

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): September 4, 2012

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENWO-OD-RWY, Bentonite Performance Minerals, LLC, Proctor, NWO-2012-02096

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Wyoming County/parish/borough: Crook City: N/A
Center coordinates of site (lat/long in degree decimal format): Lat. 44.92943N; Long. -104.70493W
Universal Transverse Mercator: NAD83

Name of nearest waterbody: North Fork Little Missouri River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Little Missouri River (headwater limits established at confluence of Cottonwood Creek, Montana)

Name of watershed or Hydrologic Unit Code (HUC): Upper Little Missouri, 10110201 - 8HUC

- 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: 27 Aug 2012 pw
 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: acres.

c. Limits (boundaries) of jurisdiction based on: Pick List

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: The waters evaluated in this AJD form (1. unnamed bentonite pit pond with 2. fringe wetland, 3. unnamed tributary to Page Draw and 4. Page Draw) do not meet the Significant Nexus standard, thus, they are not jurisdictional waters (See Section III.C.3). Individually or cumulatively, the non-RPWs within this review area, pond and its adjacent wetland are not likely to

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.

have more than an insubstantial effect on the chemical, physical, and biological integrity of a TNW, the Little Missouri River, located more than 100 river miles downstream .

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: 0.56 square miles

Drainage area: 0.45 square miles

Average annual rainfall: 14.88 (total precip. = rain and snow) inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2-3 tributaries before entering TNW.

Project waters are 30 (or more) river miles from TNW.

Project waters are 1-2 river miles from RPW.

Project waters are 20-25 aerial (straight) miles from TNW.

Project waters are 1-2 aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: Project area is entirely within the state of Wyoming.

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

Identify flow route to TNW⁵: [Unnamed bentonite pit pond to unnamed ephemeral tributary to Page Draw, ephemeral tributary to North Fork Little Missouri River, a tributary to Little Missouri River](#) .
Tributary stream order, if known: **1**.

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

Tributary is: Natural

Artificial (man-made). Explain: .

Manipulated (man-altered). Explain: [The headwaters/upper portion of the relevant reach of the unnamed tributary and Page Draw have been mined through and partially reclaimed. One abandoned/reclaimed bentonite mine pit pond occurs within the relevant reach the unnamed tributary](#) .

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

Average width: **unknown** feet

Average depth: **1** feet

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: [clay](#).

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

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **2-5**

Describe flow regime: [ephemeral drainage flows only after large precipitation event for 2-3 days](#).

Other information on duration and volume: .

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

Subsurface flow: **Unknown**. Explain findings: **unknown**.

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks

OHWM⁶ (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: [mining activities and reconstruction and revegetation of an undefined channel in the upper portion of the unnamed tributary relevant reach has likely affected evidence of an OHWM](#).

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):

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.

⁶ A 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.

⁷ Ibid.

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: Page Draw and unnamed tributary are usually dry. When they flow, the water is usually muddy in appearance (high in fines) due to the highly erodible clay soils.

Identify specific pollutants, if known: Unknown. There are no Listed or Impaired Waters reported by the Wyoming Department of Environmental Quality for the the Little Missouri River Watershed as of 2008.

(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: 0.02 acres

Wetland type. Explain: Based on a vegetation report for the review area, the only vegetated wetland occurred as palustrine emergent fringe along the pond .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: Review area occurs entirely within the State of Wyoming.

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: No flow or ephemeral flow. Wetland occurs within reconstructed/reclaimed upper watershed drainage feature.

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 **30 (or more)** river miles from TNW.

Project waters are **20-25** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **500-year or greater** 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: unknown.

Identify specific pollutants, if known: .

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

- Riparian buffer. Characteristics (type, average width): unknown.
- Vegetation type/percent cover. Explain: unknown.
- 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: **1**

Approximately (0.02) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Y	0.02		

Summarize overall biological, chemical and physical functions being performed: **Nutrient cycling, sediment storage, flood attenuation.**

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: **This is a summary of findings of absence of significant nexus between the bentonite pond and its fringe wetlands, the non-RPWs, and the closest TNW. Based on the best available information, in assessing the flow characteristics and functions of the non-RPW tributaries (unnamed tributary to Page Draw and upper reach of Page Draw), the tributaries likely flow less than 1 months of the year. No flow data is available for the unnamed tributary or for Page Draw located within the review area. An experienced staff member of Bentonite Performance Minerals LLC reported anecdotally that the ephemeral waterway flows only after large precipitation events which include snow melt and perhaps 1-2 larger rainfall events in the spring and early summer. The events last only a few days. Soils in the area have high clay content and are very erodible, producing fine sediment loads within the short duration volumes of flow that occur within the tributary. The non-RPWs are located at the top of the Little Missouri River Sub-basin watershed. The current land use within the upper portion of this watershed is primarily bentonite mining and livestock grazing. According to the Wyoming Department of Environmental Quality Wyoming Water Quality Assessment and Impaired Waters List 2010 Report, there are general concerns with turbidity, siltation and flow alteration associated with these land uses; however, bentonitic clays often remain suspended in water, and therefore a certain degree of turbidity is natural. Bentonite mining has occurred in this specific drainage watershed since the 1970's. Portions of the review area have been mined, reclaimed and continue to be mined. In fact, the portions of the non-RPWs and wetland specifically addressed within the review area are features re-created by bentonite mine reclamation; thus, the OHWM appears discontinuous in aerial imagery. Water pools in depressions along the ephemeral waterways and in abandoned and reclaimed bentonite pits. These**

ponds and agriculture reservoirs downstream likely retain much of the water and sediment generated in this upper watershed. Periodic sustained flows may occasionally pass spillways and reach the North Fork Little Missouri River and ultimately the Little Missouri River; however, only a small volume of water and sediment would be contributed. There is no indication that these non-RPWs contribute to the chemical, physical, or biological integrity of Little Missouri River in Montana (TNW), which is more than 100 river (25 aerial) miles down stream from the review area location. In addition, there is no evidence to suggest that any of the waters upstream from the Little Missouri River have commercial uses associated with navigation. The Page Draw within the review area drains sediment for a 288-acre area. The Upper Little Missouri Watershed, of which this is a part, is 2,198,228 acres. The waters within this review area or relevant reach do not drain or hold a significant amount of sediment, nutrients, concentrated salts, or pollutants to have more than a speculative or insubstantial effect on the chemical and biological integrity of the Little Missouri River, located greater than 100 miles away. In addition, there is not sufficient volume, duration, and frequency of flow to transport more than a miniscule amount of bentonite mining or agricultural pollutants to the Little Missouri River.

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):

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):⁸

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: [See above](#).
- Other: (explain, if not covered above):

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): 0 linear feet width (ft).
- Lakes/ponds: 0 acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: 0 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): 1,000 linear feet, width (ft).
- Lakes/ponds: 0.56 acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: 0.02 acres.

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: [See attached color infrared image of Proctor review area showing referenced aquatic resource features. The pond and Page Draw are located in the NW corner of the yellow review area boundary. Kentucky bluegrass and yellow sweetclover are dominant vegetation in Page Draw.](#)
- 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:

⁸ 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.

- Corps navigable waters' study: [Little Missouri River Navigability Study, June 20, 1975, by Gary Williams and Alan Newell for USACE-Omaha District.](#)
- 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: [7.5 minute topographic map for Page Draw, WYO. - MONT. quadrangles.](#)
- USDA Natural Resources Conservation Service Soil Survey. Citation: .
- National wetlands inventory map(s). Cite name: [Page Draw, WYO. - MONT. quadrangle, U.S. Department of the Interior, Fish and Wildlife Service, 1992.](#)
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): [False color infrared imagery for the Crook County dated 2001 and 2009, and obtained originally from the University of Wyoming Geographic Information Service Center's website <http://www.sdvc.uwyo.edu/data.htm> and compiled by the USACE Omaha District GIS Service Center.](#)
- or Other (Name & Date): [June 2009 satellite imagery of the area available through Google Earth.](#)
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): [Personal communication with Bentonite Performance Minerals LLC staff regarding personal observations and knowledge of site conditions and mining related activities.](#)

B. ADDITIONAL COMMENTS TO SUPPORT JD: [The review area is located in the SE 1/2 and SE 1/4 of NE 1/4 of Section 18, Township 57 North, Range 65 West, Sixth Principle Meridian, Crook County, Wyoming.](#)