

WETLAND DETERMINATION DATA FORM – Great Plains Region 28 30 90 WY

Project/Site: ULP City/County: Montreal Sampling Date: 8/31/10
 Applicant/Owner: McCain State: ND Sampling Point: W-4
 Investigator(s): GWM, NPH Section, Township, Range: 28, 156, 90
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.309735 Long: -102.260718 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex 0-25% slopes NWI classification: 7Pmc
 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>depression</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>POA PAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>POA AMP</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>ITA PAL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>POA PAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
5. <u>ART LUD</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
6. <u>FST SIM</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u>100</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>				
2. <u> </u>				
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

28/5630-44

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5Y 7/1	100					silt	
12-16	2.5Y 7.5/1	90	2.5YR 7/2	10	C	m	silt	
16-18	2.5Y 7/2	95	2.5YR 5/6	5	C	m	silt	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Thick muck below

 4PL-4 of 0-6 100% 3/4 100
 6-9 100% 4/2-90-2.5YR 5/6 100
 Rocks below

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

- | | | |
|------------------------|---|-----------------------|
| Surface Water Present? | Yes ☒ No ☐ | Depth (inches): _____ |
| Water Table Present? | Yes ☒ No ☐ | Depth (inches): _____ |
| Saturation Present? | Yes ☒ No ☐ | Depth (inches): _____ |

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: McDonald Sampling Date: 8/31/2010
 Applicant/Owner: US Army State: ND Sampling Point: W-5
 Investigator(s): Gunn/NPH Section, Township, Range: 48 56 70
 Landform (hillslope, terrace, etc.): depression Local relief (concave) convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.310161 Long: -102.261956 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: 1E1C
 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>Depression wetland. Thick undrained soils.</u> <u>UPL-5 380240-410</u> <u>704444-410</u> <u>512444-22</u> <u>700</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A)
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)				Prevalence Index worksheet:
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total % Cover of: <u> </u> Multiply by: <u> </u>
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	OBL species <u> </u> x 1 = <u> </u>
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACW species <u> </u> x 2 = <u> </u>
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FAC species <u> </u> x 3 = <u> </u>
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACU species <u> </u> x 4 = <u> </u>
<u> </u> = Total Cover				UPL species <u> </u> x 5 = <u> </u>
Herb Stratum (Plot size: <u>20'</u>)				Column Totals: <u> </u> (A) <u> </u> (B)
1. <u>SAPRA</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = <u> </u>
2. <u>CRANR</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>POWAMP</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. <u>STAPAL</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
5. <u>AST SIM</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
6. <u>TYDINE</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Indicators:
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>X</u> Dominance Test is >50%
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index is ≤3.0 ¹
<u>0</u> = Total Cover				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum <u>0</u>				Problematic Hydrophytic Vegetation ¹ (Explain)
Remarks:				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

2815690 - 403

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Indicators for Problematic Hydric Soils³:

— 1 cm Muck (A9) (LRR I, J)
 — Coast Prairie Redox (A16) (LRR F, G, H)
 — Dark Surface (S7) (LRR G)
 — High Plains Depressions (F16)
 (LRR H outside of MLRA 72 & 73)

☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)
³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Couldn't get below 18" incase due to Park
log. Thick overburden

LPL-5 0-12-10 YR $\frac{1}{2}$ in
12-10 YR $\frac{1}{2}$ in 100

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

Secondary Indicators (minimum of two required)

☐ Surface Water (A1)	☐ Salt Crust (B11)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	(where not tilled)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)
☐ Water-Stained Leaves (B9)	

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)
- Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

PENC

24 156 90-03

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLUP City/County: Montreal Sampling Date: 8/5/2016
 Applicant/Owner: MCCain State: ND Sampling Point: wet-3
 Investigator(s): GWM/NPH Section, Township, Range: 24 156 90-03
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 41
 Subregion (LRR): F Lat: 48.311473 Long: -102.205159 Datum: NAD83
 Soil Map Unit Name: Parnell silt loam NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐	
Wetland Hydrology Present?	Yes ☒ No ☐	
Remarks: <u>depression with POLAME + white top in interior</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>BAPRA</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
2. <u>BAPAL</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3. <u>ABRCAN</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4. <u>CAL STL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
5. <u>RUNCAN</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. <u>POLAME</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
7. <u>RNECAN</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
8. _____				
9. _____				
10. _____				
<u>110</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes ☒ No ☐
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

26 156 90 03

Sampling Point: W3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/1	100						
4-8	10YR 8/1	95	7.5YR 8/6	5	C	m	Silt	
8-20	10YR 4/2	90	7.5YR 5/6	10	C	m	Silt	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tan clay

 UPR-3 - 0-6-10YR 3/1
 6-8-2.5Y 4/3

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☐ No ☐ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NW1 = PCHC

WETLAND DETERMINATION DATA FORM – Great Plains Region 19/5689-W1

Project/Site: BLLP City/County: Monmouth Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 1
 Investigator(s): GWM, NPH Section, Township, Range: 19-156-89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.313903 Long: -102.161401 Datum: NAD 83
 Soil Map Unit Name: Southam Silty Clay Loam NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>Depression wetland</u> <u>Barbed across middle</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>STAPES</u> <u>30</u> <u>Y</u> <u>FACU</u> 2. <u>BAPPA</u> <u>20</u> <u>Y</u> <u>FACU</u> 3. <u>SYMBLE</u> <u>15</u> <u>N</u> <u>FACU</u> 4. <u>RUFEN</u> <u>20</u> <u>Y</u> <u>FACW</u> 5. <u>COL RTG</u> <u>5</u> <u>N</u> <u>FACU</u> 6. <u>CAL STR</u> <u>15</u> <u>N</u> <u>FACW</u> 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				
Remarks:				Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0' ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes ☒ No _____				

SOIL

Sampling Point: W-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type			
0-4	10YR 3/1	100				Sil		
4-10	2.5Y 4/1	90	2.5Y 5/1	5	d m	Sil		
			7.5YR 5/2	5	e m	Sil		
10-18"	2.5Y 7/2	90	7.5YR 5/2	2	e m	Sil		
			6.5Y 4/1	5	d m	Sil		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ 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 of 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)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Tonka Gley depletions in matrix Upl-1 0-310YR 3/2 5-8" 2.5Y 5/3 STZ cm-50 200YR 5/2 with ALP-70

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		
☒ Surface Water (A1)	☐ Salt Crust (B11)	Secondary Indicators (minimum of two required)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	
☒ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	
☐ Drift Deposits (B3)	☐ (where not tilled)	
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	
☐ Water-Stained Leaves (B9)		
Field Observations:		
Surface Water Present? Yes ☐ No ☐ Depth (inches): _____	Wetland Hydrology Present? Yes ☒ No ☐	
Water Table Present? Yes ☐ No ☐ Depth (inches): _____		
Saturation Present? Yes ☒ No ☐ Depth (inches): <u>2"</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Great Plains Region 1915689-02

Project/Site: BLP City/County: Montreal Sampling Date: 8/6/2010
 Applicant/Owner: MCCain State: ND Sampling Point: Wet 2
 Investigator(s): GWM/NPH Section, Township, Range: 19 156 89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.313963 Long: -102.162467 Datum: NAD83
 Soil Map Unit Name: Zah-Williams-Bowbells Loams, 3-9% slopes NWI classification: None

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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>shallow depression</u> <u>Carex lanuginosa across basin</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>25</u> x 1 = <u>25</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u> </u> x 3 = <u> </u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u>110</u> (A) <u>275</u> (B) Prevalence Index = B/A = <u>2.5</u>
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> % Bare Ground in Herb Stratum <u>0</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Remarks: <u> </u>				

Sampling Point: W-2

[illegible]

Indicators for Problematic Hydric Soils³

☐ 1 cm Muck (A9) (LRR I, J)
☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Dark Surface (S7) (LRR G)
☐ High Plains Depressions (F16)
 (LRR H outside of 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, unless disturbed or problematic.

Depth (inches): _____

Hydric Soil Present? Yes X No

Thick overburden of dark silts

4pL-2
C-3 - 107R³/₄
3-6 107R³/₄
C-10 2 5Y⁵/₂
GW-90%

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (minimum of two required)

☐ Surface Water (A1)	☐ Salt Crust (B11)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ (where not tilled)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)
☐ Water-Stained Leaves (B9)	

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region 1915681-23

Project/Site: BULP City/County: Montevallo Sampling Date: 8/6/10
 Applicant/Owner: McCain State: ND Sampling Point: Wet 3
 Investigator(s): GWM, NPH Section, Township, Range: 19-156-89
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): F Lat: 48.313513 Long: -102.166049 Datum: NAD 83
 Soil Map Unit Name: Southern silty clay loam NWI classification: PCm/ADF
 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>Large flat depression wetland</u> <u>Obs. pt. along old beach line</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: _____	(A) _____ (B) _____																	
_____ = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>) 1. <u>POPPA</u> <u>20</u> <u>Y</u> <u>FACU</u> 2. <u>CYLANA</u> <u>30</u> <u>Y</u> <u>OBL</u> 3. <u>CALSTR</u> <u>20</u> <u>Y</u> <u>FACW</u> 4. <u>POT ANS</u> <u>10</u> <u>N</u> <u>FACW</u> 5. <u>MENARV</u> <u>10</u> <u>N</u> <u>FACW</u> 6. <u>RUMERI</u> <u>10</u> <u>N</u> <u>FACW</u> 7. <u>LIRASP</u> <u>5</u> <u>N</u> <u>FACW</u> 8. _____ 9. _____ 10. _____ _____ = Total Cover																		
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover																		
Remarks: <u>CLATH in indicator</u>																		

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
 _____ Prevalence Index is ≤3.0¹
 _____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

19156 89-43

Sampling Point: W-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/1	100					sl	
2-8	2.5Y 5/2	80	2.5Y 2/2	20	c	m	scr	gravelly
8-18	2.5Y 5/2	90	2.5Y 2/2	5	c	m	scr	
			8Y 1/1	5	d	m	scr	gritty
18-30	2.5Y 5/1	95	2.5Y 2/2	5	c	m	scr	gritty

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ 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 of 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)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Old bench in upper 8"

upl-3 0-4-10YR 3/1-100
4-8-10YR 2/2-100

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☒ Surface Water (A1)	☐ Salt Crust (B11)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)
☒ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ (where not tilled)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)
☐ Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ (where tilled)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)
☐ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ☒ No ☐	Depth (inches): <u>8"</u>
Water Table Present?	Yes ☐ No ☐	Depth (inches): _____
Saturation Present?	Yes ☒ No ☐	Depth (inches): <u>3</u>

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLCP City/County: Montreal 19-56-89-W4 Sampling Date: 8/6/10
 Applicant/Owner: McLain State: ND Sampling Point: Wet 4
 Investigator(s): GWM, NPH Section, Township, Range: 19-56-89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.313144 Long: -102.16598 Datum: NAD83
 Soil Map Unit Name: Arnold silt loam 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 <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			
Remarks: <u>Depression wetland.</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Herb Stratum (Plot size: <u>20</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>C. CANA</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2. <u>P. PRA</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. <u>P. LAM</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u> </u>				

1915687-W4

End - 4p

HYDROLOGY

Wetland Hydrology Indicators:

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM – Great Plains Region 19156189-LWS

Project/Site: 3CLP City/County: Montreal Sampling Date: 8/6/2010
 Applicant/Owner: Mc Cain State: ND Sampling Point: Wet 5
 Investigator(s): GWM, NPH Section, Township, Range: 19 156 37
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.31306 Long: -102.168447 Datum: NAD 83
 Soil Map Unit Name: Zhl-Williams-Bowbells /ams, 3-9% slopes NWI classification: PEMA

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 <u>x</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>x</u>	No <u> </u>
Hydric Soil Present?	Yes <u>x</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>x</u>	No <u> </u>			
Remarks: <u>shallow depression - corax lanuginosa across soil</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>x</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>CALLUNA</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2. <u>RUMEX</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>ARCTIC</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>PA PAL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u>ARCTIC</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>x</u> No <u> </u>
1. <u> </u>				
2. <u> </u>				
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

Sampling Point: W-5

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ (where tilled)
☐ Drift Deposits (B3)	☐ (where not tilled)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☒ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)
Field Observations:		
Surface Water Present?	Yes ☐ No ☐ Depth (inches):	Wetland Hydrology Present? Yes ☒ No ☐
Water Table Present?	Yes ☐ No ☐ Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ☐ No ☐ Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: PEMA		

WETLAND DETERMINATION DATA FORM – Great Plains Region

1915689-436

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/10
 Applicant/Owner: Mc Cain State: ND Sampling Point: Wet 6
 Investigator(s): GWM, MPH Section, Township, Range: 19-156-89-
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): E Lat: 48.31398 Long: -102.170662 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Bowbells loams, 3-9% slopes NWI classification: PEM1C
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____ Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>depression with open water</u> <u>ALTRAI across basin</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>CXLUUU</u> <u>25</u> <u>Y</u> <u>OBL</u> 2. <u>POLAME</u> <u>20</u> <u>Y</u> <u>OBL</u> 3. <u>LYCASP</u> <u>10</u> <u>Y</u> <u>FACW</u> 4. <u>SITRFG</u> <u>5</u> <u>N</u> <u>FACU</u> 5. <u>POAPAA</u> <u>15</u> <u>Y</u> <u>FACW</u> 6. <u>RAPAL</u> <u>10</u> <u>Y</u> <u>FACW</u> 7. <u>ELEPAL</u> <u>10</u> <u>Y</u> <u>OBL</u> 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ _____ = Total Cover				
Remarks:				

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
☐ Prevalence Index is ≤3.0¹
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?Yes ☒ No _____

SOIL

19156 89- W6

Sampling Point: W-C

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/1	85	7.5YR 5/6	15	C	m	sil	
6-18"	2.5Y 5/2	90	7.5YR 5/6	10	C	m	sir	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tonka

 11/6-6 0-4 10YR 3/1 - 100
 4-8" 2.5Y 5/3 100

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

- | | | |
|------------------------|---|--------------------|
| Surface Water Present? | Yes ☒ No ☐ | Depth (inches): 8" |
| Water Table Present? | Yes ☐ No ☐ | Depth (inches): |
| Saturation Present? | Yes ☒ No ☐ | Depth (inches): 4" |

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Penc

1954089-47

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: RUP City/County: Montreal Sampling Date: 8/6/10
 Applicant/Owner: McLain State: ND Sampling Point: Wet 7
 Investigator(s): GWM, NPA Section, Township, Range: 19-56-29
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): < 1
 Subregion (LRR): F Lat: 48.313327 Long: -102.171916 Datum: NAD 83
 Soil Map Unit Name: Zahn-Williams-Parnell complex, 0-25% slopes 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: <u>shallow depression wetland.</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
= Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
= Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>25'</u>)				
1. <u>Cx LANU</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>BAPAL</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3. <u>PDLAME</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. <u>PRA PRA</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
5. <u>AST SIM</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>MORTUB</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
= Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
% Bare Ground in Herb Stratum <u>0</u> = Total Cover				
Remarks:				

1915689-W7

44-7

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Thick overburden

415

4-8-2.5Y 5/3-100

Wetland Hydrology Indicators:		Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)	
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)	
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
☐ Drift Deposits (B3)	(where not tilled)	☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☒ Saturation Visible on Aerial Imagery (C9)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)	
Field Observations:			
Surface Water Present? Yes ☐ No ☐ Depth (inches): _____			
Water Table Present? Yes ☐ No ☐ Depth (inches): _____			
Saturation Present? Yes ☐ No ☐ Depth (inches): _____			
(includes capillary fringe)		Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: <i>20m C</i>			

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (minimum of two required)

- | | | |
|--|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) | ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) | (where tilled) |
| ☐ Drift Deposits (B3) | (where not tilled) | ☐ Crayfish Burrows (C8) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) | ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) | ☒ Geomorphic Position (D2) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |
| ☐ Water-Stained Leaves (B9) | | ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes No Depth (inches):

Water Table Present? Yes _____ No _____ Depth (inches): _____

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

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

25th C

WETLAND DETERMINATION DATA FORM – Great Plains Region

1915689-W8

Project/Site: BLUP City/County: Manitou Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 8
 Investigator(s): GWM, NPH Section, Township, Range: 19-156-89
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.34147 Long: -102.172732 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes 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 <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			
Remarks: <u>Depression - Buried in interior</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>POLYME</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>CALCAN</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
3. <u>TUNBRL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>SUNACE</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>POLYDRA</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
6. <u>CALSTR</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>125</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks: <u> </u>				

SOIL

Sampling Point: W-8

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-7	10YR 3/1	95	7.5YR 5/6	5	C	m	sil	
7-15	2.5Y 5/1	90	7.5YR 5/6	5	C	m	sil	
			Gley 4/100	5	d	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____
Depth (inches): _____Hydric Soil Present? Yes ☒ No ☐

Remarks:

W-8 0-6 10YR 3/1
6-10 2.5Y 4/3

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 18"

Water Table Present? Yes ☐ No ☐ Depth (inches): _____

Saturation Present? Yes ☒ No ☐ Depth (inches): 4

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

FLWC

1915489-W9

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 9
 Investigator(s): GWM, NPH Section, Township, Range: 19 154 87
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.313862 Long: -102.17321 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Arnell complex, 0-35% slopes 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: <u>Depression</u> <u>Buried / POLAME / CALSTR in interior</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u> <u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20</u>) 1. <u>CYLANU</u> <u>35</u> <u>Y</u> <u>OBL</u> 2. <u>POLAME</u> <u>20</u> <u>Y</u> <u>OBL</u> 3. <u>STAPAL</u> <u>5</u> <u>N</u> <u>FACW</u> 4. <u>ARTLND</u> <u>10</u> <u>N</u> <u>FACU</u> 5. <u>POAPRA</u> <u>10</u> <u>N</u> <u>FACU</u> 6. <u>AST STM</u> <u>5</u> <u>N</u> <u>FACW</u> 7. <u>MORSUB</u> <u>10</u> <u>N</u> <u>FACW</u> 8. <u>POAPAL</u> <u>5</u> <u>N</u> <u>FACW</u> 9. <u> </u> 10. <u> </u> <u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> <u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u> <u> </u> = Total Cover				
Remarks: <u> </u>				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>				

Sampling Point: 2-7

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required, check all that apply)		Secondary Indicators (minimum of two required)
☒ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ (where tilled)
☐ Drift Deposits (B3)	☐ (where not tilled)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☒ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)
Field Observations:		
Surface Water Present?	Yes ☒ No ☐ Depth (inches): 12"	Wetland Hydrology Present? Yes ☒ No ☐
Water Table Present?	Yes ☐ No ☐ Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ☒ No ☐ Depth (inches): 4"	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Great Plains Region 1915689-W10

Project/Site: BLP City/County: Montreal Sampling Date: 8/16
 Applicant/Owner: McCain State: ND Sampling Point: Wet 10
 Investigator(s): GWMM, NPH Section, Township, Range: 19 156 89
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.314388 Long: -102.171149 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Farnell complex, 0-25% 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: <u>depression POLAME across interior</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>EXLANA</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. <u>AGRCAN</u>	<u>10</u>	<u> </u>	<u>FAC</u>	
3. <u>ARTLUD</u>	<u>5</u>	<u> </u>	<u>FACU</u>	
4. <u>SCURF 29 PSDARG</u>	<u>10</u>	<u> </u>	<u>UPL</u>	
5. <u>POLAME</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
6. <u>POAPRA</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
7. <u>ITORSUB</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
8. <u>ELLPAL</u>	<u>10</u>	<u> </u>	<u>OBL</u>	
9. <u>POAPAL</u>	<u>10</u>	<u> </u>	<u>FACW</u>	
<u>115</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u> </u>				

SOIL

Sampling Point: W-10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/1	100					Sil	
9-18	2.5Y 9/4	90	2.5YR 3/6	10	e	m	Sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tanka

UPL-10 1-9 10YR 3/1 - 100
 5-10+ 2.5Y 9/4 - 100
 Bluegray
 SICOM - 810

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (minimum of two required)

- | | | |
|--|---|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) | ☐ Sparsely Vegetated Concave Surface (B8) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) | ☐ (where tilled) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) | ☐ Crayfish Burrows (C8) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) | ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) | ☒ Geomorphic Position (D2) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |
| ☐ Water-Stained Leaves (B9) | | ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 12"Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 8Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

PEMC

WETLAND DETERMINATION DATA FORM – Great Plains Region

2015089-03

Project/Site: BLLP City/County: Mountain Sampling Date: _____
 Applicant/Owner: Mc Cain State: ND Sampling Point: Wet 3
 Investigator(s): GWM, NPH Section, Township, Range: 20-156-89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): 11
 Subregion (LRR): F Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams loams, 9-25% slopes NWI classification: PEM/ABF

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ 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 _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: <u>Depression wetland.</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>PHALARIS</u> <u>20</u> <u>Y</u> <u>FACW</u> 2. <u>POA PAL</u> <u>20</u> <u>Y</u> <u>FACW</u> 3. <u>POLARIS</u> <u>20</u> <u>Y</u> <u>OBL</u> 4. <u>ISROINE</u> <u>20</u> <u>Y</u> <u>FACW</u> 5. <u>CERARU</u> <u>10</u> <u>N</u> <u>FACW</u> 6. <u>ANECAN</u> <u>15</u> <u>N</u> <u>FACW</u> 7. <u>ACTISID</u> <u>5</u> <u>N</u> <u>FACW</u> 8. <u>SOLCAN</u> <u>15</u> <u>N</u> <u>FACW</u> 9. _____ 10. _____ <u>125</u> = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				
Remarks: _____				Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes ☒ No _____				

SOIL

Sampling Point: 10-3

2015489-W3

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

Depth (inches)	Matrix		Redox Features		Type	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-7	10YR 3/1	100					cl	
7-9	10YR 3/1	95	7.5YR 5/6	5	c	m	sil	
9-18"	7.5Y 4/2	95	7.5YR 5/6	5	c	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

4PC-3 0-6 - 10YR 3/1
BROBWC-95
MCD5A7-5

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

PEN/ABF

WETLAND DETERMINATION DATA FORM – Great Plains Region

13689-441
70

Project/Site: BLLP City/County: McMurry Sampling Date: _____
 Applicant/Owner: McCain State: ND Sampling Point: Wet 4
 Investigator(s): GWM, NPH Section, Township, Range: 20-56-89
 Landform (hillslope, terrace, etc.): Dep. Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: _____ Long: _____ Datum: NAD83
 Soil Map Unit Name: Parnell silt loam NWI classification: PEMF

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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>depression wetland</u> <u>white-top in interior</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)																
1. _____																				
2. _____																				
3. _____																				
4. _____																				
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>60</u></td> <td>x 1 = <u>60</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>220</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.20</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>60</u>	x 1 = <u>60</u>	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species <u>40</u>	x 4 = <u>160</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>220</u> (B)	Prevalence Index = B/A = <u>2.20</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>60</u>	x 1 = <u>60</u>																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species <u>40</u>	x 4 = <u>160</u>																			
UPL species _____	x 5 = _____																			
Column Totals: <u>100</u> (A)	<u>220</u> (B)																			
Prevalence Index = B/A = <u>2.20</u>																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
_____ = Total Cover																				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>POLAME</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>																	
2. <u>BADINE</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>																	
3. <u>CERARV</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
<u>100</u> = Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____																				
2. _____																				
_____ = Total Cover																				
% Bare Ground in Herb Stratum <u>0</u>	_____ = Total Cover																			
Remarks:																				

Hydrophytic Vegetation Present? Yes X No _____

2015089-W4

SOIL

Sampling Point: W-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-8	10YR 3/1	100					Sil	
8-10	10YR 3/1	90	7.5YR 5/6	5	C	m	Sil	
10-18	2.5Y 1/1	80	5Y 5/6	25	C	m	Sil	
			7.5Y 5/6	5	C	m	Sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ 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 of 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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: *Linka*

W-4 0-3 10YR 3/1 - 100
3-8 10YR 3/3 - 100

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ (where tilled)
☐ Drift Deposits (B3)	☐ (where not tilled)	☒ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☒ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____

Water Table Present? Yes ☐ No ☐ Depth (inches): _____

Saturation Present? Yes ☐ No ☐ Depth (inches): _____ (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: *PEMC*

2015689-WS

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 5/1/83
 Applicant/Owner: McCain State: NE Sampling Point: Wet 5
 Investigator(s): GWM, NPH Section, Township, Range: 20-156-89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 41° 15' N Long: 93° 15' W Datum: NAD 83
 Soil Map Unit Name: Barrell Silty Loam NWI classification: PEMF

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 <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			
Remarks: <u>depression wetland - white top in interior</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83</u> (A/B)														
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
<u> </u> = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> </table> Prevalence Index = B/A = <u> </u>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u> </u>	x 1 = <u> </u>																	
FACW species <u> </u>	x 2 = <u> </u>																	
FAC species <u> </u>	x 3 = <u> </u>																	
FACU species <u> </u>	x 4 = <u> </u>																	
UPL species <u> </u>	x 5 = <u> </u>																	
Column Totals: <u> </u> (A)	<u> </u> (B)																	
Sapling/Shrub Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u> </u>																		
2. <u> </u>																		
3. <u> </u>																		
4. <u> </u>																		
5. <u> </u>																		
<u> </u> = Total Cover																		
Herb Stratum (Plot size: <u>20'</u>)																		
1. <u>SONARV</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
2. <u>BROINE</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>POPPA</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>ANECAN</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
5. <u>ALNUT</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
6. <u>ROLAME</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
7. <u>CKLANU</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
8. <u>SOLCAN</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
9. <u> </u>																		
10. <u> </u>																		
<u>125</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>														
1. <u> </u>																		
2. <u> </u>																		
<u> </u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u>																		
Remarks: <u> </u>																		

2015687-425

SOIL

Sampling Point: W-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-7	10YR 3/1	100				Sil	
7-10	8.5Y 4/1	100				Sil	
10-22	3.5Y 4/1	98	10YR 4/6	2	C	SilR	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ 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 of 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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: 7040 upl-5 0-8-10YR-3
3-8+ 10YR 3/3

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☒ Surface Water (A1)	☐ Salt Crust (B11)	<u>Secondary Indicators (minimum of two required)</u>
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Surface Soil Cracks (B6)
☒ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Drainage Patterns (B10)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
☐ Drift Deposits (B3)	☐ (where not tilled)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☒ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ☒ No ☐	Depth (inches): <u>8"</u>	Wetland Hydrology Present? Yes ☒ No ☐
Water Table Present?	Yes ☐ No ☐	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes ☒ No ☐	Depth (inches): <u>11"</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

2615690-W1

Project/Site: BLLP City/County: Monmouth Sampling Date: 8/5/2010
 Applicant/Owner: McClain State: ND Sampling Point: Wet 1
 Investigator(s): BWM, NPH Section, Township, Range: 26 156 90
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.311473 Long: -102.205159 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Bisell complex, 0-25% slopes NWI classification: PERC

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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>Depression with whitetop across basin</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>CYLANA</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2. <u>PIPAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>ROLAME</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. <u>BOECAN</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. <u>STAPAL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>BROINE</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
7. <u>ANECAN</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

SOIL

Sampling Point: W-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/1	100					sil	
9-11	2.5Y 5/2	85	7.5YR 5/6	15	C	m	sil	
11-20	2.5Y 4/1	90	7.5YR 5/6	10	C	m	silt	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tentative series

 upl - Brown 100
 0-3 10YR 3/1
 3- 10YR 3/3

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 10"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WNI = Pore

WETLAND DETERMINATION DATA FORM – Great Plains Region

2615090-102

Project/Site: BLLP City/County: Mountain Sampling Date: 8/5/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 2
 Investigator(s): GWM/NPH Section, Township, Range: 26-156-90
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.311097 Long: -102.207443 Datum: NAD83
 Soil Map Unit Name: Parnell silt loam 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 <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			
Remarks: <u>Depression wetland with whitetop POLAME in interior</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	<u>2</u> (A)
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>67</u> (A/B)
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u> </u> = Total Cover					
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total % Cover of:	Multiply by:
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	OBL species <u> </u>	x 1 = <u> </u>
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACW species <u> </u>	x 2 = <u> </u>
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FAC species <u> </u>	x 3 = <u> </u>
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACU species <u> </u>	x 4 = <u> </u>
<u> </u> = Total Cover				UPL species <u> </u>	x 5 = <u> </u>
				Column Totals:	<u> </u> (A) <u> </u> (B)
				Prevalence Index = B/A = <u> </u>	
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>SPAPAL</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<u>X</u> Dominance Test is >50%	
2. <u>POAPAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<u> </u> Prevalence Index is ≤3.0 ¹	
3. <u>POAPAL</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>STAPAL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <u>POLAME</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		
6. <u>SILCAN</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u>110</u> = Total Cover					
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Yes <u>X</u> No <u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u> </u> = Total Cover					
% Bare Ground in Herb Stratum <u> </u>					
Remarks: <u> </u>					

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

SOIL

2615690-02
Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/1	100						
6-9	10YR 3/1	75	2.5Y 4/2	20	d	M	sil	
			7.5YR 5/6	5	c	m	sil	
9-22	2.5Y 5/1	80	7.5YR 5/6	15	c	m	sil	
			2.5Y 4/1	5	d	m		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tonka Series

upl-2 0-3 10YR 3/1 300 IN 10
3-10 10YR 3/1 100 IN 10

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☒ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 4" - 5"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NHI = TONKA

WETLAND DETERMINATION DATA FORM – Great Plains Region

25 156-90-41

Project/Site: BLLP City/County: mandrail Sampling Date: _____
 Applicant/Owner: McCain State: ND Sampling Point: Wet 1
 Investigator(s): GWM, NPH Section, Township, Range: 25, 156, 90
 Landform (hillslope, terrace, etc.): dgp Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.31353 Long: -102.198685 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parrall complex, 0-25% slopes NWI classification: PE/MC
 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: <u>dgp wetland</u> <u>POLAMP / TYPLAT / whitetop in interwin</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-):	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>67</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: <u>20'</u>)				Column Totals:	(A) _____ (B) _____
1. <u>AGRREP</u>	<u>40</u>		<u>FAC</u>	Prevalence Index = B/A = _____	
2. <u>POLAMP</u>	<u>25</u>		<u>OBL</u>	Hydrophytic Vegetation Indicators:	
3. <u>ELYCAN</u>	<u>25</u>		<u>FACU</u>	<u>X</u> Dominance Test is >50%	
4. _____	_____	_____	_____	Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present?	
9. _____	_____	_____	_____	Yes <u>X</u> No _____	
10. _____	_____	_____	_____	Remarks:	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum <u>0</u>					
= Total Cover					

SOIL

25 156-50-W1

Sampling Point: W-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-8	10YR3/1	100						
8-10	10YR3/2	95	7.5YR5/4	5	a	m	sil	
10-18	7.5Y4/2	45	7.5YR5/4	15	a	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Tanka

apl-1 veg
ELY CANW-10
HISTOAT-15
ADRRCP-JETBLA-10
HEL RAN-15
W1- 0-4 10YR3/1 - 10
4- 10YR3/3 - 100

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 8"

Water Table Present? Yes _____ No _____ Depth (inches): _____

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

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

Remarks:

24/15690.41

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BCLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 1
 Investigator(s): Dep. GWM, NPH Section, Township, Range: 24-156-90
 Landform (hillslope, terrace, etc.): Lp Local relief (concave, convex, none): _____ Slope (%): <1
 Subregion (LRR): F Lat: 48.3138 Long: -102.18315 Datum: NAD 83
 Soil Map Unit Name: Zah-Williams-Bowbells loams, 3-9% slopes 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: <u>depression wetland - check MDE-Records</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: _____	(A) _____ (B) _____																	
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
Herb Stratum (Plot size: <u>20'</u>) 1. <u>RWA PRA</u> <u>25</u> <u>Y</u> <u>FACU</u> 2. <u>POA PBL</u> <u>20</u> <u>Y</u> <u>FACW</u> 3. <u>PIL AMP</u> <u>30</u> <u>Y</u> <u>OBL</u> 4. <u>ABRCAN</u> <u>20</u> <u>Y</u> <u>FAC</u> 5. <u>AST SIM</u> <u>5</u> <u>N</u> <u>FACU</u> 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover																		
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover																		
Remarks:																		

Hydrophytic Vegetation Present? Yes X No _____

SOIL

2415690-21

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	2.5Y 2.5/1	100						
10-15	2.5Y 2/1	95	2.5Y 2.5/1	5	C	m	sil	
15-24	2.5Y 4/1	90	2.5Y 2.5/1	10	C	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Steep slopes run into wetland area
0-3-10 3/4"
wpi-1 BROWN-10 3/4" 10 1/2"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NWE-PCMC

24/5690-W2

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 8/5/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 2
 Investigator(s): GWM, NPH Section, Township, Range: 24-156-90, W4
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): _____ Slope (%): 41
 Subregion (LRR): F Lat: 48.31336 Long: -102.194684 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Pamall complex, 0-25% slopes NWI classification: PEMCD

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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: <u>depression with whitish in center</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>POA PAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Cx LANU</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
3. <u>SYM DEC</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>LAR SHS</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>DEB BIE</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: _____				

SOIL

Sampling Point:

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/1	100					sil	
9-15	2.5Y 4/2	90	5YR 5/6	10	C	m	silt	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ 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 of 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)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks: Tanka Swales

4 PL - 1 0-5- 10YR 3/1-100-2
5- 10YR 4/2-2
30
SWACC / 472 cm - 30
LIACTO 10

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☒ Surface Water (A1)	☐ Salt Crust (B11)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ (where not tilled)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)
☐ Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ (where tilled)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)
☐ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 60 - in water

Water Table Present? Yes ☐ No ☐ Depth (inches):

Saturation Present? Yes ☒ No ☐ Depth (inches): 5"

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: NWI = PIMO

1915089-211

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montevideo Sampling Date: 8/10
 Applicant/Owner: McCain State: ND Sampling Point: W11
 Investigator(s): GWM, NPH Section, Township, Range: 1915089
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): F Lat: 48.314322 Lon: -102.177149 Datum: NAD-83
 Soil Map Unit Name: Zahl-Williams-Bowbells Coars, 3-9% slopes NWI classification: PABF

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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: <u>Large lake expansive open water - saline along edge</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: _____	(A) _____ (B) _____																	
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
Herb Stratum (Plot size: <u>20'</u>) 1. <u>HORTSUA</u> <u>40</u> <u>Y</u> <u>FACW</u> 2. <u>KAN STL</u> <u>10</u> <u>N</u> <u>FAC</u> 3. <u>GRISQU</u> <u>10</u> <u>N</u> <u>FACU</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover																		
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover																		
% Bare Ground in Herb Stratum <u>40</u> _____ = Total Cover																		
Remarks: <u>Site is along edge</u>																		

19/56 89-211

SOIL

Sampling Point: 411

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/1	100					Sil	
3-7	10YR 3/1	60	6.5Y 1 4/10 6Y	15	d	m	Sil	
			2.5Y 5/1	15	d	m	Sil	
			7.5YR 5/6	10	c	m	Sil	
7-12	5Y 5/1	95	7.5YR 5/6	5	c	m	Sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- ☐ 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) (LRR 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)
 (MLRA 72 & 73 of LRR H)

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Gley depletions

4PL-11

AGRICAN - RICE - LOWE LAKE

0-3-10YR 3/1

5-8-2.5Y 5/1

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

- ☒ 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 Crust (B11)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Dry-Season Water Table (C2)
☐ Oxidized Rhizospheres on Living Roots (C3)
 (where not tilled)
☐ Presence of Reduced Iron (C4)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☒ Surface Soil Cracks (B6)
☒ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Oxidized Rhizospheres on Living Roots (C3)
 (where tilled)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)
☐ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Lake NWE

WETLAND DETERMINATION DATA FORM – Great Plains Region

2013089-41

Project/Site: BLUP City/County: Monticello Sampling Date: 8/6/2013
 Applicant/Owner: McCaig State: ND Sampling Point: W1
 Investigator(s): GWM, NPH Section, Township, Range: 20 150 89
 Landform (hillslope, terrace, etc.): Dep Local relief (concave, convex, none): Dep Slope (%): 0
 Subregion (LRR): F Lat: 48.314548 Long: -102.139327 Datum: NAD 83
 Soil Map Unit Name: Zahl Williams - Pomell complex, 0-25% slopes 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 <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			
Remarks: <u>Thick new sod</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
<u> </u> = Total Cover				
Remarks:				

SOIL

2015089-01

Sampling Point: W-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-9	2.5Y 2.5/1	100						
9-26	2.5Y 2.5/1	90	2.5YR 5/6	5	e	m	sil	
			2.5Y 4/2	5	ol	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Thick muck under steep slope nearby up6-1 0-4-109R21, Brome + Alfalfa
4-3-10-123/2

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: _____ Sampling Point: Wetland
 Investigator(s): GWM, NPH Section, Township, Range: 20-156-89
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.314575 Long: -102.140262 Datum: NAD-83
 Soil Map Unit Name: Parnell silt loam NWI classification: PEM1ABF

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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	
Remarks: <u>Steep slopes with deep wetland</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>SPERM</u> <u>20</u> <u>Y</u> <u>FACW</u> 2. <u>SPERM</u> <u>25</u> <u>Y</u> <u>FAC</u> 3. <u>SPERM</u> <u>25</u> <u>Y</u> <u>FACW</u> 4. <u>SPERM</u> <u>10</u> <u>N</u> <u>FACW</u> 5. <u>SPERM</u> <u>20</u> <u>Y</u> <u>FACU</u> 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				
Remarks: <u>TYPE 1A</u>				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

SOIL

20156 89-022

Sampling Point: 0-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2	10YR 3/1	100						
2-4	2.5Y 4/2	100						
4-6	2.5Y 2.5/1	100						
6-9	2.5Y 2.5/1	90	2.5Y 4/1	5	d	m	sil	
			7.5YR 5/6	5	c	m	sil	
9-12	2.5Y 4/1	95	7.5YR 5/6	5	c	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ 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 of 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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: *Taxa*

1 PL-2 - 1300W = 100
0-4 - 10YR 3/1
4-8 - 10YR 3/1 60
11YR 3/1 40

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)
☒ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ (where tilled)
☐ Drift Deposits (B3)	☐ (where not tilled)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☒ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ☒ No ☐	Depth (inches): <u>12"</u>
Water Table Present?	Yes ☐ No ☐	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ☒ No ☐	Depth (inches): <u>3"</u>

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 1
 Investigator(s): GWM, NPH Section, Township, Range: 21, 156, 87
 Landform (hillslope, terrace, etc.): depa Local relief (concave, convex, none): _____ Slope (%): <1
 Subregion (LRR): F Lat: 48.315015 Long: -102.118879 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: PEWC
 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: <u>Shallow depression wetland in native pasture</u> <u>W-1 - BOUGRA-30</u> <u>ACHMEL-20</u> <u>P30AB-20</u> <u>4NTNEL-20</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>MORING</u> <u>20</u> <u>Y</u> <u>FACW</u> 2. <u>POLEME</u> <u>30</u> <u>Y</u> <u>OBL</u> 3. <u>GREENH</u> <u>20</u> <u>Y</u> <u>OBL</u> 4. <u>POAPAL</u> <u>20</u> <u>Y</u> <u>FACW</u> 5. <u>ARTLND</u> <u>5</u> <u>N</u> <u>FACU</u> 6. <u>SYMORE</u> <u>5</u> <u>N</u> <u>FACU</u> 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				
Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: _____				

SOIL

2115089-001

Sampling Point: 41

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-4	10YR 7/1	100					cl	
4-15	2.5Y 7/2	90	2.5YR 4/6	10	2	m	cl	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ 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 of 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)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:

Tunka Series

upl-1 Blue Grom-25
ACHM 26
3Cupfma
A12 7/20-3 10YR 7/1
Dominant 3-6-10YR 7/2-4
10YR 7/2
7.5Y 7/2 10.2

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)	☐ Salt Crust (B11)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	(where not tilled)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)
☐ Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)
☐ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

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

Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

Pena

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: 21 156 89-122 Sampling Date: 8/6/2010
 Applicant/Owner: McGinn State: ND Sampling Point: Wet 2
 Investigator(s): GWM, NPH Section, Township, Range: 21 156 89
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): 41
 Subregion (LRR): F Lat: 48.31559 Long: -102.119002 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Pomell complex, 0-25% slopes 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>OWIA center of wetland</u>	<u>POA PRA - 60</u> <u>SYNOC - 15</u> <u>ELEUM - 25</u> <u>UPL 2 0.3 1042%</u> <u>3-6 1042% 50</u> <u>1042% 40</u> <u>POA PRA 2.54 4% 100</u>

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> % Bare Ground in Herb Stratum <u> </u> Remarks: <u>POLANUS / white-top across basin</u>				

SOIL

21 15489- W2

Sampling Point: W2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	10YR 7/1	100						
6-15+	2.5Y 6/2	70	7.5YR 5/4	5	C	un	sil	
			6.5Y 1.6/10.69	5	d	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
☐ 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 of 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)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	☐ High Plains Depressions (F16)	wetland hydrology must be present,
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	☐ (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☒ Surface Water (A1)	☐ Salt Crust (B11)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ (where not tilled)
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☒ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)
☐ Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Drainage Patterns (B10)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ (where tilled)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)
☐ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ☒ No ☐	Depth (inches): _____
Water Table Present?	Yes ☐ No ☐	Depth (inches): _____
Saturation Present?	Yes ☒ No ☐	Depth (inches): 4

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Pemc

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: 21/5689-W3 Manitouville Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 3
 Investigator(s): GWM, NPH Section, Township, Range: 21-156-89
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): (circled) Slope (%): 1
 Subregion (LRR): F Lat: 48.315065 Long: -102.121528 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Barrell complex, 0-25% slopes NWI classification: Perme

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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>dep wetland with surface water in center</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0' <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>POLANG</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>CKLANU</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>GWLEP</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>STUJN</u>	<u>5</u>	<u>N</u>	<u>OPL</u>	
5. <u>MAHSHB</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>RUMCRS</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>	<u> </u> = Total Cover			
Remarks: <u>Spike rush across center</u>				

21 156 89 103

SOIL

Sampling Point: 103

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-8	10YR3/1	100					sil	
8-12	2.5Y4/2	60	7.5YR5/2	10	C	m	sil	
	10YR3/1	30						
12-18	2.5Y4/2	70	7.5YR5/2	10	C	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tonka

UPL-3 0-6-10YR3/1

8-15 2.5Y4/2 no muck

Blue G = m = 75

SNR26-10

ROSEARK-15

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 4"Water Table Present? Yes ☐ No ☒ Depth (inches):Saturation Present? Yes ☒ No ☐ Depth (inches): 8"
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Deme

WETLAND DETERMINATION DATA FORM – Great Plains Region

215689-24

Project/Site: BLLP City/County: Montreal Sampling Date: 8/6/2010
 Applicant/Owner: McCaig State: ND Sampling Point: Wet 4
 Investigator(s): GWM/NPH Section, Township, Range: 21 56 85
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): concave Slope (%): 51
 Subregion (LRR): F Lat: 48.31527 Long: -102.121907 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: PBMC
 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 <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>	
Remarks: <u>Depression with water</u>			

BOUGRA-75 UPI-4-0610R31
 SOLRIG-10 6-15-2.5Y5/2-100
 ROSARK-15 Bluegrass-75
 SOLRIG-10 ROSARK-5

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>POLAME</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. <u>GLYLER</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>MUH ASP</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
4. <u>LOZ SUB</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
5. <u>SOLRIG</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>ANECAN</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
7. <u>ARTLUD</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks: <u>POLAME in interior</u>				

SOIL

21/50 85-104

Sampling Point: W4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/1	100					S1	
4-15	7.5Y 4/2	80	7.5YR 5/6	70	C	m	S1	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐Remarks: Tonka

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (minimum of two required)

- | | | |
|---|---|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) | ☐ Sparsely Vegetated Concave Surface (B8) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) | ☐ (where tilled) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) | ☐ Crayfish Burrows (C8) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) | ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) | ☒ Geomorphic Position (D2) |
| ☒ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |
| ☐ Water-Stained Leaves (B9) | | ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 4"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

2115689-105

Project/Site: BLLP City/County: mountain Sampling Date: 8/4/2010
 Applicant/Owner: McGinn State: ND Sampling Point: Wet 5
 Investigator(s): GWM / NPH Section, Township, Range: 2156 87
 Landform (hillslope, terrace, etc.): dip Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.315091 Long: -102.124002 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes 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 <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			
Remarks: <u>Shallow depression</u> <u>POLAME across basin</u> <u>4-5- BOUGRA-80%</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>POLAME</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>CXLANH</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3. <u>HORSUB</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>ARTLND</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>POHASP</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
6. <u>PORHRA</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u>100</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Woody Vine Stratum (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>	<u> </u> = Total Cover			
Remarks: <u> </u>				

SOIL

21 / 5487

WS

Sampling Point: 2-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/1	100					Sil	
5-15	2.5Y 5/2	90	7.5Y 2 5/6	10	C	m	Sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

u-pl-5 0-6 10YR 3/1
6-10 10YR 7/3
Yellow granular soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) |
| ☐ Sediment Deposits (B2) | ☒ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Drainage Patterns (B10) |
| ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ (where tilled) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |
| ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

FEMC

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Monticello Sampling Date: 8/6/2020
 Applicant/Owner: McCain State: ND Sampling Point: Wet 6
 Investigator(s): GWM, NPH Section, Township, Range: 21-156-89
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR): F Lat: 48.315315 Long: -102.122629 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-250% slopes NWI classification: Pema
 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>Shallow depression</u> <u>U-6 BONGRA-60%</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
= Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Remarks:
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	% Bare Ground in Herb Stratum <u>0</u> = Total Cover
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Woody Vine Stratum (Plot size: <u> </u>)
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	100 = Total Cover
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Remarks:
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	

SOIL

215689-46

Sampling Point: 4-6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-3	10YR 3/1	100					sil	
3-15	2.5Y 7/2	80	2.5YR 4/6	20	C	m	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) | ☐ 1 cm Muck (A9) (LRR I, J) |
| ☐ 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 of 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) | ³ Indicators of hydrophytic vegetation and |
| ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | ☐ High Plains Depressions (F16) | wetland hydrology must be present, |
| ☐ 5 cm Mucky Peat or Peat (S3) (LRR F) | ☐ (MLRA 72 & 73 of LRR H) | unless disturbed or problematic. |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tonka

 4pl-6 - 0-3 10YR 3/1
 3-7 10YR 3/1, 2.5Y 7/2-80%
 Blue-gray - 60%

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (minimum of two required)

- | | | |
|--|---|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) | ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) | ☐ (where tilled) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) | ☐ Crayfish Burrows (C8) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) | ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) | ☒ Geomorphic Position (D2) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |
| ☐ Water-Stained Leaves (B9) | | ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

PENA

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: Monteville Sampling Date: 8/4/2010
 Applicant/Owner: McLain State: ND Sampling Point: Wet 7
 Investigator(s): GWM, UPH Section, Township, Range: 21 150 89
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 46.315204 Long: -103.126946 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex 0-25% slopes 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>depression wetland with spike rush across. Interview</u> <u>CP-7</u> <u>Boisgra - 80%</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u> <u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>POLAME</u> <u>30</u> <u>Y</u> <u>OBL</u> 2. <u>HORSIB</u> <u>30</u> <u>Y</u> <u>FACW</u> 3. <u>CXLANA</u> <u>20</u> <u>Y</u> <u>OBL</u> 4. <u>STAPAL</u> <u>5</u> <u>N</u> <u>FACW</u> 5. <u>FLUMCAT</u> <u>5</u> <u>N</u> <u>FACW</u> 6. <u>ELF PAL</u> <u>5</u> <u>N</u> <u>OBL</u> 7. <u>AST SZM</u> <u>5</u> <u>N</u> <u>FACW</u> 8. <u>GRY LEP</u> <u>10</u> <u>N</u> <u>FACU</u> 9. <u> </u> 10. <u> </u> <u>140</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> <u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> <u> </u> = Total Cover				
Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)				
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>				
Remarks: <u> </u>				