



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
BILLINGS REGULATORY OFFICE
POST OFFICE BOX 2256
BILLINGS, MONTANA 59103-2256

March 18, 2010

Regulatory Branch
Montana State Program
Corps No. **NWO-2007-00980-MTB**

Subject: Spring Creek Coal LLC - Jurisdictional Determination

Eric Detmer
Cloud Peak Energy – Spring Creek Coal LLC
PO Box 67
Decker, Montana 59025-0067

Dear Mr. Detmer:

Reference is made to your letter requesting a jurisdictional determination (JD) of 10 wetlands and 65 ephemeral drainages located in Big Horn County, Montana. See the attached tables for specific waterway locations and jurisdictional status.

Under the authority of Section 404 of the Clean Water Act, Department of the Army (DA) permits are required for the discharge of fill material into waters of the U.S. Waters of the U.S. include the area below the ordinary high water mark (OHWM) of stream channels and lakes or ponds connected to the tributary system, and wetlands adjacent to these waters. Isolated waters and wetlands, as well as man-made channels and ditches, may be waters of the U.S., which must be determined on a case-by-case basis.

Based on the information you provided, it has been determined that none of the wetlands or waterways are jurisdictional waters of the U.S. since they are not connected to a water of the U.S. This is an Approved JD. The JD has been enclosed and may also be viewed at our website at <https://www.nwo.usace.army.mil/html/od-rmt/mthome.htm>. The JD will be available on the website within 30 days. If you are not in agreement with the JD, you may request an administrative appeal under Corps of Engineers (Corps) regulations found at 33 C.F.R. 331. The Request for Appeal must be received within 60 days from the date of this correspondence. If you would like more information on the jurisdictional appeal process, contact this office. It is not necessary to submit a Request for Appeal if you do not object to the JD.

Any activity that occurs in the areas determined not to be jurisdictional is not subject to DA regulatory authorities and no permit pursuant to Section 404 of the Clean Water Act is required from the Corps.

Although a DA permit is not required for this project, this does not eliminate the requirement that you obtain any other applicable Federal, State, Tribal or local permits as required.

We are interested in your thoughts and opinions concerning your experience with the Corps' Omaha District Regulatory Program. We have placed an automated version of our Customer Service Survey form at <http://per2.nwp.usace.army.mil/survey.html>. At your request, we will mail a paper copy that you may complete and return to us by mail or fax.

Please contact Cathy Juhas at (406) 657-5910 if you have any questions and reference Corps File Number NWO-2007-00980-MTB.

Sincerely,



Todd N. Tillinger
Montana Program Manager

Enclosure

Table 1. Summary of Jurisdictional Status – Wetlands

Site #	Location	Jurisdictional Status
Site #1	Sec.15, T8S, R39E	Does not meet criteria for a wetland
Site #2	Sec.15, T8S, R39E	Not jurisdictional – stockpond constructed in dry land
NWI-1	Sec.13, T8S, R39E	Does not meet criteria for a wetland
NWI-2	Sec.21, T8S, R39E	Does not meet criteria for a wetland
NWI-3	Sec.25, T8S, R39E	Does not meet criteria for a wetland
NWI-4	Sec.30, T8S, R40E	Does not meet criteria for a wetland
NWI-5	Sec.6, T9S, R40E	Does not meet criteria for a wetland
NWI-6	Sec.36, T8S, R39E	Not jurisdictional – stockpond constructed in dry land
NWI-7	Sec.14, T8S, R39E	Not jurisdictional – stockpond constructed in dry land
Pond 3	Sec.30, T8S, R40E	Not jurisdictional – stockpond constructed in dry land

Table 2. Summary of Jurisdictional Status - Waterways

Map #	Location	Waterway Name	Jurisdictional Status
6-1	Sec.6, T9S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
6-2	Sec.6, T9S, R40E	Pearson Creek	Non-jurisdictional – discontinuous or no OHWM
6-3	Sec.6, T9S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
6-4	Sec.6, T9S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
13-1	Sec.13, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
13-2	Sec.13, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
13-3	Sec.13, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-1	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-2	Sec.14, T8S, R39E	N. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
14-3	Sec.14, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
14-4	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-5	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-6	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-7	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
15-1	Sec.15, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
15-2	Sec.15, T8S, R39E	No Defined Channel	Non-jurisdictional – discontinuous or no OHWM
15-3	Sec.15, T8S, R39E	No Defined Channel	Non-jurisdictional – discontinuous or no OHWM
15-4	Sec.15, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
15-5	Sec.15, T8S, R39E	N. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
19-1a	Sec.19, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
19-1b	Sec.19, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
19-1c	Sec.19, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
19-2	Sec.19, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
19-3	Sec.19, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
19-4	Sec.19, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
19-5	Sec.19, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
21-1	Sec.21, T8S, R39E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
21-2	Sec.21, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
22-1	Sec.22, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
22-2	Sec.22, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
22-3	Sec.22, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
22-4	Sec.22, T8S, R39E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
23-1	Sec.23, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM

23-2	Sec.23, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
23-3	Sec.23, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
23-4	Sec.23, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
24-1	Sec.24, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
24-2	Sec.24, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
24-3	Sec.24, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
24-4	Sec.24, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
25-1	Sec.25, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
25-2	Sec.25, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
25-3	Sec.25, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
26-1	Sec.26, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
26-2	Sec.26, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
26-3	Sec.26, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
26-4	Sec.26, T8S, R39E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
27-1	Sec.27, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
27-2	Sec.27, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
27-3	Sec.27, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
29-1	Sec.29, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
29-2	Sec.29, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
29-3	Sec.29, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
30-1	Sec.30, T8S, R40E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
30-2	Sec.30, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
30-3	Sec.30, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
31-1	Sec.31, T8S, R40E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
31-2	Sec.31, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
31-3	Sec.31, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
31-4	Sec.31, T8S, R40E	Pearson Creek	Non-jurisdictional – discontinuous or no OHWM
35-1	Sec.35, T8S, R39E	Pearson Creek	Non-jurisdictional – discontinuous or no OHWM
35-2	Sec.35, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
36-1	Sec.36, T8S, R39E	Pearson Creek	Non-jurisdictional – discontinuous or no OHWM
36-2	Sec.36, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
36-3	Sec.36, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 18 MAR 2010

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Omaha District CENWO-OD-RMT (Billings), Spring Creek Coal LLC Wetland Delineation, NWO-2007-00980-MTB

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: MT County/parish/borough: Big Horn County City: Decker
Center coordinates of site (lat/long in degree decimal format): Lat. 45.11815 N; Long. -108.76674 W
Universal Transverse Mercator: 13

Name of nearest waterbody: Tongue River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: none

Name of watershed or Hydrologic Unit Code (HUC): 10090101

- ☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- ☒ Office (Desk) Determination. Date: 03/18/2010
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- ☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- ☐ TNWs, including territorial seas
☐ Wetlands adjacent to TNWs
☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
☐ Non-RPWs that flow directly or indirectly into TNWs
☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
☐ Impoundments of jurisdictional waters
☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands:

c. Limits (boundaries) of jurisdiction based on: Not Applicable.

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

- ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: Sites meeting wetland criteria are associated with non-jurisdictional stock ponds. None of the waterways have a continuous OHWM, wetland vegetation, or any connection to a Water of the U.S.

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size:

Drainage area:

Average annual rainfall:

Average annual snowfall:

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:

Tributary stream order, if known:

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width:

Average depth:

Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope):

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume:

Surface flow is: **Pick List**. Characteristics:

Subsurface flow: **Pick List**. Explain findings:

☐ Dye (or other) test performed:

Tributary has (check all that apply):

☐ Bed and banks	
☐ OHWM ⁶ (check all indicators that apply):	
☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	
☐ Discontinuous OHWM. ⁷ Explain:	

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width):
- ☐ Wetland fringe. Characteristics:
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings:
 - ☐ Fish/spawn areas. Explain findings:
 - ☐ Other environmentally-sensitive species. Explain findings:
 - ☐ Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
 - ☐ Discrete wetland hydrologic connection. Explain:
 - ☐ Ecological connection. Explain:
 - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width):
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings:
 - ☐ Fish/spawn areas. Explain findings:
 - ☐ Other environmentally-sensitive species. Explain findings:
 - ☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: linear feet width (ft), Or, acres.
☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters:
☐ Other non-wetland waters: acres.

Identify type(s) of waters:

3. **Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters:
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:.

Provide acreage estimates for jurisdictional wetlands in the review area:

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.⁹**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain:
- ☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

☐ Tributary waters: linear feet width (ft).

☐ Other non-wetland waters: acres.

Identify type(s) of waters:

☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☒ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☒ Other: (explain, if not covered above): Stock ponds and associated wetlands constructed in upland areas are not jurisdictional.

Waterways with no continuous OHWM, no wetland vegetation, & no connection to a Water of the U.S. are not jurisdictional.

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): acres

☐ Lakes/ponds: acres.

☐ Other non-wetland waters: List type of aquatic resource:

☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).

☐ Lakes/ponds: acres.

☐ Other non-wetland waters: acres. List type of aquatic resource:

☐ Wetlands: acres.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- ☒ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☒ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:50,000 Pearl School.
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☐ Aerial (Name & Date):
or ☒ Other (Name & Date): 2009.
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: This project site contains 6 areas that were shown on NWI maps as wetlands, but failed to meet wetland criteria during field surveys (Sites #1, NWI-1, NWI-2, NWI-3, NWI-4, & NWI-5). Four wetlands are on site that are associated with stock ponds that were constructed on non-jurisdictional waterways and are therefore not jurisdictional (Sites #2, NWI-6, NWI-7, & Pond 3). All 65 waterways on site are not jurisdictional because they lack a continuous OHWM, wetland vegetation, and have no connection to a Water of the U.S. See Tables 1 and 2 for more information.

Table 1: Spring Creek Mine wetlands

Site #	Location	Jurisdictional Status
Site #1	Sec.15, T8S, R39E	Does not meet criteria for a wetland
Site #2	Sec.15, T8S, R39E	Not jurisdictional – stockpond constructed in dry land
NWI-1	Sec.13, T8S, R39E	Does not meet criteria for a wetland
NWI-2	Sec.21, T8S, R39E	Does not meet criteria for a wetland
NWI-3	Sec.25, T8S, R39E	Does not meet criteria for a wetland
NWI-4	Sec.30, T8S, R40E	Does not meet criteria for a wetland
NWI-5	Sec.6, T9S, R40E	Does not meet criteria for a wetland
NWI-6	Sec.36, T8S, R39E	Not jurisdictional – stockpond constructed in dry land
NWI-7	Sec.14, T8S, R39E	Not jurisdictional – stockpond constructed in dry land
Pond 3	Sec.30, T8S, R40E	Not jurisdictional – stockpond constructed in dry land

Table 2: Spring Creek Mine waterways

Map #	Location	Waterway Name	Jurisdictional Status
6-1	Sec.6, T9S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
6-2	Sec.6, T9S, R40E	Pearson Creek	Non-jurisdictional – discontinuous or no OHWM
6-3	Sec.6, T9S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
6-4	Sec.6, T9S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
13-1	Sec.13, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
13-2	Sec.13, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
13-3	Sec.13, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-1	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-2	Sec.14, T8S, R39E	N. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
14-3	Sec.14, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
14-4	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-5	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-6	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
14-7	Sec.14, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
15-1	Sec.15, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
15-2	Sec.15, T8S, R39E	No Defined Channel	Non-jurisdictional – discontinuous or no OHWM
15-3	Sec.15, T8S, R39E	No Defined Channel	Non-jurisdictional – discontinuous or no OHWM
15-4	Sec.15, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
15-5	Sec.15, T8S, R39E	N. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
19-1a	Sec.19, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
19-1b	Sec.19, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
19-1c	Sec.19, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
19-2	Sec.19, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
19-3	Sec.19, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
19-4	Sec.19, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
19-5	Sec.19, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
21-1	Sec.21, T8S, R39E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
21-2	Sec.21, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
22-1	Sec.22, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
22-2	Sec.22, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
22-3	Sec.22, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
22-4	Sec.22, T8S, R39E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
23-1	Sec.23, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
23-2	Sec.23, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
23-3	Sec.23, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
23-4	Sec.23, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
24-1	Sec.24, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
24-2	Sec.24, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM

24-3	Sec.24, T8S, R39E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
24-4	Sec.24, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
25-1	Sec.25, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
25-2	Sec.25, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
25-3	Sec.25, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
26-1	Sec.26, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
26-2	Sec.26, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
26-3	Sec.26, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
26-4	Sec.26, T8S, R39E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
27-1	Sec.27, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
27-2	Sec.27, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
27-3	Sec.27, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
29-1	Sec.29, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
29-2	Sec.29, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
29-3	Sec.29, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
30-1	Sec.30, T8S, R40E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
30-2	Sec.30, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
30-3	Sec.30, T8S, R40E	Spring Creek	Non-jurisdictional – discontinuous or no OHWM
31-1	Sec.31, T8S, R40E	S. Fork Spring Creek	Non-jurisdictional – discontinuous or no OHWM
31-2	Sec.31, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
31-3	Sec.31, T8S, R40E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
31-4	Sec.31, T8S, R40E	Pearson Creek	Non-jurisdictional – discontinuous or no OHWM
35-1	Sec.35, T8S, R39E	Pearson Creek	Non-jurisdictional – discontinuous or no OHWM
35-2	Sec.35, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
36-1	Sec.36, T8S, R39E	Pearson Creek	Non-jurisdictional – discontinuous or no OHWM
36-2	Sec.36, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM
36-3	Sec.36, T8S, R39E	Unnamed	Non-jurisdictional – discontinuous or no OHWM



CLOUD PEAK
ENERGY

February 19, 2010

Shannon Johnson
Project Manager
Department of the Army
Corps of Engineers, Omaha District
Billings Regulatory Office
P.O. Box 2256
Billings, MT 59103

RE: Corps File No. NWO-2007-980-MTB, Spring Creek Coal LLC, Wetlands/Waters of the U.S. Inventory

Dear Ms. Johnson:

Pursuant to the Corps' 11 December 2008 letter regarding reauthorization under Nationwide Permit 21, Spring Creek Coal (SCC) is submitting the attached wetlands/waters of the U.S. delineation report. The report presents recommended determinations of wetlands and other waters of the U.S. within the current mine permit boundary and within the Pearson Creek permit amendment area. The Pearson Creek amendment area is an ongoing mine expansion permitting effort being pursued through the Montana Department of Environmental Quality.

SCC requests the Corps verify the inventory results and conclusions, and determine if reauthorization under Nationwide Permit 21 is necessary.

Please feel free to call me at (406) 757-4234 if you have any questions or need additional information.

With kind regards,

Eric Detmer, PE
Environmental Engineer

cc: CF 1.3.2 (SCC-2010)

Enclosure

WETLAND AND OTHER WATERS OF
THE U.S. INVENTORY

SPRING CREEK COAL LLC
SPRING CREEK MINE
2009 WETLAND DELINEATION

Prepared By
Intermountain Resources
P.O. Box
Laramie, Wyoming 82073
307-745-3803

December, 2009

Revised February, 2010

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1.0 INTRODUCTION

The Spring Creek Mine wetland delineation area is located in Big Horn County north of the town of Decker in southeastern Montana. Map 1 shows the location of the study area. As shown on that map the delineation area lies within Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 35 and 36, T8S, R39E, Sections 18, 19, 20, 27, 28, 29, 30, 31, 32 and 34, T8S, R40E, Sections 3, 6, 7, 10, 11 and 15, T9S, R40E and Section 12, T9S, R39E. This Spring Creek Mine delineation study area includes the Spring Creek Coal Mine permit area and Pearson Creek amendment area.

Wetland inventories were completed previously within this study area during 1993, 1994, 1995 and 1997. Those inventories were completed using the 1987 Corps Wetland Delineation Manual. Data from those previous studies were reviewed and have been included in this report where applicable. For example some of those sites have already been disturbed by mining activities so the prior data collected is the only information available for those sites. Other sites inventoried previously were mine facilities, primarily sediment control or stormwater collection ponds constructed by the mine, which are not jurisdictional and are not required to be inventoried. The 2009 survey was completed using the March 2008 Great Plains Region Interim Regional Supplement to the Corps 1987 Manual.

This report is a recommended determination of jurisdictional wetlands and other waters of the U. S. under authority of the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency under Section 404 of the Clean Water Act. The agencies retain the authority to amend or approve wetland delineations, and to make jurisdictional determinations on wetlands created by

Revised February, 2010

human activities. This delineation is subject to revision based on the Corps interpretation of the recent court cases including Cook County v. Corps (SWANCC) and Rapanos v. United States (Rapanos).

2.0 METHODS

The 2009 wetland delineation was completed using the March 2008 Great Plains Region Interim Regional Supplement to the 1987 Corps of Engineers Wetlands Delineation Manual. Other "Waters of the U. S." were determined according to definitions in 33 CFR 328.3. Potential wetlands were identified by examining topographic maps, National Wetlands Inventory (NWI) maps and the prior surveys completed in the area. All potential wetlands identified through those reviews were surveyed in the field. Additional field surveys were also conducted on the remainder of the lands in traverses across the study area. Field surveys were conducted in July and August of 2009 to determine seasonal characteristics of potential wetland features. Vegetation, hydrology, and soil characteristics of wetlands and uplands were recorded on field data sheets and locations of observations were plotted on topographic maps. Representative photographs were taken of the sites inventoried.

The dimensions of wetlands and other waters were determined by pacing or taped measurements in the field. Map measurements were only used for the lengths of ephemeral streams classified as other waters of the U. S. The features measured on this study area included ephemeral streams and stockponds. No perennial streams or streams that flowed for three consecutive months out of the year were present within the study area.

"Other waters of the U. S." in the 2009 study area are:

- a. parts of ephemeral stream depressions and stockponds that are usually open water during the growing season, or barren when water disappears in dry seasons. The apparent size of these areas can fluctuate with precipitation patterns and was determined according to characteristics observed during this survey or prior surveys.

- b. ephemeral streams that only flow in response to rainfall or snow melt events.

Recommendations for non-jurisdictional wetlands and other waters on this study area were made according to the following criteria:

- a. non-jurisdictional stockponds are those that are constructed in dry uplands and do not impound water flowing in jurisdictional ephemeral or intermittent streams.
- b. isolated wetlands or other waters are non-jurisdictional. These sites occur in uplands that are isolated from any connection with jurisdictional wetlands or jurisdictional other waters.
- c. non-jurisdictional wetlands and other waters of the U. S. have been further defined as drainages that flow continuously for less than three consecutive months out of the year or sites that do not have a significant nexus to traditionally navigable waters as defined by the Corps.

The Natural Resources Conservation Service (NRCS) soil survey and soil survey completed for the mine permit area were used in this delineation where applicable.

3.0 RESULTS

This section will discuss the results of the surveys for jurisdictional wetlands and other waters of the U. S. completed during the 2009 and prior wetland delineations. The 2009 data collected was compared to data from prior surveys when possible. Data was retained from prior surveys for those inventory sites that have already been disturbed by mining activities and therefore new data could not be collected. Information on vegetation, hydrology, and soils characteristics observed in the kinds of wetlands encountered within the study area is provided on the individual field data sheets contained in Appendix A. Photographs of representative sites are included in Appendix B. All features inventoried are shown on Map 1 provided with this report. Observations were made in July and August of 2009 as well as during surveys completed in prior years and already submitted to regulatory agencies.

Table 1 provides a list of wetlands and ponded other waters of the U.S. sites inventoried on the Spring Creek Mine study area. Table 2 contains a list of ephemeral stream channel other waters of the U.S. features within the study area. The stream channels within the study area (Table 2) are all ephemeral and do not carry water continuously for at least three consecutive months out of the year. Therefore all stream channels within the study area have been classified as non-jurisdictional. The other potential wetland sites within the study area are all associated with these non-jurisdictional stream channels or are located on upland areas so they have also been classified as non-jurisdictional. Those sites are discussed in the following narratives and site locations are shown on Map 1.

Site #1:

This site is located along the Spring Creek channel in the NW¼ of Section 15, T8S, R39E and was sampled in 1993, 1997 and 2009. Wetlands were not identified at Site #1 during any of those surveys. The data sheet for this sample site is provided in Appendix A and a photograph is included in Appendix B. This sample site is representative of the entire Spring Creek channel (segments 14-3, 15-1, 19-1, 23-1, 24-2, 24-3, 29-1 and 30-3 on Table 2) and other major ephemeral stream channels within the study area. No wetlands were identified along this stream channel due primarily to the lack of sufficient water.

Site #2:

This site is a stockpond created by an earthen dam and is located in the SE¼ of Section 15, T8S, R39E. Site #2 was designated on the 1991 NWI map as PFL5Ah (Palustrine, Flat, Vegetated Pioneer, Temporary, Diked/Impounded). This site was surveyed in 1993 and again in 2009. Wetland was identified on 0.3 acres at this site during the various surveys as shown in Table 1 and on the field data sheets. This stockpond was constructed on an upland within an undefined channel so is therefore classified as isolated and non-jurisdictional. The 2009 data sheet for this site is provided in Appendix A and a photograph is included in Appendix B.

NWI-1:

Site NWI-1 was identified on the USFWS 1991 NWI map as PEM1Ah (Palustrine, Emergent, Persistent, Temporary, Diked/Impounded) in the SE¼ of Section 13, T8S, R39E and is located along the mine access road. No wetland characteristics were identified at this site as shown on the data sheet in Appendix A. Data sheets were not filled out for this site in previous years presumably because no wetland indicators were observed during those surveys either. A photograph

of the site is included in Appendix B. The data collected at this site is representative of ephemeral stream channel 13-3 and most of the other minor ephemeral stream channels in the study area.

NWI-2:

This site was identified on the 1991 NWI map as PEM5C (Palustrine, Emergent, Narrowleaved Persistent, Seasonal) in the SE¼ of Section 21, T8S, R39E along the South Fork Spring Creek. Wetlands were not found along the entire length of the South Fork Spring Creek channel within the study area during these surveys. The data sheet for this site is provided in Appendix A and is also representative of this entire stream channel (segments 21-1, 22-4, 26-4, 30-1 and 31-1 on Table 2) and other major ephemeral stream channels within the study area. A photograph of the site is included in Appendix B. A stock tank and water well that were in disrepair were observed adjacent to this site. Therefore it is assumed overflow water into the drainage from the well and tank probably created a small wetland at the site in the past. The site reverted back to upland when the well ceased operation and there was no water to continue maintaining the hydrology of the site.

NWI-3:

This site was identified on the USFWS 1991 NWI map as PEM5Ah (Palustrine, Emergent, Narrowleaved Persistent, Temporary, Diked/Impounded). This was an isolated stockpond created by an earthen dam in the NW¼ of Section 25, T8S, R39E. Overflow apparently breached the dam so the pond no longer retains water. Wetland areas, if previously present, appear to have disappeared long ago based on the abundance of upland vegetation. A data sheet for site NWI-3 is included in Appendix A and a photograph is shown in Appendix B.

NWI-4:

Site NWI-4 is a stockpond that was constructed by an earthen dam on an upland site in the NE¼ of Section 30, T8S, R40E. This area was identified on the USFWS 1991 NWI map as a potential wetland site PFL3Ch (Palustrine, Flat, Mud, Seasonal, Diked/Impounded). This stockpond does not collect enough water to create a wetland or even exhibit evidence of ponding. The data sheet for this site is included in Appendix A and a photograph of the area is presented in Appendix B.

NWI-5:

Site NWI-5 is an old stockpond originally created by an earthen dam in the NE¼ of Section 6, T9S, R40E. Overflow appears to have breached the dam a long time ago since no evidence of wetland conditions were found. The USFWS 1991 NWI map had originally classified this area as PEM1Ah (Palustrine, Emergent, Persistent, Temporary, Diked/Impounded). The data sheet in Appendix A and photograph in Appendix B show that wetlands are no longer present at this site.

NWI-6:

This site is a stockpond created by an earthen dam and appears to pond water for extended periods of time. This site is located in the SE¼ of Section 36, T8S, R39E and was classified as PEM1Ah (Palustrine, Emergent, Persistent, Temporary, Diked/Impounded) on the USFWS 1991 NWI map. All three wetland criteria are present as shown on the data sheet in Appendix A. Approximately 1.31 acres of wetland were identified at this site during the 2009 inventory. These wetlands were classified as non-jurisdictional since they are found on a pond within a drainage that does not have continuous flows of water for the minimum three months out of a year. A photograph of this area is included in Appendix B.

NWI-7:

Site NWI-7 is a stockpond created by an earthen dam in the NE¼ of Section 14, T8S, R39E. This site was shown as PEM1Ah (Palustrine, Emergent, Persistent, Temporary, Diked/Impounded) on the USFWS 1991 NWI map. Surveys in 2009 identified 0.15 acres of non-jurisdictional wetlands on this site as shown in Table 1 and documented on the data sheet for this area in Appendix A. A photograph of the site is included in Appendix B. The wetland characteristics are marginal but evidence was observed for all three of the required wetland criteria. The wetland was classified as non-jurisdictional since the site is on a pond within a drainage that does not have continuous flows of water for the minimum three months out of a year.

Pond 3:

This pond was located in the SW¼ of Section 30, T8S, R40E and had been removed by mining activities prior to the 2009 surveys. Therefore the only information available on this site is from previous surveys. That previous data was collected in 1995 and concluded that this pond was a premine stockpond constructed on an upland so was therefore isolated and non-jurisdictional. This site had about 0.02 acres of wetland and 0.50 acres of open water in 1995 as shown in Table 1. The data sheet prepared in 1995 is included in Appendix A.

As of 2009 all other potential wetland sites identified on the USFWS 1991 NWI map within the study area had been removed by previous mining activities. These sites appear to have either been removed prior to initiation of wetland inventories on the site in 1993 or were not identified as wetlands during the prior surveys. Additionally many of the sites inventoried during prior surveys were ponds or depressions created specifically by mine activities for sediment or storm water control as required by state and federal agencies. These sediment or storm water control features are mine

facilities and are not considered jurisdictional.

4.0 SUMMARY

This report provides the wetlands and other waters of the U. S. identified for the 1993 through 2009 wetland delineation areas on the Spring Creek Mine site. The 2009 Spring Creek Mine survey area included the entire Spring Creek Mine permit area and Pearson Creek amendment area. Based on current criteria there do not appear to be any jurisdictional wetlands or jurisdictional other waters of the U.S. within the Spring Creek Mine wetland delineation area. That is because all streams are ephemeral and do not flow water continuously for the required three consecutive months out of the year. Wetlands were not encountered in any of the stream channels within the study area except for a few small areas where earthen dams constructed in the channel created stockponds that contain water long enough to develop wetlands. Therefore there does not appear to be any significant nexus to traditionally navigable waters.

Non-jurisdictional wetlands were measured at 1.78 acres as tabulated in Table 1 and were all recorded in stockponds constructed by earthen dams. These stockponds also provided 0.50 acres of ponded other waters of the U.S. that were either inundated at the time of surveys or were barren (lacking vegetation) from prior ponding. Table 2 shows the delineation area has 22.24 acres of non-jurisdictional ephemeral stream channel other waters of the U.S.

5.0 **SOURCES**

Department of the Army, Corps of Engineers. 1987. Corps of Engineers Wetland Delineations Manual. 100 pp.

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6.0 TABLES

Table 1. Wetlands and Ponded Other Waters of the U.S. Acres within the 2009 and Prior Spring Creek Mine Study Areas.

Site	Jurisdictional Wetlands or Other Waters of the U.S.	Non-Jurisdictional Wetlands	Non-Jurisdictional Other Waters of the U.S. (Ponded)
Site #1	0.00	0.00	0.00
Site #2	0.00	0.30	0.00
NWI-1	0.00	0.00	0.00
NWI-2	0.00	0.00	0.00
NWI-3	0.00	0.00	0.00
NWI-4	0.00	0.00	0.00
NWI-5	0.00	0.00	0.00
NWI-6	0.00	1.31	0.00
NWI-7	0.00	0.15	0.00
Pond 3	0.00	0.02	0.50
Total Acres	0.00	1.78	0.50

Table 2. Non-jurisdictional Ephemeral Stream Channel Other Waters of the U.S.

Map Number	Section	Township	Range	Length (Feet)	Width (Feet)	Acres	Tributary
6-1	6	9S	40E	5720	5	0.66	Unnamed
6-2	6	9S	40E	1150	5	0.13	Pearson Creek
6-3	6	9S	40E	5900	5	0.68	Unnamed
6-4	6	9S	40E	4700	4	0.43	Unnamed
13-1	13	8S	39E	2600	12	0.72	Unnamed
13-2	13	8S	39E	2400	6	0.33	Unnamed
13-3	13	8S	39E	3400	4	0.31	Unnamed
14-1	14	8S	39E	500	4	0.05	Unnamed
14-2	14	8S	39E	3700	6	0.51	North Fork Spring Creek
14-3	14	8S	39E	8000	6	1.10	Spring Creek
14-4	14	8S	39E	2900	4	0.27	Unnamed
14-5	14	8S	39E	1950	10	0.45	Unnamed
14-6	14	8S	39E	3800	4	0.35	Unnamed
14-7	14	8S	39E	2200	10	0.51	Unnamed
15-1	15	8S	39E	7700	6	1.06	Spring Creek
15-2	15	8S	39E	-	0	0.00	No Defined Channel
15-3	15	8S	39E	-	0	0.00	No Defined Channel
15-4	15	8S	39E	900	4	0.08	Unnamed
15-5	15	8S	39E	2000	4	0.20	North Fork Spring Creek
19-1a	19	8S	40E	2300	6	0.32	Spring Creek
19-1b	19	8S	40E	2900	6	0.40	Spring Creek
19-1c	19	8S	40E	600	6	0.08	Spring Creek
19-2	19	8S	40E	1700	4	0.16	Unnamed
19-3	19	8S	40E	700	4	0.06	Unnamed
19-4	19	8S	40E	1550	4	0.14	Unnamed
19-5	19	8S	40E	700	4	0.06	Unnamed
21-1	21	8S	39E	1700	6	0.23	South Fork Spring Creek
21-2	21	8S	39E	2200	7	0.35	Unnamed
22-1	22	8S	39E	3350	5	0.38	Unnamed
22-2	22	8S	39E	1200	4	0.11	Unnamed
22-3	22	8S	39E	2400	4	0.22	Unnamed
22-4	22	8S	39E	1800	5	0.21	South Fork Spring Creek
23-1	23	8S	39E	5500	5	0.63	Spring Creek
23-2	23	8S	39E	3100	4	0.28	Unnamed
23-3	23	8S	39E	2150	4	0.20	Unnamed
23-4	23	8S	39E	1200	12	0.33	Unnamed
24-1	24	8S	39E	2700	6	0.37	Unnamed
24-2	24	8S	39E	1300	6	0.18	Spring Creek
24-3	24	8S	39E	500	6	0.07	Spring Creek
24-4	24	8S	39E	1700	6	0.23	Unnamed
25-1	25	8S	39E	12200	6	1.68	Unnamed
25-2	25	8S	39E	3900	4	0.36	Unnamed
25-3	25	8S	39E	1600	4	0.15	Unnamed
26-1	26	8S	39E	1500	4	0.14	Unnamed
26-2	26	8S	39E	900	4	0.08	Unnamed
26-3	26	8S	39E	2200	4	0.20	Unnamed

Revised February, 2010

Table 2. (Continued).

Map Number	Section	Township	Range	Length (Feet)	Width (Feet)	Acres	Tributary
26-4	26	8S	39E	2400	6	0.33	South Fork Spring Creek
27-1	27	8S	39E	2500	4	0.23	Unnamed
27-2	27	8S	39E	2200	4	0.20	Unnamed
27-3	27	8S	39E	3100	4	0.28	Unnamed
29-1	29	8S	40E	2200	9	0.45	Spring Creek
29-2	29	8S	40E	1100	5	0.13	Unnamed
29-3	29	8S	40E	2050	4	0.19	Unnamed
30-1	30	8S	40E	6000	6	0.83	South Fork Spring Creek
30-2	30	8S	40E	1500	4	0.14	Unnamed
30-3	30	8S	40E	5000	8	0.92	Spring Creek
31-1	31	8S	40E	4900	5	0.56	South Fork Spring Creek
31-2	31	8S	40E	4210	4	0.39	Unnamed
31-3	31	8S	40E	1150	4	0.11	Unnamed
31-4	31	8S	40E	4750	5	0.52	Pearson Creek
35-1	35	8S	39E	2970	5	0.34	Pearson Creek
35-2	35	8S	39E	1850	4	0.17	Unnamed
36-1	36	8S	39E	6300	5	0.72	Pearson Creek
36-2	36	8S	39E	2285	4	0.21	Unnamed
36-3	36	8S	39E	700	4	0.06	Unnamed
Total Acres						22.24	

Table includes waters of the U.S. outside of areas disturbed by mining activities prior to initiation of surveys in 1993.

APPENDIX A

Spring Creek Coal LLC

Spring Creek Mine

Data Sheets

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 7/17/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: Site #1/15-1 (Resurvey)
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: SENW¼ Sec. 15, T8S, R39E
 Landform (hillslope, etc.): Ephemeral Stream Channel Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR G – Western Great Plains Lat: 4999650 Long: 0347520 Datum: NAD 27
 Soil Map Unit Name: NA - Inclusion NWI classification: NA - Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are “Normal Circumstances” present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? No (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 <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: Ephemeral stream channel that only flows water for short durations during intense precipitation events. Prior surveys completed at this site in 1993 and again in 1997 also did not classify this site as a wetland. Flows water less than 3 consecutive months out of the year. Representative of all of Spring Creek and South Fork Spring Creek.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u> 0 </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> 0 </u> (A/B)																
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u> = Total Cover																
Sapling/Shrub Stratum (Plot size: <u>10 m²</u>)																				
1. <u>Artemisia cana</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>	Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u> </u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)	Prevalence Index = B/A = <u> </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> </u>	x 1 = <u> </u>																			
FACW species <u> </u>	x 2 = <u> </u>																			
FAC species <u> </u>	x 3 = <u> </u>																			
FACU species <u> </u>	x 4 = <u> </u>																			
UPL species <u> </u>	x 5 = <u> </u>																			
Column Totals: <u> </u> (A)	<u> </u> (B)																			
Prevalence Index = B/A = <u> </u>																				
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u>5</u> = Total Cover																				
Herb Stratum (Plot size: <u> m²</u>)																				
1. <u>Agropyron cristatum</u>	<u>40</u>	<u>yes</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: <u> </u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Bromus japonicus</u>	<u>5</u>	<u>no</u>	<u>FACU</u>																	
3. <u>Poa pratensis</u>	<u>5</u>	<u>no</u>	<u>FACU</u>																	
4. <u>Agropyron intermedium</u>	<u>3</u>	<u>no</u>	<u>UPL</u>																	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u>53</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u> </u>)																				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u> </u> = Total Cover																				
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u> </u>																				
Remarks:																				

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: Site # 1 and 15-1 (Resurveyed)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 2	10YR 4/3	70					L	
2 - 18	10YR 3/3	70					CL	
18 ⁺								Coarse Fragments

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

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

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

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: Does not flow water long enough to develop hydric soil conditions.	Hydric Soil Present? Yes ____ No <u>X</u>
---	--

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)	
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Dry-season Water Table (C2)	☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)	☐ Crayfish Burrows (C8)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Algal Mat or Crust (B4)	☐ Thin Muck Surface (C7) Shallow	☐ Geomorphic Position (D2)	
☐ Iron deposits (B5)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)		☐ Frost-Heave Hummocks (D7) (LRR F)	
☐ Water-Stained Leaves (B9)			

Field Observations: Surface Water Present? Yes ____ No <u>X</u> Depth (inches): ____ Water Table Present? Yes ____ No <u>X</u> Depth (inches): ____ Saturation Present? Yes ____ No <u>X</u> Depth (inches): ____ (includes capillary fringe)	Wetland Hydrology Present? Yes ____ No <u>X</u>
--	---

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

Remarks: Short duration seasonal flows.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 7/17/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: Site #2 (Resurvey)
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: SE¼ Sec. 15, T8S, R39E
 Landform (hillslope, etc.): Stockpond Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): LRR G – Western Great Plains Lat: 4998676 Long: 0348037 Datum: NAD 27
 Soil Map Unit Name: NA - Inclusion NWI classification: PFL5Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are “Normal Circumstances” present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Hydric Soil Present? Yes <u>X</u> No <u> </u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Stockpond – Pondered/wetland area 80' x 40' = 0.08 acres. Isolated, no defined drainage channel below dam. Surveys in 1993 identified 0.3 acres of wetland at this site..			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index worksheet: <table border="1"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> </table> Prevalence Index = B/A = <u> </u>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u> </u>	x 1 = <u> </u>																	
FACW species <u> </u>	x 2 = <u> </u>																	
FAC species <u> </u>	x 3 = <u> </u>																	
FACU species <u> </u>	x 4 = <u> </u>																	
UPL species <u> </u>	x 5 = <u> </u>																	
Column Totals: <u> </u> (A)	<u> </u> (B)																	
= Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>10 m²</u>)																		
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
Herb Stratum (Plot size: <u>m²</u>)																		
1. <u>Hordeum jubatum</u>	<u>25</u>	<u>yes</u>	<u>FACW</u>															
2. <u>Cirsium arvense</u>	<u>7</u>	<u>no</u>	<u>FACU</u>															
3. <u>Grindelia squarrosa</u>	<u>7</u>	<u>no</u>	<u>UPL</u>															
4. <u>Agropyron trachycaulum</u>	<u>5</u>	<u>no</u>	<u>FACU</u>															
5. <u>Bromus japonicus</u>	<u>2</u>	<u>no</u>	<u>FACU</u>															
6. <u>Polygonum aviculare</u>	<u>2</u>	<u>no</u>	<u>FACU</u>															
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>)																		
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust <u> </u>																		
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																		
Remarks: Evidence observed that cattails had been present on the site previously.																		

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: Site # 2 (Resurveyed)

[illegible]

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u>				<u>Secondary Indicators (2 or more required)</u>	
☒ 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 along Living Roots (C3) (where not tilled) ☐ Presence of Reduced Iron (C4) ☐ Thin Muck Surface (C7) Shallow ☐ Other (Explain in Remarks)	☒ Surface Soil Cracks (B6) ☒ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☐ Oxidized Rhizospheres along 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): 24 (includes capillary fringe)				Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: Seasonally Pondered					

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 7/17/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: NWI-1/13-3
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: SESE¼ Sec. 13, T8S, R39E
 Landform (hillslope, etc.): Ephemeral Stream Channel Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR G – Western Great Plains Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: NA - Inclusion NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are “Normal Circumstances” present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: <u>Ephemeral Drainage, no evidence of wetland observed, no ponding and channel does not flow water very often.</u>	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: 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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
			= Total Cover																	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m²</u>)				Prevalence Index worksheet: <table border="1"> <tr> <td><u>Total % Cover of:</u></td> <td><u>Multiply by:</u></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: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = _____</td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	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>Total % Cover of:</u>	<u>Multiply by:</u>																			
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. <u>Artemisia cana</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
			= Total Cover																	
<u>Herb Stratum</u> (Plot size: <u>m²</u>)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Bromus japonicas</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>																	
2. <u>Bromus tectorum</u>	<u>10</u>	<u>yes</u>	<u>UPL</u>																	
3. <u>Thlaspi arvense</u>	<u>10</u>	<u>yes</u>	<u>FACU</u>																	
4. <u>Poa pratensis</u>	<u>5</u>	<u>no</u>	<u>FACU</u>																	
5. <u>Agropyron smithii</u>	<u>5</u>	<u>no</u>	<u>FACU</u>																	
6. <u>Artemisia ludoviciana</u>	<u>5</u>	<u>no</u>	<u>FACU</u>																	
7. <u>Agropyron trachycaulum</u>	<u>5</u>	<u>no</u>	<u>FACU</u>																	
8. _____	_____	_____	_____																	
			= Total Cover																	
<u>Woody Vine Stratum</u> (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
			= Total Cover																	
% Bare Ground in Herb Stratum <u>15</u>	% Cover of Biotic Crust _____																			

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: NWI-1/13-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 16	10YR 4/4	65					SL	
16 – 20+								Coarse Fragments

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ 1 cm Muck (A9) (LRR I, J)
☐ Histic Epipedon (A2)	☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Black Histic (A3)	☐ Dark Surface (S7) (LRR G)
☐ Hydrogen Sulfide (A4)	☐ High plains Depressions (F16)
☐ Stratified Layers (A5) (LRR F)	☐ (LRR H outside of MLRA 72 & 73)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Reduced Vertic (F18)
☐ Depleted Below Dark Surface (A11)	☐ Red Parent Material (TF2)
☐ Thick Dark Surface (A12)	☐ Other (Explain in Remarks)
☐ Sandy Mucky Mineral (S1)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2)	wetland hydrology must be present, unless
☐ (LRR G, H)	disturbed or problematic.
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: _____	Hydric Soil Present? Yes ___ No <u>X</u>
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HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)	
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Dry-season Water Table (C2)	☐ Oxidized Rhizospheres along Living	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	Roots (C3) (where tilled)	
☐ Drift Deposits (B3)	(where not tilled)	☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Iron deposits (B5)	☐ Thin Muck Surface (C7) Shallow	☐ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)	

Field Observations: Surface Water Present? Yes ___ No <u>X</u> Depth (inches): _____ Water Table Present? Yes ___ No <u>X</u> Depth (inches): _____ Saturation Present? Yes ___ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ___ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Short duration seasonal flows.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 7/17/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: NWI-2/21-1
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: SE¼ Sec. 21, T8S, R39E
 Landform (hillslope, etc.): Ephemeral Stream Channel Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR G – Western Great Plains Lat: 4997320 Long: 0346096 Datum: NAD 27
 Soil Map Unit Name: NA - Inclusion NWI classification: PEM5C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are “Normal Circumstances” present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? No (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 <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: Appears that in the past water was added to this drainage artificially from overflow from adjacent stock tank filled from well. Appears well and stock tank have not been operational for a long time so only a few soil indicators remain. Site is an ephemeral stream channel that only occasionally carries water.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u> 0 </u> (A) Total Number of Dominant Species Across All Strata: <u> 5 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 0 </u> (A/B)																
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u> = Total Cover																
Sapling/Shrub Stratum (Plot size: <u>10 m²</u>)																				
1. <u>Prunus virginiana</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>	Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u> </u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)	Prevalence Index = B/A = <u> </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> </u>	x 1 = <u> </u>																			
FACW species <u> </u>	x 2 = <u> </u>																			
FAC species <u> </u>	x 3 = <u> </u>																			
FACU species <u> </u>	x 4 = <u> </u>																			
UPL species <u> </u>	x 5 = <u> </u>																			
Column Totals: <u> </u> (A)	<u> </u> (B)																			
Prevalence Index = B/A = <u> </u>																				
2. <u>Symphoricarpos albus</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>																	
3. <u>Artemisia cana</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>																	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u>15</u> = Total Cover																				
Herb Stratum (Plot size: <u> m²</u>)																				
1. <u>Poa pratensis</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u> </u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Agropyron smithii</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>																	
3. <u>Bromus japonicus</u>	<u>10</u>	<u>no</u>	<u>FACU</u>																	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u>65</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u> </u>)																				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u> </u> = Total Cover																				
% Bare Ground in Herb Stratum <u>10</u> % Cover of Biotic Crust <u> </u>																				
Remarks: .																				

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: NWI-2/21-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0 – 3	10YR 4/3	70					L	
3 – 16	10YR 3/3	65	7.5YR 5/8	common	C	PL	SL	
16-24 ⁺	10YR 4/3	75	7.5YR 5/8	common	C	PL	SL	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) (LRR F)	☐ Loamy Gleyed Matrix (F2)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☒ Redox Depressions (F8)
☐ 2.5 cm Mucky Peat or Peat (S2)	☐ High Plains Depressions
☐ (LRR G, H)	☐ (MLRA 72 & 73 of LRR H)
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: Mottles	Hydric Soil Present? Yes ☒ No ☐
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HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)	
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Dry-season Water Table (C2)	☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)	☐ Crayfish Burrows (C8)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Algal Mat or Crust (B4)	☐ Thin Muck Surface (C7) Shallow	☐ Geomorphic Position (D2)	
☐ Iron deposits (B5)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)		☐ Frost-Heave Hummocks (D7) (LRR F)	
☐ 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 ☒
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Short duration seasonal flows.

Remarks: No saturation observed to 30 inches. Ephemeral stream only flows occasionally in response to precipitation events.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 7/17/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: NWI-3
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: SWNW¼ Sec. 25, T8S, R39E
 Landform (hillslope, etc.): Stockpond Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): LRR G – Western Great Plains Lat: 4996040 Long: 0350123 Datum: NAD 27
 Soil Map Unit Name: NA - Inclusion NWI classification: PEM5Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are “Normal Circumstances” present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? No (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 <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: Dam had been breached long ago due to too much water. Site no longer ponds water and no wetland characteristics present.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u> 0 </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> 0 </u> (A/B)														
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index worksheet: <table border="1"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> </table> Prevalence Index = B/A = <u> </u>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u> </u>	x 1 = <u> </u>																	
FACW species <u> </u>	x 2 = <u> </u>																	
FAC species <u> </u>	x 3 = <u> </u>																	
FACU species <u> </u>	x 4 = <u> </u>																	
UPL species <u> </u>	x 5 = <u> </u>																	
Column Totals: <u> </u> (A)	<u> </u> (B)																	
= Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>10 m²</u>)																		
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
Herb Stratum (Plot size: <u> m²</u>)																		
1. <u>Agropyron smithii</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>															
2. <u>Poa Pratensis</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>															
3. <u>Agropyron trachycaulum</u>	<u>5</u>	<u>no</u>	<u>FACU</u>															
4. <u>Bromus inermis</u>	<u>5</u>	<u>no</u>	<u>UPL</u>															
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>)																		
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
% Bare Ground in Herb Stratum <u>5</u> % Cover of Biotic Crust <u> </u>																		
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																		
Remarks: .																		

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: NWI-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0 – 3	10YR 5/4	70					L	
3 – 20	10YR 5/4	65	7.5YR 5/8	Few	C	PL	L	
20 - 30	10YR 5/6	70	7.5YR 5/8	Few	C	PL	CL	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) (LRR F)	☐ Loamy Gleyed Matrix (F2)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 2.5 cm Mucky Peat or Peat (S2)	☐ High Plains Depressions
☐ (LRR G, H)	☐ (MLRA 72 & 73 of LRR H)
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ___ No <u>X</u>
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Remarks: A few mottles are present, remnants of past ponding before the dam was breached.

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)	
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Dry-season Water Table (C2)	☐ Oxidized Rhizospheres along Living	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	Roots (C3) (where tilled)	
☐ Drift Deposits (B3)	☐ (where not tilled)	☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Iron deposits (B5)	☐ Thin Muck Surface (C7) Shallow	☐ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)	

Field Observations: Surface Water Present? Yes ___ No <u>X</u> Depth (inches): _____ Water Table Present? Yes ___ No <u>X</u> Depth (inches): _____ Saturation Present? Yes ___ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ___ No <u>X</u>
--	--

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

Remarks: No saturation observed to 30 inches.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 8/5/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: NWI-4
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: SWNE¼ Sec. 30, T8S, R40E
 Landform (hillslope, etc.): Stockpond Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): LRR G – Western Great Plains Lat: 4996266 Long: 0352309 Datum: NAD 27
 Soil Map Unit Name: NA - Inclusion NWI classification: PFL3Ch

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are “Normal Circumstances” present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? No (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 <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: This stockpond rarely ponds water.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u> 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. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index worksheet: <table border="1"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> </table> Prevalence Index = B/A = <u> </u>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u> </u>	x 1 = <u> </u>																	
FACW species <u> </u>	x 2 = <u> </u>																	
FAC species <u> </u>	x 3 = <u> </u>																	
FACU species <u> </u>	x 4 = <u> </u>																	
UPL species <u> </u>	x 5 = <u> </u>																	
Column Totals: <u> </u> (A)	<u> </u> (B)																	
= Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>10 m²</u>)																		
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
Herb Stratum (Plot size: <u> m²</u>)																		
1. <u>Poa Pratensis</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>															
2. <u>Agropyron trachycaulum</u>	<u>10</u>	<u>no</u>	<u>FACU</u>															
3. <u>Hordeum jubatum</u>	<u>5</u>	<u>no</u>	<u>FACU</u>															
4. <u>Bromus tectorum</u>	<u>5</u>	<u>no</u>	<u>UPL</u>															
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>)																		
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
= Total Cover																		
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u> </u>																		
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																		
Remarks: .																		

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: NWI-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 2	10YR 4/4	65					L	
2 – 10	10YR 4/4	65					L	
10 – 20 ⁺	10YR 4/6	65					L	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ 1 cm Muck (A9) (LRR I, J)
☐ Histic Epipedon (A2)	☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Black Histic (A3)	☐ Dark Surface (S7) (LRR G)
☐ Hydrogen Sulfide (A4)	☐ High plains Depressions (F16)
☐ Stratified Layers (A5) (LRR F)	☐ (LRR H outside of MLRA 72 & 73)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Reduced Vertic (F18)
☐ Depleted Below Dark Surface (A11)	☐ Red Parent Material (TF2)
☐ Thick Dark Surface (A12)	☐ Other (Explain in Remarks)
☐ Sandy Mucky Mineral (S1)	³ Indicators of hydrophytic vegetation and
☐ 2.5 cm Mucky Peat or Peat (S2)	wetland hydrology must be present, unless
☐ (LRR G, H)	disturbed or problematic.
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: _____	Hydric Soil Present? Yes ___ No <u>X</u>
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HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)	
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Dry-season Water Table (C2)	☐ Oxidized Rhizospheres along Living	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	Roots (C3) (where tilled)	
☐ Drift Deposits (B3)	(where not tilled)	☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Iron deposits (B5)	☐ Thin Muck Surface (C7) Shallow	☐ Geomorphic Position (D2)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
☐ Water-Stained Leaves (B9)		☐ Frost-Heave Hummocks (D7) (LRR F)	

Field Observations: Surface Water Present? Yes ___ No <u>X</u> Depth (inches): _____ Water Table Present? Yes ___ No <u>X</u> Depth (inches): _____ Saturation Present? Yes ___ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ___ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No saturation observed to 30 inches.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 8/5/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: NWI-5/36-1
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: NWNE¼ Sec. 6, T9S, R40E
 Landform (hillslope, etc.): Stockpond Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): LRR G – Western Great Plains Lat: 4993365 Long: 0352213 Datum: NAD 27
 Soil Map Unit Name: NA - Inclusion NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are “Normal Circumstances” present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? No (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 <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: Old stockpond, dam washed out long ago so the site no longer ponds water. Sample site is also representative of Pearson Creek ephemeral stream channel.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u> 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)														
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
<u> </u> = Total Cover				Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u> </u>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u> </u>	x 1 = <u> </u>																	
FACW species <u> </u>	x 2 = <u> </u>																	
FAC species <u> </u>	x 3 = <u> </u>																	
FACU species <u> </u>	x 4 = <u> </u>																	
UPL species <u> </u>	x 5 = <u> </u>																	
Column Totals: <u> </u> (A)	<u> </u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>10 m²</u>) 1. <u> </u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u> <u> </u> = Total Cover																		
Herb Stratum (Plot size: <u> m²</u>) 1. <u>Bromus japonicus</u> <u>20</u> <u>yes</u> <u>FACU</u> 2. <u>Poa pratensis</u> <u>10</u> <u>yes</u> <u>FACU</u> 3. <u>Agropyron smithii</u> <u>10</u> <u>yes</u> <u>FACU</u> 4. <u>Artemisia ludoviciana</u> <u>5</u> <u>no</u> <u>FACU</u> 5. <u>Stipa viridula</u> <u>5</u> <u>no</u> <u>UPL</u> 6. <u> </u> 7. <u> </u> 8. <u> </u> <u>50</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> <u> </u> = Total Cover																		
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust <u> </u>																		
Remarks:																		

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: NWI-5/36-1

[illegible]

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u>				<u>Secondary Indicators (2 or more required)</u>	
☐ 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 along Living Roots (C3) (where not tilled) ☐ Presence of Reduced Iron (C4) ☐ Thin Muck Surface (C7) Shallow ☐ Other (Explain in Remarks)	☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled) ☐ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ FAC-Neutral Test (D5) ☐ Frost-Heave Hummocks (D7) (LRR F)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)				Wetland Hydrology Present? Yes ☐ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: No saturation observed to 30 inches.					

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 8/5/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: NWI-6
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: SE¼ Sec. 36, T8S, R39E
 Landform (hillslope, etc.): Stockpond Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): LRR G – Western Great Plains Lat: 4994139 Long: 0350881 Datum: NAD 27
 Soil Map Unit Name: NA - Inclusion NWI classification: PEM1Ah
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are “Normal Circumstances” present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: Stockpond that ponds water for prolonged periods of time. Wetland 102' x 270' and 132' x 225' = 1.31 acres	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
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Herb Stratum (Plot size: <u> </u> m²) 1. <u>Xanthium strumarium</u> <u>60</u> <u>yes</u> <u>FAC</u> 2. <u>Hordeum jubatum</u> <u>10</u> <u>no</u> <u>FACW</u> 3. <u> </u> 4. <u> </u> 5. <u> </u> 6. <u> </u> 7. <u> </u> 8. <u> </u> = Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> = Total Cover																		
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u> </u>																		
Remarks:																		

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: NWI-6

[illegible]

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u>				<u>Secondary Indicators (2 or more required)</u>	
☒ 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 along Living Roots (C3) (where not tilled) ☐ Presence of Reduced Iron (C4) ☐ Thin Muck Surface (C7) Shallow ☐ Other (Explain in Remarks)	☒ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled) ☐ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ FAC-Neutral Test (D5) ☐ Frost-Heave Hummocks (D7) (LRR F)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)				Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: Seasonally inundated and saturated.					

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spring Creek Mine City/County: Big Horn Sampling Date: 7/16/09
 Applicant/Owner: Cloud Peak Energy State: Montana Sampling Point: NWI-7
 Investigator(s): Jim Orpet – Intermountain Resources Section, Township, Range: NE¼ Sec. 14, T8S, R39E
 Landform (hillslope, etc.): Stockpond Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): LRR G – Western Great Plains Lat: 4999585 Long: 0349550 Datum: NAD 27
 Soil Map Unit Name: NA - Inclusion NWI classification: PEM1Ah
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are “Normal Circumstances” present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: Stockpond that ponds water for prolonged periods of time. Marginal wetland 45' x 140' = 0.15 acres	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
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Herb Stratum (Plot size: <u> </u> m²) 1. <u>Hordeum jubatum</u> 75 yes <u>FACW</u> 2. <u>Bromus japonicus</u> 5 no <u>FACU</u> 3. <u>Agropyron intermedium</u> 5 no <u>UPL</u> 4. <u> </u> 5. <u> </u> 6. <u> </u> 7. <u> </u> 8. <u> </u> = Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> = Total Cover																		
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Remarks:																		

WETLAND DETERMINATION DATA FORM – Great Plains Region

SOIL

Sampling Point: NWI-7

[illegible]

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u>				<u>Secondary Indicators (2 or more required)</u>	
☒ 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 along Living Roots (C3) (where not tilled) ☐ Presence of Reduced Iron (C4) ☐ Thin Muck Surface (C7) Shallow ☐ Other (Explain in Remarks)	☒ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled) ☐ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ FAC-Neutral Test (D5) ☐ Frost-Heave Hummocks (D7) (LRR F)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)				Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: Seasonally inundated and saturated.					

Pond 3

DATA FORM 1
WETLAND DETERMINATION

Pre-1980
Pre-Dated Mine
Pre-mine stock pond

Applicant Name: Spring Creek Coal Co. Application Number: _____ Project Name: _____
State: MT County: BIG Horn Legal Description: Township: 8S Range: 40E
Date: 6/5/95 Plot No.: _____ Section: Center E 1/4, SW 1/4, Sec. 30
T8S, R40E

Vegetation [list the three dominant species in each vegetation layer (5 if only 1 or 2 layers)]. Indicate species with observed morphological or known physiological adaptations with an asterisk.

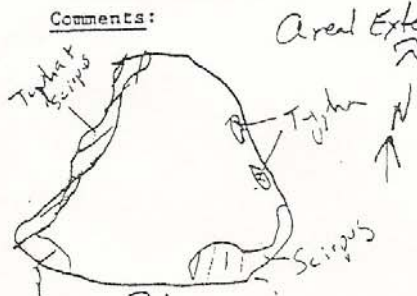
Species	Indicator Status	Species	Indicator Status
<u>Trees</u>		<u>Herbs</u>	
1. _____		7. <u>Scirpus validus</u>	} OBL
2. _____		8. <u>Typha angustifolia</u>	
3. _____		9. _____	
<u>Saplings/shrubs</u>		<u>Woody vines</u>	
4. _____		10. _____	
5. _____		11. _____	
6. _____		12. _____	

% of species that are OBL, FACW, and/or FAC: 100. Other indicators: _____
Hydrophytic vegetation: Yes X No ____ Basis: _____

Soil Fill & sediments
Series and phase: X On hydric soils list? Yes ____; No ____
Mottled: Yes ____; No ____ Mottle color: ____; Matrix color: ____
Gleyed: Yes ____ No ____ Other indicators: ____
Hydric soils: Yes ____ No X; Basis: _____

Hydrology
Inundated: Yes X; No ____ Depth of standing water: 0-3'
Saturated soils: Yes ____; No ____ Depth to saturated soil: ____
Other indicators: ____
Wetland hydrology: Yes X; No ____ Basis: ____
Atypical situation: Yes X; No ____ Man-Induced
Normal Circumstances? Yes X No ____
Wetland Determination: Wetland X; Nonwetland ____

Comments:



Areal Extent 1000 ft sq
~ .02 acres

Determined by: R.A. Rodgers
Myron J. Taylor

0.02 acres wetland
0.50 acres open water (estimated)

isolated, removed by mining

APPENDIX B

Spring Creek Mine

2009 Photographs



Photo 1. Spring Creek Mine Site #1 and Ephemeral Stream 15-1 (Spring Creek) in 2009.



Photo 2. Spring Creek Mine Site #2 in 2009.



Photo 3. Spring Creek Mine Site NWI -1 and Ephemeral Stream 13-3 in 2009.



Photo 4. Spring Creek Mine Site NWI-2 and Ephemeral Stream 21-1 (South Fork Spring Creek) in 2009.



Photo 5. Spring Creek Mine Site NWI-3 in 2009.



Photo 6. Spring Creek Mine Site NWI-4 in 2009.



Photo 7. Spring Creek Mine Site NWI-5 and Ephemeral Stream 36-1 (Pearson Creek) in 2009.



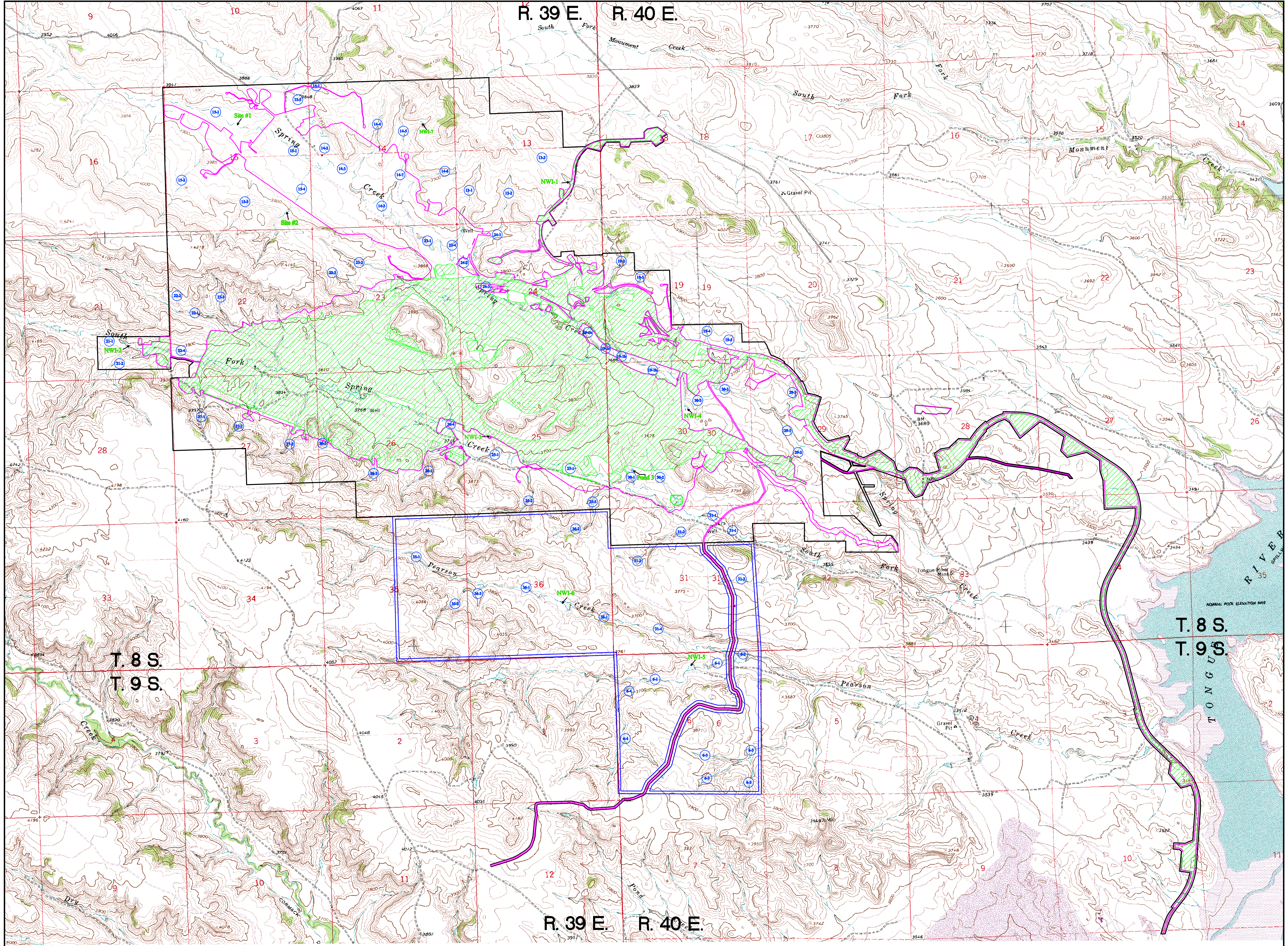
Photo 8. Spring Creek Mine Site NWI-6 in 2009.



Photo 9. Spring Creek Mine Site NWI-7 in 2009.



Photo 10. Spring Creek Mine Ephemeral Stream 31-4 (Pearson Creek) in 2009.



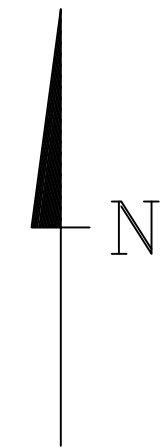
MAP 1

LEGEND

- Ephemeral Stream
- Sample Sites
- Spring Creek Mine Permit
- Pearson Creek Amendment Area
- Disturbance Boundary as of 2009
- Disturbance Prior to 1993

Note: Other Waters of the U.S. were surveyed for the entire area.

Spring Creek Coal LLC
Spring Creek Mine
P.O. BOX 67
Decker, Montana 59025
Ph. (406) 757-2581



DATE BY	REVISIONS		SPRING CREEK COAL LLC SPRING CREEK MINE	
			2009 Wetland and Other Waters of the U.S. Inventory	
DESIGN: JDL & RET(R)		DRAWN: JDL & RET(R)		DATE: 1/2010
SCALE: 1" = 1320'		FILE NUMBER:		