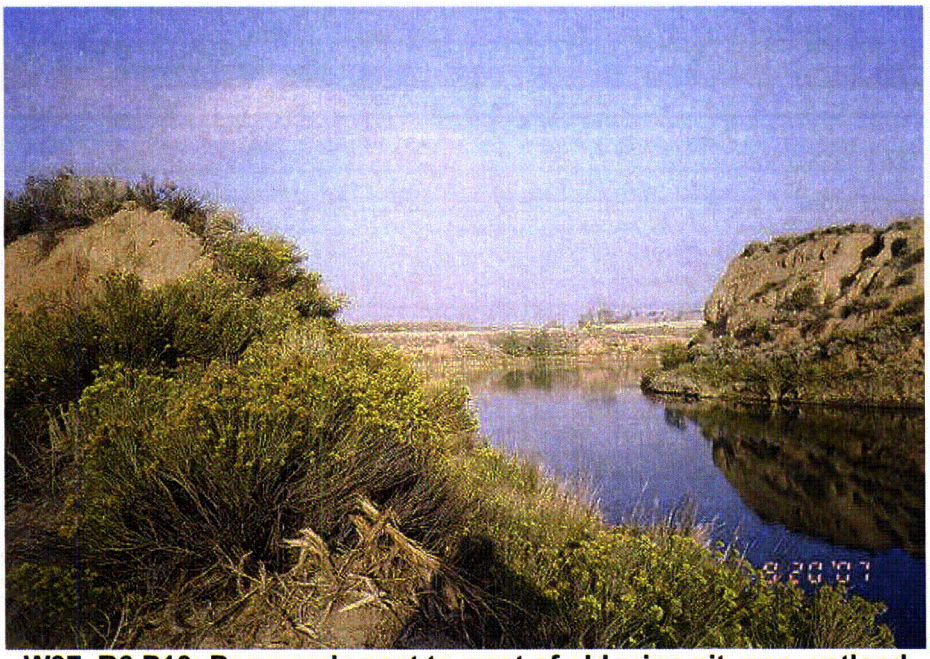
W37, R6 P6: Panoramic east to west of old mine pit, non-wetland

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

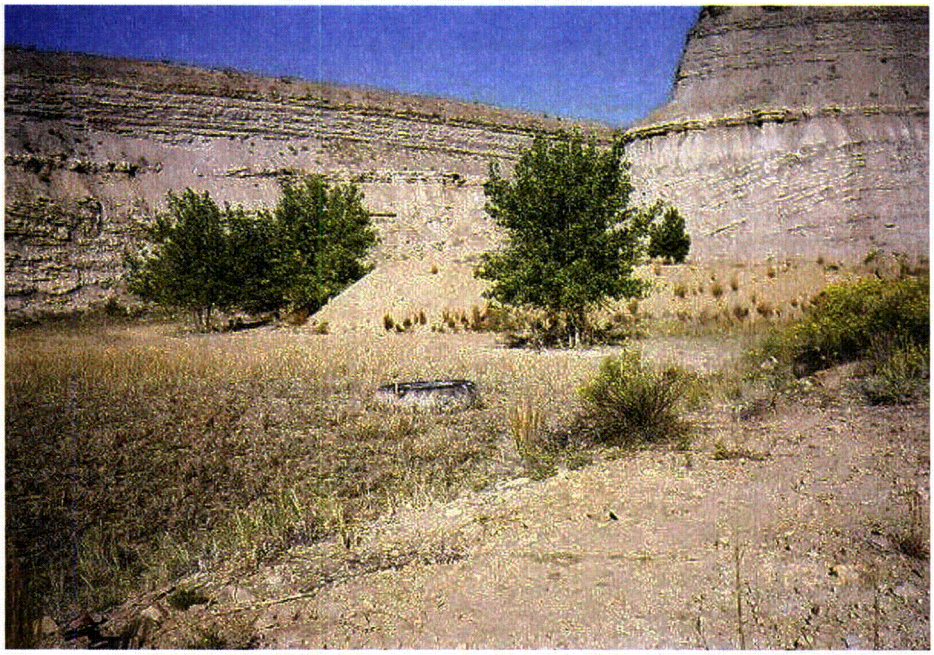
W39, R6 P16: Depression, wetland

W39, R6 P17: Drainage to the East, wetland

W40, R6 P18: Pond, wetland

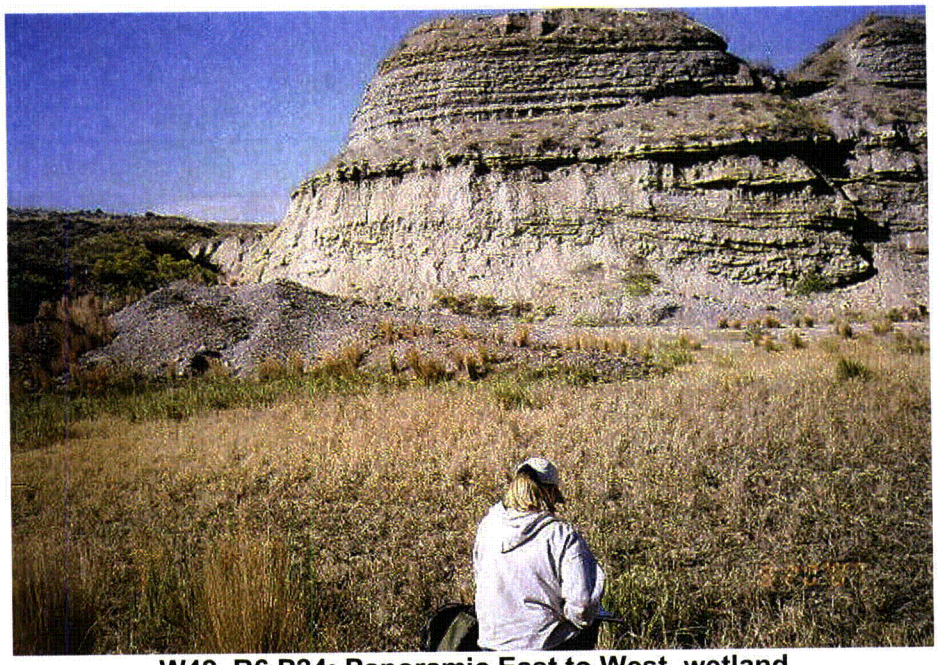
W41, R6 P19: Wetland

W41, R6 P20: General area, wetland



W42, R6 P22: Panoramic East to West, wetland

W42, R6 P23: Panoramic East to West, wetland

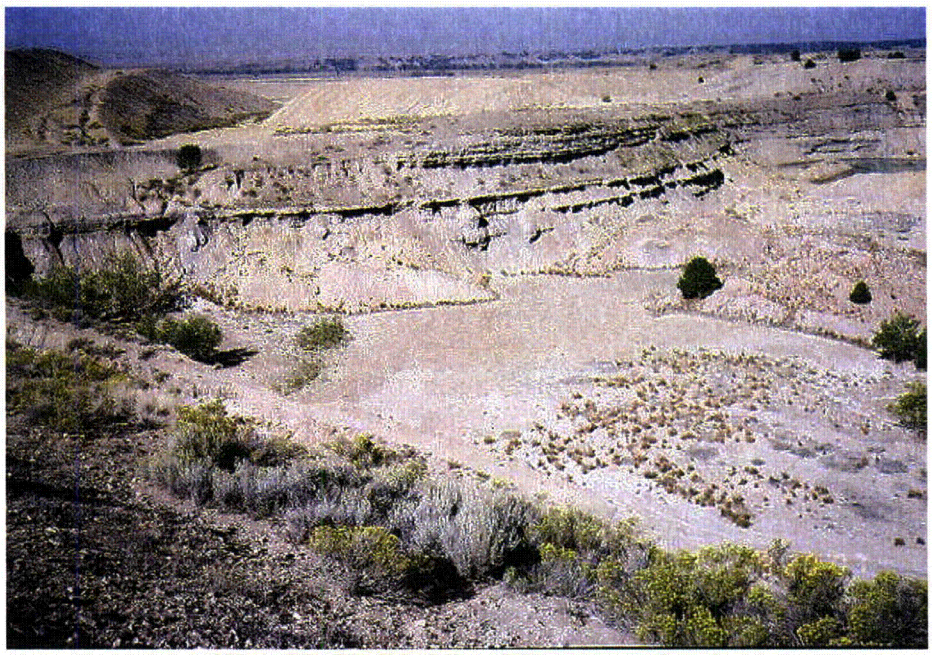


W42, R6 P24: Panoramic East to West, wetland

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



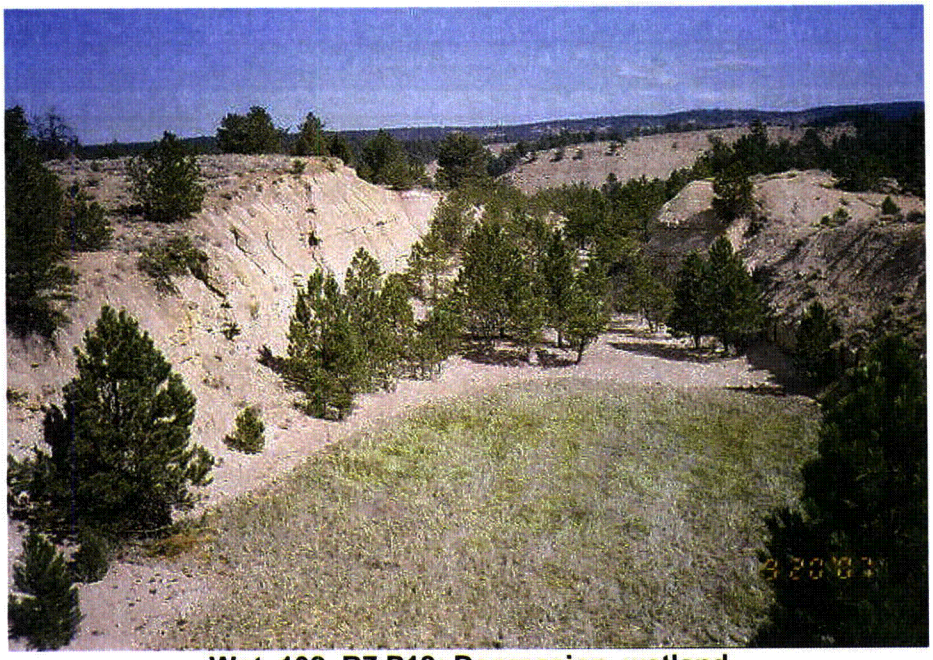
Wpt. 92, R7 P6: Mine Pit, non-wetland

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

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

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

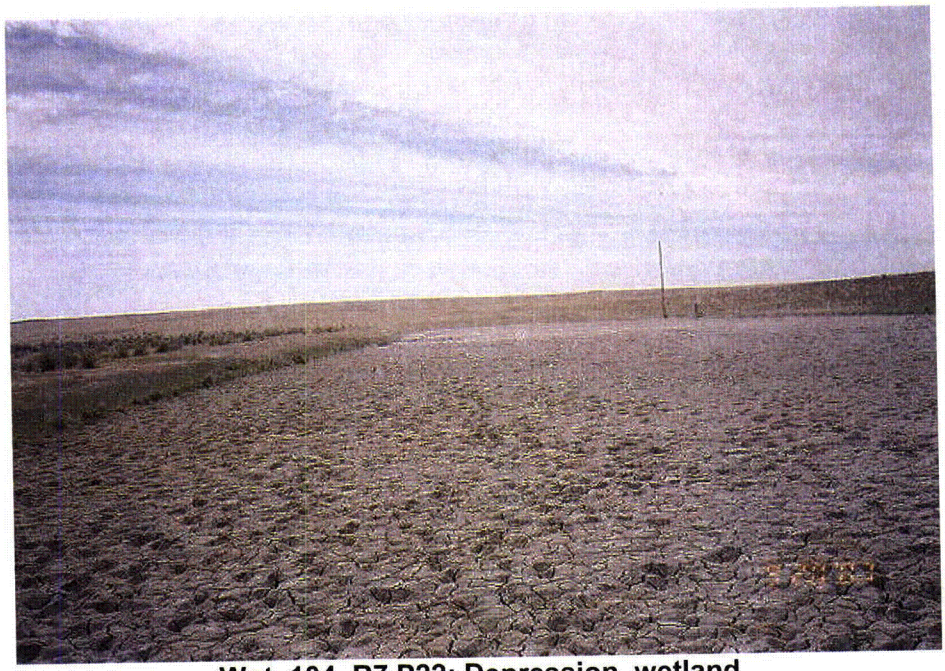
Wpt. 102, R7 P18: Depression, wetland



Wpt. 102, R7 P19: Depression, wetland

Wpt. 103, R7 P20: Mine Pit, wetland

Wpt. 104, R7 P21: Depression, wetland



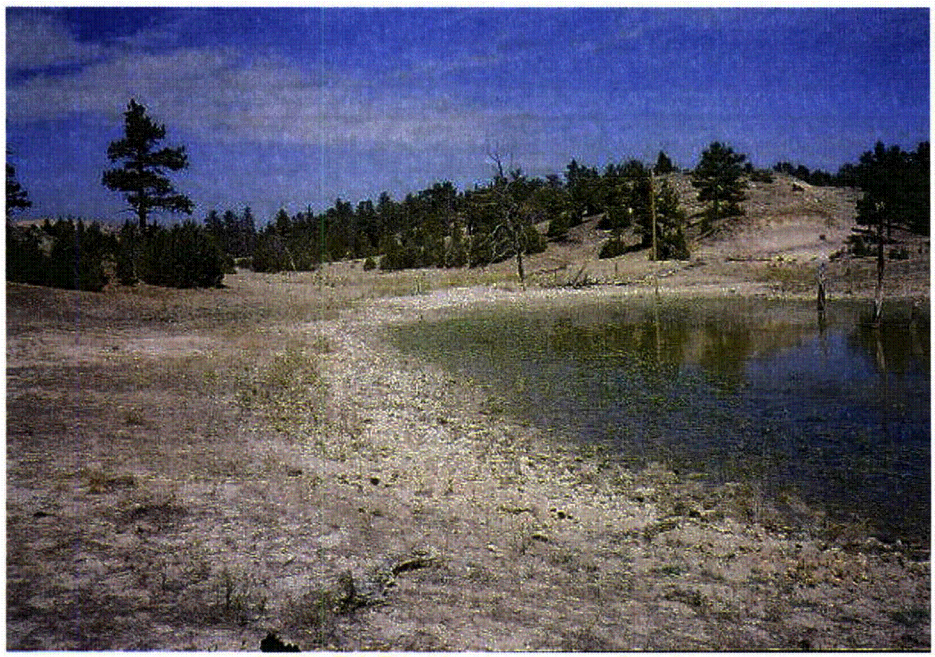
Wpt. 104, R7 P22: Depression, wetland

Wpt. 104, R7 P23: Depression, wetland

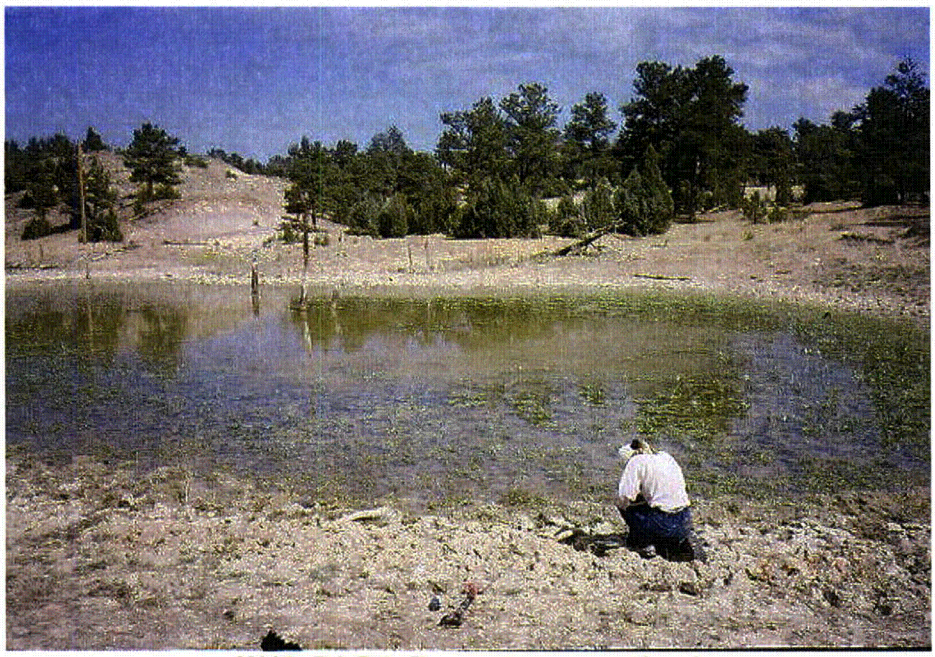
W44, R7 P24: Northwest, wetland

W44, R8 P1: North, wetland

W44, R8 P2: East, wetland



W45, R8 P4: Upstream, wetland



W45, R8 P5: Downstream, wetland

APPENDIX 3.5-G

WETLAND DETERMINATION DATA FORMS-GREAT PLAINS REGION (DRAFT)

POWERTECH (USA) INC.

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

Remarks:

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

POWERTECH (USA) INC.

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)	____ 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:

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)		____ 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 ____ No X

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

Remarks:

POWERTECH (USA) INC.

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

Is the Sampled Area Within a Wetland 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)	___ 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:

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)	X Surface Soil Cracks (B6)
___ Saturation (A3)	___ Hydrogen Sulfide Oder (C1)	___ Sparsely Vegetated Concave Surfaces (B8)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)	X 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 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.

POWERTECH (USA) INC.

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:

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.

POWERTECH (USA) INC.

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

Remarks:

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

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)
	Histic Epipedon (A2)		Sandy Redox (S5)
	Black Histic (A3)		Stripped Matrix (S6)
X	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)
	Stratified Layers (A5) **(LRR F)**		Loamy Gleyed Matrix (F2)
X	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)
X	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:
Faint hydrogen sulfide odor was present.

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)
	Saturation (A3)		Hydrogen Sulfide Oder (C1)
	Water Marks (B1)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
X	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):	_____	
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:

POWERTECH (USA) INC.

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

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:

POWERTECH (USA) INC.

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:

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:

POWERTECH (USA) INC.

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

Is the Sampled Area Within a Wetland 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:

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)	___ 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.

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)	**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)	X 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:

POWERTECH (USA) INC.

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

POWERTECH (USA) INC.

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:

POWERTECH (USA) INC.

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:

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.

POWERTECH (USA) INC.

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

Remarks:

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

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.

Indicators for Problematic Hydric Soils[3]:

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)	**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)	X 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:

POWERTECH (USA) INC.

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

Is the Sampled Area Within a Wetland 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:

POWERTECH (USA) INC.

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:

POWERTECH (USA) INC.

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

Remarks:

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

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.

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:

POWERTECH (USA) INC.

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

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:

POWERTECH (USA) INC.

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:

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)
___	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)**	___	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:
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)
___	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 ___	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:

POWERTECH (USA) INC.

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:

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? 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:

POWERTECH (USA) INC.

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		
Hydric Soil Present?	Yes	X	No	**Is the Sampled Area Within a Wetland**	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)	___ 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.

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)**
X High Water Table (A2)	___ Aquatic Invertebrates (B13)	___ Surface Soil Cracks (B6)
X Saturation (A3)	___ Hydrogen Sulfide Oder (C1)	___ Sparsely Vegetated Concave Surfaces (B8)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)	X 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 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	**Is the Sampled Area Within a Wetland** Yes ____ No X
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present	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:

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:

POWERTECH (USA) INC.

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)		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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

	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)	X	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	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.

POWERTECH (USA) INC.

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

Remarks:

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

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)	___ 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.

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)
___ 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 ___	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:

POWERTECH (USA) INC.

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

Remarks:
R2 P12: Upstream
R2 P13: 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:

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? (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:

POWERTECH (USA) INC.

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

Is the Sampled Area Within a Wetland 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

Remarks:

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

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

POWERTECH (USA) INC.

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:

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.

POWERTECH (USA) INC.

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

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

Remarks:

POWERTECH (USA) INC.

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

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:

POWERTECH (USA) INC.

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:

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)
___ 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)

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:

POWERTECH (USA) INC.

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%.

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.

POWERTECH (USA) INC.

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:

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:

POWERTECH (USA) INC.

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:

POWERTECH (USA) INC.

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:

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)
___	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:
Orange coloration due to parent material

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___	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 ___	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:

POWERTECH (USA) INC.

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:

SOIL Sampling Point W31

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:

POWERTECH (USA) INC.

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:

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)	___ 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)

___ Surface Water (A1)	___ Salt Crusts (B11)	X 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):	___	**Wetland Hydrology Present?** Yes ___ No X
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	___	

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

Remarks:

POWERTECH (USA) INC.

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

Is the Sampled Area Within a Wetland 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)	___ 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:
Orange coloration due to parent material

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)
___ 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:

POWERTECH (USA) INC.

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:

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)
- ___ 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)
- ___ 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:

POWERTECH (USA) INC.

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:

SOIL Sampling Point W35

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.

POWERTECH (USA) INC.

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

POWERTECH (USA) INC.

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.

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? (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.
Duck swimming in pond

POWERTECH (USA) INC.

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

Is the Sampled Area Within a Wetland 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:

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) (**LRR H outside MLRA 72 & 73**)
___ Stratified Layers (A5) (**LRR F**)	___ Loamy Gleyed Matrix (F2)	
___ 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 and wetland hydrology must be present.
___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)		

Indicators for Problematic Hydric Soils[3]:

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)	X 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:

POWERTECH (USA) INC.

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

Remarks:

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

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)
- ___ 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)

- 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)
- 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**)
- 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:

POWERTECH (USA) INC.

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

Is the Sampled Area Within a Wetland 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:

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)
- ___ 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:
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):	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:

POWERTECH (USA) INC.

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.

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)
- ___ 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:
Soil is moist but not saturated.

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:

Other pits within the area are filled with water.

POWERTECH (USA) INC.

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.

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:

POWERTECH (USA) INC.

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.

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:

POWERTECH (USA) INC.

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:

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)		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:
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)		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:

POWERTECH (USA) INC.

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:

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)
___ 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):	3-5	
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:

APPENDIX 3.5-H

APPROVED JURISDICTIONAL DETERMINATIONS

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
SOUTH DAKOTA REGULATORY OFFICE
28563 POWERHOUSE ROAD, ROOM 118
PIERRE SD 57501-6174

REPLY TO
ATTENTION OF :

1/19/09

January 14, 2009

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

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

Dear Mr. Blubaugh:

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

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

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

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

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

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

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

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

Sincerely,

Steven E. Naylor
Regulatory Program Manager,
South Dakota

Enclosures

USACOE Approved Jurisdictional Determination of Wetlands at Dewey-Burdock, Action IS: NOW-2008-2206[1]

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

[1]Completion date for Approved Jurisdictional Determination (JD): January 13, 2009
District Office, File Name, and Number: Omaha – Powertech (USA) Inc.- NOW-2008-2206-3-PIE

APPENDIX 3.5-I

LAB RESULTS – ENERGY LABORATORIES, INC.

ENERGY LABORATORIES, INC. • 2393 Salt Creek Highway (82601) • P.O. Box 3258 • Casper, WY 82602
Toll Free 888.235.0515 • 307.235.0515 • Fax 307.234.1639 • casper@energylab.com • www.energylab.com

ANALYTICAL SUMMARY REPORT

June 19, 2008

Fish identifications corrected as marked.
A. Wones - ICF Jones & Stokes

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

Workorder No.: C08040910

Project Name: Dewey-Burdock 010996.07

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

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

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

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

Report Approved By: STEVE CARLSTON

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-001
Client Sample ID: BVC01-Green Sunfish

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-002
Client Sample ID: BVC01-Plains Killfish

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-003
Client Sample ID: BVC01-Longnose Dace

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-004
Client Sample ID: BVC01-~~Emerald Shiner~~ Fathead Minnow

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-005
Client Sample ID: BVC04-Plains Killfish

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-006
Client Sample ID: BVC04-~~Quill Back~~ River Carpsucker

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-007
Client Sample ID: BVC04-Green Sunfish

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-008
Client Sample ID: BVC04-~~Emerald Shiner~~ Fathead Minnow

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-009
Client Sample ID: BVC04-Channel Catfish

Report Date: 06/19/08
Collection Date: 04/16/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-010
Client Sample ID: CHR05~~-Quill Back~~ River Carpsucker

Report Date: 06/19/08
Collection Date: 04/15/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-011
Client Sample ID: CHR05-Green Sunfish

Report Date: 06/19/08
Collection Date: 04/15/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-012
Client Sample ID: CHR05-~~Mottled Sucker~~ Shorthead Redhorse Sucker

Report Date: 06/19/08
Collection Date: 04/15/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-013
Client Sample ID: CHR05-~~Fine Scale Dace~~ Creek Chub

Report Date: 06/19/08
Collection Date: 04/15/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-014
Client Sample ID: CHR05-Plains Killfish

Report Date: 06/19/08
Collection Date: 04/15/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07
Lab ID: C08040910-015
Client Sample ID: CHR05-~~Shiner~~ Sand Shiner

Report Date: 06/19/08
Collection Date: 04/15/08
DateReceived: 04/18/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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QA/QC Summary Report

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07

Report Date: 06/19/08
Work Order: C08040910

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									**Batch: 18521**
Sample ID: C08041154-001AMS	Sample Matrix Spike				Run: BERTHOLD 770_080508E				05/15/08 17:06
Radium 226	0.14	pCi/L		84	70	130			
Sample ID: C08041154-001AMSD	Sample Matrix Spike Duplicate				Run: BERTHOLD 770_080508E				05/15/08 17:06
Radium 226	0.14	pCi/L		87	70	130	0.4	23.7	
Sample ID: MB-18521	Method Blank				Run: BERTHOLD 770_080508E				05/16/08 15:11
Radium 226	-0.7	pCi/L							U
Sample ID: LCS-18521	Laboratory Control Sample				Run: BERTHOLD 770_080508E				05/16/08 08:10
Radium 226	15	pCi/L		97	70	130			
Method: E907.0									**Batch: 18521**
Sample ID: C08041154-001AMS	Sample Matrix Spike				Run: EGG-ORTEC_080509A				05/09/08 14:00
Thorium 230	0.23	pCi/g-dry	0.10	113	70	130			
Sample ID: C08041154-001AMSD	Sample Matrix Spike Duplicate				Run: EGG-ORTEC_080509A				05/09/08 14:00
Thorium 230	0.15	pCi/g-dry	0.10	81	70	130	41	30	R
- The RPD for the MSD is high. The individual spike recoveries are within range, the MB is acceptable, and the LCS is within range, therefore the batch is approved.									
Sample ID: LCS-18521	Laboratory Control Sample				Run: EGG-ORTEC_080509A				05/09/08 14:00
Thorium 230	0.0431	pCi/g-dry	0.10	93	70	130			
Sample ID: MB-18521	Method Blank				Run: EGG-ORTEC_080509A				05/09/08 14:00
Thorium 230	-0.0006	pCi/g-dry							
Method: E909.0M									**Batch: 18521**
Sample ID: C08041154-001AMS	Sample Matrix Spike				Run: PACKARD 3100TR_080521A				05/21/08 09:00
Lead 210	3.5	pCi/g-dry	0.10	130	70	130			
- Spike response is outside of the acceptance range for this analysis. Since the LCS and the MSD are acceptable the batch is approved.									
Sample ID: C08041154-001AMSD	Sample Matrix Spike Duplicate				Run: PACKARD 3100TR_080521A				05/21/08 09:00
Lead 210	2.5	pCi/g-dry	0.10	91	70	130	36	30	R
Sample ID: MB-R101975	Method Blank				Run: PACKARD 3100TR_080521A				05/21/08 09:00
Lead 210	ND	pCi/g-dry							
Sample ID: LCS-R101975	Laboratory Control Sample				Run: PACKARD 3100TR_080521A				05/21/08 09:00
Lead 210	0.0528	pCi/g-dry	0.10	76	70	130			

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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QA/QC Summary Report

Client: Jones and Stokes
Project: Dewey-Burdock 010996.07

Report Date: 06/19/08
Work Order: C08040910

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0M									Batch: R102568
Sample ID: C08050798-003AMS	Sample Matrix Spike				Run: PACKARD 3100TR_080609A				06/09/08 08:30
Lead 210	648	pCi/Filter		48	70	130			S
- Spike response is outside of the acceptance range for this analysis. Since the LCS and the MSD are acceptable the batch is approved.									
Sample ID: C08050798-003AMSD	Sample Matrix Spike Duplicate				Run: PACKARD 3100TR_080609A				06/09/08 08:30
Lead 210	1350	pCi/Filter		108	70	130	70	30	R
Sample ID: MB-R102568	Method Blank				Run: PACKARD 3100TR_080609A				06/09/08 08:30
Lead 210	10	pCi/L							
Sample ID: LCS-R102568	Laboratory Control Sample				Run: PACKARD 3100TR_080609A				06/09/08 08:30
Lead 210	110	pCi/L		84	70	130			
Method: RMO-3008									Batch: 18521
Sample ID: C08040910-015AMS	Sample Matrix Spike				Run: EGG-ORTEC_080602A				06/02/08 11:15
Polonium 210	105	pCi/g-dry	0.10	96	70	130			
Sample ID: C08040910-015AMSD	Sample Matrix Spike Duplicate				Run: EGG-ORTEC_080602A				06/02/08 11:15
Polonium 210	117	pCi/g-dry	0.10	107	70	130	11	30	
Sample ID: LCS-18521	Laboratory Control Sample				Run: EGG-ORTEC_080602A				06/02/08 11:15
Polonium 210	79.2	pCi/g-dry	0.10	91	70	130			
Sample ID: MB-18521	Method Blank				Run: EGG-ORTEC_080602A				06/02/08 11:15
Polonium 210	-0.3	pCi/g-dry							
Method: SW6020									Batch: 18521
Sample ID: MB-18521	Method Blank				Run: ICPMS2-C_080510B				05/11/08 01:01
Uranium	8E-05	mg/kg-dry	6E-05						
Sample ID: LCS1-18521	Laboratory Control Sample				Run: ICPMS2-C_080510B				05/11/08 01:05
Uranium	0.515	mg/kg-dry	0.015	103	75	125			
Sample ID: C08040910-015AMS	Sample Matrix Spike				Run: ICPMS2-C_080510B				05/11/08 02:48
Uranium	316	mg/kg-dry	0.38	100	75	125			
Sample ID: C08040910-015AMSD	Sample Matrix Spike Duplicate				Run: ICPMS2-C_080510B				05/11/08 02:52
Uranium	316	mg/kg-dry	0.38	101	75	125	0.2	20	

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

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Date: 19-Jun-08

CLIENT: Jones and Stokes
Project: Dewey-Burdock 010996.07
Sample Delivery Group: C08040910

CASE NARRATIVE

THIS IS THE FINAL PAGE OF THE LABORATORY ANALYTICAL REPORT

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

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

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

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

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

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

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT
eli-r - Energy Laboratories, Inc. - Rapid City, SD
eli-t - Energy Laboratories, Inc. - College Station, TX

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

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

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

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

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ANALYTICAL SUMMARY REPORT

August 22, 2008

Sample ID species corrected. A. Wones ICF Jones & Stokes

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

Workorder No.: C08070647

Project Name: Dewey Burdock 00996.07

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

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

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

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

Report Approved By: STEVE CARLSTON

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-001
Client Sample ID: BVC01-ICF JSA-FHM

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-002
Client Sample ID: BVC01-Plains Top Minow

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

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.021	mg/kg-dry		0.0050		SW6020	07/27/08 06:12 / sml
Uranium, Activity	1.4E-05	uCi/kg		3.4E-06		SW6020	07/27/08 06:12 / sml
RADIONUCLIDES - TOTAL							
Polonium 210	3.5E-04	uCi/kg		1.1E-04		RMO-3008	07/31/08 14:15 / plj
Polonium 210 precision (±)	2.8E-04	uCi/kg				RMO-3008	07/31/08 14:15 / plj
Lead 210	-2.0E-03	uCi/kg	U			E909.0M	07/28/08 11:15 / dm
Lead 210 precision (±)	4.2E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Lead 210 MDC	7.1E-03	uCi/kg				E909.0M	07/28/08 11:15 / dm
Radium 226	-2.0E-04	uCi/kg	U			E903.0	08/07/08 10:33 / dm
Radium 226 precision (±)	1.1E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Radium 226 MDC	2.7E-04	uCi/kg				E903.0	08/07/08 10:33 / dm
Thorium 230	1.0E-04	uCi/kg		2.2E-05		E907.0	08/08/08 00:16 / dmf
Thorium 230 precision (±)	1.0E-04	uCi/kg				E907.0	08/08/08 00:16 / dmf

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-003
Client Sample ID: BVC01-Plains Kill Fish

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-004
Client Sample ID: BVC01-~~Common Shiner~~ SAS sand shiner

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-005
Client Sample ID: BVC01-ICF JSA- CAP Carp

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-006
Client Sample ID: BVC04-~~Common Shiner~~ Sand Shiner

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-007
Client Sample ID: BVC04-Short Head Red Horse Sucker

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-008
Client Sample ID: BVC04-Fathead Minow

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-009
Client Sample ID: BVC04-PLK

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-010
Client Sample ID: BVC04-Carp (Cap)

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

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-011
Client Sample ID: CHR04-WSM

Report Date: 08/22/08
Collection Date: 07/09/08
DateReceived: 07/15/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-012
Client Sample ID: CHR04-FHM

Report Date: 08/22/08
Collection Date: 07/09/08
DateReceived: 07/15/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client:	Jones and Stokes	**Report Date:**	08/22/08
Project:	Dewey Burdock 00996.07	**Collection Date:**	07/09/08
Lab ID:	C08070647-013	**DateReceived:**	07/15/08
Client Sample ID:	CHR04-PLK	**Matrix:**	Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client:	Jones and Stokes	**Report Date:**	08/22/08
Project:	Dewey Burdock 00996.07	**Collection Date:**	07/09/08
Lab ID:	C08070647-014	**DateReceived:**	07/15/08
Client Sample ID:	CHR04-SRS	**Matrix:**	Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-015
Client Sample ID: CHR04-Carp

Report Date: 08/22/08
Collection Date: 07/09/08
DateReceived: 07/15/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-016
Client Sample ID: CHR04-CHC

Report Date: 08/22/08
Collection Date: 07/09/08
DateReceived: 07/15/08
Matrix: Fish

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

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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LABORATORY ANALYTICAL REPORT

Client: Jones and Stokes
Project: Dewey Burdock 00996.07
Lab ID: C08070647-017
Client Sample ID: CHR04-RCS

Report Date: 08/22/08
Collection Date: 07/09/08
DateReceived: 07/15/08
Matrix: Fish

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

*** Performed by Sampler

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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QA/QC Summary Report

Client: Jones and Stokes
Project: Dewey Burdock 00996.07

Report Date: 08/22/08
Work Order: C08070647

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									Batch: 19208
Sample ID: C08070647-008AMS	Sample Matrix Spike				Run: BERTHOLD 770_080731C				08/07/08 10:33
Radium 226	23	pCi/g-dry		117	70	130			
Sample ID: C08070647-008AMSD	Sample Matrix Spike Duplicate				Run: BERTHOLD 770_080731C				08/07/08 10:34
Radium 226	20	pCi/g-dry		103	70	130	13	25.9	
Sample ID: MB-19208	Method Blank				Run: BERTHOLD 770_080731C				08/07/08 16:17
Radium 226	-0.002	pCi/g-dry							U
Sample ID: LCS-19208	Laboratory Control Sample				Run: BERTHOLD 770_080731C				08/07/08 16:17
Radium 226	0.077	pCi/g-dry		102	70	130			
Method: E907.0									Batch: 19208
Sample ID: C08070647-013AMS	Sample Matrix Spike				Run: EGG-ORTEC_080731C				08/11/08 09:23
Thorium 230	15.1	pCi/g-dry	0.10	90	70	130			
Sample ID: C08070647-013AMSD	Sample Matrix Spike Duplicate				Run: EGG-ORTEC_080731C				08/11/08 09:41
Thorium 230	18.0	pCi/g-dry	0.10	108	70	130	17	30	
Sample ID: LCS-19208	Laboratory Control Sample				Run: EGG-ORTEC_080731C				08/08/08 11:00
Thorium 230	0.0398	pCi/g-dry	0.10	90	70	130			
Sample ID: MB-19208	Method Blank				Run: EGG-ORTEC_080731C				08/08/08 11:00
Thorium 230	-0.0003	pCi/g-dry							U
Method: E909.0M									Batch: 19208
Sample ID: C08070647-006AMS	Sample Matrix Spike				Run: PACKARD 3100TR_080728D				07/28/08 11:15
Lead 210	150	pCi/g-dry		111	70	130			
Sample ID: C08070647-006AMSD	Sample Matrix Spike Duplicate				Run: PACKARD 3100TR_080728D				07/28/08 11:15
Lead 210	197	pCi/g-dry		146	70	130	27	30	S
- Spike response is outside of the acceptance range for this analysis. Since the LCS and the RPD for the MS MSD pair are acceptable, the response is considered to be matrix related. The batch is approved.									
Sample ID: MB-R106080	Method Blank				Run: PACKARD 3100TR_080728D				07/28/08 11:15
Lead 210	0.0001	pCi/g-dry							U
Sample ID: LCS-R106080	Laboratory Control Sample				Run: PACKARD 3100TR_080728D				07/28/08 11:15
Lead 210	0.103	pCi/g-dry		88	70	130			

Qualifiers:

RL - Analyte reporting limit.
S - Spike recovery outside of advisory limits.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

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QA/QC Summary Report

Client: Jones and Stokes
Project: Dewey Burdock 00996.07

Report Date: 08/22/08
Work Order: C08070647

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **RMO-3008**									Batch: 19208
Sample ID: **C08070647-017AMS**	Sample Matrix Spike				Run: EGG-ORTEC_080731B				07/31/08 14:15
Polonium 210	0.371	pCi/g-dry	0.10	161	70	130			S
- Spike response is outside of the acceptance range for this analysis. Since the MB, LCS and the MSD are acceptable the batch is approved.									
Sample ID: **C08070647-017AMSD**	Sample Matrix Spike Duplicate				Run: EGG-ORTEC_080731B				07/31/08 14:15
Polonium 210	0.229	pCi/g-dry	0.10	100	70	130	47	30	R
Sample ID: **LCS-R105592**	Laboratory Control Sample				Run: EGG-ORTEC_080731B				07/31/08 14:15
Polonium 210	0.0918	pCi/g-dry	0.10	106	70	130			
Sample ID: **MB-R105592**	Method Blank				Run: EGG-ORTEC_080731B				07/31/08 14:15
Polonium 210	7E-05	pCi/g-dry							U
Method: **SW6020**									Batch: 19208
Sample ID: **MB-19208**	Method Blank				Run: ICPMS4-C_080726A				07/27/08 05:43
Uranium	9E-06	mg/kg-dry	2E-06						
Sample ID: **LCS1-19208**	Laboratory Control Sample				Run: ICPMS4-C_080726A				07/27/08 05:47
Uranium	0.0485	mg/kg-dry	0.015	97	75	125			
Sample ID: **C08070647-017AMS**	Sample Matrix Spike				Run: ICPMS4-C_080726A				07/27/08 07:29
Uranium	1.41	mg/kg-dry	0.015	121	75	125			
Sample ID: **C08070647-017AMSD**	Sample Matrix Spike Duplicate				Run: ICPMS4-C_080726A				07/27/08 07:33
Uranium	1.41	mg/kg-dry	0.015	120	75	125	0.6	20	

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.
U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.