

## **Appendices**

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# **Appendix A**

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## **Wetlands Survey - 2011**



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
WYOMING REGULATORY OFFICE  
2232 DELL RANGE BOULEVARD, SUITE 210  
CHEYENNE WY 82009-4942

December 19, 2011

Wyoming Regulatory Office

Ms. Miriam Whatley  
Cameco Resources, Inc.  
Development Department  
550 North Poplar, Suite 100  
Casper, Wyoming 82601

Dear Ms. Whatley:

This letter is in response to your request we received on December 1, 2011, for verification of a preliminary aquatic resources inventory at existing and proposed mine units in the Smith Ranch Highland/Reynolds Uranium Recovery Permit Area. This permit area includes the Highland (Permit 603) and Smith Ranch (Permit 633). The total permit area includes 62.3 square miles in Townships 35-37 North, Ranges 72-75 West in Converse County, Wyoming.

The U.S. Army Corps of Engineers regulates placement of dredged and fill material into waters of the United States in accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344). The term "waters of the United States" has been broadly defined by statute, regulation, and judicial interpretation to include all waters that were, are, or could be used in interstate commerce such as streams, canals, reservoirs, lakes and adjacent wetlands. The Corps regulations are published in the *Code of Federal Regulations* as 33 C.F.R. Parts 320 through 332. Information on regulatory program requirements in Wyoming can be obtained from our website at <http://www.nwo.usace.army.mil/html/od-rwy/Wyoming.htm>

We have reviewed the report prepared by Hayden-Wing Associates, LLC titled *Cameco Resources, Inc., Smith Ranch-Highland/Reynolds Uranium In-Situ Recovery Project, Converse County, Wyoming, Wetland Surveys – August 2011* dated November 2011. Based on documentation in the report, we determined that methods used to map drainage areas and identify wetlands at select locations are consistent with the *Corps of Engineers Wetland Delineation Manual* dated January 1987 and appropriate supplement. Therefore, Map 1 in the report dated October 2011 provides an accurate depiction of all drainage locations where streams and wetlands may be present at Mine Units A-F, H-K, 1-4, 6-12, 15, and 21-28 within the permit area. This verification is valid indefinitely unless new mapping techniques or other information warrants a modification.

The presence or absence of wetland was evaluated at 19 locations within 13 mine units out of 30 mine units identified on Map 1. Wetland characteristics were documented at 11 locations. These sample points are useful for understanding where wetlands are likely to occur but do not serve as a delineation because no wetland boundaries were mapped. More accurate wetland delineations are only necessary when a proposed surface disturbing activity such as

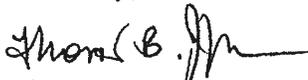
construction of a road or installation of utilities within a well field would occur within a drainage shown on Map 1. Most of these drainages are unnamed ephemeral streams that function as tributaries of Sage Creek, Duck Creek, Willow Creek, and Box Creek. Sage Creek is a tributary of the North Platte River and the other three creeks are tributaries of streams that eventually flow into the Cheyenne River. These two rivers are interstate traditional navigable waters so streams and adjacent wetlands within the study area could be waters of the United States as defined at 33 CFR Part 328.3(a)(5) and (7). Aquatic sites such as playas and other natural or created topographic depressions with wetland characteristics that are isolated from the stream network are not likely to be waters of the United States.

Please understand that this letter provides verification of a preliminary aquatic resources inventory, which does not constitute an approved jurisdictional determination. An extensive evaluation in accordance with administrative procedures implemented by Headquarters of the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers on June 5, 2007, is now required before exerting jurisdiction over many streams and wetlands. The procedure is based primarily on rulings by the U.S. Supreme Court on January 9, 2001, in the case of *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* and on June 19, 2006, in the case of *Rapanos et ux., et al. v. United States*.

The administrative procedure described above is not necessary prior to undertaking activities authorized by nationwide permits such as construction of roads and utilities. On March 12, 2007, nationwide permits were published in Part II of the *Federal Register* (Vol. 72, No. 47). Those permits are available for a period of 5 years and will expire on March 18, 2012. Nationwide permits are scheduled to be issued again for another 5-year period prior to the expiration date. Current information on nationwide permits is available from our website.

Thank you for your interest in cooperating with requirements of the U.S. Army Corps of Engineers' regulatory program. Please contact me at (307) 772-2300 and reference our file NWO-2011-00594 if you have any questions about the jurisdictional determination procedure or specific permit requirements.

Sincerely,



Thomas B. Johnson, P.E.  
Project Manager  
Wyoming Regulatory Office

Copy Furnished:

Hayden-Wing Associates, LLC  
P.O. Box 1689  
Laramie, Wyoming 82073

The Omaha District, Regulatory Branch, Wyoming Regulatory Office is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete a Customer Service Survey found on our web site at <http://www.nwo.usace.army.mil/html/od-rwy/survey.htm> Paper copies of the survey are also available upon request for those without Internet access.

**Cameco Resources, Inc.  
Smith Ranch-Highland/Reynolds  
Uranium In-Situ Recovery Project  
Converse County, Wyoming**

**Wetland Surveys – August 2011**



**Prepared for**

**Cameco Resources, Inc.  
550 N. Poplar  
Casper, WY 82601**



**Prepared by**

**Hayden-Wing Associates, LLC  
Natural Resource Consultants  
P.O. Box 1689  
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**Revised November, 2011**

**Potential Wetlands Surveyed in Cameco Resources' Smith Ranch-Highland/Reynolds  
Uranium In-Situ Recovery Project  
Converse County, Wyoming  
August, 2011**

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**APPENDIX A**

Field Forms

**APPENDIX B**

Photos

**Potential Wetlands Surveyed in Cameco Resources' Smith Ranch-Highland/Reynolds  
Uranium In-Situ Recovery Project  
Converse County, Wyoming  
August, 2011**

## **1.0 INTRODUCTION**

Cameco Resources requested the completion of wetland surveys within the Smith Ranch-Highland/Reynolds Permit Area, in compliance with United States Army Corps of Engineers (USACE) regulations. Surveys are associated with a permit renewal to be issued by the Wyoming Department of Environmental Quality. Cameco proposes to combine the existing Highland Uranium Permit Area (Permit #603) and the Smith Ranch Permit Area (Permit # 633), as well as the newly proposed Reynolds Ranch area. The combined Smith Ranch-Highland/Reynolds Permit Area (Permit #633) is located approximately 22 miles northeast of Glenrock, Wyoming (T37N:R74W, Sections 25, 26, 35, 36; T37N:R73W, Sections 30-32; T36N:R74W, Sections 1, 2, 11-14, 22-27, 33-36; T36N:R73W, Sections 5-7, 10-31, 34-36; T36N:R72W, Sections 7, 16-22, 29, 30; T35N:R75W, Sections 13, 24; T35N:R74W, Sections 2-5, 8-11, 14-19, 21) encompassing 39,868 acres.

Wetland surveys were completed by Hayden-Wing Associates LLC., Laramie, Wyoming (HWA), between June 20 and June 30, 2011. During a meeting which took place on May 2, 2011, HWA, Cameco Resources, and the USACE determined that wetland surveys would be necessary within areas of proposed mining disturbance, but not within the entire permit area. It was also decided that the goal of initial surveys would be to determine whether wetlands were present within the proposed mine; full delineations of these areas would only be necessary if direct disturbance (i.e. filling) would result from mining activities. It was also agreed that locations of drainages would be verified.

## **2.0 OBJECTIVES AND METHODS**

### *2.1 Methods*

Prior to commencing field work, areas of potential wetlands were identified using color infra-red (CIR) aerial imagery, in conjunction with the National Wetland Inventory (NWI) database (available online at [www.fws.gov/wetlands](http://www.fws.gov/wetlands)). Drainages were also delineated using CIR imagery. Potential wetlands and drainages were identified and digitized using ArcGIS<sup>®</sup> version 10. Data were collected in the field using USACE field forms, USGS 1:24,000 scale topographic maps, and Trimble Juno SB<sup>®</sup> Global Position System (GPS) units running ArcPad<sup>®</sup> 10 software.

Mine units proposed in the Reynolds EA (BLM 2011) and the Smith Ranch and Highland annual reports (Cameco Resources 2010a, 2010b) were surveyed for wetlands (Map 1). A map provided by Cameco Resources was also used to establish boundaries of mining activities. Wetland surveys were completed in all areas where proposed mine units overlapped with the potential wetland sites identified from CIR and NWI. Within each potential wetland site, a wetland survey point was selected which most exhibited wetland characteristics (generally the area with lowest elevation) and a USACE form was filled out. The boundaries of wetlands were not delineated; however, wetland observation points were taken which involved a simple observational determination of wetlands present, absent, or possible. These observation points were not associated with USACE field forms, and were meant to give an approximation of the extent of a wetland. These points were also used to document that an area was visited, but no wetland characteristics were observed.

Survey protocols followed the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (USACE 2008). This manual is designed to standardize wetland delineation techniques through the observation of (1) hydrophytic vegetation, (2) hydric soil, and (3) wetland hydrology. Unlike the original 1987 manual (USACE 1987), the regional supplement is specific to the Great Plains region. In order for an area to be classified as a wetland, all three criteria must be met. To promote consistent classification, field forms require specific indicators be observed in order to meet each criteria. Completed field forms are included in Appendix A. Survey crews included at least one member who was certified, having completed a 38-hour Army Corps of Engineers Wetland Delineation and Management Training Program.

## *2.2 Wetland Indicators*

Primary wetland hydrology indicators include observations such as surface water, high water table, saturation and water marks (USACE 2008). However, secondary indicators such as surface soil cracks and geomorphic position can also be used to establish that appropriate hydrology exists at some point during the year.

Hydric soil indicators often involve histic epipedons (soils with an organic upper horizon), or evidence of oxidation and/or reduction of iron (USACE 2008). These “redox” reactions indicate that the soil has undergone anaerobic conditions, causing iron to become reduced as Ferric ( $\text{Fe}^{+3}$ ) converts to Ferrous ( $\text{Fe}^{+2}$ ). The reverse reaction, oxidation, occurs when aerobic conditions resume. This process results in observable color changes to the soil (NRCS 2010).

The presence of hydric vegetation was determined by recording all species present at the site, and establishing dominance. As recommended (USACE 2008), circular plots were used with radii of 5' for herbaceous stratum, 15' for sapling/shrub stratum, and 30' for tree and woody vine strata. Absolute percent cover was recorded using an ocular estimate, and dominance was established using the 50/20 rule (USACE 2008). Based on this rule, species with the greatest percent cover are considered dominant until the sums of their cover reach 50%. In addition, any species with over 20 percent cover is considered dominant. Plant species are assigned a wetland indicator value by the National Wetlands Inventory, and over 50% of dominant species must be obligate, facultative wetland, or facultative species. If upland species are dominant, the vegetation criteria is generally not met.

## **3.0 RESULTS**

A total of 19 potential wetland sites were surveyed during June 2011 within the Smith Ranch Highland/Reynolds Permit Area (Map 1). Since a full delineation was not required, at each potential wetland site surveyors sampled the area that most exhibited wetland qualities. Wetland observation points were taken in some areas to give an approximation of the extent of the wetland. Despite visiting this site in the spring season when wet conditions would be expected, the majority of potential wetland sites did not contain water. However, in some cases these sites still met criteria to be considered a wetland based on secondary characteristics such as geomorphic position and surface soil cracks. Results are summarized in Table 1. Photos are included in Appendix B.

Of the 19 sites surveyed, 11 were observed to be wetlands, however, wetland sites #6, #11, #14 and #18 all had very weak wetland indicators. Surface soil cracking can be a misleading indicator, particularly in vertisols with a high shrink/swell potential (USACE 2008). This indicator, in conjunction with geomorphic position (i.e. a depression or drainage) was used to establish wetland hydrology in these sites.

The presence of reduced iron was tested for using alpha-alpha dipyridyl, however, this indicator alone was not used to determine wetland conditions.

A common wetland soil indicator observed was the presence of redox concentrations, which were visible as small, reddish pore linings or soft masses (Appendix B, Photo 20). Histic epipedons were relatively rare, occurring in just 2 sites (wetland #1 and #2) (Appendix B, Photo 21). A reduced or “gleyed” matrix was also observed at several sites. Please refer to Appendix A for detailed observations recorded on field forms.

Wetland vegetation varied from site to site, but common species observed included *Juncus balticus* (Baltic rush), *Veronica sp.*(speedwell), and *Eleocharis sp.* (spikerush). Non-native vegetation was common, which was problematic since these species often do not have indicator values. *Bromus tectorum* (cheatgrass), for example, was very dense at some sites. Surveyors used native species with assigned indicator values to establish whether wetland vegetation was present, and disregarded species such as cheatgrass.

Current uranium mining disturbance was observed near site #11. Former disturbance (not likely associated with mining) was observed near site #4, with some filling apparent. Many wetlands were very small, covering less than 0.5 acre. Areas with more extensive coverage are noted under comments (Table 1). For each site, the mine unit in closest proximity was documented. At some sites, the only area with wetland qualities was slightly outside the proposed map unit (Map 1). Forms were filled out for these areas in order to document that the area was not simply overlooked, but that no suitable sampling sites were located within the mine unit.

The locations of drainages, digitized using CIR aerial imagery, were groundtruthed in the field and all were found to be accurate (Map 1). The majority of drainages in the permit area were very dry, with upland vegetation covering the channel bottom. The drainages surrounding wetland sites #1, #2, #11, #14, and #15 had patches of hydrophytic vegetation, but were mostly dry. Some standing water was observed around sites #1 and #2. The only flowing water observed was associated with a human-constructed cattle pond near site #15, which is likely dry for the majority of the growing season.

**Table 1.** Wetland sites surveyed during June 2011. Observations of the survey are summarized and associated mine units are indicated.

<b>Wetland #</b>	<b>Wetland Observed</b>	<b>Mine Unit</b>	<b>Comments</b>
1	yes	15A	Extensive area
2	yes	10 and 11	Extends up drainage
3	no	12	Dry drainage
4	no	21	Disturbance apparent
5	no	27	Dry depression
6	*yes	7	Slightly outside mine unit
7	yes	11	Extends up drainages
8	no	J exp.	Dry depression
9	no	J exp.	Dry depression
10	no	J exp.	Dry depression
11	*yes	K north	Current disturbance in area
12	yes	8	Depression
13	yes	6	Office area
14	*yes	6	Very patchy along drainage
15	yes	22 and 28	Extends up drainage
16	yes	22 and 28	Stock pond
17	no	21	Dry depression
18	*yes	15A	Small, earthen dam
19	no	10	Reclaimed area

\* indicates where only secondary hydrology indicators were present

#### 4.0 CONCLUSIONS

During the June 2011 surveys, HWA surveyed 19 potential wetland sites within the Smith Ranch Highland/Reynolds Permit Area. Eleven of these sites were found to be wetlands, however, four of these were based on relatively weak secondary hydrology indicators. Delineation of drainages was found to be accurate, however, nearly all were observed to be dry.

Should Cameco Resources propose activities that will disturb any sites identified as wetlands, the USACE will likely require the completion of a Nationwide Permit 14. At the request of Cameco Resources, HWA will complete a delineation of the area. Precise boundaries of proposed mining activities will be required so that high resolution maps can be created, and acreages of disturbance calculated.

It is important to note that the Army Corps of Engineers is responsible for determining wetland status and regulating activities in wetland areas. While the 2011 surveys were completed by experienced professionals, no contractor is authorized to make absolute statements about the presence or absence of a wetland.

## 5.0 REFERENCES

- Bureau of Land Management (BLM), 2011. Environmental Assessment for Cameco Resources/Power Resources Incorporated Reynolds Ranch In-situ Uranium Recovery Project, Casper Field Office, DOI-BLM- WY-060-EA10-111.
- Cameco Resources, 2010a. Smith Ranch Project 2009-2010 Annual Report, Permit 633.
- Cameco Resources, 2010b. Highland Uranium Project 2009-2010 Annual Report, Permit 603.
- National Resources Conservation Service (NRCS), 2010. Field indicators of hydric soils in the United States. A guide for identifying and delineating hydric soils, version 7.0.
- National Wetlands Inventory. [www.fws.gov/wetlands](http://www.fws.gov/wetlands).
- U.S. Army Corps of Engineers (USACE), 2008. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region. ERDC/EL TR-08-12.
- \_\_\_\_\_. 1987. Corps of Engineers Wetland Delineation Manual. Environmental Laboratory. Wetlands Research Program Technical Report Y-87-1.

**APPENDIX A**

**Field Forms**

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smith / Mine Unit 15A City/County: Converse Sampling Date: June 21, 2011  
 Applicant/Owner: Comcast State: WY Sampling Point: #1  
 Investigator(s): Lisa Markin & Jon Knudson Section, Township, Range: 11 - T35N R74W  
 Landform (hillslope, terrace, etc.): creek Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): G Lat: 105°41'14.80" W Long: 43°1'15.98" N Datum: NAD 83  
 Soil Map Unit Name: Clarkelen-Haverdard-Bigwinder Complex NWI classification: Freshwater Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**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)  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. _____				
3. _____				
4. _____				
<u>0</u> = 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 = _____
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0' <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<u>20</u> = Total Cover				% Bare Ground in Herb Stratum <u>20</u>

Remarks: only herb stratum present

**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			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
10.5	10YR 3/1	90	7.5YR 5/8	5	C	PL	Sandy	Histic Epipedon
19.5	10YR 4/1	95	7.5YR 5/8	5	C	PL	Sandy loam	
9.5-25	10YR 5/1	90	7.5YR 5/8	10	C	PL	Sand	

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

- Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Histosol (A1)  | <input type="checkbox"/> Sandy Gleyed Matrix (S4)                              | Indicators for Problematic Hydric Soils <sup>3</sup> : |   |
| <input checked="" type="checkbox"/> Histic Epipedon (A2)                      | <input type="checkbox"/> Sandy Redox (S5)                                      |  | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)  |
| <input type="checkbox"/> Black Histic (A3)                                    | <input type="checkbox"/> Stripped Matrix (S6)                                  |  | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                                | <input type="checkbox"/> Loamy Mucky Mineral (F1)                              |  | <input type="checkbox"/> Dark Surface (S7) (LRR G)  |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                              |  | <input type="checkbox"/> High Plains Depressions (F16)  |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)                         | <input checked="" type="checkbox"/> Depleted Matrix (F3)                       |  | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73)  |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)         | <input type="checkbox"/> Redox Dark Surface (F6)                               |  | <input type="checkbox"/> Reduced Vertic (F18)   |
| <input type="checkbox"/> Thick Dark Surface (A12)                             | <input type="checkbox"/> Depleted Dark Surface (F7)                            |  | <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                             | <input type="checkbox"/> Redox Depressions (F8)                                |  | <input type="checkbox"/> Other (Explain in Remarks)   |
| <input checked="" type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) |  | <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input checked="" type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)      |  |  |   |

Restrictive Layer (if present):  
 Type: NONE  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: \_\_\_\_\_

**HYDROLOGY**

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

Field Observations:

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

Water Table Present? Yes  No  Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0

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: Smith / Mine Unit 15A City/County: Converse Sampling Date: June 21, 2011  
 Applicant/Owner: Camero State: WY Sampling Point: #1  
 Investigator(s): Lisa Martin & Jon Knudson Section, Township, Range: 11 - T35N R74W  
 Landform (hillslope, terrace, etc.): creek Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): G Lat: 105°41'14.80" W Long: 43°1'15.98" N Datum: NAD 83  
 Soil Map Unit Name: Clarkelen-Haverdod-Bigwinder Complex NWI classification: Freshwater Emergent Wetland  
 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**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)  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. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</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)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5' radius</u>)</b>				
1. <u>Juncus balticus</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Typha latifolia</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Carex aquatilis</u>	<u>5</u>	<input type="checkbox"/>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>80</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>% Bare Ground in Herb Stratum <u>20</u></b>				

Remarks: only herb stratum present

**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 <sup>1</sup>	Loc <sup>2</sup>		
10.5	10YR 3/1	20					Sandy	Histic epipedon
9.5	10YR 4/1	9.5	7.5YR 5/8	5	C	PL	Sandy loam	
9.5-25	10YR 5/1	9.0	7.5YR 5/8	10	C	PL	Sand	

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

- Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
- |   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Histosol (A1)                             | <input type="checkbox"/> Sandy Gleyed Matrix (S4)                              | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)  |
| <input checked="" type="checkbox"/> Histic Epipedon (A2)                      | <input type="checkbox"/> Sandy Redox (S5)                                      | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)  |
| <input type="checkbox"/> Black Histic (A3)                                    | <input type="checkbox"/> Stripped Matrix (S6)                                  | <input type="checkbox"/> Dark Surface (S7) (LRR G)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                                | <input type="checkbox"/> Loamy Mucky Mineral (F1)                              | <input type="checkbox"/> High Plains Depressions (F16)  |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                              | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73)  |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)                         | <input checked="" type="checkbox"/> Depleted Matrix (F3)                       | <input type="checkbox"/> Reduced Vertic (F18)   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)         | <input type="checkbox"/> Redox Dark Surface (F6)                               | <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Thick Dark Surface (A12)                             | <input type="checkbox"/> Depleted Dark Surface (F7)                            | <input type="checkbox"/> Other (Explain in Remarks)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                             | <input type="checkbox"/> Redox Depressions (F8)                                | <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input checked="" type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) |   |
| <input checked="" type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)      |  |   |

Restrictive Layer (if present):  
 Type: NONE  
 Depth (inches): \_\_\_\_\_  
 Hydric Soil Present? Yes  No

Remarks: \_\_\_\_\_

**HYDROLOGY**

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

Field Observations:  
 Surface Water Present? Yes  No  Depth (inches): 5  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0  
 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: Smith / Mine Unit 15A City/County: Converse Sampling Date: June 21, 2011  
 Applicant/Owner: Camco State: WY Sampling Point: #1  
 Investigator(s): Lisa Marking, bn Knudson Section, Township, Range: 11 - T35N R74W  
 Landform (hillslope, terrace, etc.): creek Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): G Lat: 105°41'10.80" W Long: 43°11'15.98" N Datum: NAD83  
 Soil Map Unit Name: Clarkelen - Haverdod - Biowindler Complex NWI classification: Freshwater Emergent Wetland  
 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**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) 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. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</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) Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5' radius</u>)</b>				
1. <u>Juncus balticus</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Typha latifolia</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Carex aquatilis</u>	<u>5</u>	<input type="checkbox"/>	<u>OBI</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>80</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				
Remarks: <u>only herb stratum present</u>				

**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 <sup>1</sup>	Loc <sup>2</sup>		
10.5	10YR 3/1	2					Sandy	Histic epipedon
19.5	10YR 4/1	9.5	7.5YR 5/8	5	C	PL	Sandy loam	
29.5-32.5	10PR 5/1	90	7.5YR 5/8	10	C	PL	Sand	

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

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

Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Histosol (A1)  | <input type="checkbox"/> Sandy Gleyed Matrix (S4)                              | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)  |
| <input checked="" type="checkbox"/> Histic Epipedon (A2)                      | <input type="checkbox"/> Sandy Redox (S5)                                      | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)  |
| <input type="checkbox"/> Black Histic (A3)                                    | <input type="checkbox"/> Stripped Matrix (S6)                                  | <input type="checkbox"/> Dark Surface (S7) (LRR G)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                                | <input type="checkbox"/> Loamy Mucky Mineral (F1)                              | <input type="checkbox"/> High Plains Depressions (F16)  |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                              | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73)  |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)                         | <input checked="" type="checkbox"/> Depleted Matrix (F3)                       | <input type="checkbox"/> Reduced Vertic (F18)   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)         | <input type="checkbox"/> Redox Dark Surface (F6)                               | <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Thick Dark Surface (A12)                             | <input type="checkbox"/> Depleted Dark Surface (F7)                            | <input type="checkbox"/> Other (Explain in Remarks)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                             | <input type="checkbox"/> Redox Depressions (F8)                                | <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input checked="" type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) |   |
| <input checked="" type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)      |  |   |

Restrictive Layer (if present):

Type: NONE  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes  No  Depth (inches): 5  
Water Table Present? Yes  No  Depth (inches): 8  
Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 8

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: Smith / Mine Unit 10 411 City/County: Converse Sampling Date: June 21, 2011  
 Applicant/Owner: Cameo State: WY Sampling Point: #2  
 Investigator(s): Lisa Mawkin & Jon Knudson Section, Township, Range: 17, T35N R74W  
 Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 3  
 Subregion (LRR): G Lat: 43° 0' 35.1954" Long: 105° 45' 49.7557" Datum: NAD 83  
 Soil Map Unit Name: Hilord-Bowdoo Complex NWI classification: Not listed

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: _____)				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				<b>Prevalence Index worksheet:</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)  Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus balticus</u>	<u>95</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Agropyron spicatum</u>	<u>4</u>	<input type="checkbox"/>	<u>FACW</u>	
3. <u>Poa pratensis</u>	<u>2</u>	<input type="checkbox"/>	<u>FACU</u>	
4. <u>Platanthera sp.</u>	<u>1</u>	<input type="checkbox"/>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>97</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>3</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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2	100	—	—	—	—	Loam	
3-4.5	2.5Y 4/2	100	—	—	—	—	Sandy loam	
4.5-7	2.5Y 5/3	100	—	—	—	—	Sand	
7-25	Gley 2.5/10Y	90	2.5YR 5/8	10	C	PL	Sandy clay	Sand & clay in patches - same horizon

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (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)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 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)

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

Restrictive Layer (if present):

Type: None  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

Positive alpha/alpha diphenyl

**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): 2  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? Yes  No  Depth (inches): 0  
 (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: Smith / Mine Unit 10 #11 City/County: Converse Sampling Date: June 21, 2011  
 Applicant/Owner: Cameco State: WY Sampling Point: #2  
 Investigator(s): Lisa Mautink Jon Kaudson Section, Township, Range: 17, T35N R74W  
 Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 3  
 Subregion (LRR): G Lat: 43° 0' 35.1954" Long: 105° 45' 40.7557" Datum: NAD 83  
 Soil Map Unit Name: Hiland-Bowdoc Complex NWI classification: Not listed

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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Remarks:			

**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				<b>Prevalence Index worksheet:</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) Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
<b>Herb Stratum (Plot size: <u>5' radius</u>)</b> 1. <u>Juncus balticus</u> <u>95</u> <input checked="" type="checkbox"/> <u>OBL</u> 2. <u>Agropyron spicatum</u> <u>41</u> <input type="checkbox"/> <u>FACU</u> 3. <u>Poa pratensis</u> <u>22</u> <input type="checkbox"/> <u>FACU</u> 4. <u>Platanthera sp.</u> <u>1</u> <input type="checkbox"/> <u>FACW</u> 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>3</u> _____ = Total Cover				
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2	100	—	—	—	—	Loam	
3-4.5	2.5Y 4/2	100	—	—	—	—	Sandy loam	
4.5-7	2.5Y 5/3	100	—	—	—	—	Sand	
7-25	Gley 2 5/10Y	90	2.5YR 5/8	10	C	PL	Sandy clay	Sand & clay in patches - same range

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input checked="" type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input checked="" type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	
<input checked="" type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)		

Restrictive Layer (if present):  
 Type: None  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: Positive alpha/alpha diphenyl

**HYDROLOGY**

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

Field Observations:  
 Surface Water Present? Yes  No  Depth (inches): 2  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0

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: Smith / Mine Unit 10 411 City/County: CONVERSE Sampling Date: June 21, 2011  
 Applicant/Owner: Cameo State: WY Sampling Point: #2  
 Investigator(s): Lisa Mautink & Jon Kaudson Section, Township, Range: 17, T35N R74W  
 Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 3  
 Subregion (LRR): G Lat: 43° 0' 35.1954" Long: 105° 45' 40.7557" Datum: NAD 83  
 Soil Map Unit Name: Hiland-Bowbao Complex NWI classification: Not listed

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: _____)				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				<b>Prevalence Index worksheet:</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)  Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0' <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus lotticus</u>	<u>95</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Asoprum spicatum</u>	<u>&lt;1</u>	<input type="checkbox"/>	<u>FACW</u>	
3. <u>Poa pratensis</u>	<u>22</u>	<input type="checkbox"/>	<u>FACU</u>	
4. <u>Platanthera sp.</u>	<u>1</u>	<input type="checkbox"/>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>97</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>3</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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2	100	—	—	—	—	Loam	
3-4.5	2.5Y 4/2	100	—	—	—	—	Sandy loam	
4.5-7	2.5Y 5/3	100	—	—	—	—	Sand	
7-25	Gley 2 5/10Y	90	2.5YR 5/8	10	C	PL	Sandy clay	Sand & clay in patches - same size

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (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)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 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)

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

Restrictive Layer (if present):

Type: None  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: Positive alpha/alpha diphenyl

**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): 2  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? Yes  No  Depth (inches): 0  
 (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: Smith / Mine Unit 12 City/County: Converse Sampling Date: June 21, 201  
 Applicant/Owner: Converse State: WY Sampling Point: #3  
 Investigator(s): Lisa Martin & Tom Knudson Section, Township, Range: 17, T35N R.74W  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): Concave Slope (%): 3  
 Subregion (LRR): G Lat: 42°59'59.1834" Long: 105°08'3.5582" Datum: NAD 83  
 Soil Map Unit Name: Hiland-Bowbae Complex NWI classification: Not listed

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

**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>0</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>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = _____ FACW species <u>0</u> x 2 = _____ FAC species <u>0</u> x 3 = _____ FACU species <u>4</u> x 4 = <u>16</u> UPL species <u>0</u> x 5 = _____ Column Totals: <u>9</u> (A) <u>16</u> (B) Prevalence Index = B/A = <u>4</u>
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' x 4.5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Poa pratensis</u>	<u>6</u>	_____	<u>Fac U</u>	
2. <u>Blomus lectorem</u>	<u>40</u>	_____	_____	
3. <u>Taraxacum officinale</u>	<u>3</u>	_____	<u>Fac V</u>	
4. <u>Achillea millefolium</u>	<u>2</u>	_____	<u>Fac U</u>	
5. <u>Cerastium arvense</u>	<u>4</u>	_____	<u>Fac U</u>	
6. <u>Astragalus sp.</u>	<u>1</u>	_____	_____	
7. <u>Stipa neborpi</u>	<u>1</u>	_____	_____	
8. <u>Koeleria macrantha</u>	<u>7</u>	_____	_____	
9. <u>Allium sp.</u>	<u>1</u>	_____	_____	
10. <u>Poa Secunda</u>	<u>5</u>	_____	_____	
<u>5</u> <u>180</u> Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>Antennaria sp.</u>	<u>5</u>	_____	_____	
2. _____	_____	_____	_____	% Bare Ground in Herb Stratum _____
<u>20</u> = Total Cover				
Remarks: <u>Wetland site #3</u>				

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR 4/2	100	—	0	—	—	Sandy clay	
2-8	10YR 4/2	100	—	0	—	—	Sandy clay	
8-12	10YR 5/3	100	—	0	—	—	Sand	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (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)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 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)

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

Restrictive Layer (if present):

Type: None

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)
- 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? (includes capillary fringe) Yes  No  Depth (inches): 15

Wetland Hydrology Present? Yes  No

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

Remarks:

Saturation is at > 12 inches



**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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	7.5YR 4/1	100					Silty clay	
2-20	7.5YR 4/1	100					Silty clay	

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

- Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
- Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5) (LRR F)
  - 1 cm Muck (A9) (LRR F, G, H)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - 2.5 cm Mucky Peat or Peat (S2) (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)
- Indicators for Problematic Hydric Soils<sup>3</sup>:
- 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)
- <sup>3</sup>Indicators 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:

**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? (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: sediment and cracking seems to be from very brief flooding

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smith Ranch / Mine Unit 27 City/County: Converse Sampling Date: 6/22/11  
 Applicant/Owner: Camco State: WY Sampling Point: 5  
 Investigator(s): Jon Knudsen / Lisa Martin Section, Township, Range: 36 T37N R74W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Slight concave Slope (%): 0  
 Subregion (LRR): G Lat: 105°41'57.23" W Long: 43° 8' 25.67" N Datum: NAD 83  
 Soil Map Unit Name: Cambrina-Cushman Complex NWI classification: Freshwater Emergent Wetland  
 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Hydic Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>veg is mostly non-native</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-): _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</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) Prevalence Index = B/A = _____
_____ = Total Cover				
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum (Plot size: _____)</b>				
1. <u>Agropyron cristatum</u>	<u>5</u>	<u>-</u>	<u>FAC U-</u>	
2. <u>Achillea sp.</u>	<u>3</u>	<u>-</u>	<u>-</u>	
3. <u>Elysiun desertorum</u>	<u>1</u>	<u>-</u>	<u>-</u>	
4. <u>Bromus tectorum</u>	<u>1</u>	<u>-</u>	<u>-</u>	
5. <u>Bromus inermis</u>	<u>1</u>	<u>-</u>	<u>FAC V</u>	
6. <u>Agropyron spicatus</u>	<u>1</u>	<u>-</u>	<u>FAC U-</u>	
7. <u>Poa secunda</u>	<u>2</u>	<u>-</u>	<u>-</u>	
8. <u>Bromus inermis</u>	<u>30</u>	<u>✓</u>	<u>-</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>42</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
<b>% Bare Ground in Herb Stratum _____</b>				
Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <input checked="" type="checkbox"/>				
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>				
Remarks: <u>non-natives dominant - No indicator status for non-natives</u> <span style="float: right;"><u>unknown</u></span>				

**SOIL**

Sampling Point: 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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	7.5YR 4/1	100					Clay	
3-H	7.5YR 4/1	100					Silt clay	

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

- Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
- Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5) (LRR F)
  - 1 cm Muck (A9) (LRR F, G, H)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - 2.5 cm Mucky Peat or Peat (S2) (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)
- Indicators for Problematic Hydric Soils<sup>3</sup>:
- 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)
- <sup>3</sup>Indicators 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:

**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:

*possible very brief flooding during storms*

Remarks:

4

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Smith Ranch / Mine Unit 7 City/County: Converse Sampling Date: 6/22/11  
 Applicant/Owner: Comeco State: WY Sampling Point: 6  
 Investigator(s): Jon Knudsen / Lisa Martin Section, Township, Range: 26 T36N R74W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR): 6 Lat: 43° 25' 37.05" N Long: 105° 42' 23.25" W Datum: NAD 83  
 Soil Map Unit Name: Hiland-Bowbac Complex NWI classification: Freshwater Pond  
 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: <u>Outside mine unit 7 boundary, does not extend into project areas</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>66.7%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover				Total % Cover of:	Multiply by:
_____ = Total Cover				OBL species <u>2</u>	x 1 = <u>2</u>
_____ = Total Cover				FACW species <u>25</u>	x 2 = <u>50</u>
_____ = Total Cover				FAC species <u>-</u>	x 3 = <u>-</u>
_____ = Total Cover				FACU species <u>10</u>	x 4 = <u>40</u>
_____ = Total Cover				UPL species <u>-</u>	x 5 = <u>-</u>
_____ = Total Cover				Column Totals: <u>37</u> (A)	<u>92</u> (B)
_____ = Total Cover				Prevalence Index = B/A = <u>2.7</u>	
_____ = Total Cover				Hydrophytic Vegetation Indicators:	
_____ = Total Cover				<input checked="" type="checkbox"/> Dominance Test is >50%	
_____ = Total Cover				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
_____ = Total Cover				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
_____ = Total Cover				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
_____ = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
_____ = Total Cover				Remarks: <u>Small area of hydrophytic veg surrounded by upland or fire veg.</u>	

**SOIL**

Sampling Point: 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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/2	90	7.5YR 4/6	10	C	PL	CLAY LOAM	More structure than ↓
4-15	10YR 3/2	90	7.5YR 4/6	10	C	R	CLAY LOAM	
15-20	10YR 4/2	90	7.5YR 4/6	11	C	R	loamy sand	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (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)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 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)

<sup>3</sup>Indicators 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:

Possible test on all layers of soil

**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? (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:

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smith / Mine unit 11 City/County: Comanche Sampling Date: 6/23/2011  
 Applicant/Owner: Combus State: WY Sampling Point: 7  
 Investigator(s): Lisa Martin & Logan McCurt Section, Township, Range: 21 T35N R74W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): G Lat: 42° 59' 41.38" Long: 105° 44' 15.35" W Datum: NAD 83  
 Soil Map Unit Name: Kishona-Dwyer-Ogpa Association NWI classification: "other"

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Wetland extends into drainage, pretty extensive</u>	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: _____)				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
3. _____				<b>Prevalence Index worksheet:</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)  Prevalence Index = B/A = _____
4. _____				
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. <u>Juncus bathicus - large</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Veronica perfoliata</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Poa pratensis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
4. <u>Eleocharis sp</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
5. <u>Rumex crispus</u>	<u>1</u>	<input type="checkbox"/>		
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover	<u>34</u>			
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

**SOIL**

Sampling Point: 7

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 <sup>1</sup>	Loc <sup>2</sup>		
0-10	Gley 2/10/06	90	2.5 YR 5/6	5	C	PL	Clay	
			Gley 1.5/104	5	RM	M	Clay	

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

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

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                             | <input type="checkbox"/> Sandy Gleyed Matrix (S4)            |
| <input type="checkbox"/> Histic Epipedon (A2)                      | <input type="checkbox"/> Sandy Redox (S5)                    |
| <input type="checkbox"/> Black Histic (A3)                         | <input type="checkbox"/> Stripped Matrix (S6)                |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1)            |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F)            | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)              | <input checked="" type="checkbox"/> Depleted Matrix (F3)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)         | <input type="checkbox"/> Redox Dark Surface (F6)             |
| <input type="checkbox"/> Thick Dark Surface (A12)                  | <input type="checkbox"/> Depleted Dark Surface (F7)          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                  | <input checked="" type="checkbox"/> Redox Depressions (F8)   |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16)       |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)      | (MLRA 72 & 73 of LRR H)                                      |

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 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)

<sup>3</sup>Indicators 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:

**HYDROLOGY**

Wetland Hydrology Indicators:

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

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Surface Water (A1)             | <input type="checkbox"/> Salt Crust (B11)                           |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input checked="" type="checkbox"/> Aquatic Invertebrates (B13)     |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Dry-Season Water Table (C2)                |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)         | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3)                       | (where not tilled)  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Presence of Reduced Iron (C4)              |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Thin Muck Surface (C7)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                 |
| <input type="checkbox"/> 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): 0  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? Yes  No  Depth (inches): 0  
 (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: Smith Road / Mine Unit J Ext. City/County: Converse Sampling Date: 6/23/11  
 Applicant/Owner: Camco State: WY Sampling Point: 8  
 Investigator(s): Jin Kicker Section, Township, Range: R0 T36N R 73W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0  
 Subregion (LRR): 6 Lat: 105° 38' 37.16" W Long: 43° 4' 20.81" N Datum: Nad83  
 Soil Map Unit Name: Hiland Bowboc Complex NWI classification: Not listed  
 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: _____)					
1.					
2.					
3.					
4.					
_____ = Total Cover					
<b>Sapling/Shrub Stratum</b> (Plot size: _____)					
1.					
2.					
3.					
4.					
5.					
_____ = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5' radius</u> )					
1.		<u>35</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2.		<u>5</u>	<input type="checkbox"/>	<u>FACU</u>	
3.		<u>5</u>	<input type="checkbox"/>	<u>FACW</u>	
4.		<u>5</u>	<input type="checkbox"/>	<u>FACU</u>	
5.		<u>35</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
6.		<u>5</u>	<input type="checkbox"/>	<u>FACW</u>	
7.					
8.					
9.					
10.					
_____ = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: _____)					
1.					
2.					
_____ = Total Cover					
<b>% Bare Ground in Herb Stratum</b> _____					

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 2 (A)

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

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

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	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 = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks: Some Beams sapientis in Area

**SOIL**

Sampling Point: 8

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 <sup>1</sup>	Loc <sup>2</sup>		
0-1	10YR 4/2	100					Clay	less structure - Peat
1-18	10YR 4/2						clay	solid clay

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 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:  
 Soil heavy clay - no redox visible

**HYDROLOGY**

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

(Includes capillary fringe)

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

Remarks:  
 Concave & low than surrounding area - possible water/run-off collection, but non-hydric soils & slight veg all around speak

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smith Ranch (Mine Unit) Exp City/County: Converse Sampling Date: 6/23/11  
 Applicant/Owner: Cameco State: WY Sampling Point: 9  
 Investigator(s): Jon Knudsen / Logan McConit Section, Township, Range: R20, T36N R13W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): G Lat: 43°4'16.94" N Long: 105°38'32.12" W Datum: NAD83  
 Soil Map Unit Name: Hiland Bowbar Complex NWI classification: not listed  
 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <p align="center"><i>Brimus</i> species very abundant</p>	

**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>0</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>6</u> x 1 = <u>6</u> FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>53</u> x 4 = <u>212</u> UPL species _____ x 5 = _____ Column Totals: <u>59</u> (A) <u>218</u> (B) Prevalence Index = B/A = <u>3.7</u>
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>5' Radius</u> )				
1. <u>Poa pratensis</u>	<u>10</u>	_____	<u>Fac U</u>	
2. <u>Brimus spinescens</u>	<u>5</u>	_____	<u>Fac U</u>	
3. <u>Brimus tectorum</u>	<u>30</u>	<u>+</u>	<u>-</u>	
4. <u>Alopecurus spicatus</u>	<u>30</u>	<u>+</u>	<u>Fac U</u>	
5. <u>Alopecurus gentianoides</u>	<u>5</u>	_____	<u>Obl</u>	
6. <u>Elymus desertorum</u>	<u>5</u>	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>85</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0' <input checked="" type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Remarks: <p align="center"><i>cheat grass</i> abundant</p>				

**SOIL**

Sampling Point: 9

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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 5/2	100	—	—	—	—	clay	fine clay granules
3-20	10YR 4/2	100	—	—	—	—	clay	blocky clay resistant to air ↑

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

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

Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Histosol (A1)                             | <input type="checkbox"/> Sandy Gleyed Matrix (S4)      | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)               |
| <input type="checkbox"/> Histic Epipedon (A2)                      | <input type="checkbox"/> Sandy Redox (S5)              | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Black Histic (A3)                         | <input type="checkbox"/> Stripped Matrix (S6)          | <input type="checkbox"/> Dark Surface (S7) (LRR G)               |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1)      | <input type="checkbox"/> High Plains Depressions (F16)           |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)      | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73)         |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)              | <input type="checkbox"/> Depleted Matrix (F3)          | <input type="checkbox"/> Reduced Vertic (F18)                    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)         | <input type="checkbox"/> Redox Dark Surface (F6)       | <input type="checkbox"/> Red Parent Material (TF2)               |
| <input type="checkbox"/> Thick Dark Surface (A12)                  | <input type="checkbox"/> Depleted Dark Surface (F7)    | <input type="checkbox"/> Other (Explain In Remarks)              |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                  | <input type="checkbox"/> Redox Depressions (F8)        | <sup>3</sup> Indicators of hydrophytic vegetation and            |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) | wetland hydrology must be present,                               |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)      | <input type="checkbox"/> (MLRA 72 & 73 of LRR H)       | unless disturbed or problematic.                                 |

Restrictive Layer (if present):

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

soil uniform after first horizon

**HYDROLOGY**

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                           | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)        |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Invertebrates (B13)                | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)    |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Drainage Patterns (B10)                    |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Dry-Season Water Table (C2)                | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> (where tilled)                             |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> (where not tilled)                         | <input type="checkbox"/> Crayfish Burrows (C8)                      |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)  |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> Geomorphic Position (D2)                   |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                 | <input type="checkbox"/> FAC-Neutral Test (D5)                      |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |   | <input type="checkbox"/> 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: Smith Road / Mine Unit J Exp. City/County: Converse Sampling Date: 6/23/11  
 Applicant/Owner: Camero State: WY Sampling Point: 10  
 Investigator(s): Jim Knudson / Lisa McManis Section, Township, Range: 21 T36N R73W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR): 6 Lat: 43° 4' 32.20" N Long: 105° 37' 26.15" W Datum: NAD83  
 Soil Map Unit Name: Aeric Haplaquepts NWI classification: Freshwater Emergent Wetland  
 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

#### VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: _____)				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. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species _____ x 3 = _____ FACU species <u>20</u> x 4 = <u>80</u> UPL species _____ x 5 = _____ Column Totals: <u>55</u> (A) <u>132</u> (B) Prevalence Index = B/A = <u>23</u>
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus balticus</u>	<u>20</u>		<u>OBL</u>	
2. <u>Phytolacca pratinensis</u> <u>Alopecurus geniculatus</u>	<u>20</u>		<u>OBL</u>	
3. <u>Hordium jubatum</u>	<u>15</u>		<u>FAC W</u>	
4. <u>Bromus tectorum</u>	<u>5</u>			
5. <u>Glycyrrhiza lepidota</u>	<u>1</u>			
6. <u>Veronica perigrina</u>	<u>1</u>		<u>FAC W</u>	
7. <u>P.E</u>				
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>67</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
<b>% Bare Ground in Herb Stratum</b> _____				
Remarks:				

**SOIL**

Sampling Point: 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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 5/4	100	—	—	—	c	CLAY	Small yellow sand inclusions
3-20	10YR 2/2	100	—	—	—	—	CLAY	larger inclusions of Yellow Sand

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

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

<input checked="" type="checkbox"/> Histosol (A1)	<input checked="" type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input checked="" type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Sandy Redox (S5)		<input checked="" type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input checked="" type="checkbox"/> Black Histic (A3)	<input checked="" type="checkbox"/> Stripped Matrix (S6)		<input checked="" type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Mucky Mineral (F1)		<input checked="" type="checkbox"/> Dark Surface (S7) (LRR G)
<input checked="" type="checkbox"/> Stratified Layers (A5) (LRR F)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)		<input checked="" type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
<input checked="" type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)		<input checked="" type="checkbox"/> Reduced Vertic (F18)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<input checked="" type="checkbox"/> Red Parent Material (TF2)
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)		<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Depressions (F8)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input checked="" type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input checked="" type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)		
<input checked="" type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)			

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_  
 Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: heavy clay soil with plastic redox

**HYDROLOGY**

Wetland Hydrology Indicators:

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

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: low playa in middle of higher grasslands



**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 <sup>1</sup>	Loc <sup>2</sup>		
0-15	10YR 5/2	85	2.5YR 4/8	15	C	PL	Clay	No other horizons visible

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5) (LRR F)</li> <li><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input checked="" type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 &amp; 73 of LRR H)</li> </ul>	<p>Indicators for Problematic Hydric Soils<sup>3</sup>:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR G)</li> <li><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li><input type="checkbox"/> Reduced Vertic (F18)</li> <li><input type="checkbox"/> Red Parent Material (TF2)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:

<p>Primary Indicators (minimum of one required; check all that apply)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Water (A1)</li> <li><input type="checkbox"/> High Water Table (A2)</li> <li><input type="checkbox"/> Saturation (A3)</li> <li><input type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Water-Stained Leaves (B9)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Salt Crust (B11)</li> <li><input type="checkbox"/> Aquatic Invertebrates (B13)</li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Thin Muck Surface (C7)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	<p>Secondary Indicators (minimum of two required)</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li><input type="checkbox"/> Crayfish Burrows (C8)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input checked="" type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> FAC-Neutral Test (D5)</li> <li><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
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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:

Weak

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smiff / Mine Unit 8 City/County: Converse Sampling Date: 6/24/2011  
 Applicant/Owner: Cameco State: WY Sampling Point: 12  
 Investigator(s): Lisa Martin & Logan McFarrell Section, Township, Range: 35, T36N R74W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR): G Lat: 43° 03' 11.52" N Long: 105° 42' 27.78" W Datum: NAD83  
 Soil Map Unit Name: Haverdad-Lohmiller Complex NWI classification: Freshwater Pond

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: _____)				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
3. _____				
4. _____				
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				<b>Prevalence Index worksheet:</b>
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 = _____
<u>Herb Stratum</u> (Plot size: <u>5' radius</u> )				Column Totals: _____ (A) _____ (B)
1. <u>Hortem jubatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Prevalence Index = B/A = _____
2. <u>Veronica persicaria</u>	<u>3</u>		<u>FACW</u>	
3. <u>Brassicaceae spp.</u>	<u>2</u>			
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>20</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b>
1. _____				<input type="checkbox"/> Dominance Test is >50%
2. _____				<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
_____ = Total Cover				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
_____ = Total Cover				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>% Bare Ground In Herb Stratum</u> _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: Mustard dominant on edge of wetland, but not in center where point was taken

**SOIL**

Sampling Point: 12

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 <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 4/1	94	5YR 5/8	6	C	PL	Clay	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)		

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No \_\_\_\_\_

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Presence of Reduced Iron (C4)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input checked="" type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> 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: Smith / Mine Unit 6 City/County: Converse Sampling Date: June 4, 201  
 Applicant/Owner: Cano State: WY Sampling Point: #13  
 Investigator(s): Lisa Martin & Logan McConnell Section, Township, Range: 36 T36N R74W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): G Lat: 43°03'10.61" N Long: 105° 41'11.05" W Datum: 1983  
 Soil Map Unit Name: Alland-Kowbae Complex NWI classification: Freshwater Emergent Wetland  
 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Close to office – unsure if natural, tree may be planted, so not used to determine veg.</u>	

**VEGETATION – Use scientific names of plants.**

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>30' radius</u> )				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)
1. <u>Populus deltoides - planted?</u>	<u>5</u>	<input checked="" type="checkbox"/>		Total Number of Dominant Species Across All Strata: <u>3</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
3. _____				<b>Prevalence Index worksheet:</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)  Prevalence Index = B/A = _____
4. _____				
_____ = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. <u>Typha latifolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Juncus balticus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Eleocharis palustris</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>30</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
<b>% Bare Ground in Herb Stratum</b> _____				
Remarks:				

**SOIL**

Sampling Point: 13

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 <sup>1</sup>	Loc <sup>2</sup>		
0-15	10YR 4/2	95	5YR 4/6	5	C	PL	clay	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (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)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 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)
- <sup>3</sup>Indicators 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:

**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): 0  
 Water Table Present? Yes  No \_\_\_\_\_ Depth (inches): 0  
 Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): 0  
 (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**

4

Project/Site: Smith / Mine Unit 1-1 City/County: Converse Sampling Date: June 22, 2011  
 Applicant/Owner: Comco State: W Sampling Point: Wetland #14  
 Investigator(s): Lisa Martin & Jon Knudson Section, Township, Range: 35 T36N R74W  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): G Lat: 105°41'52.92" W Long: 43° 2' 56.28" N Datum: \_\_\_\_\_  
 Soil Map Unit Name: Clarkston-Haverdod-Bigwater Complex Classification: Freshwater Emergent Wetland  
 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 <u>(+)</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>(+)</u> No _____
Hydric Soil Present?	Yes <u>(+)</u>	No _____	
Wetland Hydrology Present?	Yes <u>(+)</u>	No _____	
Remarks: <u>Barley passes lead section</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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>39</u> x 1 = <u>39</u> FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>55</u> x 4 = <u>220</u> UPL species _____ x 5 = _____ Column Totals: <u>94</u> (A) <u>259</u> (B) Prevalence Index = B/A = <u>2.8</u>
<b>Sapling/Shrub Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
<b>Herb Stratum (Plot size: <u>5' radius</u>)</b> 1. <u>Phleum pratensis</u> <u>20</u> <u>4</u> <u>FacU</u> 2. <u>Juncus balticus</u> <u>25</u> <u>4</u> <u>OBL</u> 3. <u>Poa pratensis</u> <u>15</u> <u>4</u> <u>FacU</u> 4. <u>Bromus tectorum</u> <u>2</u> <u>-</u> <u>-</u> 5. <u>Stipa nelsonii</u> <u>2</u> <u>-</u> <u>-</u> 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				
<b>% Bare Ground in Herb Stratum</b> _____				
Remarks: <u>Non-natives grass</u>				

**SOIL**

Sampling Point: 14

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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2	95	10YR 5/8	5			Sandy clay loam	Patches of sand
2-14	10YR 4/2	95	7.5YR 5/8	5			" "	Patches of sand more integrated
14-22	10YR 5/3	95	7.5YR 5/8	5			Sand	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

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:  
 Barely passes

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smith / Mine Unit 22/28 City/County: Converse Sampling Date: June 29, 2011  
 Applicant/Owner: Cameco State: WY Sampling Point: 16  
 Investigator(s): Lisa Martin & Jeff Yelton Section, Township, Range: 12 T36 N R74 W  
 Landform (hillslope, terrace, etc.): manmade ditch Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): G Lat: 43°06'37.57"N Long: 105°41'36.26"W Datum: NAD83  
 Soil Map Unit Name: Gullied Land NWI classification: wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: <u>Man made ditch for cows</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>66</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. <u>1</u>	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)	
_____ = Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>5' radius</u> )				Hydrophytic Vegetation Indicators:	
1. <u>Carex aquatilis</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <u>Juncus balticus</u>	<u>3</u>	<input type="checkbox"/>	<u>OBL</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. <u>Poa pratensis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. <u>Hordeum jubatum</u>	<u>2</u>	<input type="checkbox"/>	<u>OBL</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. <u>Ranunculus laevis</u>	<u>21</u>	<input type="checkbox"/>	<u>FAC</u>		
6. <u>Scirpus pungens</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>OBL</u>		
7. <u>Medicago lupulina</u>	<u>3</u>	<input type="checkbox"/>	<u>FACU</u>		
8. <u>Ternstroemia officinalis</u>	<u>5</u>	<input type="checkbox"/>	<u>FACU</u>		
9. <u>Bromus japonicus</u>	<u>&lt;1</u>	<input type="checkbox"/>	<u>FACU</u>		
10. <u>Agrostis stolonifera</u>	<u>1</u>	<input type="checkbox"/>	<u>FACU</u>		
_____ = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

**SOIL**

Sampling Point: 16

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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	2.5Y 4/2	100	-	-	-	-	Sand	
3-8	10YR 4/1	60	5YR 4/6	15			Clay	Sandy Patches
3-8			GLEYS 2.5/N	25			Clay	
8-16	10YR 4/3	15	GLEYS 5/10B	20			Sand	Clay Patches
			7.5YR 5/6	15				
			GLEYS 2.5/N	50				

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Photos: 100-1993 Soil  
 100-1994 Wetland

**HYDROLOGY**

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>10</u>	
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>12</u>	

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

Remarks:

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smith / Mine Unit 22/28 City/County: Converse Sampling Date: June 29, 201  
 Applicant/Owner: Camero State: WY Sampling Point: 16  
 Investigator(s): Lisa Martin & Jeff Yelton Section, Township, Range: 12, T36 N R74 W  
 Landform (hillslope, terrace, etc.): manmade ditch Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): G Lat: 43°06'37.57"N Long: 105°41'36.26"W Datum: NAD83  
 Soil Map Unit Name: Gullied Land NWI classification: wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Man made ditch for cows</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) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">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> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	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 = _____	
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 = _____																				
<b>Sapling/Shrub Stratum (Plot size: _____)</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
<b>Herb Stratum (Plot size: <u>5' radius</u>)</b>																				
1. <u>Carex aquatilis</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																	
2. <u>Juncus balticus</u>	<u>3</u>	<input type="checkbox"/>	<u>OBL</u>																	
3. <u>Poa pratensis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>																	
4. <u>Hordeum jubatum</u>	<u>2</u>	<input type="checkbox"/>	<u>OBL</u>																	
5. <u>Erigeron pectinatus</u>	<u>7</u>	<input type="checkbox"/>	<u>FAC</u>																	
6. <u>Scirpus pungens</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																	
7. <u>Medicago lupulina</u>	<u>3</u>	<input type="checkbox"/>	<u>FACU</u>																	
8. <u>Eragrostis canadensis</u>	<u>5</u>	<input type="checkbox"/>	<u>FACU</u>																	
9. <u>Bromus japonicus</u>	<u>&lt;1</u>	<input type="checkbox"/>	<u>FACU</u>																	
10. <u>Agrostis stolonifera</u>	<u>1</u>	<input type="checkbox"/>	<u>FAC+</u>																	
<u>80</u> = Total Cover																				
<b>Woody Vine Stratum (Plot size: _____)</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
_____ = Total Cover																				
<b>% Bare Ground in Herb Stratum _____</b>																				
Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				
Remarks:																				

**SOIL**

Sampling Point: 16

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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	2.5Y 4/2	100	-	-	-	-	Sand	
3-8	10YR 4/1	60	5YR 4/6	15			Clay	Sandy Patches
3-8			GLE 1 2.5/N	25			Clay	
8-16	10YR 4/3	15	GLE 2 5/10B	20			Sand	Clay Patches
			7.5YR 5/6	15				
			GLE 1 2.5/N	50				

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Depressions (F8)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)			

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Photos: 100-1993 Soil  
 100-1994 Wetland

**HYDROLOGY**

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 12

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**

48

Project/Site: Smith/Mine Unit 21 City/County: Converse Sampling Date: 6-29-11  
 Applicant/Owner: Camco State: WY Sampling Point: 17  
 Investigator(s): Lisa Martin & Boris Melton Section, Township, Range: 35 T31N R74W  
 Landform (hillslope, terrace, etc.): Slight depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): G Lat: 43°07'56.29"N Long: 105°42'14.4"W Datum: NAD83  
 Soil Map Unit Name: Cambria-Cushman Complex NWI classification: wetland  
 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center">Photo 10 100-197</p>	

**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				<b>Prevalence Index worksheet:</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)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
<b>Herb Stratum (Plot size: <u>5' radius</u>)</b> 1. <u>Elychorus acicularis</u> <u>35</u> <input checked="" type="checkbox"/> <u>OBL</u> 2. <u>Branus japonicus</u> <u>10</u> _____ <u>FACU</u> 3. <u>Alyscum roseotum</u> <u>3</u> _____ _____ 4. <u>Poa secunda</u> <u>3</u> _____ _____ 5. <u>Hadeum junctum</u> <u>1</u> _____ <u>OBL</u> 6. <u>Veronica peregrina</u> <u>1</u> _____ <u>FACW</u> 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				
<b>% Bare Ground in Herb Stratum</b> _____ = Total Cover				
Remarks:				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

**SOIL**

Sampling Point: 17

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 <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 4/2	100	-	-	-	-	Clay Loam	Blocky Structure
6-12	10YR 4/2	100	-	-	-	-	Clay	Very Hard Packed

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: Soil is extremely hard packed

**HYDROLOGY**

Wetland Hydrology Indicators:	
<p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> 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: Probably only wet for very short periods of time

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**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smith / Mine Unit 15A City/County: Converse Sampling Date: June 29, 2011  
 Applicant/Owner: Comco State: WY Sampling Point: 18  
 Investigator(s): Lisa Martin & Boris Yelton Section, Township, Range: 11 T35N R74W  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): G Lat: 43°01'15.61"N Long: 105°42'43.85"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Haverdad - Lohmiller Complex NWI classification: wetland

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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	

Remarks: Small drainage with an earthen dam - stock pond, non-native veg. dominant. Non-native veg difficult

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</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>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</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) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Bromus japonicus</u>	<u>90</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Bromus tectorum</u>	<u>5</u>	_____	<u>-</u>	
3. <u>Hordeum jubatum</u>	<u>&lt;1</u>	_____	<u>Obl</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>-</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	_____
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: Non native - so difficult to establish whether hydrophytic veg would naturally occur.

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2	98	7.5YR 5/5	2	C	PL	Clay Loam	
3-7	10YR 3/2	90	7.5YR 5/3	10	C	PL	Clay Loam	
7-15	2.5Y 4/2	70	2.5YR 5/8	36	C	PL	Clay Loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input checked="" type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	

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

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:  
 Barely passes

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Smith Mine Unit 10 City/County: Converse Sampling Date: June 30, 2011  
 Applicant/Owner: Camaco State: WY Sampling Point: 19  
 Investigator(s): Lisa Martin & Jeff Yelton Section, Township, Range: 19 T35N R75W  
 Landform (hillslope, terrace, etc.): Small depression Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): G Lat: 42°59'48.01 N Long: 105°47'24.56 W Datum: NAD83  
 Soil Map Unit Name: Hiland-Bowbar Complex NWI classification: Not listed

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <p align="center"><u>Area has been seed, soil not natural.</u> <u>Photo 100-1999</u></p>	

**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>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</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)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<b>Herb Stratum (Plot size: <u>5' radius</u>)</b>				
1. <u>Yoa serotina</u>	<u>20</u>	<u>+</u>	<u>NI</u>	
2. <u>Elymus trachycaulus</u>	<u>20</u>	<u>+</u>	<u>FACU</u>	
3. <u>Stipa helsonii</u>	<u>5</u>		<u>NI</u>	
4. <u>Festuca sp</u>	<u>20</u>	<u>+</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>65</u> = Total Cover				1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>% Bare Ground in Herb Stratum</b> _____				

Remarks: Veg has been seeded

**SOIL**

Sampling Point: Wetland 19

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 4/2	100	—	—	—	—	Sandy Loam	Disturbed, Reclaimed

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> 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? (includes capillary fringe) Yes  No \_\_\_\_\_ Depth (inches): 0

Wetland Hydrology Present? Yes  No \_\_\_\_\_

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

Remarks: Puddle, Catch Basin

## **APPENDIX B**

### **Photos**



Photo 1. Wetland site #1.



Photo 2. Wetland site #2.



Photo 3. Wetland site #3.



Photo 4. Wetland site #4.



Photo 5. Wetland site #5.



Photo 6. Wetland site #6.



Photo 7. Wetland site #7.



Photo 8. Wetland site #8.



Photo 9. Wetland site #9.



Photo 10. Wetland site #10.



Photo 11. Wetland site #11.



Photo 12. Wetland site #12.



Photo 13. Wetland site #13.



Photo 14. Wetland site #14.



Photo 15. Wetland site #15.



Photo 16. Wetland site #16.



Photo 17. Wetland site #17.



Photo 18. Wetland site #18.



Photo 19. Wetland site #19.



Photo 20. Redox concentrations visible as red patches.



Photo 21. Histic epipedon observed at wetland site #1.