



Colony, Wyoming Plant

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June 29, 2018

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

2U Ranch, LLC
426 Lonesome Country Road
Alzada, Montana 59311

RE: BENTONITE PERFORMANCE MINERALS, LLC

Dear Surface Landowner:

On May 25, 2018, Bentonite Performance Minerals, LLC (BPM) Environmental Specialist Jennifer Hartman received a telephone call from Mr. Ronald Ericsson, manager of 2U Ranch, LLC (2U), regarding the proposed bentonite mining operations on surface lands owned by 2U. Mr. Ericsson acknowledged receipt of the May 24, 2018 BPM letter to 2U enclosing the revised mining and reclamation plans and requesting 2U's consent to the proposed operations. Mr. Ericsson informed Ms. Hartman of 2U's unwillingness to consent to the proposed operations.

Mr. Ericsson further communicated concerns to Ms. Hartman that the mining plan over-projects the duration of mining operations and that the reclamation plan does not address the replacement of trees necessarily removed by BPM to access the minerals. Mr. Ericsson informed Ms. Hartman that 2U intended to respond to the May 24, 2018 letter in writing. On June 27, 2018, BPM received such response from 2U by certified mail. The response letter requested clarification as to why BPM's proposed reclamation plan did not address "tree reclamation" as first sought by 2U on November 13, 2017. The June 27, 2018 response letter did not raise any further concerns.

The purpose of this letter is to respond to the concerns raised by Mr. Ericsson in the May 25, 2018 telephone conversation with Ms. Hartman and your June 27, 2018 letter regarding (1) the length of the proposed operations and (2) the disturbance and replacement of trees by BPM on surface lands owned by 2U.

As a threshold matter, BPM has discussed the proposed mining and reclamation plans in great detail with 2U (together with Mr. Ericsson, among others) beginning in January 2015. BPM has sought to involve you in the process and address your concerns to the extent possible. In this effort, BPM has previously considered your position regarding the duration of the proposed mining operations and the disturbance and replacement of trees, and these concerns,

together with other concerns raised by you throughout the process, are reflected in the final mining and reclamation plans.

With respect to the duration of surface lands disturbance, the mining and reclamation plans project operations to continue through approximately 2040. BPM believes the projection is reasonable given the quantity of the bentonite to be mined (approximately 1,000,000 tons), extraction and refining limitations, weather, and unpredictable market forces, and therefore, BPM disagrees with Mr. Ericsson's assertion that BPM "should be able to mine it and be out in four years." To be certain, the 2040 projection is only a projection; any number of factors may well expedite or delay the mining of the bentonite and the completion of the reclamation. With that being said, BPM makes every effort to limit the duration of mining operations and impacts to surface lands as required by Wyoming law, and that approach will be no different for surface lands owned by 2U and impacted by the proposed mining and reclamation operations.

BPM further understands your concerns regarding the disturbance of trees, and, in response, BPM has worked with you to design a mining plan that limits, to the extent probable, the disturbance of trees. However, the proposed mining of the bentonite under 2U surface lands will necessarily result in the disturbance of some trees. It is our understanding that 2U has previously engaged a local timber contractor to harvest and monetize trees in anticipation of BPM operations. In fact, in our initial conversations regarding the proposed operations, you requested that BPM coordinate with your timber contractor to harvest trees prior to conducting surface disturbance activities, to which we agreed. We encourage you to reengage the timber contractor prior to the initiation of the proposed operations. Should you do so, BPM intends to work with you and your timber contractor to accommodate the removal and monetization of trees prior to the initiation of surface disturbance activities.

 Notwithstanding, BPM remains unwilling to agree to your demands that disturbed trees be replaced with like trees of the same species and of similar age and size. Wyoming law does not require surface mining operations to reclaim in this manner, and BPM finds your demand that "the same acreage, density, composition, size, number, age and height of the trees that are removed to be replanted" as stated in your November 13, 2017 letter to be unreasonable. It remains BPM's position that the harvesting and monetization of your trees prior to their disturbance by mining operations is the best option to insure 2U is kept whole.

As previously stated, BPM sincerely appreciates your interest and participation in the permitting process, and BPM has made every effort to address your concerns. Please inform BPM of your consent to the mining and reclamation plans at your earliest convenience by executing the Form 8 enclosed with the May 24, 2018 letter. Should you be unwilling to provide consent, BPM will be forced to petition the Wyoming Environmental Quality Council for an order in lieu of consent.

Sincerely,



Tyler Tetrault
Mineral Resource Coordinator

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Section 2.8.8.45 Wyoming State Lease 42804 (WSL04) Amendment Vegetation Report

This section and associated Vegetation Map and Data Table comprise the vegetation baseline study for the WY State Lease 42804 permit area. The methodology and data presented conform to those specified in Section 2.8.1 through 2.8.8.

The claims that are included in WSL 04 permit area are as follows (also refer to the Project Boundary Map 1.7-1)

Amendment Areas	Legal	Total Acres
	SE4SW4, SW4SE4 Section 30 T57N R62W	80
Wyoming State Lease 42804	NE4, E2NW4, SW4, NW4SE4 Section 31T57N R62W	440
	W2NW4 Section 32 T57N R62W	80
		600

The vegetation information for the WY State Lease 42804 permit area was prepared by Amber Travsky of Real West Natural Resource Consulting, in 2014.

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1.0 INTRODUCTION

Bentonite Performance Minerals (BPM) proposes to amend their existing 267C mine permit to include the Wyoming State Lease 42804 claim. This 600-acre site is approximately 8 miles west of the BPM plant at Colony. It is located in T57N, R62W, SE ¼ SW ¼ and SW ¼ SE ¼ Section 30; W ½ NW ¼ Section 32; and most of Section 31. The purpose of this report is to document the pre-mining vegetation on the site. This data provides a baseline to assess successful reclamation once mining is completed.

2.0 METHODS

Amber Travsky, a biologist with Real West Natural Resource Consulting (Real West), conducted vegetation sampling on June 17 and 18, 2014. Prior to the sampling, a vegetation sampling plan was submitted to the Wyoming Department of Environmental Quality (WDEQ). Approval for the plan was received from Stacy Page with WDEQ on May 7, 2014 and signed by Jennifer Hartman with BPM on May 13, 2014.

A site reconnaissance was conducted in May 15, 2014 to verify the habitats stated in the sampling plan and to also identify early-blooming plant species. Sampling intensity, as indicated in Table 2-1, required 20 transects in both the woodland and the mixed grass prairie habitat types. After 20 transects were completed, the data was checked for sample adequacy. The statistical formula used to determine sample adequacy follows WDEQ_LQD Guideline No. 2, Vegetation (Rules updated 8/94, page 21). The formula is provided below.

$$nmin = \frac{2(sx)^2}{(dx)^2}$$

Where:

- nmin* = the number of sample points needed in a given vegetation parcel
- s* = standard deviation of the sample
- x* = sample mean for plant cover or total cover
- d* = 0.1 (acceptable amount of inherent variability determined from formula chart)
- z* = 1.28 (number determined from formula chart)

Table 2-1. WDEQ Baseline Sampling Size for BPM sites.

Acreage of Habitat Type	Sampling Size
< 2 acres	Describe and list species – no sampling
2 to 10 acres	5 sample points
10 to 40 acres	10 sample points
40 to 80 acres	15 sample points
80 to 160 acres	20 sample points
> 160 acres	Minimum 20 points, then to sample adequacy

Sample sites in the mixed grass prairie and the woodland understory were located randomly using the standard grid system and numbers from a random numbers table generated by computer. Two sets of numbers were generated with one set corresponding to the x-axis of a grid and the other corresponding to the y-axis. Grid intervals extended 30 meters. Transect directions were selected using computer-generated random compass bearings from 1 to 360 degrees. If a transect exited a designated sample area, a new random compass direction was chosen until the transect returned into the sample area.

With all sample points, absolute cover was estimated from five 20 cm by 50 cm plots evenly spaced along a 30 meter transect at the 6m, 12m, 18m, 24m, and 30m marks. Vegetation cover was estimated as canopy cover with the addition of any understory vegetation that is covered by the overstory canopy cover. This value was added to the cover values of lichens, litter, rock and bare ground.

Tree density in the woodland habitat was quantified using the Point-Quarter method. In the sampling plan, a belt transect method was described but it was determined by the biologist when in the field that the Point-Quarter method would be more practical based on tree spacing. This method was approved by WDEQ in previous surveys conducted at BPM sites.

For the Point-Quarter method, each of the 20 sample points corresponded with the starting point of each of the vegetation sampling transects. At the sample point, the area was divided into four

imaginary quadrates. Within each quadrant, the distance from the random point to the center of the nearest tree was measured. This was repeated in each of the four quadrants. For each individual tree, the species type, the diameter at 4 ft above the ground (DBH – diameter at breast height), and circumference at DBH were recorded. To calculate the density of all species, the distances to all trees were summed up and a mean was calculated. The square of this number is equal to the mean area of each tree. Density was determined using the following equations:

Equation #1:

$$\text{Density (all species)} = 1 \div \text{mean point-to-plant distance}^2$$

Equation #2:

$$\text{Relative Density} = \# \text{ individuals of a species} \div \text{Total \# of individuals (all species)} \times 100$$

Equation #3:

$$\text{Density} = (\text{Relative density of a species} \div 100) \times \text{Density of all species}$$

3.0 RESULTS

3.1 Plant Community Types

Plant community types were identified using the definitions in the *Bentonite Regional Vegetation Study* (Keammerer 1987). Photographs of each community type are in Addendum A, data summaries are in Addendum B, and a plant species list is in Addendum C. Representative photos of the sample points are in Addendum D. A map with vegetation types, sample points, and photo points is attached.

The Wyoming State Lease 42804 amendment covers 600 acres on rolling to hilly terrain approximately 8 miles west of the BPM processing plant at Colony. The Belle Fourche River is located 0.6 miles to the east, 1.35 miles to the north and 1.6 miles to the northeast since it forms an inverted U-shaped meandering corridor near the permit area. Green Mountain is located in the northwest quarter of the amendment area where the elevation rises to 3,754 feet at the summit. The lowest elevation on the site is 3,585 feet at the southern edge of the site.

Table 3-1. Approximate acreages and percentages for the vegetation community types on the WY State Lease 42804 Amendment Area.

Vegetative Community Type	Acreage on Amendment Area		Disturbance Acres
	Acres	Percentage	
Mixed Grass Prairie Community	196.9	32.8%	89.00
Woodland Community	390.63	65.1%	86.23
Bottomland Meadow Community	2.8	0.4%	0.23
Open Water/Marsh Community	3.32	0.5%	0.20
Disturbed Community	6.35	1.0%	1.34
TOTAL	600.0 acres	100%	177.0

As shown in Table 3-1, the dominant habitat on the site is woodland community. The woodland community is found throughout the amendment area but is most prevalent on steeper hillsides and hill summits. The mixed grass prairie community is found in the basins between the timbered hillsides. A large reservoir is located in the center of the site along the eastern border while three small ponds are also on the site, with one in the north, one in the south, and one on the west-central boundary. Marsh habitat is found on the perimeter of the four reservoirs. A strip of bottomland meadow follows the drainage bottom as it exits the larger reservoir. A second strip of bottomland meadow is in another drainage bottom near the southern boundary of the amendment area. A small patch of disturbed habitat from previous mining is found in the extreme southeastern corner of the site. Each of these communities is described in more detail below.

3.1.1 Woodland Community Type

The woodland community covers approximately 390.63 acres or 65.1 % of the amendment area. This habitat is dominated by an overstory of bur oak (*Quercus macrocarpa*), Rocky Mountain juniper (*Juniperus scopulorum*), and ponderosa pine (*Pinus ponderosa*). Shrubs are sparse but

include currant (*Ribes* spp.) and snowberry (*Symphoricarpos albus*). Forbs in the woodland understory include bastard toadflax (*Comandra umbellata*), western yarrow (*Achillea millefolium*), American vetch (*Vicia americana*), threadleaf phacelia (*Phacelia linearis*), and rose pussytoes (*Antennaria rosea*). Grasses include sandberg bluegrass (*Poa secunda*), prairie junegrass (*Koeleria macrantha*), and slender wheatgrass (*Elymus trachycaulus*).

Vegetation cover and ground cover summaries of the woodland community transect data (Table 3-2) show a vegetation cover mean of 41.40%; mean total ground cover of 97.85%; mean cover by lichens, litter and rock of 56.45%; and mean bare ground of 5.30%. The detailed data summary is in Addendum B.

Table 3-2. Summary of Vegetation Cover Data Collected in 2014 on the Woodland Community on the WSL04 Amendment Area.

	Woodland Community
Number of Transects (Total number of samples)	20
Mean and Standard Deviation for % Absolute Vegetation Cover	41.40% 9.92
Mean and Standard Deviation for % Absolute Bare Ground	5.30% 4.39
Mean and Standard Deviation for % Absolute Lichen, Litter and Rock	56.45% 10.26
Mean and Standard Deviation for % Absolute Litter and Rock	56.35% 10.30
Mean and Standard Deviation for % Absolute Total Ground Cover (Vegetation, Lichen, Litter and Rock)	97.85% 5.45

Ponderosa pine is the dominant tree species within the woodland habitat, as shown in Table 3-3. Ponderosa pine comprises 72.5% of the trees sample with bur oak comprising 22.5% and Rocky Mountain juniper comprising 5% of the trees. Overall density of trees within the habitat type was 126.83 trees per acre. The detailed data summary is in Addendum B.

Table 3-3. Tree density in the woodland community type.

Species	Number of Trees Sampled	Mean Diameter (cm)	Basal Area (m ²)	Relative Density	Density (per acre)
Pine	58	16.22	0.021	72.5	91.95
Oak	18	17.44	0.024	22.5	28.53
Juniper	4	7.0	0.004	5.0	6.34
All Species	80	16.03	0.048	100	126.83

3.1.2 Mixed Grass Prairie Community

The mixed grass prairie community covers approximately 196.9 acres or 32.8% of the amendment area. Big sagebrush (*Artemisia tridentata*) is the most common shrub in this habitat type, although it comprises less than 2% of the coverage. There are scattered patches with higher density sagebrush but these patches were not prevalent and therefore did not constitute a separate community type. Grasses include sandberg bluegrass, slender wheatgrass, prairie junegrass, and buffalograss (*Buchloe dactyloides*). Forbs include bastard toadflax, common yarrow, silvery lupine (*Lupinus argenteus*), and American vetch (*Vicia americana*).

Vegetation cover and ground cover summaries of the mixed grass prairie community transect data (Table 3-4) show a vegetation cover mean of 77.50%; mean total ground cover of 94.73%; mean cover by lichens, litter and rock of 17.23%; and mean bare ground of 9.41%. The detailed data summary is in Addendum B.

Table 3-4. Summary of Vegetation Cover Data Collected in 2014 on the Mixed Grass Prairie Community on the State 42805 Amendment Area.

	Mixed Grass Prairie Community
Number of Transects (Total number of samples)	22
Mean and Standard Deviation for % Absolute Vegetation Cover	77.50% 10.05
Mean and Standard Deviation for % Absolute Bare Ground	9.41% 8.30
Mean and Standard Deviation for % Absolute Lichen, Litter and Rock	17.23% 6.35
Mean and Standard Deviation for % Absolute Litter and Rock	16.27% 6.46
Mean and Standard Deviation for % Absolute Total Ground Cover (Vegetation, Lichen, Litter and Rock)	94.73% 8.53

Bottomland Meadow Community Type

The bottomland meadow community covers approximately 2.8 acres or 0.4% of the amendment area. It is found along three drainage bottoms. One drainage bottom runs parallel to and then diagonally to the south along the southern amendment area boundary approximately 120 meters north of the boundary. The second can be found along the west-central edge of the permit boundary. The final strip of bottomland meadow is found on the west side of the dam that creates the largest reservoir on the amendment area. The bottomland meadow follows the drainage bottom for approximately 300 meters. As the drainage banks steepen and the drainage bottom narrows, the bottomland meadow habitat disappears or becomes a narrow strip, less than a yard wide, alongside the rill of water that might be flowing or small pool patches that might persist into the summer.

Due to the small acreage of this community type, sampling was not conducted but plant species were documented. The bottomland meadow is dominated by hydrophytic plant species including sedges (*Carex* spp.) with Baltic rush (*Juncus balticus*) and patches of bulrush (*Scirpus* spp.). Other species include redtop (*Agrostis gigantea*), meadow foxtail (*Alopecurus pratensis*), and sandberg bluegrass.

3.1.4 Open Water/Marsh Community

There are four reservoirs on the amendment area covering a total of 3.32 acres. The largest, covering approximately 2.72 acres, is located near the east-central boundary of the site. The three additional stock ponds cover 0.23, 0.20 and 0.17 acres. The largest of the three is located in the northern portion of the site while the 0.17-acre pond is on the west-central edge of the amendment area and the 0.20 acre pond is in the southern portion. All four reservoirs support emergent vegetation and a perimeter of marsh habitat. This perimeter vegetation is minimal on the three small stock ponds but is significant on the large reservoir. Coverage of open water versus marsh habitat varies not only seasonally but also from year to year. Plant species in the marsh habitat include sedges, Baltic rush, bulrush, and broadleaf cattail (*Typha latifolia*). As the water depth decreases and becomes more variable, the plant species are less water-dependent and include foxtail barley (*Hordeum jubatum*), sandberg bluegrass, common dandelion (*Taraxacum officinale*), and redbtop.

3.1.5 Disturbed Community

Approximately 6.35 acres of the amendment area have been previously disturbed by mining. This community is along the southeast boundary. This area includes both bare ground and patches of reclaimed vegetation. Plant species present include yellow sweetclover (*Melilotus officinalis*), slender wheatgrass (*Elymus trachycaulus*), needle-and-thread (*Stipa comata*), sandberg bluegrass, and smooth brome (*Bromus inermis*).

3.2 Proposed Mining Disturbance

The proposed mining is planned in the mixed grass prairie community, with approximately 89 acres being disturbed. As well as, 86 acres of woodland habitat will be disturbed by the proposed mining and access road construction. Disturbance per each habitat type is listed in Table 3-1.

3.3 Extended Reference Area

The proposed mining will disturb 89.00 acres of mixed grass prairie and 86.23 acres of woodland habitat. The Extended Reference Area is that area of these community types that will be undisturbed by mining operations. The entire mixed grass prairie and woodland habitats within the amendment area were included in the selection of random sample points. Postmining, the unaffected areas constitute the area to be used for a comparison to the reclaimed area. Prior to conducting bond-release surveys, BPM will contact WDEQ to verify suitable comparison areas.

3.4 Noxious Weeds

There are currently 25 plants listed on the Wyoming Weed and Pest Control Act Designated List (Wyoming Weed and Pest Council 2014). The species and their observed abundance on the amendment area are listed in Table 3-5.

Qualitative descriptor categories, as designated by the WDEQ, are: very rare, rare, infrequent, abundant and very abundant. Those species listed as “very rare” were not seen on the site, but that is the lowest ranking provided by the WDEQ categories.

Additional weed and pest species listed for Crook County (Wyoming Weed and Pest Council 2014) include the following:

- Black henbane (*Hyoscyamus niger*)
- Bull thistle (*Cirsium vulgare*)
- Great plains yucca (*Yucca glauca*)
- Wild licorice (*Glycyrrhiza lepidota*)
- Common mullein (*Verbascum thapsus*)
- Sulphur cinquefoil (*Potentilla recta*)

Of the weeds listed, quackgrass and Canadian thistle were observed on the amendment area and both were in limited quantities. Cheatgrass, while not included on the lists, is also found on the area.

Table 3-5. 2014 Noxious Weed List for the State of Wyoming and Their Observed Occurrence on the Amendment Site.

Scientific Name	Common Name	Occurrence
<i>Convolvulus arvensis</i>	Field bindweed	Very rare
<i>Cirsium arvense</i>	Canada thistle	Rare
<i>Euphorbia esula</i>	Leafy spurge	Very rare
<i>Sonchus arvensis</i>	Perennial sowthistle	Very rare
<i>Agropyron repens</i>	Quackgrass	Rare
<i>Cardaria draba</i>	Hoary cress	Very rare
<i>Lepidium latifolium</i>	Perennial pepperweed	Very rare
<i>Chrysanthemum leucanthemum</i>	Ox-eye daisy	Very rare
<i>Franseria discolor</i>	Skeletonleaf bursage	Very rare
<i>Centaurea repens</i>	Russian knapweed	Very rare
<i>Linaria vulgaris</i>	Yellow toadflax	Very rare
<i>Linaria dalmatica</i>	Dalmatian toadflax	Very rare
<i>Onopordum acanthium</i>	Scotch thistle	Very rare
<i>Carduus nutant</i>	Musk thistle	Very rare
<i>Arctium minus</i>	Common burdock	Very rare
<i>Carduus acanthoides</i>	Plumeless Thistle	Very rare
<i>Isatis tinctoria</i>	Dyers Woad	Very rare
<i>Cynoglossum officinale</i>	Houndstongue	Very rare
<i>Centaurea maculosa</i>	Spotted knapweed	Very rare
<i>Centaurea diffusa</i>	Diffuse knapweed	Very rare
<i>Lythrum salicaria</i>	Purple loosestrife	Very rare
<i>Tamarix spp.</i>	Saltcedar	Very rare
<i>Hypericum perforatum</i>	Common St. Johnswort	Very rare
<i>Tanacetum vulgare</i>	Common Tansy	Very rare
<i>Elaeagnus argentea</i>	Russian Olive	Very rare

3.5 Threatened and Endangered Species

A listing of all potential T&E and candidate species on and in the vicinity of the amendment area was obtained from the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) website (USFWS 2014). In addition, the USFWS was contacted to obtain information on wildlife species and habitats of concern on the amendment area. Their response letter is in Appendix D9 - Wildlife, Addendum B.

While no vegetative species were indicated on the IPaC website, the correspondence from the USFWS listed the Ute ladies'-tresses (*Spiranthes diluvialis*) as potentially occurring in the area. This plant is endemic to moist soils near springs, lakes, or perennial streams. The elevation range of known orchid occurrences is 4,200 to 7,000 feet. Most of the occurrences are in alluvial substrates along riparian edges, gravel bars, old oxbows, and moist to wet meadows in the floodplains of perennial streams (USFWS 1995).

Suitable potential habitat is typically found along streams that experience heavy spring runoff of sufficient magnitude to create movement and reshaping of the stream channel. The orchid is generally intolerant of deep shade and strongly alkaline or clay soils and cannot compete with aggressive rhizomatous species such as reed canarygrass (*Phalaris arundinacea*) and cattails (*Typha latifolia*), or introduced species such as Canada thistle.

Suitable habitat is lacking on the amendment area. The occurrence of this species on the site or in the vicinity is unlikely and the proposed mining will have “no effect” on this species.

3.7 Wetlands

The National Wetland Inventory (NWI) map of the amendment area (Addendum E) identifies the four reservoirs discussed under Section 3.1.5. The total wetland acreage identified on the NWI is 3.43 acres. This is slightly more than the Open Water/Marsh community discussed in Section 3.1.4 where 3.32 acres are identified. The difference between the two is due to the large reservoir on the site. The area of marsh and open water is 3.32 acres rather than the 3.43 acres

indicated on the NWI map. Each of the reservoirs is classified as a palustrine wetland with an aquatic bed that is semi-permanently flooded and created by a dike or impoundment. There are no additional wetlands indicated on the NWI map for the amendment area.

4.0 SUMMARY

Based on the vegetation sampling conducted by Real West in 2014, the mixed grass prairie community has a vegetative ground cover of 77.50%, bare ground of 9.41%, and overall ground cover of 94.73%. Sandberg bluegrass and prairie junegrass are the dominant grass species with bastard toadflax and common yarrow being the dominant forbs. The woodland community has a vegetation cover mean of 41.40%; mean total ground cover of 97.85%; mean cover by lichens, litter and rock of 56.45%; and mean bare ground of 5.30%. Sandberg bluegrass is the dominate grass species in this community while bastard toadflax, common yarrow, narrow-leafed phacelia, and American vetch are the dominant forbs. Tree density overall in the woodland habitat is 126.8 trees per acre with ponderosa pine being the most common, followed by bur oak. Other vegetative communities on the amendment area include bottomland meadow, open water/marsh, and disturbed.

5.0 LITERATURE CITED

- Keammerer, W.R. 1987. *Bentonite Regional Vegetation Study*. Unpublished report prepared for the Wyoming Department of Environmental Quality.
- U.S. Fish and Wildlife Service. 1995. Recommendations and Guidelines for Ute Ladies' Tresses Orchid (*Spiranthes diluvialis*) Recovery and Fulfilling Section 7 Consultation Responsibilities. Memo dated June 1, 1995.
- U.S. Fish and Wildlife Service. 2014. Information, Planning and Conservation System listing of Threatened and Endangered Species potentially occurring on the permit area. Website (<http://www.fws.gov/>) accessed on October 28, 2014.
- Wyoming Weed and Pest Council. 2014. WYOMING WEED & PEST CONTROL ACT DESIGNATED LIST, Designated Noxious Weeds .S. 11-5-102 (a)(xi) and Prohibited Noxious Weeds W.S. 11-12-104

ADDENDUM A

Photographs of the Plant Communities

Photo A-1. The WSL04 amendment site is dominated by a combination of mixed grass prairie and woodland communities. (*Looking southeast at Photo Point 1 on Vegetation map*)



Photo A-2. Mixed grass prairie and woodland habitats dominate the WSL04 amendment area. (*Looking southwest at Photo Point 1, as indicated on the Vegetation map.*)



Photo A-3. The woodland habitat varies in tree density across the amendment site. Stands of bur oak tend to have higher density in areas of new growth.



Photo A-4. Tree density is typically more open in woodland areas dominated by ponderosa pine.



Photo A-5. Patches of mixed grass prairie include big sagebrush.



Photo A-6. Disturbed habitat is found along the southern boundary of the amendment area.



Photo A-7. Bottomland meadow habitat is found immediately west of the largest reservoir on the amendment area.



Photo A-8. A narrow strip of bottomland meadow is found within two drainage bottoms within the amendment area.



Photo A-9. Open water is found in several reservoirs on the amendment area that also support a perimeter of marsh and emergent vegetation.



Photo A-10. The largest reservoir on the site covers 3.76 acres and includes open water as well as marsh habitat around the perimeter.



ADDENDUM B

Vegetation Sampling Species Summary

Table B-1. 2014 Bentonite Performance Mineral WSL04 Amendment Area Cover Summary for the Mixed Grass Prairie Community.

Category/ Species	Transect																						Total	Mean	SD
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Perennial Grasses																									
BOGR	0	0	5	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	4	0	0	13	0.59	1.37
BUDA	0	0	4	2	0	0	0	0	2	0	0	0	0	1	0	3	3	0	27	3	0	0	45	2.05	5.73
ELTR	8	5	2	5	1	3	3	2	3	6	2	1	5	1	3	2	3	5	0	5	1	2	68	3.09	2.00
KOMA	14	28	30	35	18	19	41	26	33	1	34	17	2	16	8	1	5	11	0	0	40	33	18.73	14.02	
POBU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	4	4	1	0	0	17	0.77	2.00
POSE	28	25	0	5	12	28	17	17	16	50	15	53	18	32	29	51	41	43	12	52	6	13	25.59	16.47	
STCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	2	13	0.59	2.36
STVI	0	0	0	0	21	13	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1.73	5.17	
Perennial Forbs																									
ACMI	5	8	4	0	1	8	1	7	5	0	0	0	0	0	0	4	0	1	0	0	0	6	2.27	2.96	
ALTE	1	1	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0.32	0.72	
ANRO	1	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.27	0.88	
ARSO	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.18	0.59	
CIAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.05	0.21	
COUM	13	5	16	7	8	6	8	5	2	23	31	1	6	21	6	7	1	8	0	10	15	23	10.09	8.23	
CYAC	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	5	0	0	0	0.41	1.14	
GETR	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.21	
LUAR	0	0	0	0	0	2	0	0	8	3	0	2	0	0	0	0	4	8	0	4	0	0	1.41	2.52	
MITR	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.14	0.35	
PHHO	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.14	0.47	
PHLO	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.21	
PLPA	0	0	0	0	0	1	0	0	0	0	0	1	1	4	0	2	0	0	1	0	0	0	0.45	0.96	
RAGL	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.09	0.29	
SECA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.21	
SPCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0.14	0.47	
TAOF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	1	0.18	0.50	
Perennial Forbs (Cont.)																									
TRDU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.05	0.21	

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Category/ Species	Transect																						Total	Mean	SD
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Transect Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
VIAM	0	0	0	0	0	0	0	6	0	0	0	8	0	0	0	1	0	0	0	0	0	0	15	0.68	2.08
Annual Grasses																									
BRIN	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0.14	0.64
B RTE	2	4	0	0	1	0	0	0	0	0	0	2	3	0	1	3	0	0	0	2	1	1	20	0.91	1.23
Grass- like																									
Carex	0	0	1	3	0	0	0	1	0	3	0	6	0	0	0	2	0	0	3	0	0	0	19	0.86	1.58
CAFI	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	0.14	0.64
Fern Like																									
SEDE	5	1	4	0	3	1	0	15	3	0	0	0	2	0	15	2	0	0	7	0	0	0	58	2.64	4.45
Annual Forb																									
ALDE	2	1	2	0	0	0	0	2	1	1	2	3	2	2	0	0	0	2	0	1	2	2	25	1.14	0.99
Succulents																									
OPPO	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.05	0.21
Shrub and Sub-shrub																									
ARLU	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.05	0.21
ARTR	3	0	2	0	0	0	0	0	0	0	0	0	0	0	10	3	0	0	6	8	0	0	32	1.45	2.89
Total Veg Cover	85	81	73	63	68	81	76	81	74	87	88	90	48	82	75	82	71	85	66	90	76	83	1705	77.50	10.05
Lichens																									
Litter	0	3	4	12	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	21	0.95	2.68
Rock	14	14	8	10	30	17	26	17	26	12	12	8	17	9	26	13	8	17	22	8	22	14	350	15.91	6.78
	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	8	0.36	1.29
Lichens, Litter, Rock	14	17	18	22	30	18	26	17	26	12	12	8	18	10	26	13	9	17	22	8	22	14	379	17.23	6.35

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Category/ Species	Transect																						Total	Mean	SD
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Transect Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Litter and Rock	14	14	14	10	30	17	26	17	26	12	12	8	17	10	26	13	9	17	22	8	22	14	358	16.27	6.46
Total Ground cover	99	98	91	85	98	99	102	98	100	99	100	98	66	92	101	95	80	102	88	98	98	97	2084	94.73	8.53
Bare ground	6	9	12	20	3	5	5	6	5	5	10	2	36	9	5	9	25	5	17	3	6	4	207	9.41	8.30

Table B-2. 2014 Bentonite Performance Mineral WSL04 Amendment Area Cover Summary for the Woodland Community.

Category/Species	Transect																				Total	Mean	SD		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
Perennial Grasses																									
ELTR	0	2	4	0	0	1	0	2	1	0	0	0	0	1	0	0	1	1	0	0	13	0.65	1.04		
KOMA	3	0	0	0	10	1	1	0	0	2	0	0	0	0	0	1	0	0	3	0	21	1.05	2.33		
POSE	22	18	32	30	28	34	23	29	30	28	40	18	8	22	40	17	31	25	21	5	501	25.05	9.14		
STVI	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	0	4	0.20	0.41		
Fern and Fern-like																									
SEDE	0	0	0	0	3	0	0	0	6	0	0	7	0	0	0	8	6	0	0	7	37	1.85	3.03		
Fungi																									
MUSH	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.10	0.45		
Grass-like																									
CAFI	0	1	0	0	0	0	0	0	0	0	0	0	4	0	0	8	0	0	0	0	13	0.65	1.95		
Carex	3	0	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	23	1.15	3.82		
Perennial Forbs																									
ACMI	2	0	0	1	5	4	0	0	0	0	0	1	0	1	0	2	0	0	4	6	26	1.30	1.92		
ALTE	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	5	0.25	0.44		
ANRO	0	0	0	0	2	0	0	0	1	0	0	6	0	0	0	0	1	0	0	6	16	0.80	1.85		
ARSO	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.05	0.22		
CEAR	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0	1	0	0	5	0.25	0.72		
COUM	1	1	3	0	4	4	0	1	7	3	1	1	4	0	4	5	3	0	1	4	47	2.35	2.01		
ERUM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	3	0.15	0.37		
LUAR	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.05	0.22		
PENS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.05	0.22		
PHLI	0	0	2	0	0	0	1	5	1	2	4	0	2	0	0	0	0	0	0	0	17	0.85	1.46		
PLPA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0.10	0.31		
RAGL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.05	0.22		
SECA	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.05	0.22		
SPCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00		
TAOF	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0.10	0.31		
Perennial Forbs (Cont.)																									
THLA	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	1	4	0.20	0.52		

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Category/Species	Transect																				Total	Mean	SD	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
VIAM	1	0	7	0	2	0	0	0	1	0	1	0	0	1	0	0	2	3	0	0	18	0.90	1.68	
Annual Grasses																								
BRTE	0	0	1	0	2	0	0	0	6	0	3	0	3	0	0	0	1	1	0	2	19	0.95	1.57	
Annual Forbs																								
ALDE	0	1	3	0	0	0	1	1	1	1	3	0	3	0	0	0	1	3	0	1	19	0.95	1.15	
Shrubs and Sub-shrubs																								
RIBE	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.20	0.89	
SYAL	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.05	0.22	
Trees																								
JUCO	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	15	0.75	3.35	
PIPO	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.25	0.79	
QUMA	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.05	0.22	
Total Veg Cover	32	30	53	50	59	47	28	39	54	38	54	36	25	44	45	46	48	35	31	34	828	41.40	9.92	
Lichens																								
Lichens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0.10	0.31	
Litter	63	67	35	51	37	56	70	55	52	54	47	72	67	55	56	58	45	64	67	52	1123	56.15	10.26	
Rock	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4	0.20	0.70	
Lichens, Litter, Rock																								
Rock	63	68	35	51	37	56	70	55	52	57	47	72	67	55	56	58	46	64	67	53	1129	56.45	10.23	
Litter and Rock	63	68	35	51	37	56	70	55	52	57	47	72	67	55	56	58	45	64	67	52	1127	56.35	10.30	
Total Ground cover	95	98	88	101	96	103	98	94	106	95	101	108	92	99	101	104	94	99	98	87	1957	97.85	5.45	
Bare ground	7	4	16	1	11	2	2	8	4	6	4	2	8	1	2	2	8	2	2	14	106	5.30	4.39	

Table B-3. Tree Density Data in the Woodland Community.

Transect	Species	Distance (m)	Diameter (cm)	Circumference (cm)
1	pine	6	33	130
	oak	8	20	55
	oak	6	24	72
2	pine	7.5	25	80
	oak	5.5	14	44
	pine	4	3	5
	pine	6	6	17
	pine	5	8	19
3	juniper	17	11	27
	pine	7.5	34	115
	pine	9	24	85
	oak	5	12	42
4	oak	4	28	89
	oak	5	26	81
	oak	6.5	25	78
	oak	5	17	45
	pine	5.5	22	64
5	pine	6	17	52
	pine	4	3	6
	juniper	6.5	4	6
	pine	3	4	7
6	juniper	5	3	6
	pine	6	7	20
	oak	7	18	47
	pine	2	2	4
	oak	7	12	40
7	pine	4	31	93
	oak	4	20	54
	pine	5	5	14
	pine	9.5	8	18
	pine	3	7	16
8	pine	2.5	3	6
	pine	4	24	104
	pine	6	34	28
	pine	4.5	9	23
9	pine	8	8	36
	pine	5	13	36
	pine	6	20	64
	pine	3.5	20	60
10	pine	4	12	31
	oak	11	6	15
11	pine	3.5	35	116

Transect	Species	Distance (m)	Diameter (cm)	Circumference (cm)
12	pine	6	33	105
	pine	6.5	23	72
	pine	2	6	14
	pine	3	12	33
	pine	3.5	7	16
13	pine	3	6	14
	pine	5	33	106
	pine	2.5	32	97
	pine	4	2	4
14	oak	3	3	6
	pine	4	3	5
	pine	4.4	4	8
	pine	5	7	16
15	pine	4	7	20
	pine	4	4	7
	pine	8	27	77
	pine	8.5	33	116
16	pine	3	3	6
	pine	10	5	12
	pine	3.5	27	94
	pine	4	48	149
17	oak	18	15	43
	pine	5.5	29	100
	oak	3.5	16	44
	pine	14.5	23	66
18	pine	5.5	20	65
	oak	2.5	23	65
	oak	6	13	37
	oak	5.5	22	66
19	pine	7	18	52
	pine	3.5	7	20
	pine	5.5	40	145
20	pine	4.5	11	29
	pine	7	4	13
	juniper	6	10	25
	pine	6.5	8	21
	pine	5	7	14
	pine	6.5	35	109
Average		5.64875	16.0375	48.0125

ADDENDUM C

Plant Species List

Addendum C-1. Plant Species Observed on the State WSL04 Amendment Site in 2014.

Species	Common Name	ID name
Perennial Grasses		
<i>Agropyron cristatum</i>	Crested wheatgrass	AGCR
<i>Agrostis gigantea</i>	Redtop	AGGI
<i>Alopecurus pratensis</i>	Meadow foxtail	ALPR
<i>Bouteloua gracilis</i>	Blue gramma	BOGR
<i>Buchloe dactyloides</i>	Buffalo grass	BUDA
<i>Elymus trachycaulus</i>	Slender wheatgrass	ELTR
<i>Elymus repens</i>	Quackgrass	ELRE
<i>Hordeum jubatum</i>	Foxtail barley	HOJU
<i>Koeleria macrantha</i>	Junegrass	KOMA
<i>Pascopyrum smithii</i>	Western wheatgrass	PASM
<i>Phleum pratense</i>	Timothy	PHPR
<i>Poa bulbosa</i>	Bulbous bluegrass	POBU
<i>Poa secunda</i>	Sandberg bluegrass	POSE
<i>Schizachyrium scoparium</i>	Little bluestem	SCSC
<i>Stipa comata</i>	Needle-and-thread	STCO
<i>Stipa viridula</i>	Green needlegrass	STVI
Grass-like		
<i>Carex duriuscula</i>	Needleleaf sedge	CADU
<i>Carex filifolia</i>	Threadleaf sedge	CAFI
<i>Carex</i> spp.	Sedges	CAREX
<i>Juncus balticus</i>	Baltic rush	JUBA
<i>Scirpus</i> spp.	Bulrush	SCIRP
<i>Typha latifolia</i>	Broadleaf cattail	TYLA
Annual Grass		

Species	Common Name	ID name
<i>Bromus inermis</i>	Smooth brome	BRIN
<i>Bromus tectorum</i>	Cheatgrass	BRTE
Perennial Forb		
<i>Achillea millefolium</i>	Common yarrow	ACMI
<i>Allium textile</i>	Wild onion	ALTE
<i>Antennaria rosea</i>	Rose pussytoes	ANRO
<i>Arnica sororia</i>	Arnica	ARSO
<i>Astragalus spp.</i>	Milkvetch	ASTR
<i>Calochortus nuttallii</i>	Sego lily	CANU
<i>Cerastium arvense</i>	Field chickweed	CEAR
<i>Chrysopsis villosa</i>	Hairy goldaster	CHVI
<i>Cirsium arvense</i>	Canada thistle	CIAR
<i>Comandra umbellata</i>	Bastard toad flax	COUM
<i>Cymopterus acaulis</i>	Plains spring parsley	CYAC
<i>Cryptantha celosioides</i>	Miner's candle	CRCE
<i>Erigeron ochroleucus</i>	Fleabane	EROC
<i>Eriogonum multiceps</i>	Wild buckwheat	ERMU
<i>Eriogonum umbellatum</i>	Sulpher-flower buckwheat	ERUM
<i>Erysimum asperum</i>	Wallflower	ERAS
<i>Fragaria virginiana</i>	Wild strawberry	FRVI
<i>Geum triflorum</i>	Old man's beard	GETR
<i>Lupinus argenteus</i>	Silvery lupine	LUAR
<i>Melilotus officinalis</i>	Yellow sweetclover	MEOF
<i>Microseris troximoides</i>	False dandelion	MITR
<i>Penstemon spp.</i>	Penstemon	PENS

Species	Common Name	ID name
<i>Phacelia linearis</i>	Narrow-leafed phacelia	PHLI
<i>Phlox hoodii</i>	Hood's phlox	PHHO
<i>Phlox longifolia</i>	Long-leaf phlox	PHLO
<i>Plantago patagonica</i>	Woolly plantain	PLPA
<i>Psoralea argophylla</i>	Silver leaf scurf pea	PSAR
<i>Ranunculus glaberrimus</i>	Sagebrush buttercup	RAGL
<i>Sedum lanceolatum</i>	Stonecrop	SELA
<i>Senecio canus</i>	Gray groundsel	SECA
<i>Sphaeralcea coccinea</i>	Scarlet globemallow	SPCO
<i>Taraxacum officinale</i>	Dandelion	TAOF
<i>Thermopsis lanceolata</i>	Golden banner	THLA
<i>Tragopogon dubius</i>	Salsify	TRDU
<i>Trifolium pratense</i>	Red clover	TRPR
<i>Vicia americana</i>	American vetch	VIAM
<i>Viola nuttallii</i>	Yellow prairie violet	VINU
Annual Forbs		
<i>Alyssum desertorum</i>	Desert madwort	ALDE
<i>Descurainia sophia</i>	Flixweed	DESO
<i>Iva axillaris</i>	Povertyweed	IVAX
Fern and Fern-like		
<i>Selaginella densa</i>	Club moss	SEDE
Succulent		
<i>Opuntia polyacantha</i>	Prickly pear cactus	OPPO
<i>Mammillaria vivipara</i>	Ball cactus	MAVI

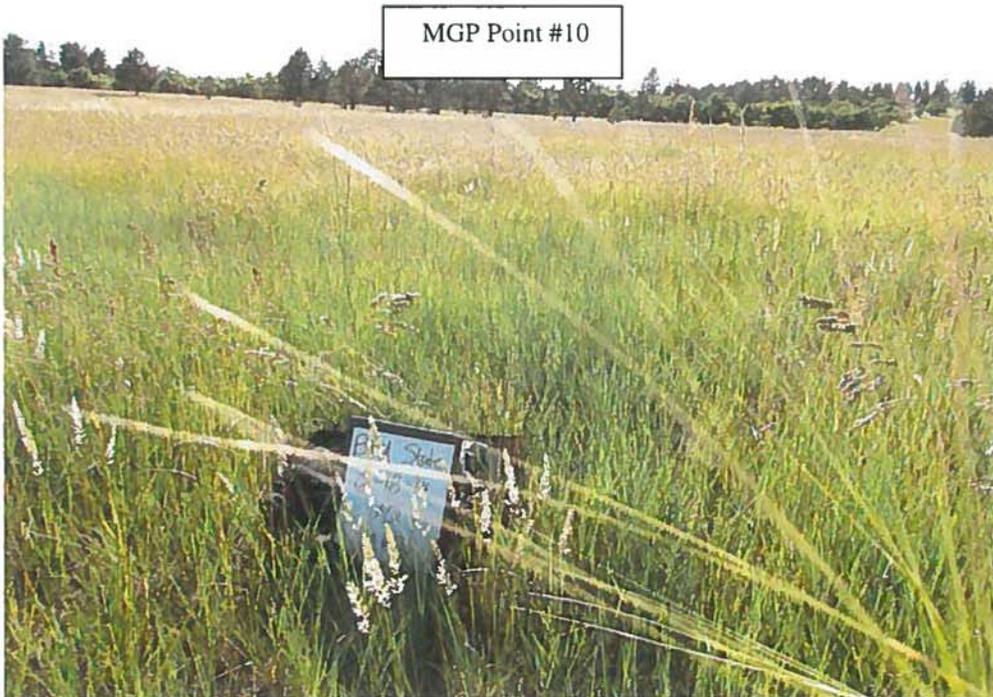
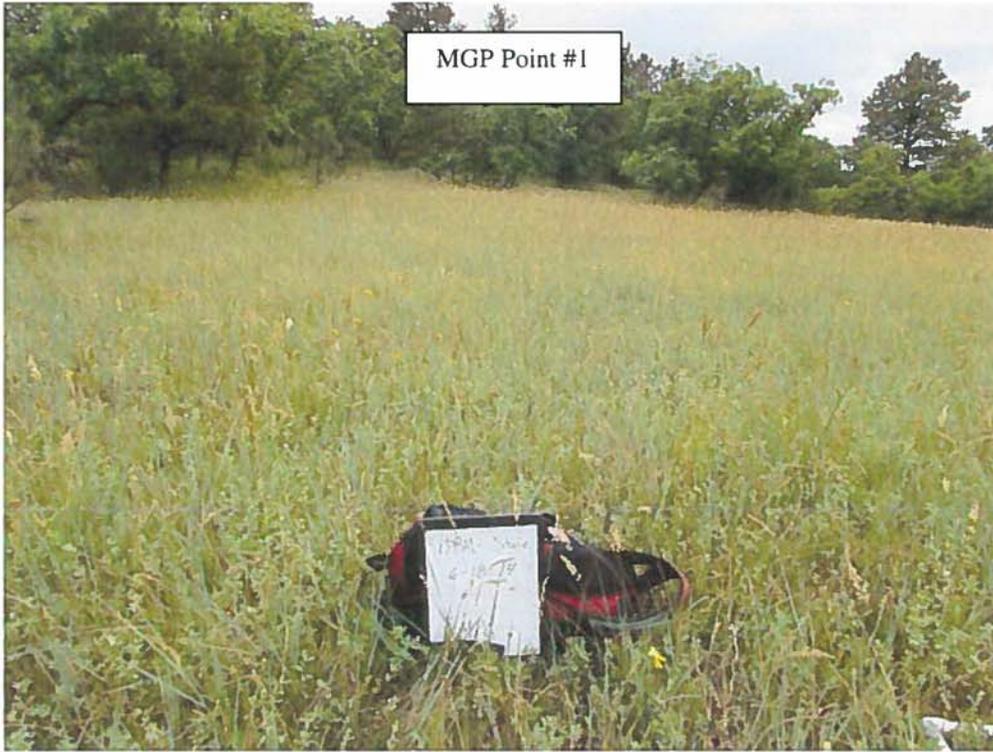
Species	Common Name	ID name
Fungi		
<i>Mushrooms</i>	Mushroom	MUSH
Sub-shrub		
<i>Artemisia frigida</i>	Fringed sagebrush	ARFR
<i>Artemisia ludoviciana</i>	White sagebrush	ARLU
Shrub		
<i>Artemisia tridentata</i>	Big sagebrush	ARTR
<i>Chrysothamnus vicidiflorus</i>	Green rabbitbrush	CHVI
<i>Ribes spp.</i>	Currant	RIBE
<i>Symphoricarpos albus</i>	Snowberry	SYAL
Trees		
<i>Fraxinus pennsylvanica</i>	Green ash	GRPE
<i>Juniperus copulorum</i>	Rocky Mountain Juniper	JUCO
<i>Pinus ponderosa</i>	Ponderosa pine	PIPO
<i>Quercus macrocarpa</i>	Bur oak	QUMA

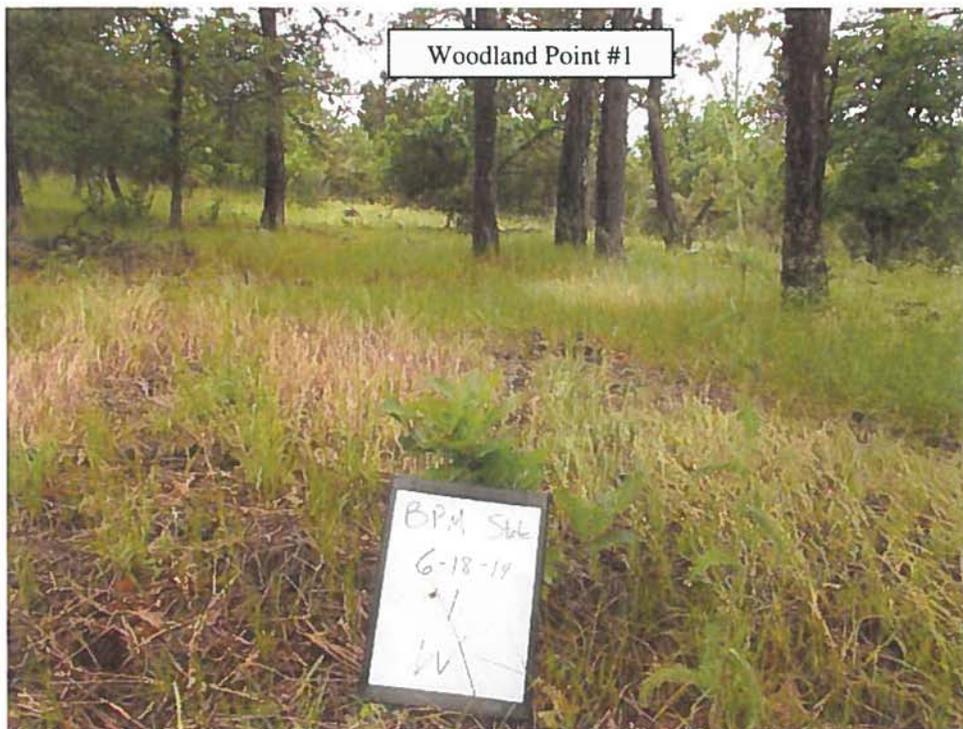
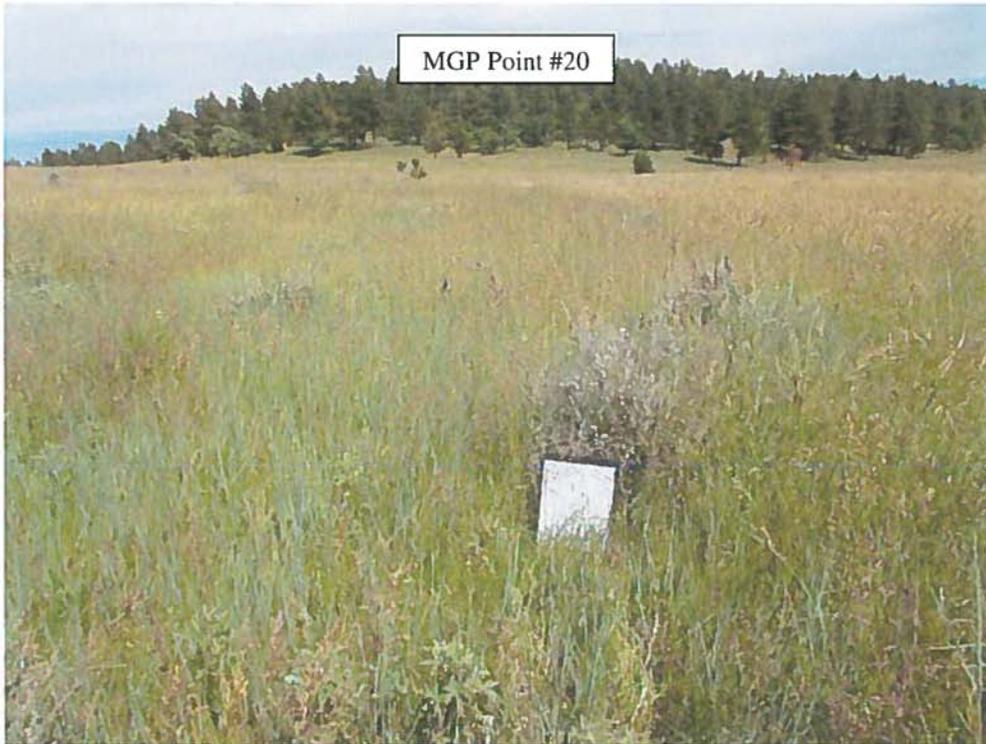
ADDENDUM D

Representative Sample Point Photographs

Mixed Grass Prairie Sample Points 1, 10 and 20

Woodland Sample Points 1, 10 and 20







Section 2.9.3.45 WY State Lease 42804 (WSL04) Wildlife Report

This section comprise the wildlife baseline study for the Wyoming State Lease 42804 permit area. The methodology and data presented conform to those specified in Section 2.9.2.

The claims that are included in WSL04 permit area are as follows (also refer to the Project Boundary Map 1.7-1)

Amendment Areas	Legal	Total Acres
	SE4SW4, SW4SE4 Section 30 T57N R62W	80
Wyoming State Lease 42804	NE4, E2NW4, SW4, NW4SE4 Section 31T57N R62W	440
	W2NW4 Section 32 T57N R62W	80
		600

The wildlife information for the WY State Lease 42804 permit area was prepared by Amber Travsky of Real West Natural Resource Consulting, in 2014.

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1.0 INTRODUCTION

Bentonite Performance Minerals (BPM) proposes to amend their existing 267C mine permit to include the Wyoming State Lease 42804 claim. This 600-acre site is approximately 8 miles west of the BPM plant at Colony. It is located in T57N, R62W, SE ¼ SW ¼ and SW ¼ SE ¼ Section 30; W ½ NW ¼ Section 32; and most of Section 31. The purpose of this report is to document the pre-mining wildlife on the site and identify potential areas of concern.

2.0 HABITAT DESCRIPTION

The WSL04 amendment site covers 600 acres on rolling to hilly terrain approximately 8 miles west of the BPM processing plant at Colony. The Belle Fourche River is located 0.6 miles to the east, 1.35 miles to the north and 1.6 miles to the northeast since it forms an inverted U-shaped meandering corridor near the permit area. Green Mountain is located in the northwest quarter of the amendment area where the elevation rises to 3,754 feet at the summit. The lowest elevation on the site is 3,585 feet at the southern edge of the site.

As shown in Table 2-1, the dominant habitat on the site is woodland followed by mixed grass prairie. Other habitats include bottomland meadow, open water/marsh and disturbed. Photographs of all habitat types are in Addendum A. The woodland habitat is found throughout the permit area but is most prevalent on steeper hillsides and hill summits. The mixed grass prairie habitat is found in the basins between the timbered hillsides. A large reservoir is located in the center of the site along the eastern border while three small livestock ponds are also on the site, with one in the north, one in the south, and one on the west-central boundary. Marsh habitat is found on the perimeter of the four reservoirs. A strip of bottomland meadow follows the drainage bottom as it exits the larger reservoir.

A second strip of bottomland meadow is in another drainage bottom near the southern boundary of the amendment area. A small patch of disturbed habitat from previous mining is found in the extreme southeastern corner of the site. Each of these habitats is described in more detail below.

Table 2-1. Approximate acreages and percentages for the habitats on the WSL04 Amendment Site.

Habitat Type	Acreage on the Amendment Area		Disturbance Areas (acres)
	Acres	Percentage	
Woodland Habitat	196.9	32.8%	89.00
Mixed Grass Prairie Habitat	390.63	65.1%	86.23
Bottomland Meadow Habitat	2.8	0.4%	0.23
Open Water/Marsh Habitat	3.32	0.5%	0.20
Disturbed Habitat	6.35	1.0%	1.34
TOTAL	600 acres	100%	177.0

2.1.1 Woodland Habitat

The woodland habitat covers approximately 390.63 acres or 65.1 % of the amendment area. This habitat is dominated by an overstory of bur oak (*Quercus macrocarpa*), Rocky Mountain juniper (*Juniperus scopulorum*), and ponderosa pine (*Pinus ponderosa*). Shrubs are sparse but include currant (*Ribes* spp.) and snowberry (*Symphoricarpos albus*). Forbs in the woodland understory include bastard toadflax (*Comandra umbellata*), western yarrow (*Achillea millefolium*), American vetch (*Vicia americana*), threadleaf phacelia (*Phacelia linearis*), and rose pussytoes (*Antennaria rosea*). Grasses include sandberg bluegrass (*Poa secunda*), prairie junegrass (*Koeleria macrantha*), and slender wheatgrass (*Elymus trachycaulus*). Additional species found in this habitat are listed in Appendix D8, Vegetation.

2.1.2 Mixed Grass Prairie Habitat

The mixed grass prairie habitat covers approximately 196.9 acres or 32.8% of the amendment area. Big sagebrush (*Artemisia tridentata*) is the most common shrub in this habitat type, although it comprises less than 2% of the coverage. There are scattered patches with higher density sagebrush but these patches were not prevalent and therefore did not constitute a separate habitat type. Grasses include sandberg bluegrass, slender wheatgrass, prairie junegrass, and

buffalograss (*Buchloe dactyloides*). Forbs include bastard toadflax, common yarrow, silvery lupine (*Lupinus argenteus*), and American vetch (*Vicia americana*).

2.1.3 Bottomland Meadow Habitat

The bottomland meadow habitat covers approximately 2.8 acres or 0.4% of the amendment area. It is found along three drainage bottoms. One drainage bottom runs parallel to and then diagonally to the south along the southern amendment area boundary approximately 120 meters north of the boundary. The second can be found along the west-central edge of the permit boundary. The final strip of bottomland meadow is found on the west side of the dam that creates the largest reservoir on the amendment area. The bottomland meadow follows the drainage bottom for approximately 300 meters. As the drainage banks steepen and the drainage bottom narrows, the bottomland meadow habitat disappears or becomes a narrow strip less than a yard wide, alongside the rill of water that might be flowing or small pool patches that might persist into the summer in the drainage bottom.

The bottomland meadow is dominated by hydrophytic plant species including sedges (*Carex* spp.) with Baltic rush (*Juncus balticus*) and patches of bulrush (*Scirpus* spp.). Other species include redtop (*Agrostis gigantea*), meadow foxtail (*Alopecurus pratensis*), and sandberg bluegrass.

3.1.4 Open Water/Marsh Habitat

There are four reservoirs on the amendment area covering a total of 3.32 acres. The largest, covering approximately 2.72 acres, is located near the east-central boundary of the site. The three additional stock ponds cover 0.23, 0.20 and 0.17 acres. The largest of the three is located in the northern portion of the site while the 0.17-acre pond is on the west-central edge of the amendment area and the 0.20 acre pond is in the southern portion. All four reservoirs support emergent vegetation and a perimeter of marsh habitat. This perimeter vegetation is minimal on the three small stock ponds but is significant on the large reservoir. Coverage of open water versus marsh habitat varies not only seasonally but also from year to year. Plant species in the marsh habitat include sedges, Baltic rush, bulrush, and broadleaf cattail (*Typha latifolia*). As the water depth decreases and becomes more variable, the plant species are less water-dependent and

include foxtail barley (*Hordeum jubatum*), sandberg bluegrass, common dandelion (*Taraxacum officinale*), and redtop.

3.1.5 Disturbed Habitat

Approximately 6.35 acres of the amendment area has been previously disturbed by mining. This habitat is along the southeast boundary. This area includes both bare ground and patches of reclaimed vegetation. Plant species present include yellow sweetclover (*Melilotus officinalis*), slender wheatgrass (*Elymus trachycaulus*), needle-and-thread (*Stipa comata*), sandberg bluegrass, and smooth brome (*Bromus inermis*).

3.0 METHODS

The U.S. Fish and Wildlife Service (USFWS) and Wyoming Game and Fish Department (WGFD) were contacted to obtain information on wildlife species and habitats of concern on the amendment area. Their response letters are in Addendum B.

Additional information on wildlife species expected and previously reported in the area was obtained from the U.S. Fish and Wildlife Service Information, Planning, and Conservation System (IPaC) website (USFWS 2014). Supplemental information on potential big game crucial range and sage-grouse core areas as well as sage-grouse connectivity areas on the site or in the vicinity were obtained through the Wyoming Interagency Spatial Database and Online Management (WISDOM) System (WISDOM 2014). This database also provided habitat type listings and the potential for other wildlife, including mammals, amphibians, reptiles and avian species, to inhabit the area.

Amber Travsky, a biologist with Real West Natural Resource Consulting (Real West), conducted wildlife habitat evaluations and surveys on the amendment site on May 15, June 17, 18 and 19, 2014.

Those species that needed to be addressed by site surveys for individuals and suitable habitat include the greater sage-grouse (*Centrocercus urophasianus*), Sprague's pipit (*Anthus spragueii*), northern long-eared bat (*Myotis septentrionalis*), black-tailed prairie dogs (*Cynomys ludovicianus* spp.), mountain plover (*Charadris montaus*), and all raptor species. The potential

for occurrence of those species identified by the USFWS as “Natural Resources of Concern” were also noted. In addition, all species observed were recorded. The surveys were conducted primarily on foot with some coverage via 4-wheel drive vehicle and mountain bicycle.

4.0 RESULTS

4.1 Threatened and Endangered Species

There are no federally threatened or endangered wildlife species expected within the amendment area. Two candidate species, the greater sage-grouse and Sprague’s pipit and one proposed species, the northern long-eared bat, have the potential in the vicinity and each is discussed in more detail below. Of these three species, only the greater sage-grouse and northern long-eared bat were listed on the IPaC (USFWS 2014).

4.1.1 Greater Sage-Grouse

The greater sage-grouse was found to be not warranted as a threatened or endangered species by USFW in October 2015. Sage-grouse inhabit foothills, plains, and mountain slopes where sagebrush is present (American Ornithologists' Union 1983) or a mixture of sagebrush, meadows, and aspen is in close proximity.

There are no sage-grouse leks within two miles of the amendment area and the site is outside any sage-grouse core area. Sagebrush coverage is patchy but, overall within the mixed grass prairie habitat, it is less than 2%. While there are areas with higher sagebrush density, these areas are small, typically covering less than 0.10 acre. Due to the lack of sagebrush and other shrub habitat, sage-grouse use of the area would likely be restricted to temporary use as the birds migrate through the area. For this reason, the proposed mining is expected to have “no effect” on the greater sage-grouse.

4.1.2 Sprague’s Pipit

Sprague’s pipit is a candidate for federal listing (USFWS 2014a). The species is closely tied to native prairie habitat (USFWS 2010). The breeding range is throughout North Dakota; northern

and central Montana east of the Rocky Mountains; northern portions of South Dakota; and northwestern Minnesota. During the breeding season, Sprague's pipits prefer large patches of native grassland with a minimum size requirement thought to be approximately 358 acres to 776 acres. Generally, pipits prefer to breed in well-drained native grasslands with high plant species richness and diversity (Jones, S.L. 2010). They prefer higher grass and sedge cover, less bare ground, and an intermediate average grass height when compared to the surrounding landscape.

Native grassland is present on the amendment area; however, it is intermixed with woodland. The lack of any large open native grassland makes it unlikely the Sprague's pipit would inhabit the site. The location is also on the very edge of the birds' range, making it even less likely pipits would inhabit the amendment area. For this reason the proposed mining will have "no effect" on the Sprague's pipit.

4.1.3 Northern Long-Eared Bat

These bats were listed as Threatened in April 2015. These bats roost predominantly in trees and, to a lesser extent, in man-made structures (USFWS 2013).

The greatest threat to this bat species is the white-nose syndrome disease (USFWS 2013). Other factors impacting the species are loss of forest habitat through development and timber management, mine-land reclamation that closes hibernacula, and wind turbine operations.

Woodland habitat makes up more than half of the amendment area. There is the potential for northern long-eared bats in the area and roosting under bark or within tree crevices.

It was decided through telephone consultation between BPM and WG&F that mitigation was not necessary for this case where no White Nose Syndrome has been recorded. The proposed mining will have "no effect" on the northern long-eared bat.

4.2 Species of Concern

The USFWS response (Addendum B) lists two Species of Concern as potentially occurring in the area: the black-tailed prairie dog (*Cynomys ludovicianus*) and mountain plover (*Charadrius montanus*).

4.2.1 Black-Tailed Prairie Dogs

The black-tailed prairie dog is native to short-grass prairie habitats of western North America where they play an important role, both as an herbivore and as a prey species, in the prairie ecosystem (Hoogland 1995). They avoid heavy brush and tall grass areas due to the reduced visibility these habitats impose.

No prairie dogs or their burrows were observed on or within 0.25 mile of the amendment area although suitable habitat is present. No evidence of past or recent use by this species was found; therefore no impacts to this species will occur with the proposed mining.

4.2.2 Mountain Plovers

The mountain plover was proposed for listing as a threatened species in 1999. On May 11, 2011 the USFWS determined that the mountain plover is not threatened or endangered throughout all or a significant portion of its range. While it is not protected under the Endangered Species Act, it is a migratory bird and, as a result, remains protected under the Migratory Bird Treaty Act. It is also considered a Sensitive Species in the State of Wyoming.

This ground nesting species is typically found in areas of short (less than four inches) vegetation on slopes of less than five percent. Any short grass, very short shrub, or cushion plant community could be considered plover nesting habitat (Parrish et al. 1993), however, mountain plovers prefer shortgrass prairie with open, level or slightly rolling areas dominated by blue grama (*Bouteloua gracilis*) and buffalograss (*Buchloe dactyloides*) (Dinsmore 1981, Kantrud and Kologiski 1982). While there is mixed grass prairie on the amendment area, it is well vegetated and would not provide suitable habitat for mountain plovers. Due to the lack of suitable habitat, the proposed mining is unlikely to impact this species.

4.3 Migratory Birds of Concern

The USFWS IPAC identified 19 migratory bird species potentially occurring in the amendment area that are identified as Natural Resources of Concern. The species and their preferred habitat are listed in Table 4-1. Also listed is the potential for the species to occur on the amendment area based on suitable habitat. Those species that could occur on the amendment area are discussed in more detail.

Table 4-1. Migratory Birds of Concern potentially within the amendment area.

Common Name	Scientific Name	Preferred Habitat ¹	Potential on Site
American bittern	<i>Botaurus lentiginosus</i>	Freshwater marshes with tall vegetation	Unlikely
Bald eagle	<i>Haliaeetus leucocephalus</i>	Near lakes, reservoirs, rivers, marshes and coasts.	Possible
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	Deciduous woods and thickets, especially along large streams.	Unlikely
Brewer's sparrow	<i>Spizella breweri</i>	Strongly associated with sagebrush.	Unlikely
Burrowing owl	<i>Athene cunicularia</i>	In active or active prairie dog burrow.	Unlikely
Cassin's finch	<i>Carpodacus cassinii</i>	Open coniferous forest.	Possible
Dickcissel	<i>Spiza americana</i>	Grassland with dense, moderate to tall vegetation and moderately deep litter.	Possible
Ferruginous hawk	<i>Buteo regalis</i>	Open country; nests in tall trees, on cliff ledges, river-cut banks, hillsides.	Possible
Golden eagle	<i>Aquila chrysaetos</i>	Inhabits open and semi-open country; nests on rock ledges of cliffs or in larger trees.	Possible
Grasshopper sparrow	<i>Ammodramus svannarum</i>	Grassland of intermediate height.	Possible
Lewis's woodpecker	<i>Melanerpes lewis</i>	Open forest and woodland.	Possible
Loggerhead shrike	<i>Lanius ludovicianus</i>	Open country with scattered trees and shrubs.	Possible
Long-billed curlew	<i>Numenius americanus</i>	Breeds on prairies and grassy meadows near water.	Possible

Common Name	Scientific Name	Preferred Habitat ¹	Potential on Site
Prairie falcon	<i>Falco mexicanus</i>	Nests on rocky cliff or steep embankment.	Unlikely
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	Cottonwood bottoms.	Unlikely
Sage thrasher	<i>Oreoscoptes montanus</i>	Sagebrush plains.	Unlikely
Short-eared owl	<i>Asio flammeus</i>	Generally nests on high ground or upland sites; forage and nests on open land with low vegetation.	Possible
Swainson's hawk	<i>Buteo swainsoni</i>	Nests in trees; forages on open terrain with scattered trees.	Possible
Upland sandpiper	<i>Bartramia longicauda</i>	Short grassland habitat; nests on ground among grasses.	Possible

¹Habitat information obtained from:

NatureServe. 2014. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>.

Dorn J.L and R.D. Dorn. 1990. Wyoming Birds. Mountain West Publishing, Cheyenne, WY. 139 pp.

4.3.1 Bald Eagle

Winter roosting habitat for bald eagles most commonly includes areas close to (within 4 km) of coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, and seabirds (Andrew and Mosher 1982, Green 1985, Campbell et al. 1990). Bald eagles preferentially roost in conifers or other sheltered sites in winter in some areas and they typically select larger, more accessible trees (Buehler et al. 1991, 1992).

Woodland habitat is plentiful on the amendment area although the site lacks large bodies of water to provide a winter food source. Due to the plentiful woodland habitat, there is the potential for temporary winter roosting on the site and in the vicinity. It is unlikely bald eagles would inhabit the area for any length of time due to the lack of winter food sources. The selection of this area by an individual bald eagle would be due to chance rather than being attracted to any habitats in the area. Eagle roost surveys were performed by BPM Environmental Specialist, Jennifer Hartman, according to the Newcastle, WY BLM field office protocols. No eagle roosts were observed during these surveys. For this reason, while an individual bird could

be displaced by mining activities, the proposed mining is expected to have no impact on bald eagles.

4.3.2 Cassin's Finch

The Cassin's finch inhabits coniferous and mixed forests that are usually somewhat open. They are also known to enter towns in the winter. They are known to occur in all the mountain ranges of Wyoming with the exception of the Black Hills (Dorn and Dorn, 1990). Since the amendment area is within the Black Hills region of Wyoming, while suitable habitat is present, the occurrence of this species is unlikely except when migrating through the area.

4.3.3 Dickcissel

Dickcissels typically inhabit tall grass habitat and are found along the eastern edge of Wyoming (Dorn and Dorn 1990). Nests are elevated in grasses, forbs, shrubs, or trees and are less commonly found on the ground (NatureServe 2014). The primary threat to these birds appears to be heavy mortality during the non-breeding season when the birds are very concentrated in relatively few nocturnal roosts. Suitable habitat is present on the amendment area and there is the potential for this species within the site or in the vicinity.

4.3.4 Ferruginous Hawk

This species prefers unbroken, semiarid grassland with elevated nesting sites such as trees, rock outcrops, hills and ridgelines (Johnsgard 1990). Ferruginous hawks are closely associated with areas that contain high densities of rodents and lagomorphs (Johnsgard 1990).

Suitable nesting habitat, in the form of trees, is common on the amendment area and there is the potential for this species to both nest and forage in the area. No nests were observed during the 2014 surveys by Real West and no ferruginous hawks were observed on the amendment area or in the vicinity. However, there is the potential for these raptors to nest in the vicinity. Should an active raptor nest become established prior to the initiation of mining activities, construction should be avoided within 1.0 mile of any active ferruginous hawk nest during the nesting season.

4.3.5 Golden Eagle

Golden eagles typically nest on the rock ledges of cliffs but they also nest occasionally in large trees (NatureServe 2014). Due to the prevalence of woodland habitat on the amendment area, there is the potential for this species to nest in the area. No golden eagles or nests were observed during the May and June 2014 surveys and it is unlikely eagles were nesting in the vicinity at that time since no golden eagles were observed. However, there is the potential for golden eagles to nest in the vicinity. Should an active raptor nest become established prior to the initiation of mining activities, construction should be avoided within 0.5 mile of any active golden eagle nest during the nesting season.

4.3.6 Grasshopper sparrow

These sparrows prefer grasslands of intermediate height and are often associated with clumped vegetation interspersed with patches of bare ground (Bent 1968, Blankespoor 1980, Vickery 1996). Other habitat requirements include moderately deep litter and sparse coverage of woody vegetation (Smith 1968, Bent 1968). The sparrow prefers moderately open grasslands and prairies with patchy bare ground, avoiding extensive shrub cover (Vickery 1996). Suitable habitat is present on the amendment area and there is the potential for this bird on the site.

4.3.7 Lewis's Woodpecker

This woodpecker breeds in open forest and woodland that have often been logged or burned, including oak, coniferous forest (primarily ponderosa pine), riparian woodland and orchards (AOU 1983). It is found less commonly in pinyon-juniper. Since suitable habitat is present on the site and in the vicinity, there is the potential for this species to occur on the amendment area.

4.3.8 Loggerhead Shrike

This species prefers relatively open country with scattered trees and shrubs, savanna, desert scrub (southwestern U.S.), and, occasionally, open woodland; it often perches on poles, wires or fenceposts (AOU 1983). Suitable hunting perches are an important part of the habitat (Yosef and Grubb 1994). Loggerhead shrikes nest in shrubs or small trees (deciduous or coniferous) and, in northern latitudes, nest sites include spruce and fir trees (Bent 1950, Brooks 1988). Suitable habitat is present on the site and in the vicinity; therefore, it is possible that this species inhabits the amendment area.

4.3.9 Long-billed Curlew

This shorebird breeds on prairies and grassy meadows, generally near water and it nests in dry prairies and moist meadows (AOU 1983). Nests are usually on the ground in flat area with short grass, sometimes on more irregular terrain, often near rock or other conspicuous structures.

Grassland structure is an important component of long-billed curlew habitat. Long-billed curlews in Nebraska used areas in which 75 percent of the total vertical vegetation density (number of plant contacts with a thin rod inserted vertically into the canopy) was found at heights <10 cm (Dechant et. al. 2003). Preference for areas in which vegetation density is concentrated near ground level may be important in terms of the feeding behavior of long-billed curlews or their ability to see potential predators. Suitable habitat is present on the amendment area and in the vicinity; therefore, it is possible this species inhabits the site.

4.3.10 Short-eared Owl

The short-eared owl ranges over mid and tall grasses and marshes, often hunting during daylight (Sibley 2000). Small rodents, especially voles (*Microtis spp.*), compose a preponderance of its diet, and there have been strong shifts between years in the density and location of breeding owls, depending on fluctuating food resources (Wiggins 2004). The abundance of prairie voles in central South Dakota was positively correlated with vegetation variables that measured the height and density of the vegetation and litter, although vole abundance seemed to be correlated with litter rather than the seral stage of prairie vegetation (Fritcher 1998). Short-eared owls build their nests on the ground in open country (Clark 1975), and nests found in the Dakotas have been in cover about 12 to 24 inches high and were well concealed from the sides (Duebbert and Lokemoen 1977). Suitable habitat is present on the amendment area and in the vicinity; therefore, it is possible this species inhabits the site. Should an active nest become established prior to the initiation of mining activities, construction should be avoided within 0.25 mile of any active short-eared owl nest during the nesting season.

4.3.11 Swainson's Hawk

Swainson's hawks inhabit open country such as grassland, shrubland, and agriculture areas (NatureServe 2014). They also are found within urban areas. These raptors nest in trees, usually

those bordering agricultural fields, in wetland borders, and on abandoned farms. Due to the prevalence of woodland habitat on the amendment area, there is the potential for this species to nest in the area. No Swainson's hawks or nests were observed during the May and June 2014 surveys and it is unlikely these hawks were nesting in the vicinity at that time since none were observed flying in the area. However, there is the potential for Swainson's hawks to nest in the vicinity. Should an active nest become established prior to the initiation of mining activities, construction should be avoided within 0.25 mile of any active nest during the nesting season.

4.3.12 Upland Sandpiper

The upland sandpiper prefers meadows and hay fields (Dorn and Dorn 1990). Since mixed grass prairie is common on the site and in the vicinity, there is the potential for this species on the amendment area.

4.4 Big Game

Four big game species occur in the amendment area: elk (*Cervus canadensis*), pronghorn antelope (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), and white-tailed deer (*Odocoileus virginianus*). All four species were observed on the amendment area during the May and June 2014 surveys. The amendment area lacks designated crucial range, parturition areas, or migration routes for all of these big game species (WISDOM 2014).

The proposed amendment area is within yearlong range for the North Black Hills pronghorn herd and the Black Hills mule deer herd. The proposed mining is unlikely to have a permanent effect on big game since no crucial habitats are present. Displacement of individuals is possible during mining but suitable habitat is in the vicinity.

In the correspondence from the WGFD (Addendum B), it is recommended that reclamation efforts include legume, shrub and tree planting that will benefit mule deer. In addition, they suggest reclamation efforts should not emphasize pond construction on abandoned mine sites. Instead, upland reclamation is preferred. This will reduce habitat available for the arthropod vectors of West Nile Virus, Blue Tongue Virus, and Epizootic Hemorrhagic Disease which can severely impact local sage-grouse and mule deer populations. Pond re-construction has been

requested by the surface owner, ponds will be designed with steeper banks, than existing, to reduce mud flat development and minimize mosquito and midge reproduction.

4.4 Upland Game Birds

Wild turkeys (*Meleagris gallopavo*) inhabit somewhat open woodlands, especially ponderosa pine or riparian areas (Dorn and Dorn 1990). Wild turkeys were observed on the amendment area during the May and June 2014 surveys. Individual birds could be displaced by mining activity but similar woodland habitat is common in the vicinity.

Sharp-tailed grouse (*Tympanuchus phasianellus*) require a mosaic of dense grass and shrubs with rich forb and insect foods during nesting and brood-rearing. During winter, sharp-tails often rely on riparian areas and other sites that support deciduous trees and shrubs for feeding, roosting, and escape cover; they also utilize non-native cultivated grains and hedgerow species (Parker 1970, Oedekoven 1985). Suitable habitat is present but is not abundant on the amendment area; therefore the proposed mining is not expected to have any impact on this species.

4.5 Raptors

No active raptor nests were located on the amendment area. One small stick nest was observed approximately 0.10 mile outside the extreme northeast corner of the amendment area (Latitude 44.8995; Longitude 104.33588). This stick nest, approximately 25 feet off the ground, is shown in Photo A-12, Addendum A. The nest was in fair condition but, based on the size, may have been an old black-billed magpie (*Pica hudsonia*) nest instead of a raptor nest.

Three raptors were observed flying over the amendment area during the May and June 2014 surveys: golden eagle, northern harrier (*Circus cyaneus*), and turkey vulture (*Cynomys ludovicianus*). Vocalizations from a great horned owl (*Bubo virginianus*) were heard at night but no owls were observed. During the January and February 2016 surveys, one golden and one bald eagle were observed flying over and vocalizations from a great horned owl were heard in the evening, but no owls were observed.

Suitable raptor nesting habitat is plentiful on the amendment area in the woodland habitat. Additional raptor species that could utilize the site and vicinity for foraging and nesting include red-tailed hawks (*Buteo jamaicensis*), Swainson's hawks, American kestrels (*Falco sparverius*), ferruginous hawks, and prairie falcons (*Falco mexicanus*). Rough-legged hawks (*Buteo lagopus*) likely forage in the area during the winter.

No active raptor nests were observed during the 2014 surveys and it is unlikely raptors were nesting in the vicinity at that time since none were seen or heard. However, there is the potential for raptors to nest in the vicinity. Should an active nest become established prior to the initiation of mining activities, construction should be avoided within 0.25 mile of any active raptor nest during the nesting season. The exception is a 1-mile buffer for ferruginous hawks. If an active bald eagle nest is found, the USFWS should be contacted to determine the spatial buffer distance.

4.6 Waterfowl and Shorebirds

There are four reservoirs within the amendment area, as described in Section 3.1.4. Waterfowl were most abundant on the largest reservoir but mallards (*Anas platyrhynchos*) were observed on the northern and southern ponds as well. Mallards with chicks were observed on the large reservoir, indicating nesting occurred at that body of water. The only other waterfowl observed were Canada geese (*Branta canadensis*) but it is likely a number of other species utilize the ponds either as nesting areas or as temporary resting areas. The only shorebird observed was the killdeer (*Charadrius vociferous*), while sandhill crane (*Grus canadensis*) vocalizations were heard in the early evening.

4.7 Passerine Birds

A number of passerine bird species were observed on the amendment area and are listed in Table 4-2. Species observed and expected are those typically inhabiting prairie and woodland habitats.

There is the potential for mining activities to disturb and destroy active passerine bird nests if construction occurs during the nesting season, typically from May 1 through July 15. Due to the abundance of similar habitat in the vicinity, no impacts to passerine bird populations are expected.

4.8 Other Mammals

During the site surveys all wildlife species observed were noted and identified. The only mammals observed that have not been mentioned in previous sections is the desert cottontail (*Sylvilagus audubonii*), white-tailed jackrabbit (*Lepus townsendii*), and red squirrel (*Tamiasciurus hudsonicus*). In addition, sign was observed for the coyote (*Canis latrans*) and the northern pocket gopher (*thomomys talpoides*).

Based on geography and habitat, those mammal species potentially occurring on the site not counting big game species already mentioned are listed in Table 4-3.

While individual animals may be disturbed during mining operations, similar habitat is in the vicinity; therefore the proposed mining is not expected to impact any small mammal populations.

Table 4-3. Additional mammal species potentially occurring within the WSL04 amendment area.

Common Name	Scientific Name
Long-legged myotis	<i>Myotis volans interior</i>
Big brown bat	<i>Eptesicus fuscus</i>
Townsend's big-eared bat	<i>Plecotus townsendii pallescens</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
Hoary bat	<i>Lasiurus cinereus</i>
Long-eared myotis	<i>Myotis evotis</i>
Northern grasshopper mouse	<i>Onychomys leucogaster</i>
White-footed mouse	<i>Peromyscus leucopus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>
Thirteen-lined ground squirrel	<i>Spermophilus tridecemlineatus</i>
Least chipmunk	<i>Tamias minimus</i>
Plains pocket gopher	<i>Geomys bursarius</i>
Northern pocket gopher	<i>Thomomys talpoides</i>
Hispid pocket mouse	<i>Chaetodipus hispidus</i>
Olive-backed pocket mouse	<i>Perognathus fasciatus</i>
Prairie vole	<i>Microtus ochrogaster</i>
Meadow vole	<i>Microtus pennsylvanicus</i>
Long-tailed vole	<i>Microtus longicaudus longicaudus</i>
Bushy-tailed woodrat	<i>Neotoma cinerea</i>
White-tailed jackrabbit	<i>Lepus townsendii</i>
Desert cottontail	<i>Sylvilagus audubonii</i>
Porcupine	<i>Erethizon dorsatum</i>
Long-tailed weasel	<i>Mustela frenata</i>
Striped skunk	<i>Mephitis mephitis</i>
Badger	<i>Taxidea taxus</i>
Raccoon	<i>Procyon lotor</i>
Coyote	<i>Canis latrans</i>
Swift fox	<i>Vulpes velox</i>
Red fox	<i>Vulpes vulpes</i>
Bobcat	<i>Lynx rufus</i>

4.9 Reptiles and Amphibians

Boreal chorus frogs (*Pseudacris maculata*) were present in the reservoirs on the amendment area. It is possible that the northern leopard frog (*Lithobates pipiens*) is also present in the largest reservoir but a positive identification was not made. It is also possible that tiger salamanders (*Ambystoma myvortium*) are present, although none were observed.

The only lizard species expected on the amendment area is the short-horned lizard (*Phrynosoma douglassi*). Snake species potentially occurring in the region are the plains hognose snake (*Heterodon nasicus*), eastern yellowbelly racer (*Coluber constrictor*), pale milk snake (*Lampropeltis triangulum*), bullsnake (*Pituophis melanoleucas*), wandering garter snake (*Thamnophis elegans*), and prairie rattlesnake (*Crotalus viridis*). While individual reptile and amphibian species could be disturbed or even destroyed during mining operations, there is additional suitable habitat in the area. No impacts to reptile or amphibian populations are anticipated.

4.10 Fish

While there are four reservoirs on the amendment area, no evidence of fish in any of the reservoirs was found. It is likely water levels fluctuate considerably and, should water remain during the winter, it likely freezes and prevents the propagation of any fish species.

5.0 MITIGATION

Potential impacts and mitigation measures for wildlife on the WY State Lease 42804 amendment are listed in Table 5-1. Mining activities will result in “no effect” to threatened or endangered wildlife species since none are expected in the area. The site is outside any sage-grouse core area and more than two miles from any occupied lek; therefore no stipulations are needed for this species. Habitat for the Sprague’s pipit is lacking or of minimal size to preclude any use aside from temporary migrations through the area; therefore the proposed mining will have “no effect” on this species.

Habitat for the northern long-eared bat is present. It was decided through BPM consultation with WYG&F (via telephone) that mitigation was not necessary for this case where no White Nose Syndrome has been recorded. The proposed mining will have “no effect” on the northern long-eared bat.

No raptor nests were found on the claim site but one small nest in fair conditions was found 0.10 mile outside the permit boundary. Based on the condition and size of the nest, it is unlikely the nest will become active in the future but, should that occur or if any new nest or previously undocumented nest is found prior to the initiation of mining activities, construction should be avoided within 0.25 mile of any active raptor nest during the nesting season. The spatial buffer is 1.0 mile for ferruginous hawks and the distance for bald eagles is variable and should be determined through consultation with the USFWS.

Winter roosting habitat for bald eagles is present although its use by bald eagles is likely only for short-term resting sites due to the lack of any large bodies of water or big game concentration areas that might provide a winter food supply. Bald eagles are more likely to roost along the Belle Fourche River, approximately 0.6 miles northwest of the amendment area. Winter surveys were conducted by BMP personnel in January and February 2016. One bald eagle was confirmed more than 1.0 mile from the site but no bald eagles were observed roosting within the amendment area. If bald eagles are observed consistently on the site, indicating a communal roost might be present, USFWS personnel will be contacted to determine if mitigation is needed. The area will be surveyed for winter bald eagle roost sites prior to and throughout mine activity.

Table 5-1. Summary of Environmental Consequences and Mitigation Measures for the WY State Lease 42804 Amendment Area.

Resource/Impact	Mitigation
Threatened and Endangered Species: No federally listed species are expected on the site.	No mitigation needed.
Proposed Species: Northern long-eared bat	No mitigation needed.
Candidate Species: Sage-grouse: the site is outside any core area and more than two miles from any occupied lek. Sprague’s pipit: Suitable habitat is lacking.	No mitigation needed.
Resource/Impact	Mitigation

<p>Bald Eagles Roosting habitat is present but winter food source is lacking; use limited to temporary roosting only.</p>	<p>Winter roosting surveys were conducted. Due to the lack of a winter food supply, the establishment of a communal roost site is unlikely. No communal roosts were observed. If a bald eagle nest is found, contact USFWS to determine spatial buffer distance.</p>
<p>Mountain Plover Habitat is lacking and no impacts are expected.</p>	<p>No mitigation needed.</p>
<p>Black-tailed prairie dogs Habitat is present but no prairie dogs or their burrows were observed.</p>	<p>No mitigation needed.</p>
<p>Migratory Birds of Concern Habitat is present for several avian species considered migratory birds of concern.</p>	<p>To minimize potential for destruction of active nests, remove shrub habitat prior to or after the nesting season.</p>
<p>Big Game No crucial or critical range is present.</p>	<p>Reclamation efforts should include legume, shrub and tree planting. Reclamation efforts should not emphasize pond construction. If any ponds are constructed, they should be designed with steep banks to reduce mud flat development.</p>
<p>Game Birds Sharp-tailed grouse: Suitable habitat is lacking. Wild turkeys: Suitable habitat is present and this species was observed in the area.</p>	<p>No mitigation needed.</p>
<p>Raptors No active raptor nests found.</p>	<p>Should an active raptor nest become established prior to the initiation of mining activities, construction should be avoided within 0.25 mile of any active raptor nest during the nesting season and 1.0 mile for ferruginous hawks.</p>
<p>Waterfowl and Shorebirds Stock ponds present; habitat is present but similar habitat is in adjacent areas.</p>	<p>No mitigation needed.</p>
<p>Passerine Birds Prairie and woodland species common; habitat is plentiful in the area.</p>	<p>No mitigation needed.</p>
<p>Other Mammals Prairie and woodland species expected; habitat is plentiful in the area.</p>	<p>No mitigation needed.</p>
<p>Amphibians and Reptiles Amphibian and reptile species possible are those typically found in prairie and woodland habitats; similar habitat is plentiful in the area.</p>	<p>No mitigation needed</p>
<p>Fish Stock ponds are present but fisheries are not established.</p>	<p>No mitigation needed</p>

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Bentonite Performance Minerals
Permit 267C – WY State Lease 42804 Amendment
Supporting Information-2.9

ADDENDUM A

Photographs of the Wyoming State Lease 42804 Amendment Site

Photo A-1. The WSL04 amendment site is dominated by a combination of mixed grass prairie and woodland habitats.



Photo A-2. The woodland habitat varies in tree density across the claim site. Stands of bur oak tend to have higher density in areas of new growth.





Photo A-5. Mixed grass prairie is found throughout the permit area.



Photo A-6. Patches of mixed grass prairie include big sagebrush.



Photo A-7. Disturbed habitat is found along the southern boundary of the permit area.



Photo A-8. Bottomland meadow habitat is found immediately west of the largest reservoir on the permit areas.



Photo A-9. A narrow strip of bottomland meadow is found within three drainage bottoms within the claim site.



Bentonite Performance Minerals
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Photo A-10. Open water is found in several reservoirs on the permit area that also support a perimeter of emergent vegetation.



Photo A-10. The largest reservoir on site covers 2.72 acres and includes open water as well as emergent wetland and marsh around the perimeter.



Photo A-12. A small stick nest was observed in a bur oak tree.



ADDENDUM B

Correspondence from:

Wyoming Game and Fish Department

U.S. Fish and Wildlife Service



WYOMING GAME AND FISH DEPARTMENT

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August 26, 2014

WER 8390.33
Real West Natural Resource Consulting
Permitting Amendment Requirements
Wyoming State Lease 42804 Permit Amendment
760 –acre site approximately 8 miles west of the Colony plant
Bentonite Performance Minerals
Permit 267C
Crook County

Amber Travsky
Owner/Wildlife Biologist
Real West Natural Resource Consulting
1116 Albin Street
Laramie, WY 82072

Dear Ms. Travsky:

The staff of the Wyoming Game and Fish Department has reviewed the Wyoming State Lease 42804 permit amendment for Bentonite Performance Minerals, Inc's 760-acre site which is approximately 8 miles west of the Colony plant in Crook County. We offer the following comments for your consideration.

Terrestrial Considerations:

We have concerns about cumulative losses of winter habitat for deer, especially mule deer, in this part of Wyoming. To minimize impacts to winter habitat, we recommend reclamation measures include legume, shrub and tree plantings that will benefit mule deer. In addition, we suggest reclamation efforts should not emphasize pond construction on abandoned mine sites. Rather, upland reclamation should occur. This also will reduce habitat available for the arthropod vectors of West Nile Virus, Blue Tongue Virus, and Epizootic Hemorrhagic Disease which can severely impact local sage-grouse and mule deer populations, respectively. If any ponds are constructed, they should be designed with steep banks to reduce mud flat development and minimize mosquito and midge reproduction.

The permit area should be surveyed for winter, bald eagle roost sites and for those species of greatest conservation need with delineated seasonal ranges and potential habitat within the permit boundary. The online WISDOM can facilitate wildlife surveys needs.

"Conserving Wildlife - Serving People"

Amber Travsky
August 26, 2014
Page 2 of 3 – WER 8390.33

Aquatic Considerations:

To minimize impacts to the aquatic resources of nearby waterways, we recommend the following:

- Accepted best management practices be implemented to ensure that all sediments and other pollutants are contained within the boundaries of the work area. Disturbed areas that are contributing sediment to surface waters as a result of project activities should be promptly re-vegetated to maintain water quality.
- Equipment should be serviced and fueled away from streams and riparian areas. Equipment staging areas should be at least 300 feet from riparian areas.
- Preventing the spread of aquatic invasive species (AIS) is a priority for the State of Wyoming, and in many cases, the intentional or unintentional spread of organisms from one body of water to another would be considered a violation of State statute and Wyoming Game and Fish Commission Regulation. To prevent the spread of AIS, the following is required:
 1. If equipment has been used in a high risk infested water [a water known to contain Dreissenid mussels (zebra/quagga mussels)], the equipment must be inspected by an authorized aquatic invasive species inspector recognized by the state of Wyoming prior to its use in any Wyoming water during all times of year.
 2. Any equipment entering the state by land from March through November (regardless of where it was last used), must be inspected by an authorized aquatic invasive species inspector prior to its use in any Wyoming water.
 3. If aquatic invasive species are found, the equipment will need to be decontaminated by an authorized aquatic invasive species decontaminator.
 4. Any time equipment is moved from one 4th level (8-digit Hydrological Unit Code) watershed to another within Wyoming, the following guidelines are recommended:
DRAIN: Drain all water from watercraft, gear, equipment, and tanks. Leave wet compartments open to dry.
CLEAN: Clean all plants, mud, and debris from vehicle, tanks, watercraft, and equipment.
DRY: Dry everything thoroughly. In Wyoming, we recommend drying for 5 days in summer (June - August); 18 days in Spring (March - May) and Fall (September - November); or 3 days in Winter (December - February) when temperatures are at or below freezing.
 5. Any equipment used in a Wyoming water that contains AIS, must be inspected before use in another water. Species currently found in Wyoming waters include New

Amber Travsky
August 26, 2014
Page 3 of 3 – WER 8390.33

Zealand mudsnail, Asian clam, and curly pondweed. Information on currently affected waters can be found at:
http://wgfd.wyo.gov/web2011/Departments/Fishing/pdfs/AIS_WYWATER_MONITOR130005236.pdf

*A list of high risk infested waters and locations in Wyoming to obtain an AIS inspection can be found at: wgfd.wyo.gov/AIS.

Thank you for the opportunity to comment. If you have any questions or concerns, please contact Paul Mavrakis, Sheridan Region Fisheries Supervisor, at 307-672-7418 Ext. 236, or Joe Sandrini, Senior Wildlife Biologist, at 307 746-4646.

Sincerely,



 John Kennedy
Deputy Director

JK/mf/gb

cc: USFWS
Chris Wichmann, Wyoming Department of Agriculture, Cheyenne
Paul Mavrakis, Sheridan Region
Justin Binfet, Casper Region
Joe Sandrini, Casper Region

From: [Joe Sandrini](#)
To: [Jennifer Hartman](#)
Cc: [Tyler Tebrault](#)
Subject: [EXTERNAL] Re: WYG&F Letter WER 8390.33
Date: Tuesday, May 03, 2016 11:44:13 AM

Since it is private surface it is really up the landowner.

But, I would encourage you all to look at stock dam designs / fencing options to see if there are some ways to reduce the surface area of shallow water and especially mud forming areas. The mosquito concern is for west Nile virus (which may not be an issue here as you noted few sage grouse in the area) However, the mud leads to concerns with epizootic hemorrhagic disease or EHD in deer and antelope. A little note on EHD from an article in press that I just reviewed:

"EHD is transmitted by the gnat *Culicoides sonorensis*. Deer are particularly susceptible. Whitetail herds can sometimes suffer up to 95 percent mortality. The disease has a fairly simple method of transmission. In late summer and early fall, the gnat breeds in mud around the edges of receding water holes. As animals come to water, they encounter the gnats. Stock ponds expose mud as they dry out and stock tanks that run continuously and overflow also create mud – both contribute to conditions favored by gnats."

Also - cattle and horses can get EHD, but normally it is not a big deal and producers do not even know the animals are sick. All depends upon the strain. EHD is also related to Blue Tongue virus which is spread the same way and can be a problem in sheep.

Hope this helps,

Joe Sandrini
wildlife biologist
Wyoming Game & Fish Dept.
Newcastle, WY
307-746-4646

On Tue, May 3, 2016 at 11:08 AM, Jennifer Hartman
<Jennifer.Hartman@halliburton.com> wrote:

Good morning Joe,

I am writing for more clarification regarding WYG&F Letter WER 8390.33. I have submitted the amendment application for which the letter was requested to DEQ/LQD District III in Sheridan, WY and we (BPM and DEQ) would like to get WYG&F opinion on the matter of the recommendation that no stock ponds be created in this area. The amendment lands are privately owned and contain state mineral lease. The landowner has requested replacement of all of the ponds that are mined through. Bentonite Performance Minerals (BPM) would like to replace these established ponds for the surface owner as our relationships with

landowners is very important to our business. It is noted that the recommendation states that ponds may be replaced with steep sides slopes, however this practice is not conducive to livestock use and that is what these ponds are constructed for. Establishing steep slopes is a slipping hazard for livestock that utilize the water, we have concern over that and prefer to avoid steep slope construction on stock ponds.
In addition, this area is not located in Sage Grouse Connectivity or Core and none of the amendment area contains sage grouse habitat. Therefore it should have little to no effect on sage grouse.
What is WYG&F's stance on reclaiming pre-mine stock ponds for private landowners? For this case specifically may BPM move forward with stock pond re-establishment as requested by the surface owner?

Jennifer Hartman
Environmental Specialist

554 US Hwy 212
Belle Fourche, SD 57717

Email:
jennifer.hartman@halliburton.com <mailto:jennifer.hartman@halliburton.com>

Office: +1 307-896-8507
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E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
5353 Yellowstone Road, Suite 308A
Cheyenne, Wyoming 82009



In Reply Refer To:
06E13000/WY14CPA0161

AUG 13 2014

Amber Travsky, Owner/Biologist
Real West Natural Resource Consulting
1116 Albin Street
Laramie, Wyoming 82072

Dear Ms. Travsky:

Thank you for your letter dated July 28, 2014, received in our office on July 30, regarding the proposed permit amendment identified as Wyoming State Lease 42804 for Bentonite Performance Minerals, Inc. (BPM). The permit amendment area is a 760-acre site located 8 miles west of the BPM plant in Colony, Wyoming at T57N, R62W, SE1/4SW1/4 and SW1/4SE1/4 of Section 30, W1/2NW1/4 of Section 32, and most of Section 31 in Crook County.

You have requested information regarding species listed under the Endangered Species Act of 1973, as amended (ESA), 16 U.S.C. 1531 *et seq.* In response to your request, the U.S. Fish and Wildlife Service (Service) is providing recommendations for protective measures for threatened and endangered species in accordance with the ESA. We are also providing recommendations concerning migratory birds in accordance with the Migratory Bird Treaty Act (MBTA), 16 U.S.C. 703, and the Bald and Golden Eagle Protection Act (Eagle Act), 16 U.S.C. 668. Wetlands are afforded protection under Executive Orders 11990 (wetland protection) and 11988 (floodplain management), as well as section 404 of the Clean Water Act. Other fish and wildlife resources are considered under the Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661 *et seq.*, and the Fish and Wildlife Act of 1956, as amended, 16 U.S.C. 742a-742j.

The Service has transitioned to a new online program to deliver species lists: the Information, Planning, and Conservation (IPaC) system. To obtain a current list of endangered, threatened, proposed, and candidate species and their designated and proposed critical habitat that occur in or may be affected by actions associated with your proposed project, please visit our website at <http://ecos.fws.gov/ipac/>. This website will provide you with an immediate response to your species list request. The response will also include information regarding other Service trust authorities.

We also request that you address the potential for Migratory Birds of High Federal Interest (MBHFI) to nest within or adjacent to the proposed permit area. The Service does not maintain site-specific information on the nesting locations of the birds on the MBHFI list (copy enclosed). Site-specific nest location information may be available from the Wyoming Game and Fish Department (WGFD), applicable land management agencies, or through species-specific surveys conducted on site. If site-specific information indicates that MBHFI do occur at or in the vicinity (e.g., 1 mile) of the proposed project area, we can provide additional site and species-specific recommendations.

In accordance with section 7(c) of the ESA, we have determined that the following species or their designated habitat may be present in the proposed project area. We would appreciate receiving information as to the current status of each of these species within the proposed project area.

**Endangered, Threatened, Proposed, and Candidate Species
 and Their Designated and Proposed Critical Habitat That Occur
 In or May Be Affected by Actions in the Proposed Project Area**

August 2014

<u>Species</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Habitat</u>
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	Threatened	Seasonally moist soils and wet meadows of drainages below 7,000 ft. elevation
Greater Sage-grouse	<i>Centrocercus urophasianus</i>	Candidate	Sagebrush communities
Sprague's Pipit	<i>Anthus spragueii</i>	Candidate	Open grasslands/prairies
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Proposed	Under bark, in cracks, crevices, and cavities of trees in upland forests; also in buildings and under bridges

Ute Ladies'-tresses: Ute ladies'-tresses (*Spiranthes diluvialis*) is a perennial orchid, 8 to 20 inches tall, with white or ivory flowers clustered into a spike arrangement at the top of the stem. Ute ladies'-tresses typically blooms from late July through August. However, it may bloom in early July or still be in flower as late as early October, depending on location and climatic conditions. Ute ladies'-tresses is endemic to moist soils near wetland meadows, springs, lakes, and perennial streams where it colonizes early successional point bars or sandy edges. The elevation range of known occurrences is 4,200 to 7,000 feet (although no known populations in Wyoming occur above 5,500 feet). Soils where Ute ladies'-tresses have been found typically range from fine silt/sand, to gravels and cobbles, as well as to highly organic and peaty soil types. Ute ladies'-tresses is not found in heavy or tight clay soils or in extremely saline or alkaline soils. Ute ladies'-tresses typically occurs in small, scattered groups found primarily in areas where vegetation is relatively open.

Many orchid species take 5 to 10 years to reach reproductive maturity; this appears to be true for Ute ladies'-tresses (FR 57 2048). Furthermore, reproductively mature plants do not flower every year. For these reasons, 2 to 3 years of surveys are necessary to determine presence or absence of Ute ladies'-tresses. Surveys should be conducted by knowledgeable botanists trained in conducting rare plant surveys.

Greater Sage-grouse: The greater sage-grouse (*Centrocercus urophasianus*) is a candidate for listing under the Act (75 FR 13910, March 23, 2010). Please see our recent *Federal Register* notice for detailed information concerning the status of the species; this notice is available at http://www.fws.gov/wyominges/Pages/Species/Findings/GrtSageGrouse_CandidateBulletin.html. Greater sage-grouse are dependent on sagebrush habitats year-round. Habitat loss and degradation, as well as loss of population connectivity, have been identified as important factors contributing to the decline of greater sage-grouse populations rangewide. Therefore, any activities that result in loss or degradation of sagebrush habitats that are important to this species should be closely evaluated for their impacts to sage-grouse.

We recommend you contact the Wyoming Game and Fish Department to identify important greater sage-grouse habitats, recommended seasonal restrictions within the project area, and appropriate measures to minimize potential impacts from the proposed project. The Service recommends surveys and mapping of important greater sage-grouse habitats where local information is not available. The results of these surveys should be used in project planning to minimize potential impacts to this species. No project activities that may exacerbate habitat loss or degradation should be permitted in important habitats.

Sprague's Pipit: Sprague's pipit (*Anthus spragueii*) is a candidate for listing under the Act (75 FR 56028; Sept. 15, 2010). Sprague's pipit is a relatively small ground nesting passerine bird that breeds in open grasslands of the Northern Great Plains. Males and females are similar in appearance with buff and blackish streaking on the crown, nape, and underparts, and a plain buff-colored face with a large eye-ring. Sprague's pipit is closely tied to native prairie habitat and breeds in the north-central United States in Minnesota, Montana, North Dakota, and South Dakota, as well as south-central Canada. Wintering occurs in Arizona, Texas, Oklahoma, Arkansas, Mississippi, Louisiana, and New Mexico. A number of threats to its continued existence have been identified including: habitat fragmentation on the breeding grounds, energy development, roads, and the inadequacy of existing regulatory mechanisms.

Northern Long-Eared Bat: The northern long-eared bat (*Myotis septentrionalis*) is proposed for listing under the ESA as an endangered species (October 2, 2013; 78 FR 61046). Critical habitat is not proposed at this time. This bat is a medium-sized bat, distinguished from other *Myotis* species by its characteristically large ears and long, pointed tragus (projection of skin in front of the external ear). Northern long-eared bats are found throughout eastern and central North America and occur in the extreme northeastern portions of Wyoming. Northern long-eared bats emerge at dusk to fly through the understory of forested hillsides and ridges feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch in flight using echolocation, or by gleaning (picking) from vegetation. In the summer, male and reproductive female bats roost singly or in colonies in cracks, crevices, cavities, and under the bark of live and dead trees, while other males and non-reproductive females roost in cooler places like caves and

mines. Northern long-eared bats can also be found roosting in buildings and under bridges. Breeding occurs in late summer and fall when bats swarm at entrances of hibernacula; however, females delay fertilization until spring when they emerge from hibernation.

The northern long-eared bat is threatened by white-nose syndrome (WNS), a disease caused by the cold-loving fungus, *Pseudogymnoascus (Geomyces) destructans*. First observed in New York in 2006, WNS has spread rapidly across the Northeast and into the Midwest and Southeast. Throughout the range of WNS, up to 99 percent of infected bats die from the disease. Although there is uncertainty about the spread of WNS, experts agree that the fungus will likely spread throughout the United States. The northern long-eared bat is also threatened by the loss and degradation of summer habitat caused by human development, and by collision with or barotrauma (injury to the lungs due to a change in air pressure) caused by wind turbines. Mine closures and vandalism of winter roosts and hibernacula also pose threats to this species. In areas that may provide potential habitat for the northern long-eared bat, we recommend tree-clearing and controlled burns be avoided during the roosting season (approximately March through September) unless an emergence or other survey developed in coordination with the Service determines that no northern long-eared bats are using the area. Actions to benefit the northern long-eared bat include installing bat boxes in a safe, sunny location (instructions at <http://www.fws.gov/midwest/endangered/mammals/inba/pdf/BatBoxPlanForIN.pdf>), protecting hibernacula, and reducing insecticide use that targets prey species of the northern long-eared bat.

SPECIES OF CONCERN

Black-tailed Prairie Dog: The range of the black-tailed prairie dog (*Cynomys ludovicianus*) once spanned the short and mixed grass prairies of North America east of the Rockies from southern Canada to northern Mexico. This species still occurs over much of its historic range; although, in more widely scattered large colonies. Black-tailed prairie dogs occur within the eastern third of Wyoming. A population thought to have been intentionally introduced outside of this range also occurs in the Bighorn Basin. We encourage the conservation of prairie dog colonies for their value to the prairie ecosystem and the many species that rely on them. Threats that may be significant to conserving black-tailed prairie dog populations include disease (sylvatic plague) and some control programs (poisoning). Prairie dogs serve as the primary prey species for the black-footed ferret (*Mustela nigripes*) and several raptors, including the golden eagle (*Aquila chrysaetos*) and ferruginous hawk (*Buteo regalis*). Prairie dog colonies and burrows also provide shelter or nest sites for species like the mountain plover (*Charadrius montanus*) and burrowing owl (*Athene cunicularia*). Because black-tailed prairie dog colonies in Wyoming do not currently support any ferret populations, black-footed ferret surveys are not necessary within Wyoming. However, we do encourage evaluating black-tailed prairie dog colonies for the potential reintroduction of black-footed ferrets.

Mountain Plover: On May 12, 2011, the Service announced the decision to withdraw the proposed listing of the mountain plover (*Charadrius montanus*) as a threatened species under the Act (76 FR 27756). The mountain plover is a migratory, terrestrial shorebird averaging 8 inches (21 centimeters) in body length. Mountain plovers are light brown above and white below, but lack the contrasting band characteristic of other plovers. They feed on invertebrates, primarily beetles, crickets, and ants. Mountain plovers arrive at their breeding grounds in the

western Great Plains and Rocky Mountain states in the spring. Southbound migration is prolonged, starting in late June and continuing through October.

We encourage project planners to develop and implement protective measures if mountain plovers, or suitable mountain plover habitat, occur within project areas. Measures to protect the mountain plover from further decline may include: (1) avoidance of suitable habitat during the plover nesting season (April 10 through July 10), (2) prohibition of ground disturbing activities in prairie dog towns, and (3) prohibition of any permanent above ground structures that may provide perches for avian predators or deter plovers from using preferred habitat. Suitable habitat for nesting mountain plovers includes grasslands, mixed grassland areas and short-grass prairie, shrub-steppe, plains, alkali flats, agricultural lands, cultivated lands, sod farms, and prairie dog towns.

MIGRATORY BIRDS

The MBTA, enacted in 1918, prohibits the taking of any migratory birds, their parts, nests, or eggs, except as permitted by regulations, and does not require intent to be proven. Section 703 of the MBTA states, “Unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to ... take, capture, kill, attempt to take, capture, or kill, or possess ... any migratory bird, any part, nest, or eggs of any such bird...” The Eagle Act prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing. Work that could lead to the take of a migratory bird or eagle, their young, eggs, or nests (for example, if you are going to erect new roads, or power lines in the vicinity of a nest), should be coordinated with our office before any actions are taken.

Removal or destruction of such nests or causing abandonment of a nest could constitute violation of one or both of the above statutes. Removal of any active migratory bird nest or nest tree is prohibited. For golden eagles, inactive nest permits are limited to activities involving resource extraction or human health and safety. Mitigation, as determined by the local Service field office, may be required for loss of these nests. No permits will be issued for an active nest of any migratory bird species, unless removal of an active nest is necessary for reasons of human health and safety. Therefore, if nesting migratory birds are present on, or near the project area, timing is a significant consideration and needs to be addressed in project planning.

If nest manipulation is proposed for this project, the project proponent should contact the Service’s Migratory Bird Office in Denver at 303-236-8171 to see if a permit can be issued for this project. No nest manipulation is allowed without a permit. If a permit cannot be issued, the project may need to be modified to ensure take of a migratory bird or eagle, their young, eggs or nest will not occur.

The Service’s Wyoming Field Office has compiled a list of Migratory Bird Species of High Federal Interest (Enclosure) from the ongoing work among State and Federal agencies, non-governmental organizations, and the interested public that produced the Wyoming Bird Conservation Plan. This list will now serve as our list of Migratory Bird Species of Management

Concern in Wyoming, in place of the previous list based on the Migratory Nongame Birds of Management Concern in the United States: the 1995 List.

EAGLE/RAPTOR

Enclosed please find our general recommendations for the protection of eagles and other raptor species. We strongly encourage project proponents to fully implement the protective measures described in the enclosures in order to help ensure compliance with the MBTA and the Eagle Act. We are also available to assist you in developing a project specific plan to address the MBTA and Eagle Act concerns.

WETLANDS/RIPARIAN AREAS

Wetlands or riparian areas may be impacted by the proposed project. Wetlands perform significant ecological functions which include: (1) providing habitat for numerous aquatic and terrestrial wildlife species, (2) aiding in the dispersal of floods, (3) improving water quality through retention and assimilation of pollutants from storm water runoff, and (4) recharging the aquifer. Wetlands also possess aesthetic and recreational values. If wetlands may be destroyed or degraded by the proposed action, those wetlands in the project area should be inventoried and fully described in terms of their functions and values. Acreage of wetlands, by type, should be disclosed and specific actions should be outlined to avoid, minimize, and compensate for all unavoidable wetland impacts.

Riparian or streamside areas are a valuable natural resource and impacts to these areas should be avoided whenever possible. Riparian areas are the single most productive wildlife habitat type in North America. They support a greater variety of wildlife than any other habitat. Riparian vegetation plays an important role in protecting streams, reducing erosion and sedimentation as well as improving water quality, maintaining the water table, controlling flooding, and providing shade and cover. In view of their importance and relative scarcity, impacts to riparian areas should be avoided. Any potential, unavoidable encroachment into these areas should be further avoided and minimized. Unavoidable impacts to streams should be assessed in terms of their functions and values, linear feet and vegetation type lost, potential effects on wildlife, and potential effects on bank stability and water quality. Measures to compensate for unavoidable losses of riparian areas should be developed and implemented as part of the project.

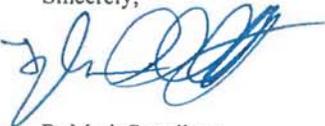
Plans for mitigating unavoidable impacts to wetland and riparian areas should include mitigation goals and objectives, methodologies, time frames for implementation, success criteria, and monitoring to determine if the mitigation is successful. The mitigation plan should also include a contingency plan to be implemented should the mitigation not be successful. In addition, wetland restoration, creation, enhancement, and/or preservation does not compensate for loss of stream habitat; streams and wetlands have different functions and provide different habitat values for fish and wildlife resources.

Best Management Practices (BMPs) should be implemented within the project area wherever possible. BMPs include, but are not limited to, the following: installation of sediment and erosion control devices (*e.g.*, silt fences, hay bales, temporary sediment control basins, erosion control matting); adequate and continued maintenance of sediment and erosion control devices to insure their effectiveness; minimization of the construction disturbance area to further avoid streams, wetlands, and riparian areas; location of equipment staging, fueling, and maintenance areas outside of wetlands, streams, riparian areas, and floodplains; and re-seeding and re-planting of riparian vegetation native to Wyoming in order to stabilize shorelines and streambanks.

For our internal tracking purposes, the Service would appreciate notification of any decision made on this project (such as issuance of a permit or signing of a Record of Decision or Decision Memo). Notification can be sent in writing to the letterhead address or by electronic mail to FW6_Federal_Activities_Cheyenne@fws.gov.

We appreciate your efforts to ensure the conservation of endangered, threatened, and candidate species and migratory birds. If you have questions regarding this letter or your responsibilities under the ESA and/or other authorities or resources described above, please contact Kim Dickerson of my office at the letterhead address or by phone at (307) 772-2374, extension 230.

Sincerely,


For R. Mark Sattelberg
Field Supervisor
Wyoming Field Office

Enclosures (2)

cc: WGFD, Interim Non-game Coordinator, Lander, WY (M. Grenier)
WGFD, Statewide Habitat Protection Coordinator, Cheyenne, WY (M. Flanderka)

Section 2.5.4 Overburden Data for Amendment Lands

Section 2.5.4 outlines the permittee's commitment to handling and backfilling overburden in a 'tiered' system. Based upon the permittee's commitment to extend this commitment to its mining operations on all Amendment lands, the LQD District III has agreed that no overburden sampling or characterization will be provided in any Amendment application as long as the permittee continues mining in the Newcastle Fm. (A-Bed) and/or the Mowry Fm. (C-bed).

However, if the permittee mines other bentonite beds in other formations, the permittee will achieve agreement with the LQD District III office concerning procedures for overburden characterization prior to conducting the field sampling regime.

Section 2.5.4.1 Amendment 3 Lands that include the F-Bed

Amendment 3 lands include proposed mining of the F-Bed that is a component of the Belle Fourche shale Fm. Page 2.5.4-3 is a geologic stratigraphic section that shows the geology of the Belle Fourche shale. Overburden samples were taken with a 4-inch auger drill mounted on a 4X4 1-ton truck. Every 5 feet the drill augers were pulled out of the hole and a composite sample was collected from the auger. Sample results are included starting on page 2.5.4.1-1; samples highlighted are for Amendment 3. The shale tested with a lower pH, 3.9 at the 10-15 feet range. Using the permittee's tiered backfill system the lower pH spoil will be backfilled below the subsoil and topsoil thereby preventing acid spoil from contacting the vegetation rooting zone.

Section 2.5.4.2 Amendment 4 Overburden Data

Mining within the Amendment 4 area will remain in the C-Bed. The permittee will continue to follow the backfilling and handling of overburden in the 'tiered' system manner discussed in Section 2.5.3

Section 2.5.4.3 Amendment 5 Overburden Data

Mining in the Amendment 5 Areas (Wolff/Larson and S-14) will focus on the C-Bed (bentonite layer). As a result, the overburden in this Amendment will consist of 20-40 feet above the C-Bed (see page 2.5.4-3). The overburden will be backfilled into pits according to the permittee's tiered system outlined in Section 2.5.3.

There will be three out-of-pit spoil (overburden) piles associated with Amendment 5. These piles will also consist of the 20-40 feet of overburden above the C-Bed. The overburden will have slopes of greater than 4:1 and will be contoured and covered with subsoil (where available) and topsoil. Historical observations of similar out-of-pit overburden placement have shown that this material will not cause adverse impacts to surface water quality and revegetation efforts. Consequently no overburden sampling was performed for Amendment 5. This is consistent with the agreement with DEQ outlined in Section 2.5.4.



Section 2.5.4.4 Amendment 6 Overburden Data

Mining within the Amendment 6 area will remain in the C-Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner discussed in Section 2.5.3.

Section 2.5.4.5 Wolff Larson Amendment Overburden Data

Mining within the Wolff Larson Amendment area will remain in the C-Bed. The permittee will stockpile the overburden near the pit and replace it once the clay is salvaged, as described in 2.10.35-1 *Wolff Larson 3*.

Section 2.5.4.6 Scoggins Busenitz Amendment Overburden Data

Mining within the Scoggins Busenitz Amendment area will remain in the C-Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner discussed in Section 2.5.3.

Section 2.5.4.7 Ridinger Amendment Overburden Data

Mining within the Ridinger Amendment area will remain in the C-Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner discussed in Section 2.5.3.

Section 2.5.4.8 Maurer Lease 20 (NW) Amendment Overburden Data

Mining within the Maurer Lease 20 (NW) area will remain in the Newcastle Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner discussed in Section 2.5.3.

Section 2.5.4.9 State 14 2013 Amendment Overburden Data

Mining within the State 14 2013 area will remain in the C- Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner as discussed in Section 2.5.3. There will be one permanent overburden pile on the Amendment area. The overburden will be have approximately 5:1 slopes and be contoured, covered with soil and seeded during reclamation.

Section 2.5.4.10 FAB 5 FAB 6 Joy Bell 3 Amendment Overburden Data

Mining within the FAB 5 FAB 6 Joy Bell 3 area will remain in the C- Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner as discussed in Section 2.5.3. There will be no permanent overburden piles on the Amendment area.



6/1/17

Section 2.5.4.11 Joy Bell 12 & Joy Bell 13 Amendment Overburden Data

Mining within the Joy Bell 12 & Joy Bell 13 area will remain in the C- Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner as discussed in Section 2.5.3. There will be one permanent overburden pile on the Amendment area, in the southeast corner of the Joy Bell 13 claim. The overburden will be have approximately 5:1 slopes and be contoured, covered with soil and seeded during reclamation.

Section 2.5.4.12 Link & Maurer Lease Amendment Overburden Data

Mining within the Link & Maurer Lease area will remain in the Newcastle Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner as discussed in Section 2.5.3.

Section 2.5.4.13 McDonald Amendment Overburden Data

Mining with the McDonald are will include the F-Bed and G-Bed formations. Overburden analysis of Belle Fourche shale formation was completed on the McDonald property. Overburden samples were originally taken as part of Amendment 4 and were taken with a 4-inch auger drill mounted on a 4X4 1-ton truck. Two samples were taken above the G-Bed formation and 3 samples were taken above the F-Bed formation, sample locations can be found on page 2.5.5-6. Every 5 feet the drill augers were pulled out of the hole and a composite sample was collected from the auger. Sample results are included starting on page 2.5.4.1-16. The table below identifies sample results that are marginal or unsuitable with Department of Environmental Quality LQD’s standards. Special handling of the material described below will be discussed in further detail in Section 2.10-56.1, in combination with the permittee’s tiered backfill system, discussed in Section 2.5.3, in order to have adequate subsoil and topsoil in the reclamation to prevent spoil from contacting the vegetation rooting zone.

Sample	Depth (Ft)	Parameter	Characteristic	Sample	Depth (Ft)	Parameter	Characteristic
S1	0-5	pH	marginal	S3	10-25	EC	marginal
S1	5-10	pH	unsuitable	S3	0-55	SAR	unsuitable
S1	0-55	SAR	unsuitable	S3	0-35	ABP/1000	unsuitable
S1	0-20	EC	unsuitable	S3	0-10	Boron	unsuitable
S1	20-45	EC	marginal	S4	10-35	pH	unsuitable
S1	0-55	ABP/1000	unsuitable	S4	30-40	SAR	unsuitable
S1	0-5,10-15,25-50	Boron	unsuitable	S4	0-40	ABP/1000	unsuitable
S2	0-5	pH	unsuitable	S4	35-40	Boron	unsuitable
S2	10-50	SAR	unsuitable	S5	0-10,20-30	pH	unsuitable
S2	0-10,25-50	ABP/1000	unsuitable	S5	10-30	SAR	unsuitable
S2	5-10,20-25,30-35	Boron	unsuitable	S5	0-15	ABP/1000	unsuitable
S3	0-10	EC	unsuitable	S5	5-15	Boron	unsuitable



6/1/97

Section 2.5.4.14 State Lease 15 2015 Amendment Overburden Data

Mining within the State 15 area will remain in the C- Bed. The permittee will continue to follow the backfilling and handling of overburden in the ‘tiered’ system manner as discussed in Section 2.5.3. There will be no permanent overburden piles on the Amendment area.

Overburden sampling was conducted on March 17, 2016 as outlined in WYDEQ/LQD Guideline 1 Section II. Overburden samples were originally taken with a 4-inch auger drill mounted on a 4X4 1-ton truck. Every 5 feet the drill augers were pulled out of the hole and a composite sample was collected from the auger. Sample results are included starting on page 2.5.4.14-1. An illustration of the sample locations can be found on page 2.5.5-8.

Section 2.5.4.15 Wyoming State Lease 42804 Amendment Overburden Data

Mining within the WY State Lease 42804 area will remain in the Newcastle Bed. The permittee will adjust the “general backfilling and handling of overburden in the ‘tiered’ system” manner as discussed in Section 2.5.3 in order to ensure that the most suitable overburden material (tier’s 20-30’) lies next to the topsoil, due to the suitability of the overburden samples acquired.

Overburden sampling was conducted on December 16, 2013 as outlined in WYDEQ/LQD Guideline 1 Section II. Overburden samples were originally taken with a 4-inch auger drill mounted on a 4X4 1-ton truck. Every 5 feet the drill augers were pulled out of the hole and a composite sample was collected from the auger. Sample results are included starting on page 2.5.4.15-1. An illustration of the sample locations can be found on page 2.5.5-7. The laboratory overburden analysis for Wyoming State Lease 42804 indicate unsuitably acidic overburden in each of the tiers of sampling except for S1A 0-5’ and 20-25’ and S2A tier 25-30’.





Date: 1/9/2015

CLIENT: Bentonite Performance Minerals, LLC
Project: WY State Lease 04
Lab Order: S1412312

CASE NARRATIVE
Report ID: S1412312001

Samples S1A, and S2A were received on December 19, 2014.

Samples were analyzed using the methods outlined in the following references:

- U.S.E.P.A. 600/2-78-054 "Field and Laboratory Methods Applicable to Overburden and Mining Soils", 1978
- American Society of Agronomy, Number 9, Part 2, 1982
- USDA Handbook 60 "Diagnosis and Improvement of Saline and Alkali Soils", 1969
- Wyoming Department of Environmental Quality, Land Quality Division, Guideline No. 1, 1984
- New Mexico Overburden and Soils Inventory and Handling Guideline, March 1987
- State of Utah, Division of Oil, Gas, and Mining: Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining, April 1988
- Montana Department of State Lands, Reclamation Division: Soil, Overburden, and Regraded Spoil Guidelines, December 1994
- State of Nevada Modified Sobek Procedure
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.



Reviewed by: Karen A Secor
Karen Secor, Soil Lab Supervisor

6/19/17

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Soil Analysis Report

Bentonite Performance Minerals, LLC

Report ID: S1412312001

554 U.S. HWY 212

Belle Fourche, SD 57717

Date Reported: 1/9/2015

Work Order: S1412312

Project: WY State Lease 04

Date Received: 12/19/2014

Lab ID	Sample ID	Depths Feet	pH s.u.	Saturation %	Electrical			PE		SAR
					Conductivity dS/m	Calcium meq/L	Magnesium meq/L	Sodium meq/L		
S1412312-001	S1A	0-5	6.6	106	4.81	24.1	37.8	21.1	3.80	
S1412312-002	S1A	5-10	3.9	68.1	4.68	23.0	28.1	17.7	3.51	
S1412312-003	S1A	10-15	3.8	43.2	1.92	9.81	5.70	4.09	1.47	
S1412312-004	S1A	15-20	4.4	55.6	2.70	16.0	9.74	9.70	2.70	
S1412312-005	S1A	20-25	7.5	86.4	2.36	12.0	6.41	8.56	2.83	
S1412312-006	S2A	0-5	4.0	57.9	0.53	2.49	1.14	0.70	0.52	
S1412312-007	S2A	5-10	4.4	64.6	0.36	1.18	0.60	0.91	0.96	
S1412312-008	S2A	10-15	4.0	41.4	1.39	6.02	1.97	4.40	2.20	
S1412312-009	S2A	15-20	3.8	79.1	3.80	19.0	7.98	19.0	5.17	
S1412312-010	S2A	20-25	3.9	81.4	3.46	12.5	5.54	14.7	4.88	
S1412312-011	S2A	25-30	6.0	173	1.58	4.87	2.54	7.96	4.13	



These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
 Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, Neutral. Pot.= Neutralization Potential
 Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

6/1/97

Reviewed by: Karen A Secor

Karen Secor, Soil Lab Supervisor

2.5.4.15-2

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Soil Analysis Report
Bentonite Performance Minerals, LLC
 554 U.S. HWY 212
 Belle Fourche, SD 57717

Report ID: S1412312001
 Date Reported: 1/9/2015
 Work Order: S1412312

Project: WY State Lease 04
 Date Received: 12/19/2014

Lab ID	Sample ID	Depths Feet	Sand %	Silt %	Clay %	Texture	Arsenic ppm	Nitrate(as N) ppm	Molybdenum ppm	Selenium ppm
S1412312-001	S1A	0-5	8.0	4.0	88.0	Clay	0.13	0.7	0.3	<0.02
S1412312-002	S1A	5-10	32.0	15.0	53.0	Clay	1.23	0.1	0.14	<0.02
S1412312-003	S1A	10-15	18.0	62.0	20.0	Silty Loam	0.39	0.2	0.18	<0.02
S1412312-004	S1A	15-20	18.0	50.0	32.0	Silty Clay Loam	0.55	0.2	0.27	<0.02
S1412312-005	S1A	20-25	7.0	51.0	42.0	Silty Clay	0.10	0.2	0.15	<0.02
S1412312-006	S2A	0-5	26.0	32.0	42.0	Clay	0.42	0.2	0.14	<0.02
S1412312-007	S2A	5-10	16.0	36.0	48.0	Clay	0.26	0.1	0.16	<0.02
S1412312-008	S2A	10-15	20.0	57.0	23.0	Silty Loam	0.22	0.1	<0.05	<0.02
S1412312-009	S2A	15-20	10.0	66.0	24.0	Silty Loam	0.74	0.1	0.09	<0.02
S1412312-010	S2A	20-25	10.0	45.0	45.0	Silty Clay	0.70	0.1	0.10	<0.02
S1412312-011	S2A	25-30	16.0	32.0	52.0	Clay	0.75	5.7	0.3	<0.02



These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2Osoil= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
 Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, Neutral. Pot.= Neutralization Potential
 Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed by: Karen A Secor
 Karen Secor, Soil Lab Supervisor

6/1/97

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Soil Analysis Report

Bentonite Performance Minerals, LLC

Report ID: S1412312001

Project: WY State Lease 04

554 U.S. HWY 212

Date Reported: 1/9/2015

Date Received: 12/19/2014

Work Order: S1412312

Lab ID	Sample ID	Depths Feet	Total Carbon		TOC %	Total Sulfur		T.S. AB 1/1000t	Neutral Potential		T.S. ABP 1/1000t	Pyr+Org Sulfur		Pyr+Org AB 1/1000t	Pyr+Org ABP 1/1000t
			%	%		%	%		%	%					
S1412312-001	S1A	0-5	0.4	1.86	0.2	58.2	16.8	-41.4	0.60	18.8	-1.99	0.11	3.53	2.05	
S1412312-002	S1A	5-10	0.2	0.47	0.1	14.7	5.58	-9.11	0.11	3.53	2.05	0.26	8.14	-4.03	
S1412312-003	S1A	10-15	0.8	0.35	0.8	10.8	4.11	-6.67	0.26	8.14	-4.03	0.35	11.0	-7.95	
S1412312-004	S1A	15-20	5.1	0.42	5.0	13.2	3.04	-10.2	0.35	11.0	-7.95				
S1412312-005	S1A	20-25	0.9	0.23	0.7	7.19	14.1	6.92							
S1412312-006	S2A	0-5	1.2	0.24	1.2	7.43	4.76	-2.67							
S1412312-007	S2A	5-10	0.9	0.18	0.8	5.66	11.1	5.44							
S1412312-008	S2A	10-15	0.3	0.09	0.3	2.85	2.13	-0.72							
S1412312-009	S2A	15-20	0.3	0.11	0.2	3.28	5.19	1.91							
S1412312-010	S2A	20-25	0.4	0.09	0.3	2.75	9.49	6.74							
S1412312-011	S2A	25-30	0.3	0.08	0.1	2.35	16.7	14.4							



These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2Osol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
 Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, Neutral. Pot.= Neutralization Potential
 Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed by: Karen A Secor
 Karen Secor, Soil Lab Supervisor

2.5.4.15-4

6/1/97

2U RANCH LLC

426 Lonesome County Road
Alzada, MT 59311
Phone (307) 878-4494
ericsson@childselect.com

November 13, 2017

SENT CERTIFIED MAIL
WITH RETURN

Joel Severin
Bentonite Performance Minerals, LLC
554 US Hwy 212
Belle Fourche, SD 57717

RE: WSL 42804, Permit 267C amendment - tree restoration

Dear Mr. Severin:

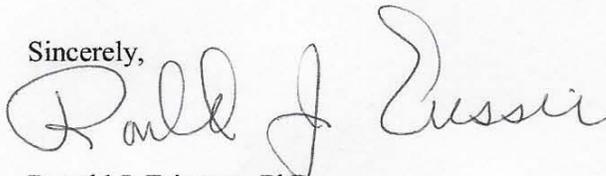
This letter shall serve as written notice that the surface owners of 2U Ranch LLC want all trees disturbed by WSL 42804, Permit 267C amendment mining to be replanted.

These trees have been as identified in 2.8 Vegetation, WSL 42804, Permit 267C, DEQ as follows:

- Disturbance of 86.23 ac of woodlands
- Density of 126.83 trees/ac
- The composition of the woodlands is 72.5% ponderosa pines, 22.5% bur oak, and 5% juniper
- Total of 10,936.55 trees (7,928.99 ponderosa pines, 2,460.72 bur oak, and 546.82 junipers)
- Pre-mining tree heights need to be quantified prior to disturbance.

We want the same acreage, density, composition, size, number, age and height of the trees that are removed to be replanted.

Sincerely,



Ronald J. Ericsson, PhD
Manager

7015 0640 0006 7335 6315

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<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$



Postage	\$ 6.65
Total Postage and Fees	\$ 12.75

Sent To	Joel Severin
Street and Apt. No., or PO Box No.	554 Hwy 212
City, State, ZIP+4®	Belle Fourche, S.D 57417

BEFORE THE
ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING

FILED

JUL 25 1986

Terri A. Lorenzon, Adm. Aide
Environmental Quality Council

IN THE MATTER OF OBJECTIONS)
TO THE APPLICATION OF A)
MINING PERMIT AMENDMENT BY)
ROBERT LEFAIVRE,)
PERMIT NO. 503, TFN 1 1/338)

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

Pursuant to notice duly given to all parties in interest, this matter came on for hearing on May 15, 1986, at 10:00 a.m. in the City Hall Council Chambers Room, 212 D Street, Rock Springs, Wyoming. Mr. John V. Crow, a member of the Environmental Quality Council, presided as hearing officer. Mr. David B. Park, a member of the Environmental Quality Council, was also in attendance.

The Applicant, Robert LeFaivre, appeared and was represented pro se. The protestants, Charles M. Love and Steven D. Creasman, appeared and were represented pro se. The Department of Environmental Quality, Land Quality Division, was represented by Mr. Weldon S. Caldbeck, Senior Assistant Attorney General.

With all parties participating in the hearing, the Environmental Quality Council, having taken this matter under advisement, having been fully advised, and having considered all the testimony and evidence submitted by the parties now makes its Findings of Fact, Conclusions of Law and Order.

FINDINGS OF FACT

1. Robert C. LeFaivre, (the Applicant), has filed an application with the Department of Environmental Quality, Land Quality Division, (the Department), TFN 1 1/338, for an amendment to Mine Permit No. 503.
2. Mine Permit No. 503, issued by the Department on June 25, 1980 is in the name of Western Aggregates of Mineral and Rock, Inc. The application for an amendment to Mine Permit No. 503, TFN 1 1/338 is in the name of Robert C. LeFaivre.

3. Permit No. 503 is a small mining permit as the surface mining operations do not involve more than ten thousand (10,000) yards of overburden and ten (10) acres of affected land in any one (1) year. The permit amendment would not change this designation.

4. Public notice of the permit amendment application was accomplished by publication in the Green River Star once a week for two consecutive weeks, to wit: March 13, 1986 and March 25, 1986.

5. Mr. Charles M. Love, Professor, Anthropology and Geology, Western Wyoming College, and, Mr. Steven D. Creasman, Director, Archaeological Services, Western Wyoming College, filed timely objections to a portion of the mine permit amendment application.

6. The Protestants' objections are applicable only to the NW $\frac{1}{4}$ of Section 18, T21N, R101W, Sweetwater County, Wyoming. This area will hereinafter be described as the Natural Corrals.

7. Public notice of the public hearing conducted relative to the aforesaid permit objections was printed and published once a week for two consecutive weeks, prior to the hearing, in the Casper Star-Tribune and the Rock Springs Daily Rocket-Miner.

8. Permit amendment application, TFN 1 1/338, covers two non-contiguous parcels of property. The first parcel is a building stone collection area located at the Natural Corrals. The second parcel is a millsite located south of Interstate 80 in the SW $\frac{1}{4}$ NW $\frac{1}{4}$, Section 10, T19N, R103W, Sweetwater County, Wyoming. No objections have been filed against the proposed operation in the second parcel.

9. The United States of America owns the surface and mineral rights for the land identified as the Natural Corrals. The land is managed by the Department of Interior, Bureau of Land Management.

10. The Applicant did not present any direct evidence at the hearing in support of his application, but he chose to rely on his application and documents submitted to the Department to support his application.

11. Applicant's permit amendment application for the area around the Natural Corrals is to allow the mining of large blocks of rock for

sale as building stone. The mining and reclamation plan summary indicates that no excavation, earthmoving or roadbuilding will be conducted at the mine site. Surface rocks will be removed whole or cut and split on-site and then removed. Overland travel will be by four wheel drive with the possible use of horses and helicopters. Operations will be conducted to avoid streams, springs, marshy areas and drainages. Trees and large shrubs will be preserved. There may be a need to house employees on site using small travel trailers or skid mounted buildings. The mining and reclamation plan summary further states that if significant environmental concerns are identified during the inspection, then alternate sites and or methods will be developed by the operator.

12. The Applicant's mining and reclamation plan summary does not identify any existing archaeological, cultural or recreational values at the proposed site located around the Natural Corrals. Accordingly, no proposals or statements are made on how such values will be reclaimed, or will be affected.

13. The area of the Natural Corrals is a small portion of a much larger area known as Zirkel Mesa. The building stone material present in the Natural Corrals consists of large boulders which are the result of a lava flow.

14. Contrary to the assertions of the Applicant, evidence at the hearing demonstrated that the boulders in the Natural Corrals are of the same mineralogy and petrology as boulders in other sections of the Zirkel Mesa, and other areas of the mesa are more accessible.

15. The Natural Corrals has unique archaeological values, including shallow sites of two or three different types of Indian pottery, beads, trade beads, leather fragments, soapstone, pipes, projectile points, stone tool fragments, various types of obsidian and bone tools, and the only occurrence of mammoth tusk known in southwestern Wyoming. Current data suggests the area has been intermittently occupied by prehistoric and historic populations for the last 11,000 years.

16. The spring located immediately adjacent to the Natural Corrals has a good deal of geologic deposition. The stratigraphy within the spring or immediately adjacent to the spring could yield a valuable climatological, wildlife and human occupation sequence.

17. Ice caves at the Natural Corrals contain extensive archaeological values that are unique and therefore cannot be reclaimed.

18. Known archaeological sites at the Natural Corrals are very shallow and would be irreparably destroyed by mining disturbance.

19. Removal of any stones or boulders around the Natural Corrals could precipitate an erosion process which would adversely affect the shallow archaeological resources.

20. The natural placement of the boulders around the Natural Corrals is integral to the total environment; and removal of any of the boulders would affect the entire site.

21. The area of the Natural Corrals has been used as a recreational area by the citizens of Sweetwater County for many years, and in particular has been extensively used by the Town of Superior. The use has been of such duration and nature that the use itself has caused the site to have historic importance to Wyoming.

22. The Natural Corrals has a combination of available water, food and shelter not otherwise available in the desert terrain and, consequently, the area is a habitat for abundant and varied wildlife.

23. Access to the Natural Corrals is by a two-track dirt road, which is in poor condition, and has not been maintained as it has been closed to public vehicle use by the Bureau of Land Management.

24. The Natural Corrals is currently being considered for nomination on the National Register of Historic Places. In June, 1982, the Natural Corrals was designated as an area of critical environmental concern by the United States Department of Interior, Bureau of Land Management.

25. The management objectives of the Bureau of Land Management for the Natural Corrals, as stated in "Natural Corrals Area of Critical

Environmental Concern Management Plan" (DEQ Exhibit #4), include protection of this area from the degradation of its cultural, recreation, and geologic values.

26. The botany of the Natural Corrals is unusual for the southwestern part of Wyoming. Disturbance by mining would cause perhaps irreversible changes to both the vegetative and water regimes of the area.

27. The historic, archaeologic, recreation, and wildlife values which make the Natural Corrals area unique are irreplaceable, and if disturbed by the proposed mining activity, could not be reclaimed.

CONCLUSIONS OF LAW

1. The Environmental Quality Council has jurisdiction over both the subject matter and parties to this proceeding.

2. Due and proper notice of the hearing in this matter has been given in all respects as required by law and, specifically, by Section 35-11-406(k), Wyoming Statutes, 1977, as amended.

3. The policy and purpose of the Wyoming Environmental Quality Act is to enable the State to prevent, reduce and eliminate pollution, to preserve, and enhance the air, water and reclaim the land of Wyoming and to plan the development, use, reclamation, preservation and enhancement of the air, land and water resources of the State.

4. The archaeological, historic, recreational, and wildlife values which are unique to the Natural Corrals area must be preserved and enhanced in accordance with the policy and purpose of the Environmental Quality Act.

5. Section 35-11-402, Wyoming Statutes 1977, as amended, requires that land must be reclaimed to its highest previous use.

6. The Applicant has presented no evidence to demonstrate that the Natural Corrals can be reclaimed to its archaeological, historic, wildlife, and recreational use.

7. Section 35-11-406(m)(iii), Wyoming Statutes 1977, as amended, provides that a permit may be denied if any part of the proposed operation, or reclamation program, or proposed future use is contrary to the law or policy of this state, or the United States.

8. The Applicant bears the burden of proving that his application is complete and that it meets all legal requirements; and has failed to demonstrate that this burden has been met insofar as the Applicant seeks to amend Permit No. 503 to include the Natural Corrals.

9. As no objections were filed, and no evidence was presented in regard to the addition of the millsite area to Permit No. 503, this portion of the permit amendment application should be granted as it is complete.

ORDER

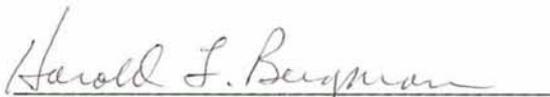
WHEREFORE, PURSUANT TO W.S. 35-11-112(c)(ii), IT IS HEREBY ORDERED THAT:

The Director of the Department of Environmental Quality and the Administrator of its Land Quality Division shall issue the permit amendment, TFN 1 1/338 to Robert LeFaivre, to conduct the proposed operations for a millsite which will be located within the SW $\frac{1}{4}$ NW $\frac{1}{4}$, Section 10, T19N, R103W, Sweetwater County, Wyoming, conditioned upon Mr. LeFaivre's demonstration to the satisfaction of the Land Quality Division, that he is the rightful holder of Permit No. 503. Said operations shall at all times be conducted in accordance with the Wyoming Environmental Quality Act and the rules and regulations promulgated thereunder.

IT IS FURTHER ORDERED that no permit shall be issued for the area described in TFN 1 1/338 for lands located within the NW $\frac{1}{4}$, Section 18, T21N, R101W, Sweetwater County, Wyoming.

DATED this 22 day of July, 1986.

ENVIRONMENTAL QUALITY COUNCIL


Harold L. Bergman
Chairman

CERTIFICATE OF SERVICE

I, Terri A. Lorenzon, certify that at Cheyenne, Wyoming, on the 25th day of July, 1986, I served a copy of the foregoing Findings of Fact, Conclusions of Law and Order, by depositing copies of the same in the United States mail, postage prepaid, duly enveloped and addressed to:

Charles M. Love
Steven D. Creasman
Western Wyoming College
2500 College Drive
Rock Springs, WY 82901

Robert LeFaivre
Apartment No. 1
Little America, WY 82929

and by interoffice mail of the same date to;

Randolph Wood, Director
Department of Environmental Quality
122 W 25th Street, Herschler Building
Cheyenne, WY 82002

Roger Shaffer, Administrator
Land Quality Division
Department of Environmental Quality
122 W 25th Street, Herschler Building
Cheyenne, WY 82002

Mr. Steven Shanahan
Senior Assistant Attorney General
Attorney General's Office
123 Capitol Building
Cheyenne, WY 82002

Weldon Caldbeck
Senior Assistant Attorney General
Attorney General's Office
123 Capitol Building
Cheyenne, WY 82002

Terri A. Lorenzon (cc)

Terri A. Lorenzon
Administrative Aide
Environmental Quality Council
Emerson Building, Room 304
2001 Capitol Avenue
Cheyenne, WY 82002



FILED

DEC 22 1982

Terri A. Lorenzon, Adm. Aide
Environmental Quality Council

BEFORE THE
ENVIRONMENTAL QUALITY COUNCIL

STATE OF WYOMING

Docket No.

IN THE MATTER OF OBJECTIONS TO)
THE PERMIT APPLICATION OF GEORGE)
W. KLOVER, J.W.K. AND T. MINING)
COMPANY, TFN 1 6/281.)

FINDINGS OF FACT
CONCLUSIONS OF LAW AND ORDER

PURSUANT TO NOTICE duly given to all parties in interest, this matter came on for hearing on the 27th day of September, 1982 at 10:00 a.m. in the new lunchroom of the County Fairgrounds located at South Federal, Riverton, Wyoming. Mr. Walter Perry, III, Senior Assistant Attorney General, presided as hearing officer.

The Applicant appeared and was represented by Mr. Richard D. Gist and Mr. Richard Kraemer, Attorneys at Law. All Protestors represented themselves. Protestants were Ethel Nauman, William Moffat, Margaret Brown, Lennis Goliher, Albert Brown and Peggy Moffat. The Department of Environmental Quality, Land Quality Division was represented by Mr. Weldon S. Caldbeck, Assistant Attorney General.

With all parties participating in the hearing, the Environmental Quality Council having taken this matter under advisement and having been fully advised, and having considered all the testimony and evidence submitted by the parties, now makes its Findings of Fact, Conclusions of Law and Order.

6: LQD 12-23-82.ak.

FINDINGS OF FACT

1. George W. Klover, hereafter referred to as Applicant, has filed an application, TFN 1 6/281 for a small mining permit to mine gold within the NE1/4 of the SE1/4, North 1/2 of the SE1/4 of the SE1/4, NW1/4 of the SE1/4, Section 11, T29N, R100W, Fremont County, Wyoming. Applicant's mining operation will be known as the J.W.K. and T. Mining Company of Atlantic City, Wyoming.

2. During the statutory prescribed time limit objections were filed by interested persons to the Land Quality Division. Said objectors include Mr. Ethel Nauman, Mr. Lawrence Nauman, Mr. William Moffat, Mrs. Peggy Moffat, Mr. Albert Brown, Mrs. Margaret Brown and Mrs. Lennis Goliher, all of whom were present at the hearing on this matter. Objectors are hereafter collectively referred to as Protestants.

3. The Protestants generally have objected to the dust and noise potential created by the proposed operation; that mining would harm, destroy, or materially impair an area that has been designated as rare or uncommon and having particular historical, archeological, wildlife, botanical or scenic value; that aspen, willow and pine trees in the area would be destroyed and not replaced; that there is a possible affect on the water table; that the mining will occur within three hundred feet of an occupied residence; and that all people within one half mile were not afforded the statutory notice required by W.S. 35-11-406(j); and, that the mining would decrease property values in the area.

4. No testimony, beyond conclusory statements, nor any other evidence was offered with regard to the objections alleging dust problems created by the mining operation.

5. Testimony from Mr. Mark Moxley, Land Quality Division, represented that no dust problem was foreseen by the Division.

6. No testimony, beyond conclusory statements, nor any other evidence was offered with regard to the objection alleging mining would harm, destroy, or materially impair an area that has been designated as rare or uncommon and having particular historical, archeological, wildlife, botanical or scenic value; furthermore, the area in question has not been designated as rare or uncommon by the Council.

7. No testimony, beyond conclusory statements, nor any other evidence was offered with regard to the objection alleging mining would affect water tables in the area.

8. Testimony did reveal that the operation would continually recycle any water used.

9. No testimony, beyond conclusory statements, nor any other evidence was offered with regard to the objection alleging mining would occur within three hundred feet of an occupied dwelling; all Protestant's who testified indicated their residence was further than three hundred feet or they were silent on this issue.

10. No testimony, beyond conclusory statements, nor any other evidence was offered with regard to the objection alleging that the mining would decrease property values in the area.

11. Numerous homes and cabins are in the area and are occupied either permanently as residences or occasionally for recreational purposes; the mining will be within hearing distance of many such homes and cabins.

12. The Applicant testified that operations would only occur between the months of June and mid-September and during the hours between 8:00 a.m. and 7:00 p.m..

13. There are no specific plans in the Applicant's reclamation to replace quaking aspen, willow and pine trees destroyed and displaced by the operation. Testimony revealed the operation would require destruction of some of these said trees.

14. The quaking aspens, willow and pine trees presently contribute to an animal habitat for moose, elk and deer. The applicant proposes to return the land to such use postmining.

15. The Applicant testified to his willingness to replace such tree growth if that were required of him.

16. The Applicant's testimony and mine plan submittals reveal that the Applicant will not affect more than one acre of land per year and that the mine will occur along and within the "Rock Creek", further, the Applicant testified reclamation would follow two hundred yards behind the operation as the operation moved up Rock Creek.

CONCLUSIONS OF LAW

1. The Environmental Quality Council has jurisdiction over both the subject matter and parties of this proceeding.

2. Due and proper notice of the hearing in this matter was given by the Council as required by law.

3. The record does not contain substantial evidence to support a conclusion that any part of the proposed operation,

as described by the Applicant, would:

- a.) create a dust problem;
- b.) harm, destroy or materially impair an area that has been designated as rare or uncommon and having particular historical, archeological, wildlife, botanical or scenic value;
- c.) affect the water table;
- d.) occur within three hundred feet of an occupied dwelling;
- e.) decrease property value in the area;
- f.) cause a nuisance.

4. The Applicant's mine plan and reclamation plan must provide for reestablishment of the animal habitat which would include replacement of willows, quaking aspen and pine trees destroyed or displaced by mining operations.

5. The Applicant is limited by his mine plan which allows for affected no more than one acre of land per year along Rock Creek.

ORDER

WHEREFORE, PURSUANT TO W.S. 35-11-112(c)(ii), IT IS HEREBY ORDERED THAT:

- 1. The Department of Environmental Quality, Land Quality Division issue a small mining permit to the Applicant.

2. Said small mining permit shall set forth and be subject to the following conditions:

a.) in the event that the permit is transferred to another person or entity the permit shall be reviewed by the Administrator of the Land Quality Division who shall review the permit to determine that the new permittee will not cause a nuisance to the neighboring landowners.

b.) Reclamation must follow within two hundred yards of the mining operation and the operator shall replace all quaking aspen, willow and pine trees destroyed or displaced by the operation.

3. Said aforementioned conditions shall not be exclusive but shall be in addition to those conditions which are inherent in the permit, and any other conditions which may be set forth in accordance with law.

DATED this 14th day of Dec, 1982.


Hearing Officer

CERTIFICATE OF SERVICE

I, Walter Perry, III, Senior Assistant Attorney General, certify that on this 21st day of December, 1982, I placed a true and correct copy of the Findings of Fact, Conclusions of Law and Order in this case in the United States mail, postage prepaid, addressed as follows:

Margaret Brown, President
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Riverton, WY 82501

Albert T. Brown, Secretary
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**BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING**

**IN RE BENTONITE PERFORMANCE)
MINERALS LLC) DOCKET 18-1601**

**PETITIONER BENTONITE PERFORMANCE MINERALS, LLC'S MOTION FOR
SUMMARY JUDGMENT**

Petitioner Bentonite Performance Minerals, LLC (BPM), pursuant to Chapter 2, Section 11(a) of the Rules of the Wyoming Department of Environmental Quality (DEQ) and the Hearing Examiner's August 21, 2018 Order of Schedule, hereby moves for summary judgment against Respondent 2U Ranch, LLC (2U) pursuant to Rule 56 of the Wyoming Rules of Civil Procedure. BPM states as follows in support:

Introduction

The scope of an Order in Lieu of Consent proceeding is narrow and limited to the four statutory elements of Wyoming Statute § 35-11-406(b)(xii). The EQC is only tasked with determining whether (1) the proposed mining and reclamation plans have been submitted to 2U; (2) the proposed mining and reclamation plans adequately detail the proposed surface use, including routes of ingress and egress; (3) that the proposed surface use does not substantially prohibit the operations of the surface owner; and (4) the proposed reclamation plan reclaims the surface lands to their approved future use as soon as feasibly possible. *Id.*; August 21, 2018 Order of Schedule at 1. As recognized by the Hearing Examiner, this proceeding does not concern (1) whether the permit application is technically correct, (2) whether the mineral lease is valid or (3) whether DEQ Land Quality Division (LQD) should issue the permit. *Id.* at 2.

The scope of this proceeding is narrow and limited because DEQ/LQD has not yet had the opportunity to review BPM's proposed mining and reclamation operations or approve, amend or deny BPM's proposed permit amendment. Accordingly, substantive issues such as

whether BPM's proposed reclamation plan complies with the Wyoming Environmental Quality Act (EQA) and its implementing regulations are appropriately beyond the scope of this proceeding. The DEQ/LQD will make such determinations after it reviews and processes the permit amendment application, and, only then, will interested parties have the opportunity to challenge those determinations as being unlawful. The remedy sought by BPM in this proceeding, namely the issuance of an Order in Lieu of Consent, simply authorizes DEQ/LQD to initiate the permit amendment application review process.

As discussed below, 2U has a single objection to BPM's permit amendment application: that the proposed reclamation plan does not require the replanting of trees disturbed by the proposed mining operations. 2U's objection is premature and beyond the scope of this proceeding. With respect to reclamation, this proceeding simply concerns whether the proposed reclamation plan reclaims the surface lands to their approved future use as soon as feasibly possible. Wyoming Statute § 35-11-406(b)(xii) in no way implicates the substantive reclamation standards prescribed by the EQA. Because 2U raises no factual or legal dispute within the scope of this proceeding, summary judgment is appropriate.

2U will have an opportunity to challenge BPM's substantive reclamation obligations, but only after DEQ/LQD processes the permit amendment application. If 2U is sincere in its opposition to the proposed disturbance of trees and BPM's proposed reclamation of the subject lands, it is obligated to pursue its legal challenge in accordance with the administrative process and after DEQ/LQD has processed BPM's application. An Order in Lieu of Consent proceeding is not that process.

Background and Facts

BPM conducts bentonite surface mining operations pursuant to Mine Permit 267C. Certain bentonite deposits included in Mine Permit 267C exist under lands owned by 2U, and BPM has previously conducted mining operations on 2U lands. BPM is the lessee of certain unpermitted bentonite deposits owned by the State of Wyoming, existing under 2U lands and immediately adjacent to (and a continuation of) the bentonite deposits previously mined by BPM on 2U lands. **Ex. A**, Lease 0-42804. Pursuant to Lease 0-42804, the State of Wyoming granted BPM the exclusive right and privilege to strip-mine, extract, remove, and dispose of the bentonite deposits. *Id.* at 1. The lease provides BPM the right to enter upon, occupy and use such 2U lands as necessary for the mining of bentonite. *Id.* at 4.

Beginning in 2014, BPM initiated efforts to amend Mine Permit 267C to include the Lease 0-42804 bentonite deposits. BPM notified 2U of its intent to develop the Lease 0-42804 bentonite deposits and, in the years to follow, solicited 2U's review and input regarding the proposed operations. BPM worked closely with 2U in planning the development of Lease 0-42804, and the Parties discussed all aspects of the anticipated operations, including routes of ingress and egress, surface disturbance, mining progression, and reclamation. The submitted mining and reclamation plans – first provided to 2U on January 8, 2016 – reflect 2U's involvement in developing the proposed mining and reclamation operations. **Ex. B**, 1/8/16 Mining and Reclamation Plans.

On February 24, 2016, BPM formally requested DEQ/LQD amend Mine Permit 267C to include those bentonite deposits covered by Lease 0-42804 by filing a permit amendment application with DEQ/LQD, and on June 28, 2016, the DEQ/LQD determined that the Mine Permit 267C amendment application satisfied completeness requirements. **Ex. C**, 6/28/16 LQD

Completeness Letter. However, the DEQ suspended the processing of the permit amendment application pending the submission by BPM of an executed Form 8 (Surface Owner Consent Form) or, alternatively, an Order in Lieu of Consent. Unable to obtain the requisite surface owner consent from 2U, BPM requested the EQC convene a hearing and issue an Order in Lieu of Consent as prescribed by Wyo. Stat. § 35-11-406(b)(xii). The issuance by the EQC of an Order in Lieu of Consent will allow DEQ/LQD to process the permit amendment application and determine whether the proposed operations comply with the substantive mining and reclamation requirement of the EQA and its implementing regulations.

Throughout the course of this proceeding, 2U has made clear that it has a single objection to BPM's proposed permit amendment application: that the proposed reclamation plan does not require the replanting of trees disturbed by the proposed mining operations. Notably, for purposes of this proceeding, 2U does not contest whether it received the proposed mining and reclamation plans or whether the mining and reclamation plans are sufficiently detailed so as to illustrate BPM's full proposed surface use. Moreover, 2U identifies no existing uses of the subject lands by 2U that will be disrupted or otherwise impacted by the proposed mining and reclamation operations.

Legal Standard

The EQC conducts contested case proceedings in accordance with the Wyoming Rules of Civil Procedure. DEQ Rules, Chapter 2, Section 2. The Wyoming Rules of Civil Procedure instruct the EQC to grant summary judgment when the pleadings, the discovery and disclosure materials on file show that there exists no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. Wyo. R. Civ. P. 56; *James v. Taco John's Int'l, Inc.*, 2018 WY 96, ¶ 7, 425 P.3d 572, 576 (Wyo. 2018). BPM, as the party

requesting summary judgment, bears the initial burden of establishing a prima facie case that no genuine issue of material fact exists, and that summary judgment should be granted as a matter of law. *Bogdanski v. Budzik*, 2018 WY 7, ¶ 18, 408 P.3d 1156, 1160 (Wyo. 2018). After BPM has adequately supported the motion for summary judgment, the burden shifts to 2U to provide “competent evidence admissible at trial showing there are genuine issues of material fact.”

Jones v. Schabron, 2005 WY 65, ¶ 10, 113 P.3d 34, 37 (Wyo. 2005). 2U, as the party opposing the motion for summary judgment, “must present specific facts; relying on conclusory statements or mere opinion will not satisfy that burden, nor will relying solely upon allegations and pleadings.” *Bogdanski*, ¶ 18, 408 P.3d at 1161. “A material fact is one which, if proved, would have the effect of establishing or refuting an essential element of the cause of action or defense asserted by the parties.” *Claman v. Popp*, 2012 WY 92, ¶ 21, 279 P.3d 1003, 1011 (Wyo. 2012).

Argument

The EQA grants a mine permit applicant a statutory right to petition the EQC for and Order in Lieu of Consent in the absence of obtaining surface owner consent to proposed mining and reclamation operations. The EQA mandates that the EQC issue an Order in Lieu of Consent if it finds that (1) the proposed mining and reclamation plans have been submitted to the surface owner; (2) the proposed mining and reclamation plans adequately detail the proposed surface use, including routes of ingress and egress; (3) the proposed surface use does not substantially prohibit the operations of the surface owner; and (4) the proposed reclamation plan reclaims the surface lands to their approved future use as soon as feasibly possible. Wyo. Stat. § 35-11-406(b)(xii). Notably, the four statutory elements do not implicate substantive or technical aspects of the permit application such as specific reclamation obligations. The purpose of an Order in Lieu of Consent proceeding is simply to confirm that the permit applicant has provided

the surface owner the opportunity to review the proposed mining and reclamation operations, that the proposed mining and reclamation operations sufficiently detail the permit applicant's proposed surface use, that the surface owner's existing uses of the surface lands are not substantially disrupted by the proposed operations, and that proposed reclamation of disturbed lands is conducted as soon as feasibly possible.

Here, according to 2U's own sworn testimony, 2U has withheld its consent to BPM's proposed operations for **one** reason: that the proposed reclamation plan does not require the replanting of trees disturbed by the proposed mining operations. 2U has testified under oath that it does not contest that the proposed mining permit was submitted (Element 1) or that the proposed plan was adequately detailed (Element 2). As to whether the proposed mining plan substantially interferes with the surface owner's uses, 2U has refused to identify or discuss any existing uses by 2U of the subject lands.

2U's sole objection to BPM's request for an Order in Lieu of Consent (i.e. the replanting of trees) is premature and beyond the scope of this proceeding. With respect to reclamation, an Order in Lieu of Consent proceeding simply concerns whether the proposed reclamation plan reclaims the surface lands to their approved future use as soon as feasibly possible. Wyo. Stat. § 35-11-406(b)(xii). An Order in Lieu of Consent proceeding in no way implicates the substantive reclamation standards prescribed by the EQA and its implementing regulations. 2U will have an opportunity to challenge BPM's substantive reclamation obligations, but only after DEQ/LQD processes and approves the permit amendment application. Because there exist no genuine issues of material fact regarding the four elements of Wyo. Stat. § 35-11-406(b)(xii), BPM is entitled to judgment as a matter of law.

A. The EQC should grant Summary Judgment as it relates to Elements 1, 2 and 3.

1. 2U does not contest that they received the proposed mining and reclamation plans (Element 1) or that the plans do not adequately detail the proposed surface use of the subject lands (Element 2).

2U testified under oath that it does not contest Elements 1 or 2 of the Order in Lieu of

Consent analysis:

Q: Based on what you just said, I understand your position to be that BPM takes issue with the fourth element of the statutory requirements. And to be clear, the first element requires that a mining plan and a reclamation plan be submitted to you. Do you contest that?

A: No.

Q: And the second element requires that the mining plan and the reclamation plan be detailed to illustrate the full proposed surface use, including the proposed routes of ingress and egress. Do you dispute that?

A: No.

Ronald Dep. 41:12-24¹.

With respect to Element 1, BPM first provided 2U with the proposed mining and reclamation plans on January 8, 2016. **Ex. B**, 1/8/16 Mining and Reclamation Plans. In September 2017, BPM provided 2U with the entire permit amendment application on a flash drive, together with the proposed mining and reclamation plans. **Ex. D**, 9/22/17 Consent Letter. On May 24, 2018, BPM again provided 2U with the proposed mining and reclamation plans by mail. **Ex. E**, 5/24/18 Consent Letter. With respect to Element 2, it is not a surprise that 2U makes no objections. Ronald Dep. 41:12-18. In January and February 2016, 2U conducted a detailed reviewed of the proposed mining and reclamation plans and provided substantive revisions that are reflected in the finalized mining and reclamation plans submitted with BPM's

¹ The transcript of the December 12, 2018 Deposition of Ronald Ericsson is attached in its entirety as Exhibit B to BPM's concurrently filed *Motion to Limit Testimony and Evidence at Hearing* ("Motion to Limit Testimony").

permit amendment application materials to DEQ/LQD. See for example, **Ex. F**, 2/4/16 Tetrault Email (providing 2U with revised reclamation plan incorporating requests regarding reservoirs and permanent roads).

Because 2U does not contest Elements 1 or 2 there exists no genuine issue as to any material fact and BPM is entitled to judgment as a matter of law on Elements 1 and 2 of the Order in Lieu of Consent analysis

2. 2U failed to identify and refused to discuss any existing surface uses by 2U of the subject lands, much less any existing uses that will be substantially prohibited by BPM's proposed mining operations (Element 3).

With respect to Element 3, the proposed operations must not substantially prohibit the existing operations of the surface owner. Wyo. Stat. § 35-11-406(b)(xii). Throughout the discovery process, 2U has identified no existing uses of the subject lands by 2U, much less any existing uses that will be “substantially prohibited” by the proposed operations. BPM’s Request for Production sought all documentation evidencing existing uses by 2U of the subject lands that 2U alleges will be adversely impacted by the proposed operations. **Ex. G**, Notice of Deposition at 5. 2U produced no documents responsive to the request. At deposition, Mr. Ericsson categorically refused to identify or discuss 2U’s existing uses of the subject lands. Ronald Dep. 44:16-45:10. Pressed on the issue, Mr. Ericsson testified that 2U’s existing use of the subject lands were not relevant for purposes of this proceeding:

Q: The real thing that we’re interested in is understanding how you use your land. And are you willing and able to talk about this?

A: Beyond the scope of the proceedings as ordered by the hearing examiner.

Ronald Dep. 43:13-17.

Because 2U has failed to identify any existing uses of the subject lands either in response to BPM’s Request for Production or in deposition testimony, there exists no genuine issue as to

any material fact and BPM is entitled to judgment as a matter of law on Element 3 of the Order in Lieu of Consent analysis.

B. The EQC lacks the jurisdictional authority to resolve 2U’s objection to the disturbance of trees in an Order in Lieu of Consent proceeding because Element 4 does not implicate substantive reclamation obligations.

With Elements 1, 2, and 3 conceded by 2U, the only issue remaining is whether BPM can establish Element 4 – that the proposed reclamation plan reclaims the lands to their approved future use as soon as feasibly possible. At his December 12, 2018 deposition, Mr. Ericsson testified repeatedly that 2U’s sole basis for withholding consent and objecting to the issuance of an Order in Lieu of Consent rests with the “reclamation” aspect of the Order in Lieu of Consent analysis.² Mr. Ericsson summarized 2U’s refusal to consent to the proposed operations and its objection to BPM’s request for an Order in Lieu of Consent as follows:

Q: Mr. Ericsson, I’m going to take a step back here. And it may be worthwhile that you take a five-minute break and collect yourself, but –

A: Oh, no. I want this over with, I’m not going to be here for six hours, whether you like it or not.

Q: Ronald, it’s important that you participate in this process, that you allow us to –

A: It’s important – it’s important that you ask questions that are relevant to the hearing. This has to do with reclamation. It has nothing to do with anything else. And you keep asking questions that are not relevant.

Q: And now this is a part of the Order [of Schedule] I’d like you to focus on. “The Petitioner has filed a Petition for Order in Lieu of Consent. A hearing on this matter only looks to identify whether four statutory elements have been met.

² Notably, 2U only takes issue with the fact that BPM’s proposed reclamation plan does not prescribe the replanting of trees disturbed by the proposed mining operations. During this proceeding, 2U has refused to further discuss other aspects of the proposed operations, and as set out in BPM’s concurrently filed Motion to Limit Testimony, 2U should not be allowed to create new testimony regarding issues they refused to discuss at deposition or otherwise raise in discovery.

Those elements are,” and the hearing examiner proceeds to identify the four statutory elements. Do you remember this now?

A: I remember the four.

Q: Okay. And what do you remember the four to be? And I’m happy to read them into the record if you prefer.

A: I know what they – I know what they are. The one that we don’t agree with is reclamation is not complete.

Q: Right, and that’s what I’m – that’s what I’m trying to get at here is where you’re at and what your position is, and so what I would like –

A: I will tell you my position again and again and again. We do not accept that BPM can comply with the DEQ regulation, with the Wyoming statutes which requires that the trees, the land be restored to the value equal or better than prior to being mined. That’s what the issue’s all about.

. . . . We’ve requested for almost two years to get BPM to explain how they’re going to restore the trees, and we’ve received an answer no, no, no. Why? It’s not possible. And the law requires it, the DEQ regulations require it. BPM knows it, the attorneys know it, and we know it, and everybody’s trying to avoid it. And that’s what the Council hearing’s about, and that’s why we didn’t sign the landowner’s surface agreement.

Ronald Dep. 33:14-25; 39:9-40:6; 57:12-19.

The EQA only requires that a mine permit application include, among other materials, “a mining plan and reclamation plan dealing with the extent to which the mining operation will disturb or change the lands to be affected, the proposed future use or uses and the plan whereby the operator will reclaim the affected lands to the proposed future use or uses.” Wyo. Stat. § 35-11-406(b). BPM’s permit amendment application details the extent to which the mining operation will disturb the subject lands, proposes a future use of grazingland, and specifies reclamation requirements designed to achieve the proposed future use. The proposed future use of grazingland is consistent with the approved future use for 2U’s immediately adjacent lands

covered by Mine Permit 267C and the fact that the subject lands have been leased to 2U's neighbor for years for the purpose of grazing cattle:

Q: Moving forward, the next document I'd like to enter into the record is 2U-0017. I'll represent that this is a Lease Agreement that we received from Ronald Ericsson in response to BPM's request for production of documents. Mr. Ericsson, are you familiar with this Lease Agreement?

A: You're talking about the grazing lease?

Q: It appears to be a grazing lease with Mule Shoe.

A: It isn't appearing to. It is.

A: The grazing lease is the grazing lease. That's what you do on a ranch. You don't sell grass. You sell grass through livestock.

Q: How many years have you grazed the subject lands?

A: Do you understand Wyoming ranches? What do you think they do with land? What is a ranch? That's a – that's an irrelevant question.

Q: And how long has Mule Shoe leased those lands from 2U?

A: Four years.

Q: Okay. And so the record is clear, if I go back four years, would that be the summer of 2014? Is that the leasing period that would have initiated the agreement with Mule Shoe?

A: '15.

Q: 2015, okay. And has that lease always covered all of 2U's lands or just part of 2U's lands?

A: All.

Q: All. And so since 2015, the subject lands, which are the subject to this proceeding, have been covered by a lease to Mule Shoe?

A: Yes.

Ronald Dep. 28:21-29:5, 45:23-25; 48:13-49:-2; *see also*, **Ex. H**, Grazing Lease.

BPM's proposed reclamation plan specifies reclamation requirements designed to achieve the proposed future use of grazingland. 2U's complaint that the proposed plan does not prescribe "tree restoration" is misplaced and premature. Element 4 of the Order in Lieu of Consent analysis does not implicate the substantive or technical reclamation obligations prescribed by the EQA. Wyo. Stat. § 35-11-406(b)(xii); *see also*, August 21, 2018 Order of Schedule at 2 (precluding testimony at hearing regarding (1) the technical aspects of the permit amendment or (2) whether LQD/DEQ should issue the permit amendment as proposed). The question of whether BPM's proposed future use of grazingland is appropriate or necessitates the replanting of disturbed trees will be determined by the DEQ/LQD when it processes the permit application. For purposes of this proceeding, Element 4 of the Order in Lieu of Consent analysis only concerns whether the proposed reclamation plan reclaims the disturbed lands as soon as feasibly possible. Wyo. Stat. § 35-11-406(b)(xii). Here, BPM proposes the identical reclamation methods and schedules, namely, concurrent back-casting, as previously approved by DEQ/LQD for lands covered by Mine Permit 267C. The proposed reclamation methods and schedules have previously been approved for and implemented on 2U's immediately adjacent lands impacted by BPM's mining operations and are consistent with the industries' best practices.

The reason that substantive aspects of the proposed mining and reclamation operations are beyond the scope of an Order in Lieu of Consent proceeding is self-evident: the mining and reclamation plans are only proposals. The issuance by the EQC of an Order in Lieu of Consent simply allows DEQ/LQD to process the permit application and determine whether the mining and reclamation operations, as proposed by the applicant in the permit application materials, comply with the EQA and its implementing regulations. After DEQ/LQD processes the permit

application and makes its decision on the proposed mining and reclamation operations, 2U will have the opportunity to challenge any aspect of the permit it deems unlawful, including substantive reclamation obligations. However, 2U's claims are premature and have no bearing on this proceeding.

Conclusion

BPM has met its burden by providing competent and admissible evidence that BPM has taken the steps necessary to mandate the issuance of an Order in Lieu of Consent as prescribed by Wyo. Stat. § 35-11-406(b)(xii). The evidence supports the conclusion that (1) the proposed mining and reclamation plans have been submitted to 2U; (2) the proposed mining and reclamation plans adequately detail the proposed surface use, including routes of ingress and egress; (3) the proposed surface use does not substantially prohibit the operations of 2U; and (4) the proposed reclamation plan reclaims the surface lands to their approved future use as soon as feasibly possible. Because BPM has established each element of the Order in Lieu of Consent analysis, and because there exists no genuine issue as to any material fact, BPM is entitled to judgment as a matter of law.

DATED this 21st day of December 2018.



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CERTIFICATE OF SERVICE

I hereby certify that on December 21, 2018, I served a true and correct copy of the foregoing PETITIONER BENTONITE PERFORMANCE MINERALS, LLC'S MOTION FOR SUMMARY JUDGMENT by email to:

2U Ranch, LLC
c/o Ronald Ericsson
ericsson@childselect.com

Jim Ruby
Executive Secretary, Wyoming Environmental Quality Council
jim.ruby@wyo.gov



11765391_1

Section 2.11.41 Wyoming State Lease 42804 (WSL04) Amendment Reclamation Plan

The area that is included in the Wyoming State Lease 42804 Amendment area is as follows:

Amendment Areas	Legal	Total Acres
Wyoming State Lease 42804	SE4SW4, SW4SE4 Section 30 T57N R62W	80
	NE4, E2NW4, SW4, NW4SE4 Section 31 T57N R62W	440
	W2NW4 Section 32 T57N R62W	80
		600

The WSL04 surface is owned by Lonesome Country LC. The area has been surveyed/cleared for baseline soils, wildlife and vegetation in accordance with WY-DEQ regulations.

Section 2.11.41-1 General Reclamation Standards & Practices

The information and commitments in Permit 267C Sections 2.11.1 through 2.11.8.1 remain current for the reclamation operations performed on the Amendment area. Reclamation progress will follow that listed in Section 2.11.3.3. In regards to post-mining slope, topography and through drainage, reclamation on the WSL04 Amendment will not deviate from the standards listed in Section 2.11.4.

Section 2.11.41-2 Permanent Out-of-Pit Overburden

As stated in section 2.11.3.2 of Permit 267C when the permittee creates permanent overburden stockpiles, the reclamation will achieve the performance standards of LQD Non Coal Rules and Regulations including:

- Overburden placement will not occur on native slopes that exceed 20 degrees (approximately 33% or 3:1 slopes)
- Stabilizing the overburden slopes by grading and contouring them to blend with adjacent native and reclaimed lands
- Covering the stabilized overburden with subsoil and topsoil.
- Seeding the topsoil with an approved permanent seed mix.
- Overburden placement will not block ephemeral, intermittent or perennial drainage channels



6/1/97

- Overburden which is placed on pre-Act affected lands will be subject to the other reclamation practices in the reclamation section of the permit.

Specifically regarding the WSL04 Amendment three out of pit overburden piles will be constructed in relation to mining on the WSL04 claim. One will be in relation to Pit series S4-A, one will be in relation to Pit series S4-B and one for S4-C. These post mine features are illustrated on the reclamation map 2.11.41-1. The out of pit overburden will have topsoil, subsoil, or third lift spread over it, or parts of it in a "candy-striping" or "patch-work" pattern, it will then be seeded. This practice is consistent with mining progression Schedule A and Schedule C illustrated in Section 2.10.6 of the permit. The soil (0-54+" based on Soil Report) will be removed and live-spread or stockpiled adjacent to the active mining for reclamation. Seeding will take place in the fall of each year as outlined in Section 2.11.8.

Section 2.11.41-3 Permanent Post-Mining Impoundments

One new permanent post-mine impoundment is planned for the WY State Lease 42804 Amendment area per landowner request. This impoundment will be immediately west of the largest pond found on the Amendment area and can be found illustrated on the Reclamation Plan map 2.11.41-1. In addition, one impoundment will be mined through and enhanced through reclamation with steeper slopes and a greater depth. It is noted in the letter from WG&F has suggested constructing no impoundments, but these recommendations are directly conflicting of the land owner's desires. Therefore, enhancements will be made, such as steeper slopes and greater depths than what currently exist, but impoundments will still be replaced.

Section 2.11.41-4 Ephemeral Drainage Construction

The information and commitments in Section 2.11.6 remain current for the reclamation operations on the WY State Lease 42804 Amendment area.

Section 2.11.41-5 Subsoil and Topsoil Redistribution Methods and Depths

Refer to section 2.11.7 for general reclamation practices regarding soil management. Topsoil and subsoil depths are delineated in the Soil Section (2.7.3.45). The soil (0-54" based on Soil Report 2.7.3.45) will be live-spread on previous pits within that series or stockpiled for future use (subsoil will be salvaged and stored separately), depending on the area and pit progression. The permittee will adjust the "general backfilling and handling of overburden in the 'tiered' system" manner as discussed in Section 2.5.3 in order to ensure that the most suitable overburden material lies next to the topsoil.

Disturbance of ten soil communities within 177 acres of the 600 acre project area will take place. Refer to pages 2.7.3.45-10 & 11 or the Soils Map 2.7.3.45-1 for a table listing all projected soil types, affected acreage and salvage depths for the amendment area.



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Section 2.11.41-6 Revegetation & Seed

The information and commitments in Section 2.11.8 remain current for the revegetation process of the WY State Lease 42804 Amendment lands. The Permit 267C approved seed mix (Pages 2.11-16 and 2.11-17) is to be used in the reclamation.

In the correspondence from the WGFD (Section 2.9.3.45, Addendum B), it is recommended that reclamation efforts target restoration of the pre-disturbance shrub components. The permit seed mix is entirely made up of native seeds and offers a variety of forbs, grasses and shrubs (depending on availability) for the permit area. Refer to Reclamation section 2.11 pages 2.11-13 & 2.11-14 for a list of species in seed mix. Specifically shrub species are listed in section 2.11.8.2. Sampling results are presented in the Vegetation section (2.8.8.36). Based on the comment, reclamation plans will include this shrub component. However, the land owner, Lonesome Country, LC has requested that no trees be replaced in the reclamation.

Section 2.11.41-7 Husbandry Practices on Revegetated Lands

The information and commitments in Sections 2.11.9 through 2.11.11 remain current for the WY State Lease 42804 Amendment area.

Section 2.11.41-8 Fencing

Any fencing removed by the permittee will be temporarily replaced during mining events. Any fencing removed by the permittee will be permanently replaced in equal or better condition of initial fencing as part of the reclamation plan.

Section 2.11.41-9 Hydrologic Restoration

The Wyoming State Lease 42804 amendment covers 600 acres on rolling to hilly terrain with most of the disturbance occurring in the flat open areas located amongst the steeper terrain. The Belle Fourche River is located 0.6 miles to the east, 1.35 miles to the north and 1.6 miles to the northeast since it forms an inverted U-shaped meandering corridor near the permit area. Green Mountain is located in the northwest quarter of the amendment area where the elevation rises to 3,754 feet at the summit. The lowest elevation on the site is 3,585 feet at the southern edge of the site.

Refer to section 2.6.3 regarding drainages within the mining area.

One unnamed drainage will be affected by mining in the amendment area. Approximately 1000 yards of this drainage which course through the center of the amendment area from east to west will be affected; the largest pond in the claim spills into this drainage. This drainage will be reclaimed back to its original contour with the exception the addition of a pond at the beginning of the drain on the west. This pond will have steeper slopes as



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well as greater depth than the water that currently collects in that area making a marshy pool.

In addition the small southern most pond in the amendment area will be mined through and replaced with improvements, including steeper slopes and greater depth. See WYG&F correspondence regarding post min impoundment on private surface.

All surface water on the amendment area underwent quarterly baseline water sampling for a year. Results from this sampling can be found in section 2.6.5.24. Information regarding wetlands in the amendment area can be found in section 2.12-20, this is also where correspondence with USACE can be located as well as illustrations of the wetlands within the amendment area.

General BMP's utilized, concerning discharge, are listed in the Bentonite Performance Minerals' Wyoming General Storm Water Permit for Mining Operations Authorization and are listed in Section 2.10.11-1 of Permit 267C.





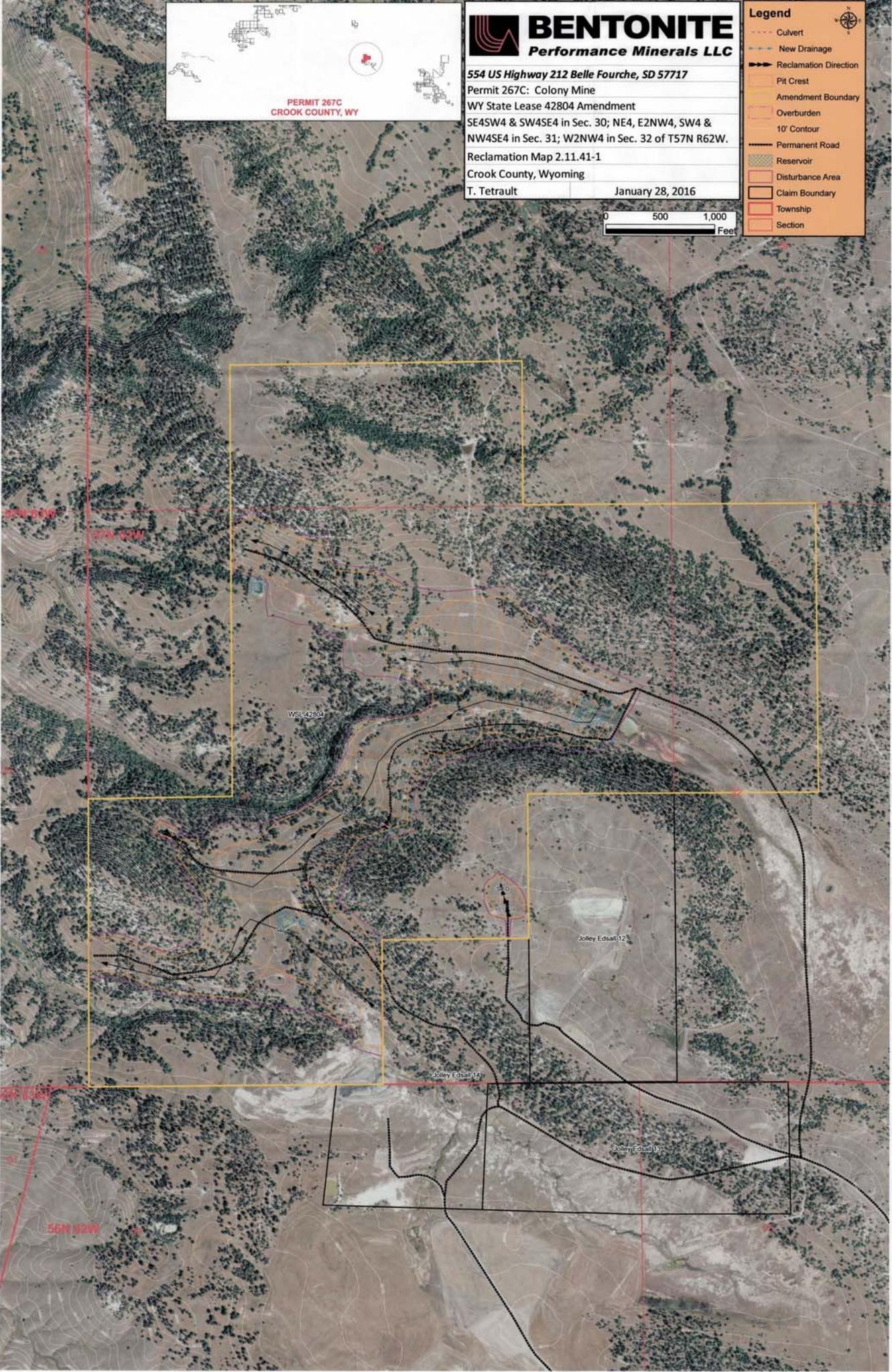
PERMIT 267C
CROOK COUNTY, WY



554 US Highway 212 Belle Fourche, SD 57717
Permit 267C: Colony Mine
WY State Lease 42804 Amendment
SE4SW4 & SW4SE4 in Sec. 30; NE4, E2NW4, SW4 &
NW4SE4 in Sec. 31; W2NW4 in Sec. 32 of T57N R62W.
Reclamation Map 2.11.41-1
Crook County, Wyoming
T. Tetrault January 28, 2016

Legend

- Culvert
- New Drainage
- Reclamation Direction
- Pit Crest
- Amendment Boundary
- Overburden
- 10' Contour
- Permanent Road
- Reservoir
- Disturbance Area
- Claim Boundary
- Township
- Section



Section 2.10.58 WY State Lease 42804 (WSL04) Amendment Area Mine Plan

The claim that is included in the WY State Lease 04 Amendment area is as follows:

Amendment Areas	Legal	Total Acres
Wyoming State Lease 42804	SE4SW4, SW4SE4 Section 30 T57N R62W	80
	NE4, E2NW4, SW4, NW4SE4 Section 31T57N R62W	440
	W2NW4 Section 32 T57N R62W	80
		600

Section 2.10.58.1 Outstanding Permit Conditions and General Information

The WY State Lease 42804 surface is owned by the Lonesome Country LC. An illustration of the mine plan for the claim is presented in Map 2.10.58-1. Mining is expected to start on the proposed portion of the WY State Lease 42804 amendment in 2020. The area has been surveyed/cleared baseline soils, wildlife and vegetation in accordance with WY-DEQ regulations.

WY State Lease 42804 Mining Description

The majority of the ore on the WSL04 claim lies in a single deposit, with only a couple small deposits out-laying. There will be four pit series on the WSL04 claim, labeled on the Mine Map as S4-A through S4-D. Most of the soil associated with mining in the WSL04 claim will be live-spread, however there may be situations which require soil to be stockpiled for later application. It is expected that three out-of-pit permanent overburden piles will be constructed in relation to mining the WSL04 claim.

The ore is a continuation of the same deposit that is currently being mined in the Jolley Edsall 14 (JE 14) claim (Change #31 to permit 267C) and is adjacent to the WY State Lease 42804 claim. Pit Series S4-A is the southernmost series and is a continuation of mining from the Jolley Edsall claim. Mining will progress from the east (coming from JE 14) to the west. One permanent overburden pile will be placed near the central portion of the series on the southern edge, the overburden pile will be contoured into an existing hill to flow with the existing landscape. In addition salvaged soil will be placed near the south-central disturbance edge as well. This pit series will end when it meets the western claim border. Pit Series S4-A is bordered on the north by Pit Series S4-B.

Pit Series S4-B begins in the northwestern corner of the southwestern portion of the claim (refer to Mine Map for illustration). The mining will progress initially to the southeast for a short time before turning and progressing north for a large portion of the series, eventually turning to the east and wrapping around in a horse-shoe pattern and moving to the west in the central portion of the permit area. Soil will be placed in multiple locations

along the mining as illustrated on the mine map. One out of pit overburden pile will be constructed near the end of this series, also the beginning of Pit Series S4-C.

Pit Series S4-C will begin just west of the end point of pit Series S4-B in the north-central portion of the claim. It is a relatively short pit series. One permanent out of pit overburden pile will be constructed in relation to mining this pit series, on the southern edge of mining near the center of the series. Soil for this series will be placed in along the northeast edge.

Pit series S4-D is located in the southeast portion of the claim north of JE14. It is very small, consisting of only a couple pit cuts. Soil for these pits will be salvage and stored west of the mining and reapplied once mining has concluded.

The soil (0-54" based on Soil Report) will be live-spread on previous pits within that series or stockpiled for future use, depending on the area and pit progression. The permittee will adjust the "general backfilling and handling of overburden in the 'tiered' system" manner as discussed in Section 2.5.3 in order to ensure that the most suitable overburden material lies next to the topsoil. Pits will be backfilled, contoured, topsoiled and seeded per information provided in Section 2.11.3.3 (Reclamation Section).

The mining camp will remain on the disturbance from previous mining where soil has already been salvaged. Sumps will be constructed so potential petroleum spills in this area will be directed to the sumps thereby protecting area surface water. This is consistent with directives written into the permittee's SPCC plan. Any petroleum contaminated soil (PCS) in the area will be removed, hauled and placed in the permittee's permitted PCS treatment site located at the Colony Plant site. The quantity of soil removed will be documented in the permittee's Annual Report.

Section 2.10.58.2 Life of Mining Operations

The permittee expects that the mining operations associated with the WY State Lease 42804 Amendment will extend through 2040.

Section 2.10.58.3 Mining Operation and Progressions

Under the provision outlined in Section 2.10.6, the permittee will be submitting proposed mining disturbance in its 2019 Annual Report.

Section 2.10.58.4 Mine Progression Time Schedule

Under the provisions outlined in Section 2.10.7, the Permittee has presented the previous narration and accompanying illustration (Mine Plan Map 2.10.58-1) to describe the progression. The permittee also commits to those timing requirements listed in section 2.11.3.3 of Permit 267C. The Mining Map is labeled as Map 2.10.58-1. The majority of soil salvaged during the mining process will be live-spread on the previous mining. Some soil from the mining in the S4 pit series may have soil piled adjacent to the mining.

Some roads built in the area will be temporary and where possible be constructed on backfill where soil has already been salvaged, with the exception of landowner requested permanent(s) road which will remain in place once mining is completed.

Section 2.10.58.5 Mining Hydrology

The WY State Lease 42804 amendment covers 600 acres on rolling to hilly terrain with most of the disturbance occurring in the flat open areas located amongst the steeper terrain. The Belle Fourche River is located 0.6 miles to the east, 1.35 miles to the north and 1.6 miles to the northeast since it forms an inverted U-shaped meandering corridor near the permit area. Green Mountain is located in the northwest quarter of the amendment area where the elevation rises to 3,754 feet at the summit. The lowest elevation on the site is 3,585 feet at the southern edge of the site.

Refer to section 2.6.3 regarding general practices regarding drainages within the mining area. One unnamed drainage will be affected by mining in the amendment area. Approximately 1000 yards of this drainage which course through the center of the amendment area from east to west will be affected; the largest pond in the claim spills into this drainage.

In addition the small southern most pond in the amendment area will be mined through and replaced with improvements, including steeper slopes and greater depth.

All pre-mine surface water on the amendment area underwent quarterly baseline water sampling for a year. Results from this sampling can be found in section 2.6.5.24.

General BMP's utilized, concerning discharge, are listed in the Bentonite Performance Minerals' Wyoming General Storm Water Permit for Mining Operations Authorization and are listed in Section 2.10.11-1 of Permit 267C.

In addition, due to the revised Wyoming General Storm Water Permit for Mining Operations Authorization, Bentonite Performance Minerals will be allowed to discharge to "waters of the state" however will be required to monitor discharged water for Total Suspended Solids.

There are surface and ground water right claims within the eight surrounding sections, these water rights are presented in section 2.6.5.24. Bentonite mining takes place at a shallow depth and since groundwater is deep in the area bentonite mining is not expected to affect groundwater.

Section 2.10.58.6 Haul, Access, and Light-Use Roads

Under the provisions outlined in Section 2.10.17 (Volume 13, page 2.10-11), the permittee is required to submit the road types to be constructed in the WY State Lease 42804 Amendment permit application. Per landowner request permanent haul roads will

be constructed in the WY State Lease 42804 Amendment area. Road construction will be on surface where soil has been salvaged.

Section 2.10.58.7 Topsoil and Subsoil Salvage

The information and commitments in Sections 2.10.8 through 2.10.16 remain current for the WY State Lease 42804 Amendment Area. Disturbance of ten soil communities will take place with an estimated 177 acres of disturbance within the 600 acre project area. Refer to pages 2.7.3.45-10 & 11 or the Soils Map 2.7.3.45-1 for a table listing all projected soil types, affected acreage and salvage depths for the amendment area.

The soil (0-54" based on Soil Report 2.7.3.45) will be live-spread on previous pits within that series or stockpiled for future use, depending on the area and pit progression. The Subsoil will be salvaged and stored separately.

Section 2.10.58.8 Mining Commitments

The information and commitments in Section 2.10.9 through 2.10.23 remain current for the WSL04 Amendment area.

Section 2.10.58.9 Power Transmission and Communication Lines

There are no transmission or communication lines running through the WSL04.

Section 2.10.58.10 Mitigation

Habitat for the northern long-eared bat is present, however in a telephone consultation with WG&F it was decided that mitigation was not necessary for this case where no White Nose Syndrome has been recorded. The proposed mining will have "no effect" on the northern long-eared bat.

Due to the documentation of ground nesting passerines and waterfowl initial ground disturbing activities will occur outside the nesting and early brood rearing time frame of migratory birds (May 1 - July 15) to avoid direct mortality or nest destruction. (Refer to page 2.9.3.45-25 thru 27).



PERMIT 267C
CROOK COUNTY, WY



554 US Highway 212 Belle Fourche, SD 57717

Permit 267C: Colony Mine

WY State Lease 42804 Amendment

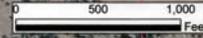
SE4SW4 & SW4SE4 in Sec. 30; NE4, E2NW4, SW4 & NW4SE4 in Sec. 31; W2NW4 in Sec. 32 of T57N R62W.

Mine Plan Map 2.10.58-1

Crook County, Wyoming

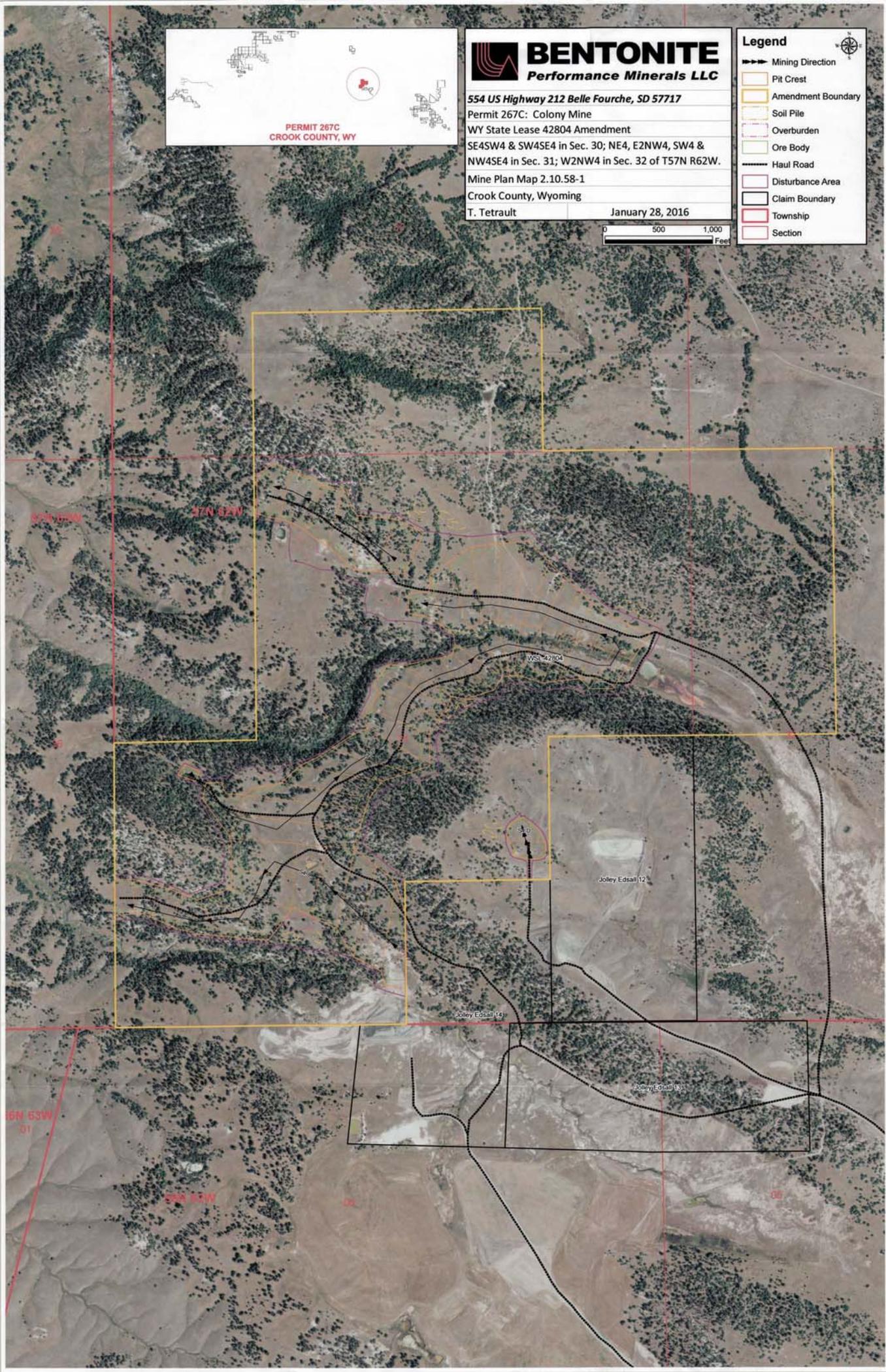
T. Tetrault

January 28, 2016



Legend

- Mining Direction
- Pit Crest
- Amendment Boundary
- Soil Pile
- Overburden
- Ore Body
- Haul Road
- Disturbance Area
- Claim Boundary
- Township
- Section



Section 2.11 Reclamation Plan

Section 2.11.1 Introduction

Numerous components of LQD Noncoal Rules and Regulations Chapter 2, Chapter 3 and Chapter 13 and W.S. § 35-11-406 and W.S. § 35-11-415 outline Reclamation Plan elements. This section of the permit seeks to organize these components and where applicable, makes clear the distinctions established by Chapter 13.

The commitments outlined in this section apply to most lands affected in recent years and to all lands permitted under the A1 and A2 amendments. All variations to these general plans which may apply to specific Chapter 13 Updates or amendments will be submitted as individual subsections of Section 2.11 in the respective Chapter 13 Update or amendment application.

Section 2.11.2 Postmining Land Uses

LQD Noncoal Rules and Regulations Chapter 3, Section 2(a)(i) establishes the overall reclamation standard that "reclamation shall restore the land to a condition equal to or greater than the highest previous use". Section 2.1.1 of this permit establishes the premining land use of grazingland.

The permittee will restore these postmining land uses as stated in Section 2.1.2. The collective reclamation techniques discussed below will ensure achievement of the "equal to or greater than" standard.

Chapter 3, Section 2(a)(ii) requires restoration of postmining wildlife habitat unless the proposed uses preclude use as wildlife habitat. The collective reclamation techniques discussed below will restore wildlife habitat which is commensurate with habitat conditions which existed prior to the mining operation. The postmining reclaimed surface configurations, restored drainage patterns, approved postmining stockponds, and the type and vigor of seeded plant species will ensure wildlife use.

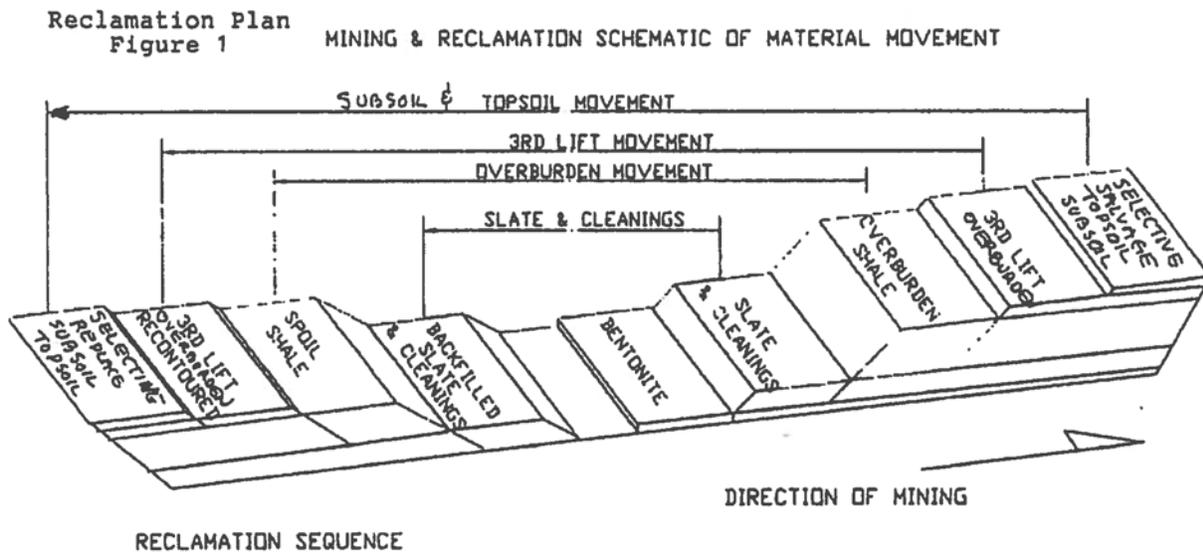
Section 2.11.3 Backfill, Grading And Contouring Plans And Schedules

Mine Plan Sections 2.10.6 and 2.10.7 outline the general mining progressions and schedule. This Reclamation Plan section describes detailed but general reclamation practices which show that reclamation is timely and concurrent with the mining operations and that reclamation provides surface configurations which support the specified land uses.

The permittee uses no tailings impoundments, tailings disposal areas, head leaching facilities nor spent ore disposal areas as listed in Chapter 2, Section 2 (b)(iii)(F). This Reclamation Plan does not address such facilities or areas.

Section 2.11.3.1 Backfill Progressions, Temporary Overburden Stockpiles And Schedules

Mine Plan Section 2.10.6 and Mine Plan Figure 1 outline the general backfill progression and demonstrate that backfill is placed at approximately the same stratigraphic level from which it was removed. The cleanings from the top of the bentonite bed and other slate/shale cleanings are backfilled on the previous pit bottom. The "tiered" system (Reclamation Plan Figure 1) continues by replacing the lower overburden layers from the current pit over the cleanings. The upper portion of the mined overburden from the current pit is placed at an intermediate level in the backfilled pit. Lastly, the third lift (immediately below the subsoil) from the current pit is placed closest to the surface. This third lift is graded to the desired contour and surface configuration as shown in Reclamation Plan Figure 1.



All temporary overburden stockpiles will be used in backfill as soon as possible consistent with reclamation progressions and schedules outlined in Section 2.11.3.3.

Section 2.11.3.2 Permanent Out Of Pit Overburden

Mine Plan Section 2.10.6 outlines three "schedules" or different pit series development sequences. Schedule A allows the possibility of permanent, out-of-pit overburden stockpiles. Schedules B and C commit to backfilling all mined overburden material.

When the permittee creates permanent overburden stockpiles, the reclamation will achieve all the performance standards of LQD Noncoal Rules and Regulations Chapter 3, Section 2(i)(iv)(B)(II) including:

- overburden placement will not occur on native slopes that exceed 20 degrees (approximately 33% or 3:1 slopes).

- stabilizing the overburden slopes by grading and contouring them to blend with adjacent native and reclaimed lands.
- covering the stabilized overburden with subsoil and topsoil.
- seeding the topsoil with an approved permanent seed mix.
- overburden placement will not block ephemeral, intermittent or perennial drainage channels.
- overburden which is placed on pre-Act affected lands will be subject to the other reclamation practices following in this section.

Section 2.11.3.3 Reclamation Progression Maps And Schedules

Various citations in the Wyoming Environmental Quality Act and LQD Noncoal Rules and Regulations Chapters 2 and 3 and 13 require "plans" or "detailed plans" and various "maps" and projected "time schedules" for the reclamation processes. As stated in Mine Plan Sections 2.10.6 and 2.10.7 and Section 2.11.3 above, the permittee commits to reclaiming land concurrently with each new cut in each pit sequence.

Furthermore, LQD Noncoal Rules and Regulations Chapter 13, Section 3(a)(vi) establishes a specific time schedule for reclamation of all lands affected after August 31, 1983 (including all lands under approved A1 and A2 and subsequent amendments). Since the permittee sometimes field dries the bentonite and in consultation with the LQD District III staff, the permittee commits to the following schedule for all permitted lands affected after August 31, 1983:

- reclamation backfilling in a specific cut will begin within three (3) years from the date the cut was initiated and permanent seeding will be completed no later than five (5) years from the date the cut was initiated.
- each specific deviation which exceeds this schedule will be individually identified in the appropriate Annual Report as a Variance requested under provisions of W.S. § 35-11-601(a). The Variance request will specify the alternate reclamation schedule and explain reasons for the adjusted schedule. The permittee understands that the LQD will decide whether Variance request will be formally processed under W.S. § 35-11-601(a).
- each Annual Report will clearly identify the status of all affected land within the permit area using at least the following categories:
 - open pit affected land
 - unreclaimed associated affected land
 - backfilled, graded and contoured land
 - subsoiled/topsoiled land

- permanently seeded land
 - full bond release land
- each Annual Report will clearly identify the new cuts (proposed mining) in all pit sequences which will experience mining operations during the next (upcoming) Annual Report cycle.

These commitments and Annual Report information will collectively satisfy requirements to present detailed reclamation plans, maps and schedules which establish that reclamation is concurrent with mining operations.

Section 2.11.4 Postmining Slopes, Topography And Through Drainage

Section 2.11.4.1 Postmining Slopes

In general, the postmining slopes will approximate the premining slope configurations except where initial "box cut" overburden material is permanently reclaimed (see Section 2.11.3.2) or where a permanent postmining impoundment is created (see Section 2.11.5). The reconstruction of approximate original slope gradients and timely completion of reclamation will assure stability of postmining landscapes.

LQD Noncoal Rules and Regulations Chapter 3, Section 2(b)(ii)(A) states that "individual slope measurements...shall be submitted with the reclamation plan". Because of the discussion above and under agreement with the LQD District III, these measurements will not normally be submitted. The permittee understands that the LQD reserves the option to ask for such slope measurements at the time of final bond release or if the reclaimed surfaces prove to be unstable and erosive.

The slopes on the final pit in any given sequence may have slopes as steep as 3:1 (18 degrees or 33%). The permittee will ensure that these slopes blend with surrounding native lands and reclaimed lands, that the slopes support the postmining land uses and that the slopes are stable.

Section 2.11.4.2 Postmining Topography

All postmining topography will blend smoothly with the surrounding topography and terrain and will reestablish stable contours consistent with postmining land uses.

W.S. § 35-11-406 (b)(vii) and LQD Noncoal Rules and Regulations Chapter 2, Section 2 (b)(iii)(B)(I) require description of the reclaimed land surface using contour maps or cross-sections. By agreement with the LQD District III, the permittee will not submit cross-section drawings for reclamation of lands affected by the general mining operations. In general, the permittee will not include contours on Reclamation Plan maps unless specifically requested by the LQD. The primary reason for this approach is that the mine site topography is relatively gentle and detail would not show useful information. There will be no postmining depressions with internal drainage.

The permittee understands that the LQD may request contour based maps and drawings for final bond release request and where certain drainage channels are restored.

Under the Schedule A (Mine Plan Section 2.10.6), the permittee reclaims the final pit in a pit series by reducing the highwall and creating through drainage where necessary. The reduced highwall slopes may be as steep as 3:1 (18 degrees or 33%) if those slopes will clearly be stable. To ensure stability on steeper slopes and long slope lengths, the permittee will break up these slopes by creating terraces during grading the Third Lift backfill. These terraces will generally be approximately the width of a single pass of reclamation equipment. The gradient of the terraces will be as gentle as possible and non-erosive. The downstream end of terraces will feather into the reclaimed surfaces to create non-erosive transitions.

Section 2.11.4.3 Through Drainage

All backfilling, grading and contouring operations will restore existing drainage patterns and create through drainage on all reclaimed lands. There will be no depressions which accumulate water unless the permittee secures approval from the LQD prior to constructing the feature. The restored drainage patterns and through drainage will be adequate to prevent pollution or diminution of the quantity and quality of surface and groundwater.

Section 2.11.5 Permanent Postmining Impoundments

Section 2.11.5.1 Historical Reclamation Practices

Prior to the construction of an official permit document, the current permittee and its predecessors occasionally constructed postmining impoundments (stock ponds) on reclaimed lands. In general, the LQD requested no designs for or knowledge of the impoundments prior to their construction. The LQD will resolve the status and function of these historically constructed permanent impoundments during final bond release procedures.

Section 2.11.5.2 Reclamation Practices After July, 2000

Prior to constructing permanent impoundments on lands which are reclaimed after July 31, 2000, the permittee will submit information and drawings which fulfill the intent of the following provisions of the LQD Noncoal Rules and Regulations:

- Chapter 2, Section 2(b)(iii)(B)(III)
- Chapter 2, Section 2(b)(iii)(E)(I)-(V)
- Chapter 3, Section 2(a)(iii)
- Chapter 3, Section 2(b)(i)(D)
- Chapter 3, Section 2(b)(ii)(C)
- Chapter 3, Section 2(g)(i)-(iv)

This information will be formatted as a specific section of this Reclamation Plan and will be submitted under Noncoal Rules and Regulations Chapter 7 as a revision to the permit.

Section 2.11.6 Ephemeral Drainage Reconstruction

Section 2.11.6.1 Introduction

This section outlines the basic strategy followed by the current permittee and its predecessors in the reclamation of major ephemeral stream channels. This program was tailored for the ecosystem of northeastern Wyoming and the equipment available for construction. Drainages constructed in the described manner have proven stable through several major flood events.

Section 2.11.6.2 Drainage Size And Other Characteristics

Only relatively large channels have been and will continue to be built under this approach. As a rule, channels which qualify as large, are classified as third order drainages and have a minimum watershed size between 50 and 100 acres. Such channels are characterized by a generally sinuous character and a concave-up (concave while looking upstream) stream profile. Drainages which have relatively straight channels and straight or convex-up profiles are categorized as minor and will not undergo the calculated channel reconstruction effort described here. A return of the approximate original contours and original slopes following mining assures a return of minor drainages which are at least as stable as those which existed in the pre-mine area.

Headcuts and minor gullies will exist in the reclaimed channel because the native stream channels which serve as a model for this method contain headcuts. The approximate return of the pre-mine hydrologic character required by the Wyoming Environmental Quality Act intends creation of a landscape which will behave in the same manner as the pre-mine area. The permittee is aware that it has the option to more thoroughly document the premining conditions of all drainages which it will affect.

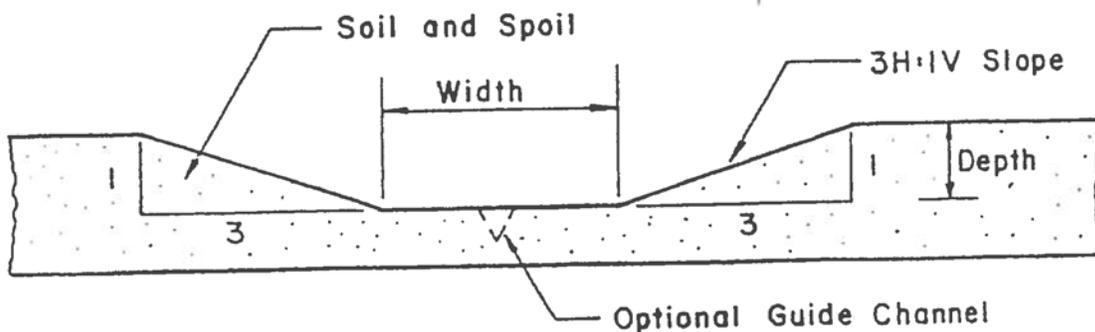
In addition to the fact that headcuts are a natural phenomenon, their presence cannot be considered destructive nor indicative of instability. Studies show that headcuts account for a minor portion of the total sediment lost from a typical watershed in northeastern Wyoming. Sheet flow was reported as the major source of eroded material, while an average total of only 25% of the sediment loss could be attributed to headcuts (Rankl 1987). This would seem to indicate that elimination of headcuts in favor of a "smoother" slope would increase erosion and conflict with the Wyoming Environmental Quality Act's goal of rebuilding a geomorphically suitable landscape. In order to look and act like a native drainage, erosion must occur in the same places at about the same rate as occurs naturally. Channels which are designed in order to lower the natural rate of erosion have proven as unstable and unacceptable as channels designed without consideration for erosion control.

With this understanding, this construction method was designed so that the natural rate of erosion would neither be increased nor decreased. A system is created which directs erosion.

Section 2.11.6.3 Design Elements

Past reclamation efforts indicate that channels built strictly according to engineering designs, such as Manning's model, result in an inappropriate amount of sediment loss. Geomorphic sizing methods have also failed to provide consistently successful channel designs. However both mathematical and geomorphic sizing methods have positive aspects. This method takes an approach which combines the strongest features of Manning's equation and geomorphic approaches.

The stream channel reconstruction program implemented in 1987, and the method followed to date, involves transposing an ideal pre-mine channel section within a broad flood valley. Manning's equation is used to calculate the 100-year flood path, which is referred to as the valley (Reclamation Plan Figure 2). The low-flow, sinuous channel will course within the valley. Soil bars are placed within the valley in order to guarantee that the low-flow channels follow the ideal path.



Reclamation Plan

Figure 2. Trapezoidal cross-section of typical Manning's channel.

Every effort is made to create a constant, concave-up valley grade with no areas which are steeper or with a profile shape other than that dictated by the stream order. Pre-mine streambeds in the Colony, Wyoming mining area have no structural controls, such as bedrock, which would produce sharp changes in valley grade. This means that stable convex-up (convex while looking upstream) valley profiles cannot exist in the undisturbed area. To be stable each reconstructed valley profile must therefore be built in a concave-up shape.

In order to determine the proper shape and degree of valley slope, the geomorphic character of the valley portions above and below the affected reach are examined. The reclaimed valley must have a concave slope intermediate between the unaffected stream sections above and below the zone of disturbance. Therefore, depending on the location and extent of mine disturbance, the target valley grade may vary greatly from site to site. However, the slope of the channel which will flow within Manning's valley cannot be allowed to be outside the bounds of the maximum and minimum slope percentages which have been determined to be erosionally stable for the area of disturbance.

Steady state third order stream courses in the Colony area maintain slopes which range between one and two percent. Because low spots have resulted in as many long-term reclamation problems as over-steep sections, a minimum slope percentage of one percent is equal in importance to the two percent maximum grade. Accordingly, neither a portion nor the entirety of the reconstructed channel must be allowed to fall outside these bounds. Guaranteeing formation of a sinuous channel course which has a grade within the critical slope range requires placement of a water guidance system within the valley.

Manning's 100-year flood channel is the foundation of this program because channels described by this formula have proven erosionally stable during major floods. Additionally, Manning's provides the width and depth of a structure which will theoretically promote formation of a stable meandering water channel. However the ability of Manning's channels to induce sinuosity is dependent on a consistent valley bed slope. This requirement cannot be met due to the nature of the material mined and the tools used to mine. The bumps and ridges left by the equipment used to construct the drainage, as well as natural spoil slumping, frequently result in grade inconsistency. These slumps and ridges are not part of the original design and often lead to valley slopes outside the necessary one to two percent range.

In order to assure sinuous flow, rectangular shaped bars are constructed within Manning's valley. Placement of these bars is modeled after the area stream channel section which is considered the most stable and aesthetically appropriate. One end of each channel bar is tied into the valley bank while the distal end juts into the 100-year flood valley (Reclamation Plan Figure 3).

With minor variations, the aerial appearance of the bars are copied from the natural bars located within the model unaffected channel reach. Only the leading edge of the ellipsoidal native bar will be built. The angle of the upstream portion of the native bar will be copied as closely as possible but the length of the native bar may not be duplicated. The designed bars will be built so that Manning's 10-year flood channel can flow around the tip (Reclamation Plan Figure 4). The constructed soil bars may therefore be longer or shorter than the model.

The width and depth of the 25, 50, and 75 year flood courses are calculated using Manning's equation. For design purposes these sub-100 year flood channels are considered solid boxes. The derived flood paths are then stacked within the 100-year valley (Reclamation Plan Figure 4). The angle made by the lower edge of the stacked "boxes" describes the slope of the soil bars.

By accommodating major floods, the bars will not obstruct or deflect flows into potentially destructive directions. Rather, large flood events will be allowed to course freely over each bar without causing excess sediment loss to the valley walls or the bars themselves.

The cornerstone of this approach is a wide, concave-up valley floor with dimensions described by Manning's equation using the 100-year, 6-hour flood event. The valley profile is intermediate between the areas above and below the disturbance with a valley sinuosity which is copied from the undisturbed area. This provides assurance that the pre-mine slope gradient and shape will be returned to the reclaimed area.

Vertical bar dimensions are also critical since bars which have been built without regard to flood courses have frequently resulted in failure of the bars and/or the valley. Geomorphic measures cannot be used to design the vertical dimensions of the soil bars because the native meander bars do not show a repeatable three-dimensional shape which could serve as a blueprint. Manning's mathematical sizing method is used as an alternative.

In design planning, the ideal native channel is superimposed onto the valley floor. Using the sinuosity of this ideal channel reach as the template, soil bars can be installed which counteract valley-slope inconsistencies and assure formation of a stable meandering channel. By constructing each bar at a height which compensates for major flows, large floods are allowed to course unencumbered within the valley. Sinuosity is introduced without compromising long-term stability.

The end result is a channel which has a concave-up profile with a slope less than the containing valley. Since this slope relationship exists in the pre-mine area, long term stability is assured. Channels constructed using this combination of Manning's and geomorphic sizing methods are more visually acceptable and have shown reduced sediment loss compared to those constructed strictly according to either approach alone.

Section 2.11.6.4 Notes On The Use Of Manning's Formula

Manning's Formula is expressed as $V_p = 1.49/n \times R^{2/3} \times \text{the square root of the slope}$. The presentation of this formula is in Barfield, B.J., R.C. Warner and C.T. Haan, 1981. Applied Hydrology and Sedimentology for Disturbed Areas, 161-165 1st Edition, Oklahoma Technical Press, Stillwater, Oklahoma.

Runoff is calculated using USDA, SCS, Engineering Division-Hydrology Branch, Engineering Field Manual (EFM), Notice-4, 5/71; Kent, K.M. (comp.), W.A. Styner (rev.), 55 pp., Western Regional Technical Service Center, SCS, Portland Oregon.

Precipitation amount is derived from the Precipitation-Frequency Atlas of the Western United States, Atlas 2, Vol. IT-Wyoming, Miller, J.F., R.H. Frederick, and R.J. Tracy, U.S. Dept. Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Office of Hydrology, Silver Spring, MD, 1973.

"Q" is estimated using drainage area and slope calculated from 7.5 minute quadrangle

maps and/or company surveying of watershed area and slope. The range condition and soil type of the watershed are determined in the field and subsequently used to determine the curve number (CN) value according to the EFM Notice-4, 5/71.

A negative solution represents an impossible construction format and will therefore be discarded as a possible solution.

Section 2.11.7 Subsoil And Topsoil Redistribution Methods

Section 2.11.7.1 Introduction

Mine Plan Section 2.10.8 outlines the permittee's topsoil and subsoil salvage and storage (stockpile) procedures. The permittee will always seek to minimize the amount of time topsoil and subsoil remains in stockpiles.

Chapter 3, Section 2 (d)(ii) states that "Land which did not support vegetation prior to becoming affected land need not be revegetated unless subsoil or overburden from such affected land will support vegetation". When such native lands exist, they will be identified in the baseline vegetation studies. As noted below, the permittee will respread subsoil and topsoil on all affected lands because historical practices have demonstrated that all lands can be successfully revegetated. The special case of reaffected pre-Act lands is also discussed below.

Section 2.11.7.2 Topsoil Nutrient Analyses And Subsoil Suitability Tests

Chapter 3, Section 2 (c)(i)(C) states "Where topsoil has been stockpiled for more than one year, the operator may be required to conduct nutrient analyses to determine if soil amendments are necessary". The LQD has never required such analyses for any historical reclamation completed under the Wyoming Environmental Quality Act. The permittee does not see any need for these analyses based upon the facts of the historical record of reclamation success and full bond release.

Chapter 13, Section 3 (a)(i) allows the LQD Administrator to request subsoil suitability tests. The premining subsoil characterizations outlined in Section 2.7 and the subsoil salvage techniques outlined in Mine Plan Section 2.10.8 ensure that subsoil is handled in a manner which will facilitate successful revegetation. The LQD has never required subsoil suitability testing prior to redistribution of subsoil. The permittee does not see any need for additional suitability testing based upon the facts of the historical record of reclamation success and full bond release.

Section 2.11.7.3 Subsoil Redistribution Methods And Depths

If the permittee determines that the "third lift" backfill has been unduly compacted, the high compaction areas will be ripped to eliminate slippage between the backfill and subsoil.

The permittee will use scrapers to replace all subsoil. As shown in Reclamation Plan Figure 1, the available subsoil will be replaced on top of the recontoured "third lift" overburden. If the permittee is direct hauling from a new pit cut, all the salvaged subsoil will be redistributed at approximately uniform depths. When redistributing stockpiled subsoil, the redistribution depths will be approximately uniform. The subsoil will be graded as necessary, but any grading will avoid excessive compaction.

In select cases, the permittee may redistribute some subsoil on pre-Act lands which have been reaffected by ongoing mining operations. In these cases, the permittee will ensure that the Subsoil use does not reduce the potential for reclamation success on other lands. When used in this manner, the subsoil depths will vary and will be graded to blend with the adjacent pre-Act lands and the standard reclamation.

Section 2.11.7.4 Topsoil Redistribution Methods And Depths

The permittee will use scrapers to replace all topsoil as illustrated in Reclamation Plan Figure 1. If the permittee is direct hauling from a new pit cut, all the salvaged topsoil will be redistributed on available subsoil at approximately uniform depths. When redistributing stockpiled topsoil, the redistribution depth will be approximately uniform.

The redistributed topsoil may be graded, but will always be left in a roughened condition to protect the topsoil from wind and water erosion. The permittee will always conduct operations to limit excessive compaction of the redistributed topsoil.

Chapter 3, Section 2 (c)(i)(F) states that "If abundant topsoil is present, and it is not all needed to accomplish the reclamation required in the approved reclamation plan, the Administrator may approve of use of this topsoil.....in another area for reclamation purposes". In select cases, the permittee will exercise this option to spread topsoil on pre-Act lands which have been reaffected by ongoing mining operations. In these select cases, the permittee will ensure that the topsoil used will not reduce the potential for reclamation success on other lands. When used in these cases, the topsoil depths will vary and will be graded to blend with the adjacent pre-Act lands and the standard reclamation.

Section 2.11.8 Revegetation and Seeding Method

Section 2.11.8.1 Seedbed Preparation, Seed Mix and Seeding

The permittee prepares the seedbed with a spring-tooth chisel plow. This technique leaves deep furrows which trap available moisture and assist in controlling wind and water erosion.

The permittee plants the seed mix in Reclamation Plan Table 2.11.8.1 on all permanently reclaimed lands.

Reclamation Plan Table 2.11.8.1 Permanent Seed Mix and Seeding Rates

Scientific Name	Species	Lbs of PLS/acre*
<i>Calamovilfa longifolia</i>	Prairie Sandreed	1.0
<i>Agropyron dasystachyum</i>	Thickspike Wheatgrass	1.0
<i>Agropyron smithii</i>	Western Wheatgrass	1.0
<i>Oryzopsis hymenoides</i>	Indian Ricegrass	1.0
<i>Elymus cinereus</i>	Great Basin Wildrye	1.0
<i>Stipa viridula</i>	Green Needlegrass	1.0
<i>Agropyron spicatum</i>	Bluebunch Wheatgrass	2.0
<i>Buchloe dactyloides</i>	Buffalo Grass	1.0
<i>Bouteloua gracilis</i>	Blue Grama	1.0
<i>Vicia Americana</i>	American Vetch	1.0
<i>Ratibida columnifera</i>	Prairie Coneflower	1.0
<i>Achillea millefolium</i>	Western Yarrow	1.0
<i>Sphaeralcea coccinea</i>	Scarlet Globemallow	1.0
<i>Sporobolus airoides</i>	Alkali Sacaton	1.0
<i>Secale cereale</i> or Triticale	Fall Rye or Triticale	5.0-25.0**
Total		30.0

*PLS (Pure Live Seed) **15.0 lbs of PLS/acre used for Total figure

The seed mix includes a variety of species selected for their drought and alkaline tolerance; most species were discovered during the baseline study. A few species were selected because of their revegetation success on previous seeding. Additionally some were added due to the forage capacity they hold for certain species of wildlife. All species are self-renewing except the rye and Triticale. Fall rye or Triticale is seeded as a nurse crop with the permanent seed mix. The nurse crop protects the soil from erosion, adds organic mulch and reduces weed infestation.

The seed box is mounted on the chisel plow and set so that the seed is released into the chisel plow furrows.

The permanent seeding will occur from September to November each year as long as the topsoil is not frozen.

Seeding will be on the topographic contour unless safety considerations overrule or are perpendicular to the to the prevailing wind direction on very flat lands.

The permittee does not propose irrigation of any reclaimed and revegetated lands in the original permit area or on any amendment lands.

Any permanent topsoil redistributed outside the designated September through November permanent seeding window will be seeded with a temporary cover crop as long as topsoil conditions allow. The temporary cover will protect the topsoil and help conserve available

moisture.

Section 2.11.8.2 Shrub Species In Seed Mix

Shrubs are planted in late winter or early spring in addition to the permanent seed mix, to reestablish wildlife habitat.

Reclamation Plan Table 2.11.8.2 Shrub Mix and Seeding Rates

Scientific Name	Species	Lbs of PLS/acre*
Artemisia tridentate	Big Sagebrush	0.5
Artemisia Cana	Silver Sage	1.0
Artemisia frigida	Fringed Sagewort	1.0
Krascheninnikovia lanata	Winterfat	1.0

Historically, the LQD has accepted the absence of shrub species in the permanent seed mix if the permittee documents that each surface owner does not want shrubs seeded. In each Chapter 13 Update and all amendment applications after the A2 amendment, the permittee will present and briefly note the presence of written statements for each surface owner.

If the permittee does not secure written surface owner statements, a specific section of text will list the site specific seed mix.

Section 2.11.8.3 Seed Mix Substitutions

The permittee commits to the permanent seed mix in Table 2.11.8.1 when the mix components are readily available. History has shown that individual species may be unavailable at a given seeding because:

- The species and/or the preferred variety may not be available because of a poor seed crop or because federal or state agencies have purchased large quantities of seed.
- The cost may be excessive.
- The amount of available seed may not be adequate for the reclamation acreage.

In any given seeding effort, the permittee may need to substitute a small number of species. If the total number of substitutions is three (3) or more, the permittee will secure prior approval from the LQD District Office. Otherwise, the permittee will substitute a native or naturalized species of the same life form with similar characteristics. The permittee will report the substitutions in the first available Annual Report.

Section 2.11.8.4 Historic Seed Mixes And Methods

The permittee has used several different seed mixes and planting methods over the history of reclamation since July 1, 1973. The respective Annual Reports have

documented the historic combinations. The methods and seed mix outlined above are current commitments for the historic permit area and the A1 and A2 amendment areas. The permittee will revise this section via the amendment or Noncoal Rules and Regulations Chapter 7 procedures as appropriate.

Section 2.11.8.5 Other Postmining Plant Communities

The LQD Noncoal Rules and Regulations Chapter 3, Section 2 (d)(vi)(E) and (F) allow for reforestation and cropland. The permittee will generally not restore such communities unless they were present on the premining landscape and only when they are specified in this Reclamation Plan.

Section 2.11.8.6 Postmining Tree Restoration

The permittee occasionally affects lands which have one or more tree species present. These affected lands most often comprise haul/access road corridors and lands which are back-sloped above reclaimed highwalls of the last pit in a sequence. Section 2.8 (Appendix D-8) will include description of the tree composition and locations for all Chapter 13 Updates and all amendment lands after June 23, 2000 (approval date for the A1 and A2 amendments).

The permittee will not replant the destroyed trees unless the surface owner specifically requests restoration in writing. If a surface owner wants trees replanted, the permittee will include specific Reclamation Plan text which details the replanting methods and locations.

Section 2.11.9 Husbandry Practices On Revegetated Lands

Section 2.11.9.1 Noxious Weed Control

The permittee will use certified weed-free seed and standard agricultural practices to minimize the introduction of noxious weeds. The permittee will consult with appropriate county and state agencies when other weed control methods, e.g. spraying, appear appropriate to control localized weed infestations on stockpiles on revegetated lands. The permittee will continue these practices until the reclaimed lands are fully released from the reclamation performance bond.

The use of the fall rye cover crop and nurse crop will assist in reduction of all weed species.

Section 2.11.9.2 Protection Of Revegetated Lands

Chapter 3, Section 2 (d)(viii) requires a mutual agreement among the LQD Administrator, permittee, land owner or land managing agency which determine when the revegetated land is ready for the initial episode of domestic livestock grazing. As per current LQD

procedures, the permittee does not make projections regarding initial grazing on reclamation in the permit document. The LQD requests and the permittee provide this information in each Annual report.

The permittee will protect young vegetative growth from being destroyed by livestock until the vegetation is capable of renewing itself. The permittee will employ some combination of the following practices to accomplish this standard:

A. Selective Fencing

Based upon agreements with respective surface owners, the permittee may selectively fence reclaimed lands to control the pattern and duration of domestic cattle grazing. The fences will be removed after bond release if the surface owner requests.

B. Grazing Deferral and Controlled Grazing

Based upon agreement with respective surface owners and grazing lessees, the permittee will seek to properly manage domestic cattle grazing on revegetated lands so that the self renewing capacity of the revegetation is not negatively impacted.

Section 2.11.10 Evaluation of Revegetation Success and Bond Release

By definition from the Wyoming Environmental Quality Act (WEQA) reclamation seeks to reestablish "... use for grazing, agricultural, recreational, wildlife purposes, or any other purpose of equal or greater value". The permittee will restore a stable, non-erosive postmining surface which promotes a postmining land use of "grazingland" as defined in the WEQA. Revegetation practices will establish cover sufficient to prevent undue erosion. Revegetation will establish cover and production and species diversity and composition which support the land use and which meet the performance standards of LQD Noncoal R&R Chapter 3, Section 2.(d)(vi).

Prior to sampling for final bond release, a plan for evaluating reclamation success will be submitted and mutually agreed upon by Bentonite Performance Minerals, LLC and LQD.

Section 2.11.10.1 Full Bond Release Application Content

The permittee will submit each full bond release application separate from other permitting actions such as Annual Reports, amendments, Chapter 13 Updates, etc. The permittee will endeavor to submit each application at a time during the year which allows some LQD staff review time and which allows the field inspection to be conducted between late May and mid-September.

Prior to submitting an application for final bond release, a plan for evaluating application content will be submitted and mutually agreed upon by Bentonite Performance Minerals, LLC and LQD.

The permittee will submit the following information in each full bond release application.

- Tabulate the lands by legal description and acreage and reference these lands to accompanying maps. The maps must clearly identify the potential release units.
- Clearly state the premining and postmining land uses. The land use categories should be only those listed in W.S. § 35-11-103(e) (xxvi) and (xxvii).
- Outline the specific seed mix applied and date of seeding for each potential release unit. Note any remedial actions or husbandry practices applied after original seeding.
- Include a signed Landowner Statement of Satisfactory Reclamation from each surface owner for each release unit. A suitable form is available from LQD.
- Include approved State Engineer Office Permits for all postmining impoundments constructed on each potential release unit.
- Include quality photographs which are representative and illustrative of the characteristics of the release units. These photographs are not required, but very useful.
- Identify any formally designated Reference Area or Comparison Area which occurs in the close proximity to a potential release unit.
- Specifically note the status (active, reclaimed, etc.) of any haul access roads which served the potential release unit or which traverse the units.

The LQD Staff will review the application for complete and accurate information and arrange a suitable date for a field inspection.

Section 2.11.10.2 Office And Field Inspection Procedures

Chapter 13 of the LQD Noncoal Rules & Regulations establishes this category. As far in advance of submitting a bond release application, the permittee will endeavor to have an LQD staff member view the reclaimed lands to aid in development of a suitable bond release plan and give the preliminary opinion that the lands appear suitable for full bond release. The permittee and the LQD will also use this field exercise to establish Comparison Areas (as necessary) or confirm the use of established Extended Reference Areas. The native lands may be inside or outside the permit area boundary as long as management histories are comparable.

According the Guideline 2 it is agreed upon during field inspection that prior to initiating any field sampling program for final bond release the permittee will secure written agreement with the LQD District III concerning the specific formulation of the Null and Alternative Hypotheses and statistical test of means.

The LQD field inspection will evaluate the permittee's attainment of the performance standards of LQD Noncoal R&R Chapter 3, Sections 2.(a), 2.(d)(vi) and 2.(d)(ix).

- The total vegetation cover on the reclaimed lands must be at least equal to the total vegetation cover of nearby native lands, or to nearby designated Reference or Comparison Areas. This assessment of cover will be based upon desirable, non-weedy species.
- The reclaimed lands must be relatively free of designated noxious weeds or other troublesome, undesirable weedy species. No weedy species should dominate the reclaimed vegetation community.
- The permanent species must be evident and persistent in the postmining community. There should be clear evidence of species self-renewal.

Inspection Report and Bond Release Decision

The final decision will detail the lands granted final bond release and record the process as a numbered change to Permit No. 267C.

LEASE AGREEMENT

This Lease Agreement is made by and between the LONESOME COUNTRY LC, a Wyoming limited liability company, hereinafter for convenience referred to as the Lessor, and, MULE SHOE RANCH, INC., a Wyoming corporation, hereinafter for convenience referred to as Lessee.

The Lessor hereby lets unto the Lessee, and the Lessee hereby hires from the Lessor, that certain real property situate in Township 56 and 57 and Range 62 and 63 West of the Sixth Principal Meridian, in Crook County, Wyoming, consisting of 6,335 acres, more or less, FOR GRAZING AND AGRICULTURAL PURPOSES ONLY, hereinafter for convenience referred to as the Leased Premises.

In consideration of this Lease Agreement, the parties hereby covenant and agree as follows:

1. Term. The term of this Lease Agreement shall be for three (3) years, during the summer grazing period of calendar years 2018, 2019, and 2020. The lease term shall commence on the first day of May of each year, and shall terminate on the thirty-first day of October of each year. The commencement date and the termination date shall be determined by the elements of the weather, the growing conditions, and the amount of forage available on the leased premises.

2. Rental. The Lessee shall pay to the Lessor for the use and possession of the Leased Premises the sum of \$30.00 in 2018 grazing period, the sum of \$30.00 in 2019, and \$30.00 in 2020, for each animal unit month during the summer grazing period. An animal unit month for the purposes of this Lease Agreement is described as follows:

- a. Cow, with or without unweaned calf
at side, or heifer 2 years old or older 1.0 AUM
- b. Bull, 2 years old or older 1.3 AUM
- c. Young cattle, between 1 and 2 years 0.8 AUM
- d. Weaned calves up to 1 year 0.6 AUM

The number of animal unit months for the summer grazing period for each year shall be 375 per month, or 2,250 for the six month summer grazing season.

The minimal rental to be paid by the Lessee during the summer grazing season of calendar year 2018 shall be in the amount of \$67,500.00 which sum is calculated at the rate of \$30.00 for the summer grazing period for calendar year 2019 for 375 animal unit months, for six (6) months, consisting of cows or cow and calf pairs. The minimal rental to be paid in calendar year 2019 shall be in the amount of \$67,500.00. The minimal rental to be paid in calendar year 2020 shall be in the amount of \$67,500.00.

The minimal rental also includes the rental for the bulls which the Lessee may bring upon the leased premises during the term of this lease agreement. The minimal rental shall not be increased for the number of animal unit months for the bulls brought upon the Leased Premises.

The minimal rental for 2018 shall be paid as follows: \$11,250.00 on the first day of March, and \$11,250.00 each on the first days of June, July, August, September, and October. The minimal monthly rental for 2019 shall be \$11,250.00, payable on the dates hereinbefore set forth. The minimal rental for 2020 shall be \$11,250.00, payable on the dates hereinbefore set forth. These minimal payments shall be increased accordingly to reflect the number of bulls which are brought upon the Leased Premises by the Lessee.

The maximum number of animals which the Lessee may place upon the Leased Premises during the term of this Lease Agreement shall be 375 animal units. The Lessee may exceed the maximum number of animal unit months only in the event the growing conditions and the amount of forage upon the Leased Premises permit the Lessee to exceed the maximum number of 375 animals, and then only in the amount which the Lessor shall consent to in writing.

3. Husbandry. The Lessee hereby agrees to keep and maintain the Leased Premises in good order and agrees to operate the Leased Premises in an efficient and husbandlike manner which will preserve and conserve the Leased Premises. The Lessee further agrees that the Leased Premises will not be caused to be stocked with an overabundance of livestock nor cause the Leased Premises to be over-grazed. The Lessee further agrees that no waste or damage shall be committed on or to the Leased Premises and that due care will be taken to prevent third parties from committing waste on, or damage to, the Leased Premises. The Lessee shall limit the number of livestock on the Leased Premises to approximately 375 animal units. The Lessee hereby specifically acknowledges and agrees that weather conditions beyond the control of the parties hereto may cause the term of this Lease Agreement to be reduced to a shorter period of time and, also, that these same weather conditions may require the number of animal units to be reduced from 375 animal units to a lesser number of animal units. In the event the

Lessee is required to reduce the number of animals upon the Leased Premises because of lack of forage or in the event the term of this Lease Agreement is shortened because of lack of forage, then, and in that event only, the minimum rental provided for herein shall be modified to the number of animals and the number of months which the Lessee actually used the Leased Premises.

4. Easement. The Lessor hereby reserves the right to use the roads on the Leased Premises as a means of ingress and egress to and from its properties, and the Lessor reserves for itself and its agents, representatives, invitees, lessees, and licensees to use the easement at any time and for any lawful purpose. The Lessee hereby grants to the Lessor, its agents, representatives, invitees, lessees, and licensees the right of ingress and egress the property of the Lessee. This easement extended by the Lessee to the Lessor may be used at any time and for any lawful purpose.

5. Governmental Controls. This Lease Agreement is hereby modified to the extent necessary to make it comply with any and all state and federal laws covering the Leased Premises, to comply with any and all valid orders and regulations issued pursuant to any federal or state laws governing or otherwise affecting the Leased Premises, and to comply with any and all contracts, mortgages, and other agreements which the Lessor may now have, or may have during the term of this Lease Agreement with any third party which may apply directly or indirectly to the Leased Premises.

6. Fences and Corrals. The Lessee shall be permitted to use the corrals of the Lessor, upon request, for the purpose of loading and unloading livestock, branding, sorting, doctoring, and other necessary handling of the livestock of the Lessee. The Lessee shall keep the fences on the Leased Premises in good repair. The Lessor shall provide the necessary material to keep the fences in good repair.

7. Minerals. The Lessor hereby reserves from the operation of this Agreement all of the minerals in and under the Leased Premises, or otherwise attached thereto, and the right to extract, or otherwise remove, any of such minerals from the Leased Premises, and such reservation is made for the benefit of the Lessor, its successors and assigns. Any and all moneys paid as the result of any minerals, or rights to minerals, or mining activity, on the Leased Premises, whether they be designated as royalties, rents, damages, or otherwise shall belong wholly to the Lessor.

8. Assignment. The Lessee hereby agrees that this Lease Agreement may not be encumbered, assigned, or otherwise transferred. The Lessee also agrees that the Leased Premises, or any part thereof, may not be sublet. Any encumbrance, assignment, or subletting whether it be voluntary or involuntary, by operation of law, or otherwise, is void and shall, at the option and election of the Lessor, terminate this Lease Agreement.

9. Damage. The Lessee agrees to pay to the Lessor reasonable compensation for any and all damages to the Leased Premises for which the Lessee is directly or indirectly responsible, except for ordinary wear and depreciation, and except for damages beyond the control of the Lessee.

10. Default. All covenants and agreements contained in this Lease Agreement are hereby declared to be conditions of this Lease Agreement and the terms of this Lease Agreement. In the event the Lessee should default in the performance of any covenant, condition, or agreement contained herein, the Lessor, at its option and election, may terminate this Lease Agreement and reenter and regain possession of the Leased Premises in the same manner then provided by the laws of the State of Wyoming then in force and effect. In the event either party shall refuse to perform their respective obligations under the terms of the Lease Agreement, then in that event, the other party may institute legal action, or other acceptable remedy, to enforce the terms of this Lease Agreement, and the prevailing party in such proceedings shall be entitled to recover reasonable and necessary costs incurred, including reasonable attorney's fees.

11. Vehicles. The Lessee shall not be permitted to use any of the motorized vehicles belonging to the Lessor, because of the Lessor's insurance policies on these motorized vehicles does not cover their use by the Lessee or of any of the agents, employees, or associates of the Lessee. The Lessor is unwilling to accept or assume any liability which may occur by the use of its motorized vehicles by the Lessee.

12. The Lessor has provided a fixed rental over the three year term of the Lease Agreement without any increase. In consideration of the fixed rental for this three year period, the Lessee hereby agrees to improve the reservoirs of the Lessor which are located upon the Leased Premises.

IN WITNESS WHEREOF the parties hereto, hereby have caused this Lease Agreement to be executed, intending to be bound thereby, on the _____ day of _____, 2018.

LESSOR: LONESOME COUNTRY LC
by _____
Manager

LESSEE: MULE SHOE RANCH, Inc.
by _____
President

9. Damage. The Lessee agrees to pay to the Lessor reasonable compensation for any and all damages to the Leased Premises for which the Lessee is directly or indirectly responsible, except for ordinary wear and depreciation, and except for damages beyond the control of the Lessee.

10. Default. All covenants and agreements contained in this Lease Agreement are hereby declared to be conditions of this Lease Agreement and the terms of this Lease Agreement. In the event the Lessee should default in the performance of any covenant, condition, or agreement contained herein, the Lessor, at its option and election, may terminate this Lease Agreement and reenter and regain possession of the Leased Premises in the same manner then provided by the laws of the State of Wyoming then in force and effect. In the event either party shall refuse to perform their respective obligations under the terms of the Lease Agreement, then in that event, the other party may institute legal action, or other acceptable remedy, to enforce the terms of this Lease Agreement, and the prevailing party in such proceedings shall be entitled to recover reasonable and necessary costs incurred, including reasonable attorney's fees.

11. Vehicles. The Lessee shall not be permitted to use any of the motorized vehicles belonging to the Lessor, because of the Lessor's insurance policies on these motorized vehicles does not cover their use by the Lessee or of any of the agents, employees, or associates of the Lessee. The Lessor is unwilling to accept or assume any liability which may occur by the use of its motorized vehicles by the Lessee.

12. The Lessor has provided a fixed rental over the three year term of the Lease Agreement without any increase. In consideration of the fixed rental for this three year period, the Lessee hereby agrees to improve the reservoirs of the Lessor which are located upon the Leased Premises.

IN WITNESS WHEREOF the parties hereto, hereby have caused this Lease Agreement to be executed, intending to be bound thereby, on the 19th day of January, 2018.

LESSOR:

LONESOME COUNTRY LC

by Ronald J. Tussion
Manager

LESSEE:

MULE SHOE RANCH, Inc.

by Rogier Dacan
President

WYOMING OFFICE OF STATE LANDS AND INVESTMENTS

122 West 25th Street
Cheyenne, WY 82002
Phone: 307.777.7331
Fax: 307.777.2980
slfmail@wyo.gov



MATTHEW H. MEAD
Governor

BRIDGET HILL
Director

DETAILED ANALYSIS

Wyoming Board of Land Commissioners
Consideration for Exchange of State Trust Land

Ericsson Corporation/Two Y Ranch LLC

680± ACRES in CROOK COUNTY, WY

Prepared on
February 22, 2016

by
Office of State Lands and Investments
Herschler Building, 3 West
122 West 25th Street
Cheyenne, WY 82002

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**DETAILED ANALYSIS
PROPOSED LAND EXCHANGE OF 680± ACRES
CROOK COUNTY, WYOMING**

AUTHORITY:

W.S. §§ 36-1-107; 36-1-110; 36-1-111

Wyoming Board of Land Commissioners' Rules and Regulations, Chapter 26, Section 5

Trust Land Management Objectives adopted by the Wyoming Board of Land Commissioners, August 11, 2005.

PROPOSAL:

The Director of the Office of State Lands and Investments (OSLI) has determined the subject parcels of State Trust Land may be suitable for exchange. The land was nominated by Ericsson Corporation (Ericsson) on September 1, 2012 and Two Y Ranch, LLC (Two Y) on November 14, 2012. On December 5, 2012, the Director combined the two nominations into one proposal and moved the parcels to the Category II Disposal List and the Category II Acquisition List in accordance with Wyoming Board of Land Commissioners' Rules and Regulations (Board's Rules).

Ericsson proposes to dispose of 640± acres of its deeded land in exchange for acquisition of 640± acres of State Trust Lands. Two Y proposes to dispose of 40± acres of its deeded land in exchange for acquisition of 40± acres of State Trust Lands. Collectively, this proposed exchange consists of 680± acres of deeded land and 680± acres of State Trust Lands in Crook County, Wyoming. As further described in the appraisal section below, the Ericsson parcels as well as the Two Y parcel all appraise at a higher value than the State Parcels contemplated in this exchange.

Existing rights held by the State of Wyoming are 100% of the surface estate and 100% of the mineral estate. The proposed transaction will dispose of the surface estate only. The State of Wyoming will retain all mineral rights.

The exchange proposal, if completed, will create beneficial State Trust Land surface ownership that enhances administrative and grazing management access which is currently unavailable. Further, it places lands with higher productive capacity into State of Wyoming ownership, resulting in a higher value of the State's trust land corpus as well as higher annual revenues to the State's trust beneficiaries. Ericsson, as well as Two Y wish to enhance access as well as the manageability of their deeded lands as a result of this proposed exchange.

The application letters are attached as **Exhibit "A"**.

SUBJECT PROPERTY DESCRIPTIONS:

The parcels are located in Crook County, Wyoming, and are approximately sixteen miles northeast of Hulett, Wyoming, along the Belle Fourche River, north of County Road 80 (Mona Road). Maps and photos are attached as **Exhibit "B"**.

State Trust Land for Disposal—total of 680 acres:

Section 14, Township 56 North, Range 63 West, of the 6th P.M. NW1/4 & W1/2 W 1/2 NE1/4 (200 acres)

Section 15, Township 56 North, Range 63 West, of the 6th P.M. SW1/4, NE1/4, S1/2 NW1/4, NW1/4 NW 1/4 & NE1/4 NW1/4 (480 acres)

Ericsson deeded land for Acquisition-total of 640 acres:

Section 3, Township 56 North, Range 63 West, of the 6th P.M. E1/2 E 1/2 (160 acres)

Section 10, Township 56 North, Range 63 West, of the 6th P.M. SE1/4 (160 acres)

Section 11, Township 56 North, Range 63 West, of the 6th P.M. N1/2 (320 acres)

Two Y Deeded land for Acquisition-total of 40 acres:

Section 10, Township 56 North, Range 63 West, of the 6th P.M. SE1/4 SW1/4 (40 acres)

Total proposed disposal of State Trust Lands: 680 acres±

Total proposed acquired Deeded Lands: 680 acres±

Net difference in acreage: 0 acres±

Fund: CS- Common School

PROPERTY INFORMATION:

State Trust Lands

The Belle Fourche River meanders through the majority of the parcels giving way to low lying flood plains and rolling hills. There is open meadow along the river in the southwest corner and across much of the north side of the property. The vegetation on the parcels is largely native meadow and upland species with pockets of ponderosa pine present.

The State Trust Lands were granted to the State of Wyoming by the Federal Government under the Act of Admission of July 10, 1890, and Sections 2275 and 2276 of the Revised Statutes of the United States as shown in Clear Lists 2, 3 and 5 of the Sundance Land District.

Ericsson Lands

The Belle Fourche River is the predominant feature of this property. The topography quickly rises above the river banks to level meadows in Sections 3 (north parcel) and 11 (center or east parcel). There is a cliff with rock outcrops on the northeast of Section 11. The southwest parcel, Section 10, is mainly a gently sloping hay meadow elevated above the river which is to the northeast. A rolling hill with steep slopes and trees is located in the northwest corner of Section 10 along with a fringe of trees and steep slopes on the southwest edge of that

area in Section 10. The topography in Section 3 (the north parcel) rises quicker from the river bed to hills and rough terrain on the north end.

Two Y Lands

This parcel consists of rolling hills with steep slopes and trees along the south and west sides and open meadow in the middle and north portions. A portion of the south side and the west side has timber. The tract is not believed to currently have any significant marketable timber.

Maps and photos are attached as **Exhibit "B"**.

IMPROVEMENTS:

There are no dwellings, buildings, or shops on any of the parcels. Land improvements consist of partial fencing that is primarily woven wire with 3 barbed wires on native posts. However, the fencing does not appear to follow property lines or completely surround the properties.

State Trust Lands: Set of Corrals on the South side of Belle Fourche River. One eighth of a mile of four wire barb fencing with a gate.

Ericsson Lands: No land improvements.

Two Y Lands : No land improvements.

WATER RIGHTS:

A review of the records maintained by the Wyoming State Engineer's Office reflect water rights appurtenant to specific State Trust Land parcels. Specific parcel water right information is available for public review at the Wyoming State Engineer's Office or on the Wyoming State Engineer's Office website.

State Trust Lands: No water rights found.

Ericsson Lands: A spring draw reservoir, Blake No. 3, exists in tract 2 (P323.OS) with a September 25, 1953 date of appropriation with the right owner listed as Mary A More Trust.

Two Y Lands: No water rights found.

Existing water rights are to be conveyed in the proposed transaction. Surface ownership of this property is subject to W.S. § 36-9-119: "Nothing in this act [Sale of State Lands] shall be construed so as to impair the rights of any ditch company, or any person owning any ditch or ditches, on or passing through any of the lands included herein."

All water rights or permits on these parcels should be verified with the Wyoming State Engineer's Office for final verification of allowed use. Failure to exercise a water right, for five years, when water is available, may constitute grounds for forfeiture of said water right.

GRAZING AND AGRICULTURAL LEASES:

State Trust Lands:

The current Grazing and Agricultural Lease (No. 2-5308) is issued to Two Y Ranch, LLC (N1/2 Section 14 and the W1/2 and NE1/4 of Section 15, Township 56 North, Range 63 West, of the 6th P.M.) and is set to expire on February 1, 2019. Lease No. 2-5308 consists of 2,221.21 acres and a rated carrying capacity of one thousand three hundred seventy-nine (1,379) Animal Unit Months (AUMs). The whole of Lease No. 2-5308 returns an annual consideration of \$36,588 ($\$26.53/\text{AUM} \times 1,379 \text{ AUMs} = \$36,588$).

Specific to the State Trust Land parcels proposed in this exchange, annual returns are \$5,928 ($\$26.53/\text{AUM} \times 228 \text{ AUMs} = \$5,928$).

Lease No. 2-5308 received a conflicting bid during its renewal period in 2008 of \$26.53 per AUM per year. The conflicting bid was accepted and approved by the Board on December 11, 2008, setting the rate at \$26.53 per AUM per year for the term of the lease. The rate for Lease No. 2-5308 will revert to the minimum grazing fee as established by the Board upon its renewal on February 1, 2019 should another conflicting bid not be received.

See **Exhibit "C"** for lessee comments and grazing lease.

Ericsson Lands:

No Grazing Leases

Two Y Lands:

No Grazing Leases

These tracts will be exchanged subject to the existing Grazing and Agricultural Leases; these Leases shall be assigned to each respective new owner of the property after the exchange.

MINERAL RIGHTS/LEASES:

The State of Wyoming owns all mineral rights on the State Parcels and will retain these mineral rights upon surface disposal.

ANNUAL TAX LOAD:

The subject Trust property is owned by the State of Wyoming, and is not currently subject to ad valorem taxation. Upon disposal, the property will be assessed and taxed by Crook County, and all taxes shall be the responsibility of Ericsson and Two Y.

According to the Crook County Assessor's Office, real estate is valued using a market value system and the taxes are calculated based on nine and one-half percent (9.5%) of the assigned value of the property times .0615. Therefore, if the property is valued at nine hundred forty-eight thousand dollars (\$948,000.00), the estimated annual ad valorem tax would be five thousand, five hundred thirty-eight dollars and sixty-nine cents (\$5,538.69).

State Parcels (added to tax rolls):

Market Value	\$948,000.00	
Assessed Value	\$90,060.00	9.5% assessment
Estimated Tax	\$5,538.69	0.0615 mill levy

Exchange Parcels (removed from tax rolls):

Market Value	\$992,000.00	
Assessed Value	\$94,240.00	9.5% assessment
Estimated Tax	\$5,795.76	0.0615 mill levy

Agricultural land may be valued by the County Assessor on a productivity basis rather than actual market price. In that case, the taxes would be significantly less, but that decision is left to the County Assessor.

EASEMENTS, ACCESS, HAZARDS:

State Trust Lands:

Sections 14 and 15, T56N, R63W (W2 NW4 and the NE4 NW4 of Section 14, S2 NE4, W2 NE4, NE4 NW4, SW4 NE4, and the E2 NW4 Section 15) **Easement-08781** roadway for multiple ranch dwellings, commercial, agricultural and ranching purposes. See **Exhibit "E"** for copy of Easement.

Section 15, T56N, R63W (SW4 NE4 and NW4) **Easement-08371** roadway for a single family dwelling, agricultural and ranching purposes. See **Exhibit "E"** for copy of Easement.

Ericsson Lands:

None.

Two Y Lands:

None.

No obvious hazardous materials or environmental concerns were noted during inspections of the property by the appraiser. The land has not been developed, nor is there historical documented use for any use that would knowingly subject the land to hazardous materials, or which would create environmental concerns.

SPECIAL USE LEASES: None.

TEMPORARY USE PERMITS: None.

FLOOD ZONE AND ZONING DESIGNATIONS:

Flood Zone: No Federal Emergency Management Agency map has been developed for this area; therefore, flood zone risks are unknown.

Zoning: All of the parcels are not zoned. There is no zoning in Crook County outside of the municipalities. Crook County does have a Land Use Plan but it does not currently include zoning.

FOREST PRODUCTS:

The Wyoming State Forestry Division evaluation is attached as part of **Exhibit "F."** On the Ericsson land there are some scattered pine trees at the north and south ends of the hay meadow in Section 10 and along the drainages at the north end of the Property in Section 3. Some cottonwood trees are located along the river in Sections 3 and 11. The tract is not believed to have any significant marketable timber.

WILDLIFE HABITAT AND WILDLIFE-ORIENTED RECREATIONAL OPPORTUNITIES LOCATED ON THE PARCELS:

The Wyoming Game and Fish Department (the Department) evaluated the subject property in terms of wildlife and wildlife habitat. The Department notes that the proposed land exchanges are overlapped by various big game winter ranges. The Ericsson exchange includes crucial winter-yearlong range for white-tailed deer, and winter-yearlong range for elk and mule deer. The Two Y exchange also includes winter-yearlong range for elk and mule deer. The proposed land exchanges will likely have no significant impact to wintering big game as no surface disturbance is being proposed at this time. Additionally, the proposed exchanges are not expected to result in a net increase or decrease in public access. They also noted they have no aquatic concerns pertaining to these land exchanges. The evaluation letter from the Department is attached as part of **“Exhibit F.”**

CULTURAL RESOURCES AND PUBLIC RECREATIONAL OPPORTUNITIES LOCATED ON THE PARCELS:

The Department of State Parks and Cultural Resources (State Parks) evaluated the subject property in terms of public recreation, cultural resources, and historical significance. They have no recommendations at this time. The evaluation letter from State Parks is attached as part of **“Exhibit F.”**

APPRAISED VALUE:

Robert L. Zabel a Wyoming Certified General Real Estate Appraiser has completed an appraisal of the subject properties per instructions from OSLI. The effective date of the appraisal was September 13, 2013 for State Trust Lands, Ericsson Lands and Two Y Lands. The appraiser was instructed to estimate the current market value of the fee simple interest for the parcels, excluding the mineral estate and assuming legal public access.

OPINION OF VALUE: the Board will use the appraised values below, with the acreages as granted by Patent at the Act of Admission of 1890.

Based on the inspection, available market data and analyses, assumptions, limiting conditions, and the certifications, the appraiser's estimated opinion of market value for the defined property rights with an effective date of September 13, 2013 is:

State Trust Lands
640 Acres of State Trust Land at \$1,300.00 per acre

\$832,000
Eight Hundred Thirty Two Thousand Dollars

And

40 Acres of State Trust Land at \$2,900 per acre

\$116,000
One Hundred Sixteen Thousand Dollars

Ericsson Lands
640 Acres of land owned by Ericsson Corporation at \$1,400 per acre

\$896,000
Eight Hundred Ninety Six Thousand Dollars

Two Y Lands
40 Acres of land owned by Two Y Ranch, LLC at \$2,400 per acre

\$96,000
Ninety Six Thousand Dollars

OSLI has reviewed the appraisal and concurs with the methods used and estimated market values. The difference in value between the Ericsson /Two Y parcels and the State Parcels is attributable to the 135 acres of improved dry land hay meadow on the Ericsson deeded land. There is no hay meadow on the State Parcels.

The appraisal, comparable sales information, maps, photographs and related information as well as the appraisal review completed by OSLI, are available upon request.

INCOME GENERATING POTENTIAL:

Pursuant to the Board of Land Commissioners' Rules and Regulations, Chapter 26, the Detailed Analysis shall include an estimate of the income generating potential of the subject property:

The State Parcels have a grazing lease rated at 228 AUM's or .33 AUM/Acre. In 2015, the rental on the parcels proposed in the exchange was \$5,928.00 per annum.

The Ericsson and Two Y parcels are estimated to have 567 AUM's or .83 AUM/Acre at \$26.53 per AUM. Based on the 2015 AUM rental, the annual revenue generated by the grazing lease is anticipated to be approximately \$14,742.00, resulting in an increase of annual revenue of \$8,814.00 for the remaining term of the lease.

ANTICIPATED APPRECIATION OF THE PARCELS AS REAL ESTATE ASSETS

All parcels are located in close proximity and contain similar characteristics. The area is rural with little, if any, development pressure. OSLI has concluded from all available data that the parcels exhibit similar appreciation potential. Appreciation would likely be in the low range of the USDA Agricultural Land Values, Pasture Values per acre, and will likely appreciate between 4.43% and 6.14% per year.

TRUST LAND MANAGEMENT OBJECTIVES:

In 1997, Wyoming Session Laws Chapter 200, section 3(a)(i) the Wyoming Legislature declared that trust land should remain a substantial component of the trust portfolio, managed under a total asset management policy, and with a focus on protecting the corpus for multiple generations. Subsequently, the Board adopted criteria for evaluation of land exchanges, sales, acquisitions, and long-term leases--collectively called Trust Land Management Objectives (TLMO), on August 10, 2005. A proposal need not meet all objectives, but all objectives are considered by the Board which has the sole discretion in determining how to best manage State Trust Lands.

Trust Land Management Objectives:

- To better meet the beneficiaries short and/or long term needs
- Improve the manageability of land assets
- Meet a specific school and/or community need

A summary of key points considered in this transaction evaluation are outlined below:

Better meet the beneficiaries' short and/or long term objectives:

The exchange would benefit the short term objectives by allowing the State of Wyoming to acquire productive hay lands in exchange for native rangeland. The revenue from a grazing lease would be improved by the exchange and improve the manageability of the assets.

Improve the manageability of the land asset:

This exchange would connect the N1/2 of Section 11 to Section 2. Currently, the only access from Section 2 to Section 12 is through corner crossing from the Southeast corner of Section 2 to the Northwest corner of Section 12. The exchange would also provide additional administrative access through an easement that is appurtenant to the land.

Meet a specific school and/or community need:

The exchange does not appear to meet a specific school or community need.

CONCLUSION:

This proposed exchange meets the Trust Land Management Objectives by improving the investment return of State Trust Land. According to the appraised values that were obtained in 2013, the value of the Common School Land corpus will be increased by \$44,000, as well as increasing the annual grazing lease revenue should the exchange occur.

This proposed exchange also meets the Trust Land Management Objectives by improving manageability. Whereas this proposed exchange would connect the N1/2 of Section 11 to Section 2. Currently, the only access from Section 2 to Section 12 is through corner crossing from the Southeast corner of Section 2 to the Northwest corner of Section 12. (See attached map).

This Detailed Analysis has been prepared and distributed to the public in accordance with Board of Land Commissioners Rules and Regulations. It is electronically available on OSLI's website as well as in hard copy in Office of State Lands and Investments in Cheyenne, Wyoming. Hard copies are also available for public viewing at the Crook County Libraries in Sundance, Moorcroft, and Hulett as well as the Crook County Clerk's Office.

As required by the Board Rules, a public hearing will be conducted in Crook County during the thirty (30) day comment period. The date, time and location of the public hearing will be advertised on OSLI's website for thirty (30) days prior to the hearing.

LIST OF EXHIBITS:

“A” Cover Letter and Land Sale Application

“B” Subject Property Photos and Maps

“C” Lessee Comment Forms

“D” Grazing Lease

“E” Easements

“F” State Agency Evaluation Letters

EXHIBIT “A”

APPLICANT DATA: The full legal name of the Applicant or the business entity name on file with the Wyoming Secretary of State, including a Certificate of Good Standing, must be provided for all business entities.

This application is proposing a (Check One): SALE ACQUISITION EXCHANGE

Applicant or Business Name: Ericsson Corporation
 Contact Name: Roland S Ericsson, President
 Street Address: 44 Willow Wisp Terrace
 Mailing Address (if different from Street Address):
 City: Henderson State: NV Zip: 89074
 Email Address: rolandericsson@cox.net Work Phone:
 Cell/Mobile: Home Phone: 702 7376920

I hereby propose the parcel(s) described below to be considered for inclusion in the proposed transaction pursuant to the Rules and Regulations of the Board of Land Commissioners and Wyoming State Statutes

State trust land or deeded land?	County	Township	Range	Section	Subdivision	Acres
<u>E 1/2 E 1/2</u>	<u>Crook</u>	<u>56 N</u>	<u>63 W</u>	<u>3</u>		<u>160</u>
<u>N 1/2</u>	<u>Crook</u>	<u>56 N</u>	<u>63 W</u>	<u>311</u>		<u>320</u>
<u>SE 1/4</u>	<u>Crook</u>	<u>56 N</u>	<u>63 W</u>	<u>310</u>		<u>160</u>
					<u>Total</u>	<u>640</u>

(Attach additional pages if more space is required)

STATE TRUST LAND
N 1/2 ; SW 1/4 Crook 56 N 63 W 15 480
SW 1/4 Crook 56 N 63 W 14 160
 Total 640

The Applicant acknowledges that submission of this application will initiate a process for the consideration of a land transaction on the surface estate only (unless otherwise agreed upon) and the Board of Land Commissioners and the Office of State Lands and Investments reserve the right to reject this application at any time prior to the execution of a Patent or Warranty Deed.

Ericsson Corporation
 Signature: by Roland S Ericsson Date: 1 September
 Signature: President Date: 2012

ERICSSON CORPORATION

238 Peaceful Valley Road
Aladdin, Wyoming 82710
307-467-5608

44 Willow Wisp Terrace
Henderson, Nevada 89074
702-737-6920

1 September 2012

Brian Rognon
Transaction Analyst
Office of State Lands
122 West Twenty-fifth Street
Cheyenne, Wyoming 82002

In re : Application for Land Exchange

To Brian Rognon :

Please accept this letter as written request for the exchange of 640 acres of Ericsson Corporation deeded land for 640 acres of State of Wyoming land.

This proposed land exchange does not present any of the problems which were encountered by the recent proposed land exchange of Russell Gordy and his Falls Ranch.

This proposal is an "*apples to apples*" exchange. It would help consolidated the State lands, as well as the Ericsson Corporation lands, and make them easier to manage.

Please take the time to review the enclosed map which indicates the proposed land exchange which clearly indicates how this proposal consolidates the State and private lands.

Thank you for your kind attention to this application.

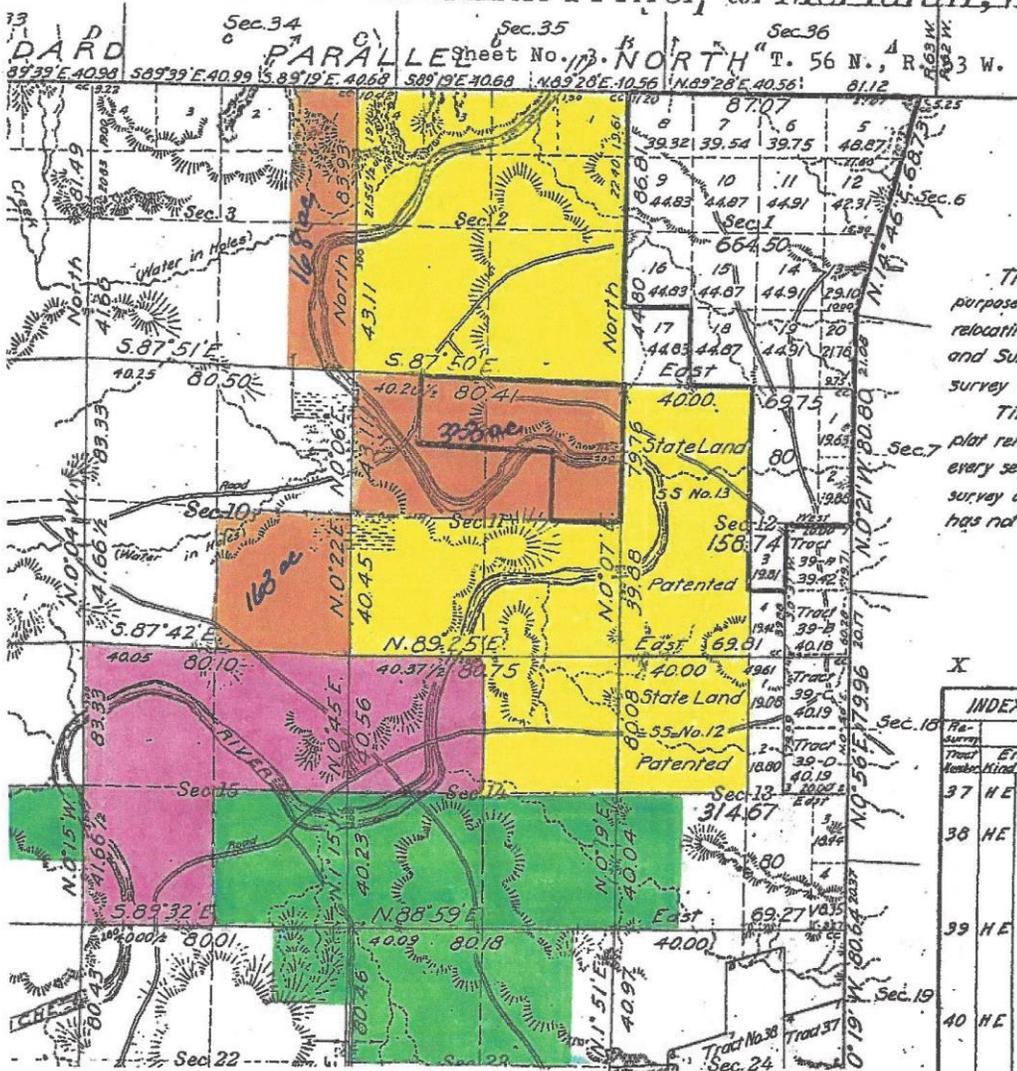
Best regards,
Ericsson Corporation



By Roland S. Ericsson, President

enclosures

e No. 63 West of the Sixth Principal Meridian, Wyoming



The res-
purpose of re-
locating and
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INDEX TO	
Tract	Entry
Number	Kind
37	HE 0479
38	HE 0529
39	HE 0840
40	HE 210
41	HE 0495
42	HE 208
43	HE 63
44	HE 065
45	HE 223

COLOR CHART

- YELLOW** STATE LAND
- PINK** STATE LAND TO BE EXCHANGED
- ORANGE** ERICSSON CORPORATION LAND TO BE EXCHANGED
- GREEN** ERICSSON CORPORATION DEEDED PROPERTY

APPLICANT DATA: The full legal name of the Applicant or the business entity name on file with the Wyoming Secretary of State, including a Certificate of Good Standing, must be provided for all business entities.

This application is proposing a (Check One): SALE ACQUISITION EXCHANGE

Applicant or Business Name: Two Y RANCH LLC
 Contact Name: Kim Kling
 Street Address: 4005 State Hwy 24 Lot 3 Aladdin, WY 82710
 Mailing Address (if different from Street Address): 19001 2Y RANCH LANE
 City: Belle Fourche State: SD Zip: 57717
 Email Address: KIMK@RUSHMORE.COM Work Phone: 605-892-3848
 Cell/Mobile: 605-210-2158 Home Phone: 605-892-2242

I hereby propose the parcel(s) described below to be considered for inclusion in the proposed transaction pursuant to the Rules and Regulations of the Board of Land Commissioners and Wyoming State Statutes

	State trust land or deeded land?	County	Township	Range	Section	Subdivision	Acres
WY State	Trust Land	CROOK	56 N	63W	15	NW1/4NW1/4	41.51
Two Y Ranch	Deeded Land		56 N	63W	10	SE1/4SW1/4	41.22

(Attach additional pages if more space is required)

The Applicant acknowledges that submission of this application will initiate a process for the consideration of a land transaction on the surface estate only (unless otherwise agreed upon) and the Board of Land Commissioners and the Office of State Lands and Investments reserve the right to reject this application at any time prior to the execution of a Patent or Warranty Deed.

Signature: Two Y Ranch LLC by Kim Kling Date: 11-14-12
 Signature: _____ Date: _____

11/14/2012

Proposed land exchange: of

WY State Trust land NW1/4 NW1/4, Sec.15 T56N R63

for

Two Y Ranch land SE1/4 SW1/4, Sec.10 T56N R63W

The proposed exchange will benefit the State of Wyoming Land Management
Objective of acquiring better income producing land and higher revenue in return.

Current Two Y Ranch land: Est. AUM's 24 x \$4.80 state rate = \$115.20 annual return
Current WY State Trust land: Est. AUM's 14 x \$4.80 state rate = \$ 67.20 annual return

The current Two Y Ranch deeded land lies West of hayland currently being farmed
and is of the same slope and quality soil. The current WY State Trust land is very
steep with rimrocks, pine trees and lesser quality soil.

Two Y Ranch would like to make the proposed land exchange to acquire land on the
South side of the Belle Fourche River where our road access is. This will allow the
loading and shipping of livestock trucks without having to cross the river with trucks
which becomes impossible with ice or high water during certain times of the year.

EXHIBIT “B”























EXHIBIT “C”

STATE OF WYOMING
BOARD OF LAND COMMISSIONERS
SURFACE LESSEE NOTIFICATION AND COMMENT FORM

(Sections A & B to be completed by applicant)

A. PROJECT/ACTIVITY INFORMATION:

Type of Project: Application to exchange 640 acres
dedeerd land for 640 acres State Land
Applicant: Ericsson Corporation
Address: 44 Willow Wisp Terrace
Henderson NV 89074 Phone: 7027376920

State Land Involved:

SW 1/4 Section 14 Township 56N Range 63W County Crook
N 1/2; SW 1/4 Section 15 Township 56N Range 63W County Crook
Section _____ Township _____ Range _____ County _____

B. SURFACE LESSEE INFORMATION:

Lease No.: 2-5308
Name: Two Y Ranch LLC
Address: Rural Route 1 Box 410
Belle Fourche South Dakota 57717
Phone No.: 605 892 2242

C. SURFACE LESSEE COMMENTS: (to be completed by surface lessee)

Lessee: Please execute this form and return to the applicant or to our office. Your comments concerning any activities on your lease are important to this office. If you have no comments, please execute the form, to let us know that you have been notified of the project. Thank you.

I would not totally oppose such A Land Exchange except the N 1/2 of the N 1/2 of Section 15. The southside of the river is needed to unload and load livestock without having to cross the river with trucks. Losing the N 1/2 of N 1/2 of Sec. 15 would also isolate my deeded land, the SE 1/4 of the SW 1/4 Sec. 10.

Ken Welling 9-10-12
(Signature of Surface Lessee) (Date)

(Please type or print name)

I would offer a solution of an exchange that is attached that I believe could be a workable solution for

ADDITIONAL INFORMATION AND INSTRUCTIONS:

- All parties concerned.
1. The completed and executed Surface Lessee Notification and Comment Form **must** accompany the easement or temporary use permit application when submitted to Office of State Lands and Investments for processing.
 2. Surface Impact (damage) payments will be made directly to the surface lessee by the applicant in accordance with the approved impact payment schedule. The schedule will be reviewed and revised annually.

Ken Welling

EXHIBIT “D”



STATE OF WYOMING
BOARD OF LAND COMMISSIONERS

GRAZING AND AGRICULTURAL LEASE

- (1) **PARTIES** - The parties of this lease are:
TWO Y RANCH, LLC
whose address is 4005 Hwy. 24, Lot 3, Aladdin, WY 82710, (Lessee), and the Wyoming Board of Land Commissioners, (Lessor), whose address is Office of State Lands and Investments, 122 West 25th Street, 3rd Floor West, Cheyenne, Wyoming 82002-0600.

In the event that the addresses listed above change, the party whose address has changed shall immediately notify the other party to the lease in writing.

- (2) **PURPOSE OF LEASE** - Under the authority of W.S. 36-5-101 et seq. Lessor is granting the leasehold right for grazing and agricultural purposes only, provided, that in the event the Lessee changes the use of grazing lands to other agricultural purposes, either by dry land process or irrigation, the Lessee shall notify the Office of State Lands and Investments of the acreage placed under cultivation and the Lessee shall pay an increased annual rental therefore as fixed by the Lessor. The parties desire to enter a lease contract (Lease) defining their rights, duties and liabilities relating to the premises. In consideration of the payment of the first year's rental, receipt of which is hereby acknowledged, and the covenants and agreements herein made, to be kept and performed by the Lessee, the Lessor hereby leases to Lessee, for GRAZING AND AGRICULTURAL purposes only, the following described lands, subject to all terms, conditions and restrictions contained in this lease, the Statutes of the State of Wyoming and the rules and regulations of the Board of Land Commissioners.

DESCRIPTION:

<u>Acres</u>	<u>Description</u>	<u>Sec</u>	<u>Twp</u>	<u>Range</u>	<u>Co</u>	<u>Acres</u>	<u>Description</u>	<u>Sec</u>	<u>Twp</u>	<u>Range</u>	<u>Co</u>
621.210	LOTS 1,2,3,4:S2N2:S2	2	56.0N	63.0W	CR						
320.000	S2	11	56.0N	63.0W	CR						
320.000	W2	12	56.0N	63.0W	CR						
160.000	NW4	13	56.0N	63.0W	CR						
320.000	N2	14	56.0N	63.0W	CR						
480.000	W2:NE4	15	56.0N	63.0W	CR						

- (3) **TERM OF LEASE** - The term of this lease shall begin at 5:00 P.M. on the First day of February, 2009 and terminate at 5:00 P.M. on the First day of February, 2019.
- (4) **RENT PAYMENT** - The Lessee shall pay to the Lessor at the Office of State Lands and Investments, Herschler Building, Cheyenne, Wyoming, a rental for the use of the premises in the amount of \$ 36,588.00 per annum. This amount is subject to change on an annual basis and may be increased or decreased by the Lessor in the event of reclassification of the land, due to a change in its use, a change in the carrying capacity, or a change in the minimum annual rental for grazing and agricultural leases adopted by the Lessor or change in the law. Annual rentals are due and payable on the anniversary date of this lease. If the annual rental is not paid on or before the anniversary date a 10% late fee will be assessed.
- (5) **LESSEE'S RESPONSIBILITIES** - Lessee Agrees:
 - (a) Not to take or disturb any fur bearing animals on the premises except where a permit to do so has been secured from the Wyoming Game and Fish Commission and consent thereto has also been obtained from the Director of the Office of State Lands and Investments.
 - (b) To observe state and federal laws and regulations for the protection of fish and wildlife.
 - (c) Not to cut, destroy or remove, or permit to be cut, destroyed or removed, any timber that may be upon the premises. The Lessee shall promptly report to the Lessor the cutting or removal of timber by other persons.

(d) To conduct all grazing and agricultural operations on the premises in a manner which protects soil fertility and forage production, and does not contribute to soil erosion, or overgrazing. The Lessee further agrees to work in cooperation with the Lessor to make every reasonable effort to control noxious weeds and pests. Lessee may work in conjunction with County Weed and Pest Control Districts to develop projects to be submitted to the Office of State Lands and Investments for reimbursement of certain costs of eradication of weeds and pests on state lands. Cost estimates must be submitted by County Weed and Pest Districts and approved by the Office to be eligible for reimbursement. Subject to funding availability, the total cost of the project will be reimbursed for leafy spurge infestations, for all other noxious weeds and pests, the cost of materials only. Lessee of state lands shall pay the cost of application or other control measures.

(e) To maintain all buildings, wells, dams, windmills, fences, and other improvements located on the premises in a good state of repair at the lessee's expense.

(f) To dispose of all waste in a proper manner and not to allow debris, garbage, contaminants or other refuse to accumulate on the leased premises. Any landfill or open dump operated by the Lessee on the leased premises, must be permitted by the Board and must comply with State law and the rules and regulations of the Department of Environmental Quality. Any landfill, open dump, accumulation of debris, garbage, contaminants or refuse of any kind which the Lessee placed, or allowed to be placed, on the leased premises, and which has not been authorized by the Board, must be removed at the Lessee's expense. Lessee further agrees that the Lessor shall have the right to remove debris, garbage, contaminants, or other refuse which the Lessee placed on the premises and collect the cost of such removal from the Lessee. The Lessee further agrees to document and report, as soon as possible, to the Office any unauthorized dumping of debris, garbage, contaminants, or other refuse on the leased premises, by parties other than the Lessee, so that appropriate investigation and corrective measures can be taken by the Lessor.

(g) **IRRIGATED LAND** - If the premises are subject to irrigation in whole or in part from water available for that purpose under a permanent water right, contract or otherwise temporary water right, as the case may be:

(1) The Lessee agrees to use water so as to protect and maintain all water rights.

(2) Where applicable, the Lessee agrees to pay when due all charges for operation, maintenance, and delivery of water.

(3) The lands shall be operated under a customary and appropriate crop rotation method.

(4) The lands shall be cultivated, irrigated and fertilized in a proper husbandlike manner so as to prevent washing, blowing, seepage, leaching of the soil, waste of water and other damage.

(5) All irrigation ditches and laterals shall be kept in good condition at the Lessee's expense and shall be maintained so as to prevent washing, cutting and damage to the lands. Ditches and laterals shall attach to the lands and become the property of the Lessor.

(6) The Lessee shall file annually, on or before March 31, of each year, with the Office of State Lands and Investments, on the proper forms, a report of the location and yield of all crops grown the preceding year and the location and type of crops to be grown in the ensuing year.

(h) Not to post signs on state lands unless specifically authorized by the Board of Land Commissioners.

(i) Not to lock or remove gates, block or change established roads on the leased premises which provide public access to state land unless specifically authorized by the Board of Land Commissioners.

(6) **SPECIAL PROVISIONS**

(a) **RESERVATIONS** - Lessor Reserves:

(1) The right to order the sale of all or any portion of the premises at any time, subject to this lease.

(2) The right to lease and dispose of all coal, oil, gas and other minerals, and all deposits of clay, stone, gravel and sand valuable for building, mining or commercial purposes, and all timber, together with the right to mine and remove such minerals or other deposits and timber with the right of ingress and egress thereto, and to cancel this lease as to any portion of the premises when required for these purposes.

(3) The right to hold, sell, appropriate or otherwise dispose of any fences or other improvements of any character owned by the Lessee upon the premises, to insure the payment of rentals, damages or other expenses accruing to the Lessor by virtue of this lease.

(4) The right to enter in and upon the premises at any time for purposes of inspection or management.

(5) The right at any time to grant easements across the premises for ditches, overhead wires, pipelines, railroads, reservoirs, public roads and highways, roadways to private land or residences, snow fences, underground cables, open space, or other lawful purposes, with the right of ingress and egress thereto.

(6) The right to use or lease the premises or any part thereof at any time for any purpose other than the rights and privileges granted by this lease.

(7) The privilege of any person to use the premises for casual recreational day uses, fishing and hunting pursuant to Chapter 13 of the Rules and Regulations of the Board of Land Commissioners.

(8) All rights not expressly granted to Lessee by this lease are reserved to the Lessor.

(b) **ASSIGNMENTS** - This lease shall be subject to cancellation by the Lessor if it is assigned without the approval of the Lessor. Any assignment of this lease shall be recorded in the Office of State Lands and Investments.

(c) **SUBLEASES** - Any grazing and agricultural lease is subject to cancellation if the Lessee subleases the leased premises or enters into any contract or agreement of any kind concerning the leased premises, except "price support and production adjustment" contracts of the Farm Service Agency, without approval. In no event shall the premises be subleased unless one-half of any excess rental is paid to the Lessor.

(d) **IMPROVEMENTS** -

(1) Lessee shall have the right to construct or make improvements upon state lands in the amount of \$2,000.00 per section, without first obtaining permission.

(2) Lessee shall request permission to construct or make improvements in excess of \$2,000.00 in value per section by submitting a completed application form furnished by the Office.

(3) Permission may be granted to construct improvements in excess of \$2,000.00 per section for fencing, water development, or livestock handling facilities and range enhancements only. Any other improvement in excess of \$2,000.00 per section shall be applied for under a special use lease.

(4) Any improvement on the leased premises regardless of value, which will restrict existing public access or alter existing multiple use of the lands must be approved by the Board of Land Commissioners.

(5) Unless permission has been obtained in the manner provided, the owner of the improvements in excess of the \$2,000.00 per section shall not be entitled to compensation as provided by W.S. 36-5-111 and 36-9-105, and upon expiration of the lease the improvements shall forfeit to and become the property of the state; except that within 120 days from the date of the expiration of the lease, the owner may remove such improvements in a manner which minimizes injury to the land.

(e) **ENTRY UPON LEASED PREMISES BY THIRD PARTIES** - Third parties desiring to enter upon the leased premises shall contact the lessee prior to entry, unless it is a member of the Board of Land Commissioners or its representatives or a member of the public when entering for purposes of hunting and fishing and casual recreational use pursuant to provisions of Chapter 13 of the Rules and Regulations of the Board of Land Commissioners. For all entries by third parties, the lessee may negotiate a payment for damage to the surface of the leased premises, pursuant to Chapter 4, Section 13. Payments must be consistent with payments for damages to adjacent lands.

(f) **CANCELLATION** - If it be determined by the Lessor that this lease has been procured by fraud, deceit or misrepresentation, or if the premises or any part thereof be used for unlawful, unauthorized, or illegal purposes, or if the Lessee fails to perform or violates any of the terms of this lease, the Lessor shall have power and authority to cancel this lease.

(g) **SURRENDER OF PREMISES UPON TERMINATION OF LEASE** - The Lessee shall, upon termination of this lease, surrender and deliver unto the Lessor the peaceful and uninterrupted possession of the premises.

(h) **TIME AND SPECIFIC PERFORMANCE** are each of the essence of this lease, and all agreements and conditions herein contained shall extend to be binding alike upon the heirs, administrators, successors and assigns of the parties hereto.

(i) **RELIANCE** - The Lessor has expressly relied on the representations made by the Lessee in the written application to lease

the premises.

(j) **EXCHANGE** - The lease is granted upon the express condition that should the Lessor hereafter find it to be in the best interest of the Lessor to exchange the lands embraced in this lease for other lands, as provided by law, then this lease may be terminated upon giving the Lessee one (1) year notice, unless by mutual consent of the Lessor and the Lessee, an earlier date of termination may be fixed.

(k) **BUY-OUT BY LESSOR** - The Lessor shall have the right to purchase back from the Lessee all the rights and interests granted to the Lessee by this lease for any portion of the premises at any time by paying to the Lessee the fair market value of those rights and interests for the remaining term of the lease.

(7) **GENERAL PROVISIONS**

(a) **NOTICES** - All notices arising out of, or from, the provisions of this lease shall be in writing and given to the parties at the address provided under this lease, either by regular mail, or delivery in person.

(b) **EFFECT OF CHANGE IN LAW** - The rights and responsibilities of the Lessee under this lease which are granted or imposed by the Statutes of the State of Wyoming or rules and regulations of the Board of Land Commissioners, are subject to change during the term of this lease as a result of the adoption, amendment, or repeal of statutes or rules.

(c) **COMPLIANCE WITH LAWS** - The Lessee shall keep informed of and comply with all applicable federal, state and local laws and regulations in the performance of this lease.

(d) **APPLICABLE LAW/VENUE** - The construction, interpretation and enforcement of this lease shall be governed by the laws of the State of Wyoming. The Courts of the State of Wyoming shall have jurisdiction over this lease and the parties, and the venue shall be the First Judicial District, Laramie County, Wyoming.

(e) **ENTIRETY OF LEASE** - This lease contains the entire contract between the parties and supersedes all prior negotiations, representations, leases or other contracts, either written or oral. This lease cannot be changed except by a written instrument subsequently executed by the parties or included in the body of the lease and signed by the parties.

(f) **INDEMNITY** - The Lessee shall release, indemnify, and hold harmless the State, the Lessor, and their officers, agents, employees, successors and assignees from any cause of action, or claims or demands arising out of this lease.

(g) **SOVEREIGN IMMUNITY** - The State of Wyoming and the Lessor do not waive sovereign immunity by entering into this lease, and specifically retain immunity and all defenses available to them as sovereigns pursuant to W.S. 1-39-104(a) and all other state law.

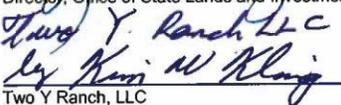
(h) **WAIVERS** - The failure of Lessor to insist on a strict performance of any of the terms and conditions hereof shall not be deemed a waiver of the rights or remedies that Lessor may have regarding that specific term or condition.

(i) **EXTENUATING CIRCUMSTANCES** - In the event circumstances arise for whatever reason which create the impossibility of continuing the lease, it may be canceled by either party upon written notice. Neither party shall be liable for failure to perform under this lease if the failure is based upon the extenuating circumstances. Lessor reserves the right to determine whether circumstances create an impossibility. A partial refund of the annual payment may be made on a case-by-case basis.

(8) **SIGNATURES** - IN WITNESS THEREOF, the parties to this lease through their duly authorized representative have executed this lease on the dates set out below, and certify that they have read, understand, and agree to the terms and conditions of this lease.

LESSOR: THE STATE OF WYOMING
BOARD OF LAND COMMISSIONERS

BY:  Date: AUG 28 2009
Director, Office of State Lands and Investments

LESSEE:  Date: 8-17-2009
Two Y Ranch, LLC

STATEMENT OF INVESTMENT
2009 AUG 19 AM 5 35

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2009 8 19 5:35

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1 2 3 4

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EXHIBIT “E”

STATE OF WYOMING
PERPETUAL ROADWAY EASEMENT
Easement No. 8781

WHEREAS the Board of Land Commissioners approved this grant of easement on April 11, 2013;

THEREFORE, the State of Wyoming, acting through its Board of Land Commissioners (Grantor), for and in consideration of the payment of Eighteen Thousand Ten and 79/100 Dollars (\$18,010.79) hereby grants and conveys to Kim Kling, d/b/a Two Y Ranch, LLC, a Wyoming limited liability company (Grantee), their heirs, administrators, successors, executors, legal representatives, and assigns for perpetual use, in the following described tract of land, a non-exclusive roadway easement, more particularly described as follows:

All that portion of the W $\frac{1}{2}$ NW $\frac{1}{4}$ and NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 14, T.56N., R.63W., of the 6th P.M., Crook County, Wyoming, said access road easement being 30 feet wide, 15 feet on each side of the centerline, when measured at right angles as described on the attached exhibits. The described parcel of land contains 2.608 acres, more or less.

All that portion of the S $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 15, T.56N., R.63W., of the 6th P.M., Crook County, Wyoming, said access road easement being 30 feet wide, 15 feet on each side of the centerline, when measured at right angles as described on the attached exhibits. The described parcel of land contains 2.787 acres, more or less.

All that portion of the W $\frac{1}{2}$ NE $\frac{1}{4}$ and NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 15, T.56N., R.63W., of the 6th P.M., Crook County, Wyoming, said access road easement being 30 feet wide, 15 feet on each side of the centerline, when measured at right angles as described on the attached exhibits. The described parcel of land contains 1.77 acres, more or less.

All that portion of the SW $\frac{1}{4}$ NE $\frac{1}{4}$ and the E $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 15, T.56N., R.63W., of the 6th P.M., Crook County, Wyoming, said access road easement being 30 feet wide, 15 feet on each side of the centerline, when measured at right angles as described on the attached exhibits. The described parcel of land contains 1.489 acres, more or less.

See attached Exhibits A, B, C & D.

These descriptions are based on a survey done by and under the authority of, Darrel L. Schlup with Wyoming PLS No. 545, certified in May of 2013.

This roadway easement shall benefit and provide ingress and egress to the following described property for multiple ranch dwellings, commercial, agricultural and ranching purposes:

Township 56 North, Range 63 West
Section 9: SE $\frac{1}{4}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$
Section 10: SW $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$
Section 16: E $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$

TO HAVE AND TO HOLD this easement across the above-described tract of land for the purpose of locating, constructing, using, inspecting, maintaining, improving, and repairing the above-described non-exclusive roadway, subject to the following conditions:

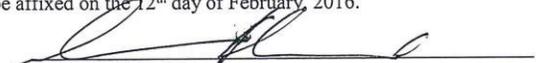
1. The rights granted herein shall forever be subject to the rights of the Grantor, its assigns or lessees to explore for, develop, and extract any and all minerals or other subsurface resources beneath this easement. If required for mineral exploration, development or extraction, the Grantee shall, upon written notice from the Grantor, remove or relocate at its own expense the above-described roadway.
2. Upon abandonment or discontinuance of use of this easement for the purposes specified above, all of Grantee's rights under this grant of easement shall revert to the Grantor or its assigns, the same as if this grant had never been made. Failure to report, to the Grantor, the status of the use of this easement every ten years from the date of this grant shall be evidence of intent by the Grantee to abandon this easement. Should this easement be abandoned by the Grantee, or its use discontinued for the specified purpose, Grantee shall return the above-described tract of land to a condition satisfactory to the Grantor.
3. This easement does not include the right to make use of the road for residential developments.
4. For record keeping purposes only, any transfer in ownership of the benefited property, or any change of name or mailing address of the owner of this easement, shall be reported to the Office of State Lands and Investments within thirty days (30) of the transfer or change.

The State of Wyoming and the Board of Land Commissioners do not waive their sovereign immunity by entering into this agreement and specifically retain immunity and all defenses available to them as sovereigns pursuant to Wyo. Stat. § 1-39-104(a) and all other law.

IN TESTIMONY WHEREOF, the Board of Land Commissioners has caused this instrument to be signed by its President and countersigned by its Secretary, and its seal to be affixed on the 12th day of February, 2016.

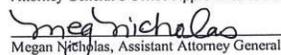


Countersigned:


Governor, President
Board of Land Commissioners

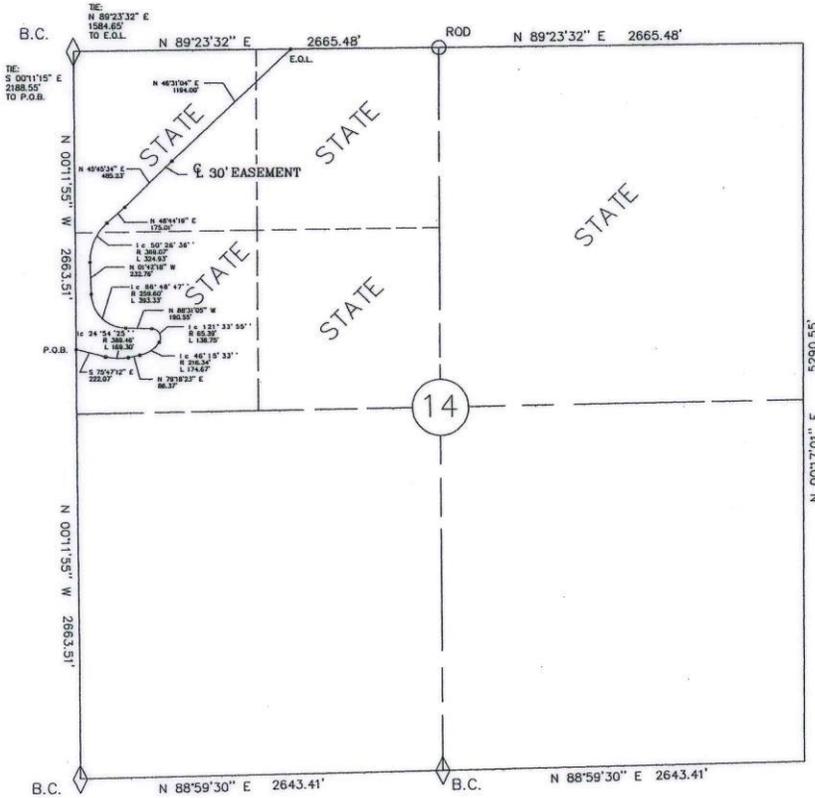

Bridget Hill
Director, Secretary
Office of State Lands & Investments

Attorney General's Office Approval as to Form:


Megan Nicholas, Assistant Attorney General

EASEMENT ON STATE LAND

SECTION 14, T56N, R63W, 6th P.M.



LEGAL DESCRIPTION

AN EASEMENT LOCATED IN THE W1/2 NW1/4 AND NE1/4 NW1/4 OF SECTION 14, TOWNSHIP 56 NORTH, RANGE 63 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CROOK COUNTY, WYOMING, SAID EASEMENT BEING 30 FEET WIDE, 15 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

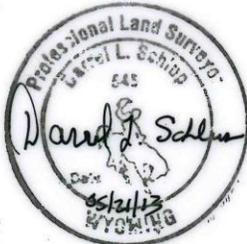
BEGINNING AT A POINT ON THE WEST BOUNDARY OF SECTION 14, THAT LAYS S 00°11'15" E A DISTANCE OF 2188.55 FEET FROM THE NW CORNER OF THE SECTION AND IS THE POINT OF BEGINNING;
 THENCE S 75°47'12" E FOR A DISTANCE OF 222.07 FEET TO THE P.C. OF A CURVE TO THE LEFT WITH A CENTRAL ANGLE OF 24°54'25" AND A RADIUS OF 389.46 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 169.30 FEET TO THE P.T.;
 THENCE N 79°18'23" E FOR A DISTANCE OF 86.37 FEET TO THE P.C. OF A CURVE TO THE LEFT WITH A CENTRAL ANGLE OF 46°15'33" AND A RADIUS OF 216.34 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 174.67 FEET TO THE P.C.C. OF A CURVE TO THE LEFT WITH A CENTRAL ANGLE OF 121°33'55" AND A RADIUS OF 65.39 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 138.75 FEET TO THE P.T.;
 THENCE N 88°31'05" W FOR A DISTANCE OF 190.55 FEET TO THE P.C. OF A CURVE TO THE RIGHT WITH A CENTRAL ANGLE OF 85°48'47" AND A RADIUS OF 259.60 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 393.33 FEET TO THE P.T.;
 THENCE N 01°42'18" W FOR A DISTANCE OF 232.76 FEET TO THE P.C. OF A CURVE TO THE RIGHT WITH A CENTRAL ANGLE OF 50°26'36" AND A RADIUS OF 369.07 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 324.93 FEET TO THE P.T.;
 THENCE N 48°44'19" E FOR A DISTANCE OF 175.01 FEET TO A P.I.;
 THENCE N 45°45'34" E FOR A DISTANCE OF 485.23 FEET TO A P.I.;
 THENCE N 46°31'04" E FOR A DISTANCE OF 1194.00 FEET TO A POINT ON THE NORTH BOUNDARY OF SECTION 14, THAT LAYS N 89°23'32" E A DISTANCE OF 1584.65 FEET FROM THE NW CORNER OF THE SECTION AND IS THE POINT OF TERMINATION.

SAID EASEMENT IS 229.513 RODS LONG AND CONTAINS 2.608 ACRES MORE OR LESS.

CERTIFICATE OF SURVEY

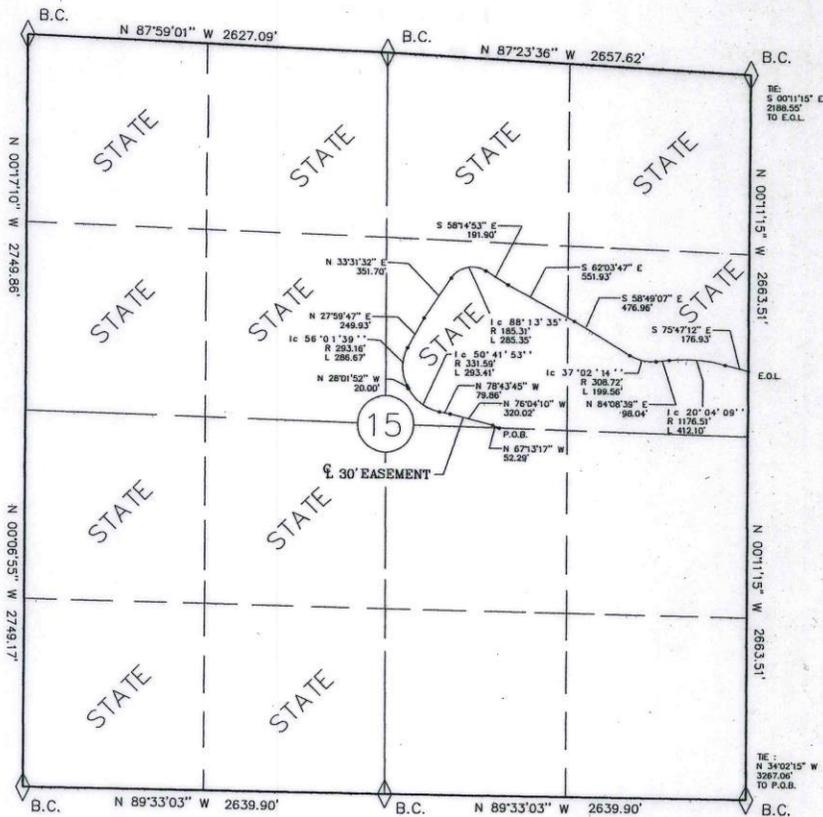
STATE of WYOMING }
 COUNTY of WESTON } ss

Darrel L. Schlup states he is by occupation a Licensed Land Surveyor employed by Kim Kling to make the survey for an access easement as described and shown on this map; that the survey of said easement was made under his supervision and authority, commencing on the 2nd of May, 2013 and such survey is accurately represented upon this map.



EASEMENT ON STATE LAND

SECTION 15, T56N, R63W, 6th P.M.



LEGAL DESCRIPTION

AN EASEMENT LOCATED IN THE S1/2 NE1/4 OF SECTION 15, TOWNSHIP 56 NORTH, RANGE 63 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CROOK COUNTY, WYOMING, SAID EASEMENT BEING 30.00 FEET WIDE, 15.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

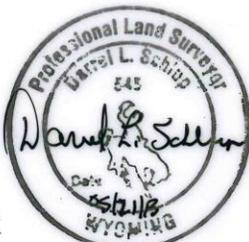
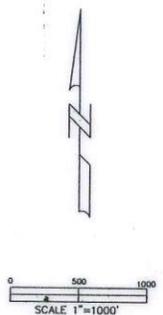
BEGINNING AT A POINT ON THE SOUTH BOUNDARY OF THE SW1/4 NE1/4 OF SAID SECTION 15, THAT LAYS N 34°02'15\" W A DISTANCE OF 3267.06 FEET FROM THE SE CORNER OF THE SECTION AND IS THE POINT OF BEGINNING;
 THENCE N 67°13'17\" W FOR A DISTANCE OF 52.29 FEET TO A P.I.;
 THENCE N 76°04'10\" W FOR A DISTANCE OF 320.02 FEET TO A P.I.;
 THENCE N 78°43'45\" W FOR A DISTANCE OF 79.86 FEET TO THE P.C. OF A CURVE TO THE RIGHT WITH A CENTRAL ANGLE OF 50°41'53\" AND A RADIUS OF 331.59 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 293.41 FEET TO THE P.T.;
 THENCE N 28°01'52\" W FOR A DISTANCE OF 20.00 FEET TO THE P.C. OF A CURVE TO THE RIGHT WITH A CENTRAL ANGLE OF 56°01'39\" AND A RADIUS OF 293.16 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 286.67 FEET TO THE P.T.;
 THENCE N 27°59'47\" E FOR A DISTANCE OF 249.93 FEET TO A P.I.;
 THENCE N 33°31'32\" E FOR A DISTANCE OF 351.70 FEET TO THE P.C. OF A CURVE TO THE RIGHT WITH A CENTRAL ANGLE OF 88°13'35\" AND A RADIUS OF 185.31 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 285.35 FEET TO THE P.T.;
 THENCE S 58°14'53\" E FOR A DISTANCE OF 191.90 FEET TO A P.I.;
 THENCE S 62°03'47\" E FOR A DISTANCE OF 551.93 FEET TO A P.I.;
 THENCE S 58°49'07\" E FOR A DISTANCE OF 476.95 FEET TO THE P.C. OF A CURVE TO THE LEFT WITH A CENTRAL ANGLE OF 37°02'14\" AND A RADIUS OF 308.72 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 199.56 FEET TO THE P.T.;
 THENCE N 84°08'39\" E FOR A DISTANCE OF 98.04 FEET TO THE P.C. OF A CURVE TO THE RIGHT WITH A CENTRAL ANGLE OF 20°04'09\" AND A RADIUS OF 1176.51 FEET;
 THENCE ALONG THE CURVE FOR AN ARC DISTANCE OF 412.10 FEET TO THE P.T.;
 THENCE S 75°47'12\" E FOR A DISTANCE OF 176.93 FEET TO A POINT ON THE EAST BOUNDARY OF SECTION 15, THAT LAYS S 00°11'15\" E A DISTANCE OF 2188.55 FEET FROM THE NE CORNER OF THE SECTION AND IS THE POINT OF TERMINATION.

SAID EASEMENT IS 245.252 RODS LONG AND CONTAINS 2.787 ACRES MORE OR LESS.

CERTIFICATE OF SURVEY

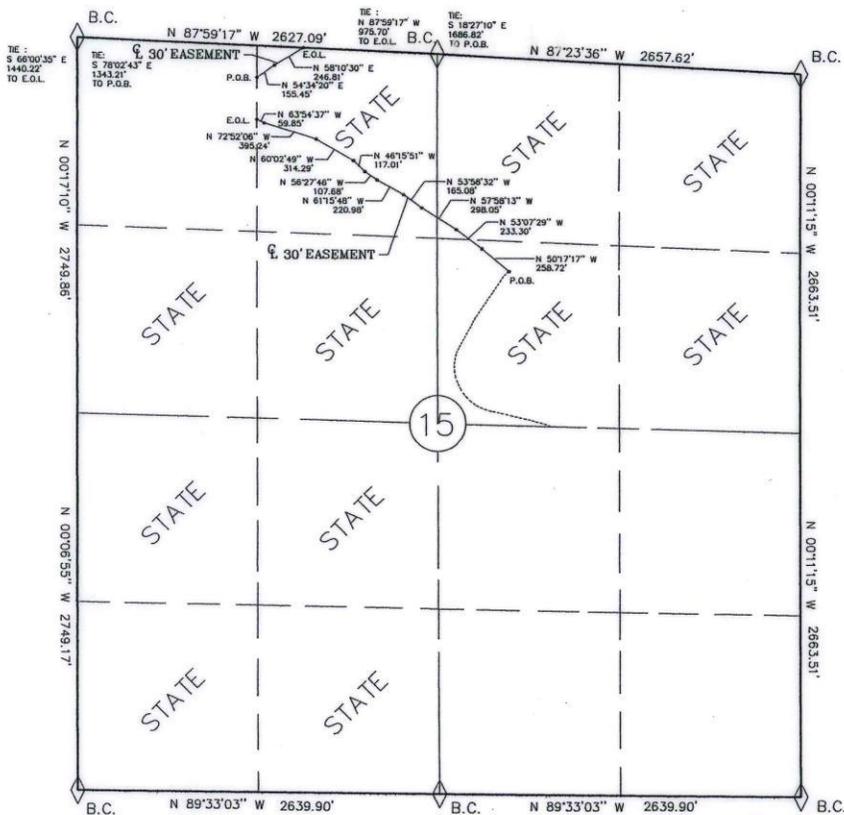
STATE of WYOMING }
COUNTY of WESTON } ss

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EASEMENT ON STATE LAND

SECTION 15, T56N, R63W, 6th P.M.



LEGAL DESCRIPTION

AN EASEMENT LOCATED IN THE W1/2 NE1/4 AND NE1/4 NW1/4 OF SECTION 15, TOWNSHIP 56 NORTH, RANGE 63 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CROOK COUNTY, WYOMING, SAID EASEMENT BEING 30.00 FEET WIDE, 15.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON AN EXISTING EASEMENT THAT LAYS S 18°27'10" E A DISTANCE OF 1686.82 FEET FROM THE NORTH 1/4 CORNER OF SECTION 15 AND IS THE POINT OF BEGINNING;

THENCE N 50°17'17" W FOR A DISTANCE OF 258.72 FEET TO A P.I.;

THENCE N 53°07'29" W FOR A DISTANCE OF 233.30 FEET TO A P.I.;

THENCE N 57°58'13" W FOR A DISTANCE OF 298.05 FEET TO A P.I.;

THENCE N 53°58'32" W FOR A DISTANCE OF 165.08 FEET TO A P.I.;

THENCE N 61°15'48" W FOR A DISTANCE OF 220.98 FEET TO A P.I.;

THENCE N 56°27'46" W FOR A DISTANCE OF 107.68 FEET TO A P.I.;

THENCE N 46°15'51" W FOR A DISTANCE OF 117.01 FEET TO A P.I.;

THENCE N 60°02'49" W FOR A DISTANCE OF 314.29 FEET TO A P.I.;

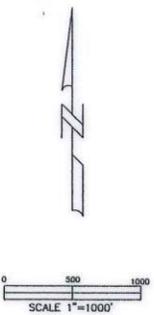
THENCE N 72°52'06" W FOR A DISTANCE OF 395.24 FEET TO A P.I.;

THENCE N 63°54'37" W FOR A DISTANCE OF 59.85 FEET TO THE WEST BOUNDARY OF THE NE1/4 NW1/4 OF SECTION 15 AT A POINT THAT LAYS S 66°00'35" E A DISTANCE OF 1440.22 FEET FROM THE NW CORNER OF SECTION 15.

THENCE RE-ENTERING THE WEST BOUNDARY OF THE NE1/4 NW1/4 OF SECTION 15 AT A POINT THAT LAYS S 78°02'43" E A DISTANCE OF 1343.21 FEET FROM THE NW CORNER OF SECTION 15;

THENCE N 54°34'20" E FOR A DISTANCE OF 155.45 FEET TO A P.I.;

THENCE N 58°10'30" E FOR A DISTANCE OF 246.81 FEET TO THE NORTH BOUNDARY OF SECTION 15 AT A POINT THAT LAYS N 87°59'17" W FOR A DISTANCE OF 975.70 FEET FROM THE NORTH 1/4 CORNER OF SECTION 15 AND IS THE POINT OF TERMINATION.



CERTIFICATE OF SURVEY

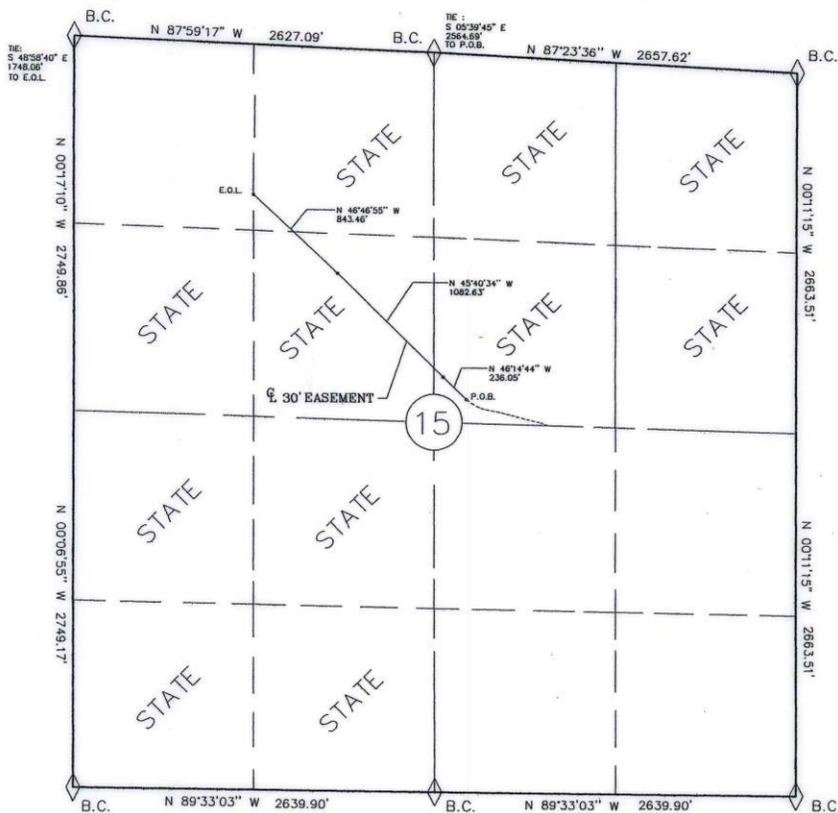
STATE of WYOMING }
COUNTY of WESTON } ss

Darrel L. Schlup states he is by occupation a Licensed Land Surveyor employed by Kim Kling to make the survey for an access easement as described and shown on this map; that the survey of said easement was made under his supervision and authority, commencing on the 2nd of May, 2013 and such survey is accurately represented upon this map.



EASEMENT ON STATE LAND

SECTION 15, T56N, R63W, 6th P.M.



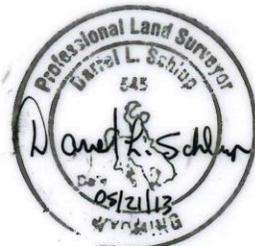
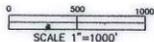
LEGAL DESCRIPTION

AN EASEMENT LOCATED IN THE SW1/4 NE1/4 AND E1/2 NW1/4 OF SECTION 15, TOWNSHIP 56 NORTH, RANGE 63 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CROOK COUNTY, WYOMING, SAID EASEMENT BEING 30.00 FEET WIDE, 15.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCING AT A POINT ON AN EXISTING EASEMENT THAT LAYS S 05°39'45" E A DISTANCE OF 2564.69 FEET FROM THE NORTH 1/4 CORNER OF SECTION 15 AND IS THE POINT OF BEGINNING;

THENCE N 46°14'44" W FOR A DISTANCE OF 236.05 FEET TO A P.I.;
 THENCE N 45°40'34" W FOR A DISTANCE OF 1082.63 FEET TO A P.I.;
 THENCE N 46°46'55" W FOR A DISTANCE OF 843.46 FEET TO A POINT ON THE WEST BOUNDARY OF THE NE1/4 NW1/4 OF SECTION 15, THAT LAYS S 48°58'40" E A DISTANCE OF 1748.06 FEET FROM THE NW CORNER OF THE SECTION AND IS POINT OF TERMINATION.

SAID EASEMENT IS 161.039 RODS LONG AND CONTAINS 1.489 ACRES MORE OR LESS.



CERTIFICATE OF SURVEY

STATE of WYOMING }
 COUNTY of WESTON } ss

Darrel L. Schlup states he is by occupation a Licensed Land Surveyor employed by Kim Kling to make the survey for an access easement as described and shown on this map; that the survey of said easement was made under his supervision and authority, commencing on the 2nd of May, 2013 and such survey is accurately represented upon this map.

EASEMENT NO. 8371

Assignee & Address: **Kim Kling dba Two Y Ranch LLC**
19001 2 Y Ranch Lane
Belle Fourche, SD 57717
(605)892-5537

Former Grantee: The David A. Freemole Inter Vivos Land Trust

Assignment Noted: 12/22/2015

STATE OF WYOMING
PERPETUAL ROADWAY EASEMENT
Easement No. 8371

WHEREAS the Board of Land Commissioners approved this grant of easement on August 5, 2010;

THEREFORE, the State of Wyoming, acting through its Board of Land Commissioners (Grantor), for and in consideration of the payment of Six thousand six hundred seventy-one and 03/100 dollars (\$6,671.03) hereby grants and conveys to THE DAVID A. FREEMOLE INTER VIVOS LAND TRUST (Grantee), its heirs, administrators, successors, executors, legal representatives, and assigns for perpetual use, in the following described tract of land, a non-exclusive roadway, more particularly described as follows:

All that portion of the SW4NE4 and the NW4 of Section 15, T.56N., R.63W., of the 6th P.M., Crook County, Wyoming, said access road easement being 30 feet wide, 15 feet on each side of the centerline, when measured at right angles as described on the attached exhibit. The described parcel of land contains 3.032 acres, more or less.

See attached Exhibit A

These descriptions are based on a survey done by and under the authority of, Darrel L. Schlup with Wyoming PLS No. 545, certified in July of 2008.

This roadway easement shall benefit and provide ingress and egress to the following described property for a single family dwelling, agricultural and ranching purposes:

Township 56 North, Range 63 West
Section 9: SE4SE4
Section 10: S2SW4
Section 16: E2NE4

TO HAVE AND TO HOLD this easement across the above-described tract of land for the purpose of locating, constructing, using, inspecting, maintaining, improving, and repairing the above-described non-exclusive roadway, subject to the following conditions:

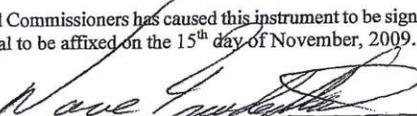
1. The rights granted herein shall forever be subject to the rights of the Grantor, its assigns or lessees to explore for, develop, and extract any and all minerals or other subsurface resources beneath this easement. If required for mineral exploration, development or extraction, the Grantee shall, upon written notice from the Grantor, remove or relocate at its own expense the above-described roadway.
2. Upon abandonment or discontinuance of use of this easement for the purposes specified above, all of Grantee's rights under this grant of easement shall revert to the Grantor or its assigns, the same as if this grant had never been made. Should this easement be abandoned by the Grantee, the above-described tract of land shall be returned to a condition satisfactory to the Grantor.
3. This easement does not include the right to make use of the road for residential developments.
4. For record keeping purposes only, any transfer in ownership of the benefited property, or any change of name or mailing address of the owner of this easement, shall be reported to the Office of State Lands and Investments within thirty days (30) of the transfer or change.

The State of Wyoming and the Board of Land Commissioners do not waive their sovereign immunity by entering into this agreement and specifically retain immunity and all defenses available to them as sovereigns pursuant to Wyo. Stat. § 1-39-104(a) and all other law.

IN TESTIMONY WHEREOF, the Board of Land Commissioners has caused this instrument to be signed by its President and countersigned by its Secretary, and its seal to be affixed on the 15th day of November, 2009.



Countersigned:

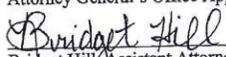


Governor, President
Board of Land Commissioners



Director, Secretary
Office of State Lands & Investments

Attorney General's Office Approval as to Form:

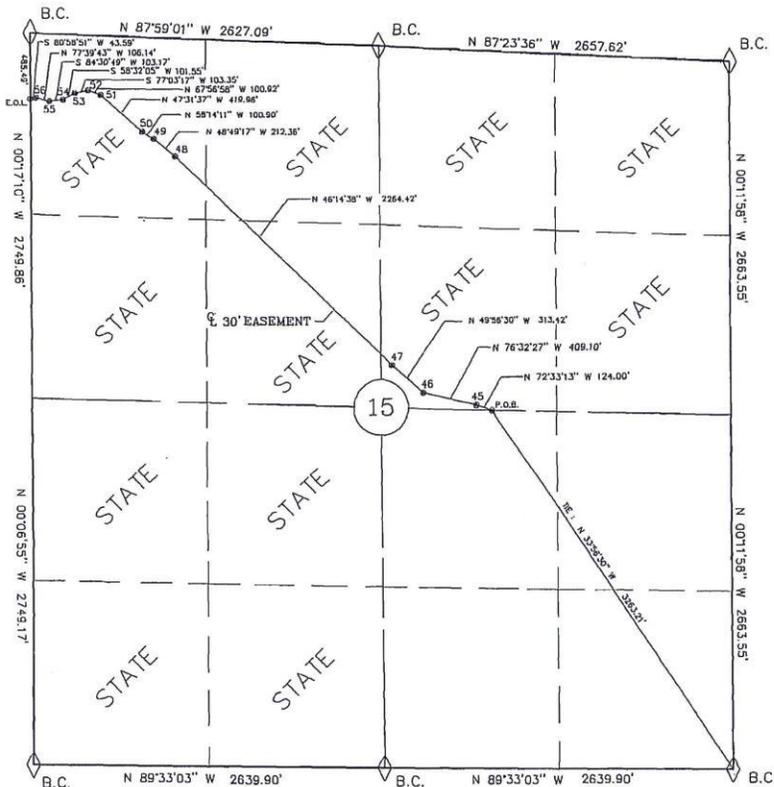


Bridget Hill, Assistant Attorney General



Examined

EASEMENT ON STATE LAND
SECTION 15, T56N, R63W, 6th P.M.



LEGAL DESCRIPTION

AN EASEMENT LOCATED IN THE SW1/4 NE1/4 AND NW1/4 OF SECTION 15, TOWNSHIP 56 NORTH, RANGE 63 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CROOK COUNTY, WYOMING, SAID EASEMENT BEING 30.00 FEET WIDE, 15.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE SOUTH BOUNDARY OF THE SW1/4 NE1/4 OF SAID SECTION 15, THAT LAYS N 33°56'30" W A DISTANCE OF 3263.21 FEET FROM THE SE CORNER OF SECTION 15 AND IS THE POINT OF BEGINNING;
 THENCE N 72°33'13" W FOR A DISTANCE OF 124.00 FEET TO P.I. #45;
 THENCE N 76°32'27" W FOR A DISTANCE OF 409.10 FEET TO P.I. #46;
 THENCE N 49°56'30" W FOR A DISTANCE OF 313.42 FEET TO P.I. #47;
 THENCE N 46°14'38" W FOR A DISTANCE OF 2264.42 FEET TO P.I. #48;
 THENCE N 48°49'17" W FOR A DISTANCE OF 212.36 FEET TO P.I. #49;
 THENCE N 58°14'11" W FOR A DISTANCE OF 100.90 FEET TO P.I. #50;
 THENCE N 47°31'37" W FOR A DISTANCE OF 419.96 FEET TO P.I. #51;
 THENCE N 67°56'58" W FOR A DISTANCE OF 100.92 FEET TO P.I. #52;
 THENCE N 77°03'17" W FOR A DISTANCE OF 103.35 FEET TO P.I. #53;
 THENCE S 58°32'05" W FOR A DISTANCE OF 101.55 FEET TO P.I. #54;
 THENCE S 84°30'49" W FOR A DISTANCE OF 103.17 FEET TO P.I. #55;
 THENCE N 77°39'43" W FOR A DISTANCE OF 105.14 FEET TO P.I. #56;
 THENCE S 80°58'51" W FOR A DISTANCE OF 43.59 FEET TO A POINT ON THE WEST SIDE OF SECTION 15, WHICH LAYS S 00°17'10" E A DISTANCE OF 485.49 FEET FROM THE NW CORNER OF SECTION 15 AND IS THE POINT OF TERMINATION.

SAID EASEMENT IS 266.841 RODS LONG AND CONTAINS 3.032 ACRES MORE OR LESS.

CERTIFICATE OF SURVEY

STATE of WYOMING }
COUNTY of WESTON } ss

Darrel L. Schlup states he is by occupation a Licensed Land Surveyor employed by David Freemole to make the survey for an access easement as described and shown on this map; that the survey of said easement was made under his supervision and authority, commencing on the 2nd of June, 2006 and such survey is accurately represented upon this map.



EXHIBIT “F”



WYOMING GAME AND FISH DEPARTMENT

5400 Bishop Blvd. Cheyenne, WY 82006

Phone: (307) 777-4600 Fax: (307) 777-4699

Web site: <http://wgfd.wyo.gov>

GOVERNOR
MATTHEW H. MEAD

DIRECTOR
SCOTT TALBOTT

COMMISSIONERS
AARON CLARK - President
MIKE HEALY - Vice President
RICHARD KLOUDA
FRED LINDZEY
T. CARRIE LITTLE
ED MIGNERY
CHARLES PRICE

January 14, 2013

WER 13076
Office of State Lands and Investments
Exchange of State Trust Land
Proposal 2: Ericsson/Two Y Ranch Exchange
Crook County

Lisa Reinhart
Senior Lands Management Specialist
Office of State Lands and Investments
Real Estate & Farm Division
Herschler Building 3rd Floor West
122 West 25th Street
Cheyenne, WY 82002

Dear Ms. Reinhart:

The staff of the Wyoming Game and Fish Department has reviewed the Exchange of State Trust Land Proposal 2: Ericsson/Two Y Ranch Exchange in Crook County. We offer the following comments for your consideration.

Terrestrial Considerations:

The proposed land exchanges in T56N R63W Sections 3, 10, 11, 14, and 15 are overlapped by various big game winter ranges. The Ericsson exchange includes crucial winter-yearlong range for white-tailed deer, and winter-yearlong range for elk and mule deer. The Two Y Ranch exchange also includes winter-yearlong range for elk and mule deer. The proposed land exchanges will likely have no significant impact to wintering big game as no surface disturbance is being proposed at this time.

Additionally, the proposed exchanges are not expected to result in a net increase or decrease in public access.

Aquatic Considerations:

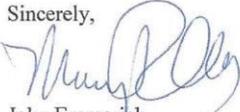
We have no aquatic concerns pertaining to these land exchanges.

"Conserving Wildlife - Serving People"

Ms. Lisa Reinhart
January 14, 2013
Page 2 - WER 13076

Thank you for the opportunity to comment. If you have any questions or concerns, please contact Joe Sandrini, Newcastle Wildlife Biologist, at (307) 746-4646.

Sincerely,



John Emmerich
Deputy Director

JE/mf/gb

cc: USFWS
Joe Sandrini – WGFD, Casper Region
Justin Binfet – WGFD, Casper Region
Brian Olsen – WGFD, Casper Region
Paul Mavrakis – WGFD, Sheridan Region

ARTS. PARKS. HISTORY.

Wyoming State Parks & Cultural Resources

Field Support Team
Division of State Parks, Historic
Sites & Trails
2301 Central Avenue
Cheyenne, WY 82002
307-777-6323
307-777-6005 (fax)

January 14, 2013

Lisa Reinhart
Senior Lands Management Specialist
Office of State Lands and Investments
122 West 25th Street
Cheyenne, Wyoming 82002

RE: Comment Request on Sale/Exchange of State Trust Land for:
Proposal 1: Falls Ranch Proposed Exchange (Natrona County)
Proposal 2: Ericsson/Two Y Ranch Exchange (Crook County)
Proposal 3: Gary Williams Sale of State Trust Land (Albany County)

Dear Ms. Reinhart:

Thank you for giving our Agency the opportunity to comment on the referenced Proposals. State Parks, Historic Sites and Trails have no recommendations at this time for Proposals 1 and 2. However, we do have a comment for Proposal #3.

Forest Road #526.HA is an access road to an ORV enrolled road within the Medicine Bow National Forest. We request that public access continue to be open without hindrance. Our Agency requests continued information regarding future plans that may impact use or access of this road.

Please feel free to contact me should you have any questions or concerns.

Sincerely,

Tracy J. Williams
Grant Specialist

Cc: Milward Simpson, Director, State Parks and Cultural Resources



Matthew H. Mead, Governor
Milward Simpson, Director

**ARTS. PARKS.
HISTORY.**

Wyoming State Parks & Cultural Resources

Office of the Wyoming State Archaeologist
Department 3431, 1000 East University Ave.
Laramie, WY 82071
(307)721-0882 FAX (307)745-8732

January 2, 2013

Lisa Reinhart
Senior Lands Management Specialist
Office of State Lands and Investments
122 West 25th Street
Cheyenne, WY 82002

RE: Comment Request on Sale/Exchange of State Trust Land for:
Proposal 1: Falls Ranch Proposed Exchange (Natrona County)
Proposal 2: Ericsson/Two Y Ranch Exchange (Crook County)
Proposal 3: Gary Williams Sale of State Trust Land (Albany County)

Dear Ms Reinhart:

Thank you for your request for input dated December 19, 2012 regarding the three land sale/exchange proposals listed above. Using the SHPO and State Archaeologist process for comments on OSLI auction lists, we have no recommendations at this time. We understand that the standard stipulation in OSLI rules Chapter 18, Section 3h would apply to any development on the minerals that the State retains. This stipulation is important since an absence of sites in our database or the presence of unevaluated sites is often simply the result of a lack of detailed cultural resource investigations in that area.

Thank you for the opportunity to comment. If you have any questions or would like to meet, please feel free to contact Dr. Mark E. Miller, State Archaeologist at (307) 766-5564.

Sincerely,



Mark E. Miller, Ph.D.
State Archaeologist

Cc: Milward Simpson, Director, State Parks and Cultural Resources
Sara Needles, Division Administrator, Cultural Resources
Todd Thibodeau, Planning Coordinator, State Parks and Historic Sites
Mary Hopkins, SHPO
Steve Sutter, Cultural Resource Specialist



Matthew H. Mead, Governor
Milward Simpson, Director

BPM's defense that trees do not need to be reclaimed as 2U Ranch LLC entered into discussions regarding logging of trees displaced by mining is not valid. 2U Ranch LLC was under the impression that the proposed mining would only disturb a handful of trees. We requested additional information in an email dated April 5, 2017. We finally received this information from BPM almost half a year later on September 2017 and were shocked to find that BPM proposed to destroy almost 11,000 trees, wetlands-spring, wildlife habitat-hunting and recreational (view-scape) opportunities. The landowner has the right to request that trees be reclaimed and this defense has no validity.



Scott Ericsson <scottaericsson@gmail.com>

Agreement Meeting

Scott Ericsson <scottaericsson@gmail.com>

Wed, Apr 5, 2017 at 9:55 AM

To: Tyler Tetrault <Tyler.Tetrault@halliburton.com>, Joel Severin <joel.severin@halliburton.com>

Cc: Ronald Ericsson <ericsson@childselect.com>, Patricia Ericsson <pericsson1237@gmail.com>, Roland Ericsson <rolandericsson@cox.net>, Spencer Ericsson <ericsson1337@yahoo.com>

Tyler:

Thanks for the information, but we would like the opportunity to review all DEQ materials relating to any proposed BPM mining on the 2U Ranch, LLC (not just the mining for this 3 yr agreement). These materials may include the following:

1. Adjudication
2. Land use
3. History
4. Cultural
5. Climatology
6. Geology and overburden
7. Hydrology
8. Soils
9. Vegetation
10. Wildlife
11. Wetlands
12. Forms and correspondence
13. Table of contents and introduction
14. Mine plan
15. Reclamation plan

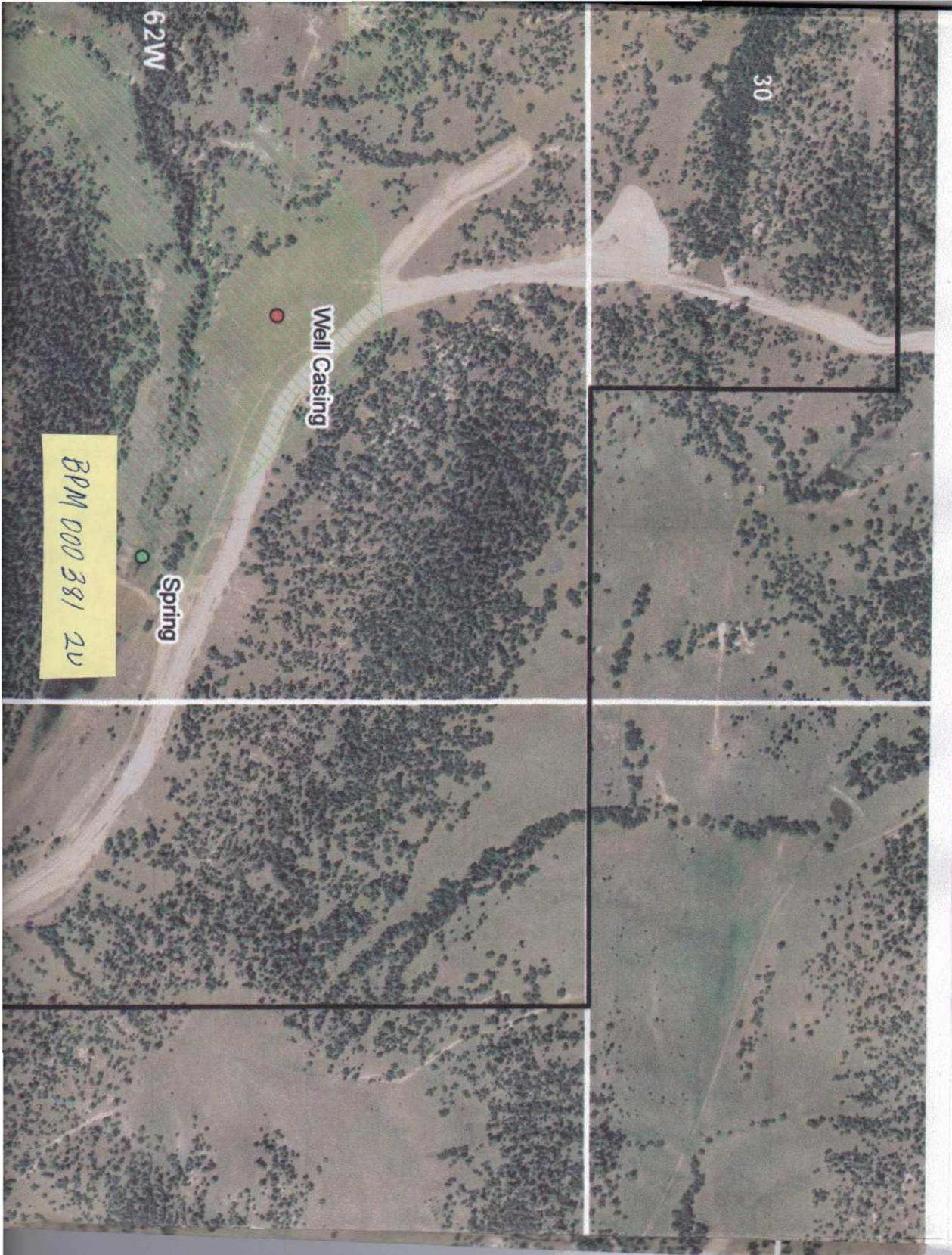
30

Well Casing

Spring

62W

BPM 000 381 20





Bentonite Performance Minerals, LLC
Permit 267C
Supporting Information-2.12

Wetland Types	
	Estuarine and Marine Deepwater
	Estuarine and Marine Wetland
	Freshwater Emergent Wetland
	Freshwater Forested/Shrub Wetland
	Freshwater Pond
	Lake
	Other
	Riverine

1991

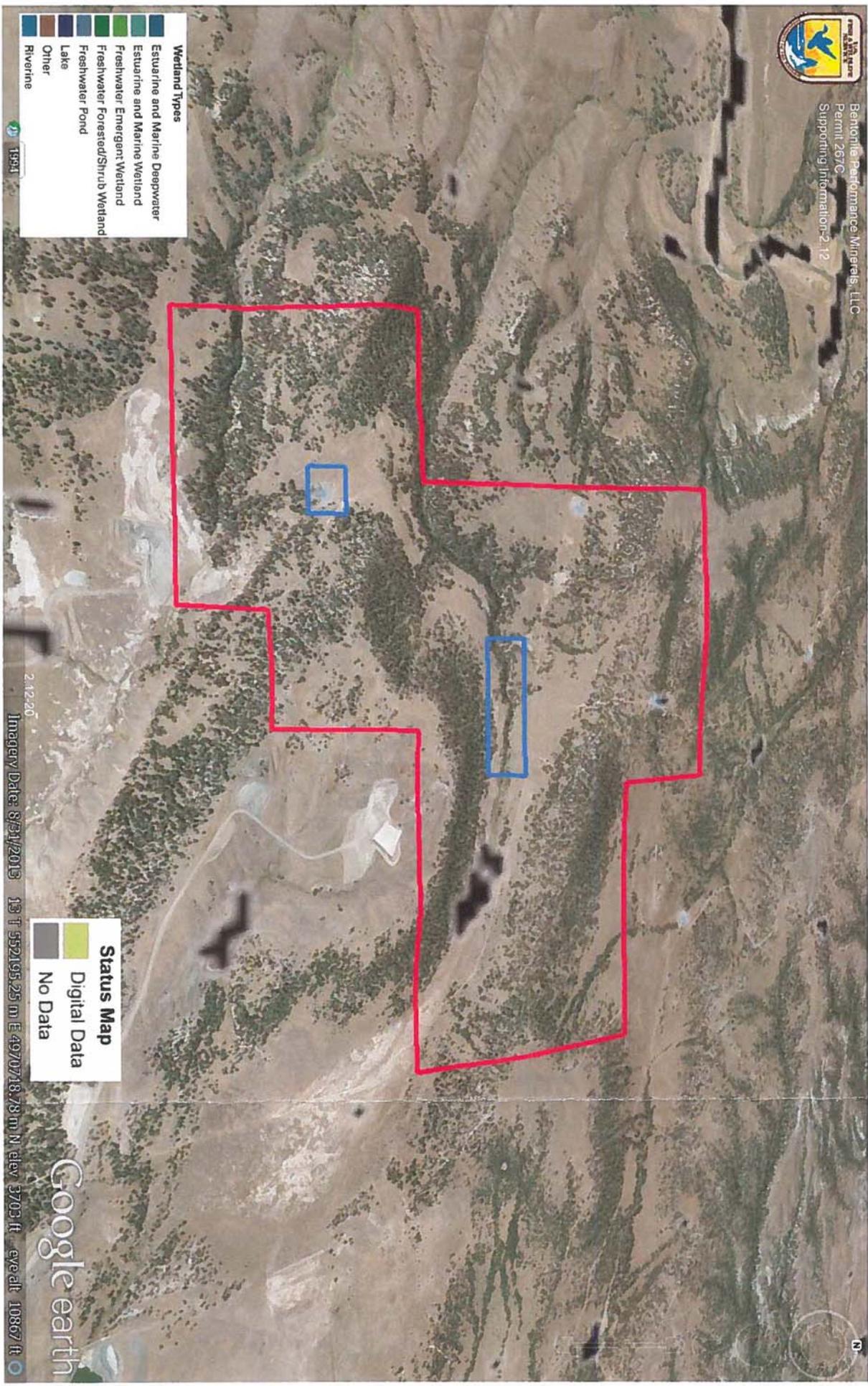
2.12.20

Imagery Date: 8/31/2013

13 T 552195.25 m E 4970718.78 m N elev 3703 ft eye alt 10867 ft

Status Map	
	Digital Data
	No Data

Google earth



Section 2.12.20 Wyoming State Lease 42804 (WSL04) Amendment

The project area was determined to have no substantial nexus to the Belle Fourche River where it is designated as traditional navigable water. The project may proceed and does not need further approval from the United States Army Corps of Engineers. Correspondence from USACE is presented in this section. Please refer to attached map (Map 2.12.20-1) delineating wetlands within the WSL04 amendment area.



REPLY TO
ATTENTION OF

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

April 8, 2016

Wyoming Regulatory Office

Ms. Jennifer Hartman
Bentonite Performance Minerals LLC
Colony, Wyoming Plant
554 U.S. Highway 212
Belle Fourche, South Dakota 57717

Dear Ms. Hartman:

This letter is in response to a request we received on February 3, 2016, for a jurisdictional determination concerning a wetland within the Wyoming State Lease 42804 claim west of Colony. The project review area is located in the portions of Sections 30, 31 and 32, Township 57 North, Range 62 West, Crook County, Wyoming.

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

We have reviewed the information submitted by your company, as well as additional information in our office. Based on our evaluation of the available maps and information, it appears that two ephemeral drainages, 3 acres of channel-bottom wetland, and a 0.2-acre stock pond impoundment in the review area have no substantial nexus to the Belle Fourche River where it is designated as a traditional navigable water in South Dakota.

On June 5, 2007, our Headquarters in Washington, D.C. (HQUSACE) implemented guidance that requires an extensive evaluation and coordination procedure before exerting jurisdiction over many streams and wetlands. The guidance was based primarily on a ruling by the U.S. Supreme Court on June 19, 2006, in the case of *Rapanos et ux., et al. v. United States* (Nos. 04-1034 and 04-1384). We initiated coordination with the U.S. Environmental Protection Agency (USEPA) and HQUSACE on March 3, 2016. The USEPA, Region 8 concurred with our recommendations on March 16, 2016. **Therefore the subject aquatic resources are not waters of the United States as defined at 33 CFR Part 328.3(a).**

In the March 28, 2000, edition of the *Federal Register* (Vol. 65, No. 60), the Corps implemented an administrative appeals process for jurisdictional determinations. This letter and enclosed form serve as an approved jurisdictional determination. Bentonite Performance Minerals, LLC, the landowner and other affected parties may appeal any determination to the Northwestern Division Appeals Officer, Ms. Mary Hoffman, using the enclosed *Notification of Administrative Appeal Options and Process and Request for Appeal* form. Section 1 Part D of the form explains the appeal procedure. Please complete Section II if you disagree with this determination and send it to Ms. Hoffman at the address on the form prior to **June 7, 2016**, or forfeit the right to an administrative appeal.

As a result of this analysis, a Department of the Army authorization is not required for construction activities in these aquatic resources because the activities would not result in discharges of dredged or fill material into waters of the United States. This determination does not eliminate requirements to obtain any other applicable federal, state, tribal, or local permits. Any deviations from the proposed plan for the project area, provided as of February 29, 2016, could require authorization.

This determination is valid for a period of 5 years, until **April 8, 2021**. Thank you for your interest in cooperating with requirements of the U.S. Army Corps of Engineers' regulatory program. Please contact me by email at Paige.M.Wolken@usace.army.mil or at (307) 772-2300 and reference file NWO-2016-00217 if you have any questions.

Sincerely,



Paige M. Wolken
Project Manager
Wyoming Regulatory Office

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

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): 16 March 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENWO-OD-RWY, Bentonite Performance Minerals, LLC, WY State Lease 42804, NWO-2016-00217

C. PROJECT LOCATION AND BACKGROUND INFORMATION: NRPW wetlands

State: Wyoming

County/parish/borough: Crook City: N/A

Center coordinates of site (lat/long in degree decimal format): Lat. 44.891025N; Long. -104.337348W

Universal Transverse Mercator: NAD 83

PLSS Location: portions of Sections 30, 31 and 32, Township 57 North, Range 62 West, Crook County, Wyoming, 6th PM (See Review Area on attached map)

Name of nearest waterbody: Trouble Creek & Belle Fourche River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Belle Fourche River which is a TNW at the point of confluence of the Redwater River in Butte County, South Dakota (lat. 44.671653 N, lon. -103.845104)

Name of watershed or Hydrologic Unit Code (HUC): 10120201 Upper Belle Fourche

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: 2 January 2016 (pmw)

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]

I. 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

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.

**** PRE-DECISIONAL DRAFT ** NOT SUBJECT TO FOIA ** PRE-DECISIONAL DRAFT ****

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **two unnamed ephemeral drainages with less than 60-90 days of continuous flow, livestock pond impoundment and abutting wetlands.**

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: **6 square miles**

Drainage area: **2 square miles**

Average annual rainfall: **14.88 (total precip.) inches**

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **1** 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.

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

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Project waters are 1.2 aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **Project is entirely within the state of Wyoming.**

Identify flow route to TNW⁵: **unnamed ephemeral tributary to unnamed ephemeral tributary to Belle Fourche River which is a is a TNW at the point of confluence of the Redwater River in Butte County, South Dakota (lat. 44.671653 N, lon. -103.845104).**

Tributary stream order, if known: .

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

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: **Upper reaches appear to be mostly natural but with livestock pond impoundments; lower reaches have been partially altered with spreader dikes.**

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

Average width: **est 1-5** feet

Average depth: **est 1** feet

Average side slopes: 2:1.

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/%a cover: **90% wet meadow**
 Other. Explain: .

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

Presence of run/riffle/pool complexes. Explain: **no.**

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): %

(c) **Flow:**

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **11-20**

Describe flow regime: **short in duration due to rainfall.**

Other information on duration and volume: .

Surface flow is: **Confined**. Characteristics: **Confined until the drainages enter the flood plain of the Belle Fourche River. At that point, the bed and banks terminate prior to the confluence with the Belle Fourche River.**

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

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: **Indicators of OHWM, including bed and bank terminate prior to the confluence with the Belle Fourche R.**

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;

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

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- fine shell or debris deposits (foreshore)
- physical markings;
- physical markings/characteristics
- vegetation lines/changes in vegetation types.
- tidal gauges
- other (list):

(iii) **Chemical Characteristics:**

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

Explain: **unknown**.

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: 3 acres

Wetland type. Explain: **palustrine emergent wet meadow dominated by hydrophytic grasses and sedges.**

Wetland quality. Explain: **unknown**.

Project wetlands cross or serve as state boundaries. Explain: **No**.

(b) **General Flow Relationship with Non-TNW:**

Flow is: **Ephemeral flow**. Explain:

Surface flow is: **Confined**

Characteristics: **hydrology is limited to channel bottom and directly abutting areas in upper watershed and becomes overland sheet flow prior to confluence with Belle Fourche R..**

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: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **2-year or less** 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):
- Vegetation type/percent cover. Explain: **PEM wet meadow est. 90%**.
- Habitat for:
 - Federally Listed species. Explain findings: **none known**.
 - Fish/spawn areas. Explain findings: **none**.
 - Other environmentally-sensitive species. Explain findings: **none known**.
 - Aquatic/wildlife diversity. Explain findings: **limited / unknown**.

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

All wetland(s) being considered in the cumulative analysis: 4
Approximately (3) 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	2.8		
Y	.2		

Summarize overall biological, chemical and physical functions being performed: **nutrient cycling, water filtration, minimal wildlife use/habitat.**

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:
The relevant reach of drainage 1 consists of the upper reach where it occurs within the review area to downstream where it appears to flow into the Belle Fourche River during a high flow event, an estimated total length of 11,500 feet. The relevant reach of drainage 2 is only approximately 900 feet within the review area to its point of confluence to another 2nd order drainage (3). The defined bed and bank of drainages 2 and 3 terminate approximately 1,900 feet prior to the confluence of the Belle Fourche River, outside of the review area. It is estimated that the volume, duration and frequency of flow is minor, short (flows less than 60-90 continuous days during an average (typical) year), and infrequent (primarily occurring after snow melt in the spring or after large rainstorms in the summer). No flow data is available for the unnamed drainages located within the review area. An experienced staff member of Bentonite Performance Minerals LLC reported anecdotally that the ephemeral waterways flow 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. Despite this, wetlands have established in and along the channel where water ponds and is periodically refreshed. The current land use within the upper portion of this watershed is primarily bentonite mining and livestock grazing. Drainages 1 and 2, within the review area, and their few wetlands, drain and intercept sediments for roughly a 2-square mile area. Rare short-duration, high volume flows may occasionally carry sediment and nutrients beyond where drainages terminate, as overland sheet flow to the Belle Fourche River. Only a small volume of water and sediment would likely be contributed to the RPW/TNW. There is no indication that these non-RPWs contribute to the chemical, physical, or biological integrity of the Belle Fourche in South Dakota (TNW), which is more than 85 river (34 aerial) miles down stream from

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the review area location. In addition, there is no evidence to suggest that the Belle Fourche River, from the point which is a TNW at the point of confluence of the Redwater River in Butte County, South Dakota (lat. 44.671653 N, lon. -103.845104) upstream through Crook County, Wyoming has commercial uses associated with navigation⁶. Individually and collectively, it is highly unlikely and very speculative to assume that the functions of these waters within the review area contribute or hold a significant amount of water, sediment, nutrients, concentrated minerals, or pollutants to have substantial effect on the chemical, physical or biological integrity of the Belle Fourche River (TNW), located more than 85 river miles (34 aerial miles) down stream from the review area reach, in South Dakota. Therefore, the relevant reaches of the identified non-RPWs and their abutting wetlands lack a significant nexus to the nearest traditionally navigable water.

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: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs⁶ 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: linear feet width (ft).
 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: acres.

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.

⁶See Footnote # 3.

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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).

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: See Section III.C.2.
 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): linear feet width (ft).
 Lakes/ponds: acres.
 Other non-wetland waters: acres. 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): 2,700 linear feet, 1-5 width (ft).
 Lakes/ponds: acres.
 Other non-wetland waters: 0.2 acres. List type of aquatic resource: Drainage 2 impoundment - stock pond.

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

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*.

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Wetlands: **est. 3 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:
- 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: **WY-DEVILS RUN.**
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name: **USFWS NWI mapping layer Google Earth & ORM.**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **Google Earth, Aug. 31, 2013.**
or Other (Name & Date): **As provided in request documentation by Bentonite Performance Minerals, LLC, Feb 2, 2016.**
- Previous determination(s). File no. and date of response letter: **NWO-2011-01739: adjacent review area including upstream reach of Drainage I; May 30, 2012; *NWO-2013-00473: "at a point" Belle Fourche River TNW determination supporting comments, Feb 5, 2015.**
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: Determinations were made based on CWA rules and regulations (CFR 33, Parts 320-332) and the June 2007 U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook. EPA concurrence was received 16 March 2016.

AJD Map NWO-2016-00217

Bentonite Performance Minerals WY State Lease 42804 - Crook County
- AJD Review Area in Red -



Google earth

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