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Bent Number Four Amendment

Location: Valley County, Montana
NW¼SW¼ Section 12, Township 27 North, Range 36 East



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Acronyms

EA	Environmental Assessment
S and B	S and B Minerals North America, Inc
NEPA	National Environmental Policy Act
BLM	Bureau of Land Management
RMP	Resource Management Plan
PoO	Plan of Operations
PPA	Proposed Project Area
ID	Interdisciplinary Team
BMP	Best Management Practice

CHAPTER 1

PURPOSE AND NEED FOR THE PROPOSED ACTION

Introduction

This Environmental Assessment (EA) for S and B Industrial Minerals North America Inc. (S and B Minerals) Bent Number Four Mining Project has been prepared by the Bureau of Land Management (BLM) to fulfill agency policy and direction to comply with the National Environmental Policy Act (NEPA). S and B Minerals is proposing 12.8 acres of disturbance adjacent to a previous mine disturbance area of 5 acres that has been reclaimed, totaling 17.8 acres of disturbance, all of which is located on BLM lands. S and B Minerals is proposing 17.8 acres of disturbance in order to mine two different and unique bentonite horizons using open pit methods. The Bentonite will be stripped and hauled approximately two miles away to a private parcel owned by S and B Minerals to be processed. The 17.8 acres of total disturbance would be re-contoured and reseeded to best represent pre-mining conditions. These actions are proposed to be implemented on lands administered by the Hi-Line District of the BLM.

Project Location and Access

The project is located approximately 20 miles southwest of the city of Glasgow, Valley County Montana in the NW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 12, Township 27 North, Range 36 East. Access to the site is from Bentonite Road, a Valley County maintained road southwest of Glasgow, Montana.

Purpose and Need

The purpose of this Federal action is to provide S and B Minerals the opportunity to resume and expand mining operations at the Bent Number Four Mine, amendment to Plan of Operations (PoO) MTM-093981, necessary to recover bentonite. In addition, to authorize mining and mineral exploration activities consistent with the statutory right of the proponent to explore for and develop mineral resources on Federally-administered lands under the General Mining Act of 1872 and with other laws and regulations including the Hi-Line Resource Management Plan (RMP) of 2015.

The Need for the Federal action is established by BLM's responsibility under the BLM Surface Management Regulations at 43 CFR 3809, to respond to a PoO and to ensure the plan will not result in the unnecessary or undue degradation of the public lands.

Background

The original PoO was filed in 1998 and approved in 2004. Initial mining at the Bent Number Four site occurred in 2007. In 2011 an amendment was filed with BLM and approved in May of 2012. No mining occurred under this amendment to the PoO. The 2011 PoO proposed operations on the same five acres herein described. In 2013 BLM received an amendment to the 2011 PoO. BLM requested further information on April 22, 2015. S and B Minerals supplied the additional information in May and August of 2015.

The proponent's need is to extract known bentonite deposits within the Proposed Project Area (PPA) and to explore for and define the nature, extent, shape, and economic value of potential additional deposits. In addition, there is a connected action under the NEPA, which would not be required if the activities under the Proposed Action were not approved. The connected action is the processing and drying of bentonite on the operator's nearby private land parcel. The decision for the BLM is whether to approve the PoO (activities on BLM lands only) as submitted or to approve with additional measures to protect surface resources.

The Decision to be Made (See NEPA Handbook - 6.2.2)

Based on the environmental analysis and disclosure documented in the EA, the BLM Glasgow Field Manager must decide or determine the following:

1. Whether to select the Proposed Action as proposed;
2. Select the Proposed Action with additional mitigation measures, which would be required prevent unnecessary or undue degradation (43 CFR 3809.411).

Previous NEPA documents tiered to

As described above two previous EA's have been prepared for this PoO.

1. 2004 EA – No.MT 092-04-27 for Americas Bentonite Corporation: analyzed bentonite mining operations on the Bent Number Four unpatented mining claim.
2. 2011 EA – NEPA Number DOI-BLM-M020-2011-0033-EA for S and B Industrial Minerals North America, Inc.: analyzed mining operations on the Bent Number Four unpatented mining claim.

Pursuant to 43 CFR §1508.28, this EA is hereby tiered to these two EAs described above.

Scoping

Internal scoping

An Internal scoping request outlining the proposed action was sent to the Interdisciplinary (ID) Team on May 19, 2015. Each ID Team member submitted comments on the proposed action. A site visit was conducted with members of the ID Team on June 5, 2015. All comments submitted from the ID Team were included or analyzed in the EA.

External scoping

A Notice of Application was published in the Glasgow Courier on July 8 and July 15, 2015 (APPENDIX 8). An External scoping request was posted on the Glasgow Montana BLM external site on July 8, 2015. A Dear Reader letter (APPENDIX 7) was sent to 23 interested parties (APPENDIX 6) on July 7, 2015. Interested parties and the general public were requested to submit scoping comments on or before August 5, 2015.

Issues Identified for Analysis (Resource Issues)

Internal and external scoping identified the issues that are considered in this analysis. For each resource issue identified, one or more impact indicators are described. These indicators will be used to describe the affected environment and to evaluate the environmental consequences of implementing the various alternatives on each issue.

How would the proposed action and the alternatives affect Vegetative Resources?

Resource Impact Indicators:

1. Acres of vegetation temporarily removed by mining.

How would the proposed action and the alternatives affect Soils?

Resource Impact Indicators:

1. Acres of soil disturbed.

How would the proposed action and the alternatives affect Greater Sage-grouse Breeding and Nesting Habitat?

Resource Impact Indicators:

1. Acres of habitat disturbed or removed.
2. Distance to active strutting grounds.
3. Potential off road vehicle usage during nesting and brood rearing season.
4. Increased activity within the project area, including equipment noise and increased vehicle usage on existing roads.

How would the proposed action and the alternatives affect Migratory Birds?

Resource Impact Indicators:

1. Acres of habitat temporarily disturbed or removed.
2. Potential off road usage during nesting and brood rearing season.
3. Increased activity with the project area, including equipment noise and increased vehicle usage on existing roads.

How would the proposed action and the alternatives affect Pronghorn Winter Range?

Resource Impact Indicators:

1. Acres of habitat disturbed or removed during the winter season.
2. Increased activity within the project area, including equipment noise and increased vehicle usage on existing roads.

Issues Considered but Eliminated from Further Analysis

The following issues were identified during scoping but were eliminated from further study for the reasons outlined below.

Resource Identified but Eliminated from Further Analysis

Surface Water, Groundwater, Riparian Areas, and Wetlands:

There are no wetlands, riparian areas, perennial or intermittent streams present at the PPA. Digging pits to extract solid minerals at a maximum depth of 30 feet below surface will not negatively affect groundwater due to the absence of water permeable earthen layers at the location of the Proposed Action.

Cultural Resources, Native American Concerns:

The PPA was intensively surveyed to BLM Class III standards for the presence or absence of cultural resources (Cultural Resources Report Number VL 2 31348). None were located during the course of inventory; therefore, the proposed action will not affect any known historic properties.

Past consultation with Native American Tribes throughout the region has not identified the PPA as being a specific area of concern.

Paleontological Resources:

The PPA is not underlain by a Potential Fossil Yield Classification System Class 4 or 5 geologic formations. The potential for discovery of significant vertebrate or invertebrate fossils is extremely unlikely. (Hanna, 2007)

Introduction and spread of noxious/invasive weeds:

There are currently no known infestations of noxious weeds in the PPA.

Recreation:

The PPA lies within the South Valley Special Recreation Management Area which provides opportunities for hunting, scenic and wildlife viewing and driving for pleasure. There are no structured recreational facilities within the PPA. Visitation to the area is considered low and primarily occurs during the fall hunting season. Public motorized vehicle use is restricted to existing roads and trails.

Visual Resources:

The PPA falls within a Visual Resource Management Class Four objective, which is to provide for management activities which require major modification of the existing landscape character. Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements.

Solid Minerals Resources:

The PoO would extract two unique bentonite horizons within the Bearpaw Shale Formation. The extraction of Bentonite from the Bent Number Four unpatented mining claim would result in an irretrievable commitment of the Bentonite resource from the PPA.

CHAPTER 2

THE PROPOSED ACTION AND ALTERNATIVES

Introduction

This EA focuses on three alternatives: a No Action Alternative, Proposed Action alternative that approves the PoO, and the Proposed Action Alternative that approves the PoO with BLM conditions of approval. The No Action Alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action however selecting this alternative would not meet Purpose and Need. No other alternatives have been identified during the scoping process and are therefore not considered.

ALTERNATIVE A: NO ACTION

The No Action Alternative would be to not approve the PoO amendment as proposed. Under this alternative, BLM withholds approval of the PoO amendment and S and B Minerals would not be authorized to initiate mining activities under this amendment to the PoO. If the BLM were to withhold approval of the proposed PoO amendment, the current existing condition would persist. BLM would continue to monitor the existing condition and the bond would be released upon successful completion of reclamation of the previously disturbed area.

ALTERNATIVE B: PROPOSED ACTION

The Proposed Action Alternative would be to approve the PoO, MTM-108262, under the provisions of the 43 CFR 3809 surface management regulations and the mining laws. As submitted (the entire PoO as attached as Appendix 9) under their PoO amendment, S and B Minerals is proposing an additional 12.8 acres (17.8 acres total) of surface disturbance. Mining is anticipated to occur for a 30 to 60 day period between July 15 and December 1 and would take place in a series of steps described as follows:

1. A pit with the dimensions of 50 to 60 feet wide, 20 feet deep, and up to 750 feet long would next be excavated. Overburden is stockpiled in the same general area as the topsoil stockpile but in discrete locations to ensure that mixing does not occur. Bentonite layers are mined and hauled from the PPA to S and B Mineral's private land approximately two miles North on Bentonite Road.

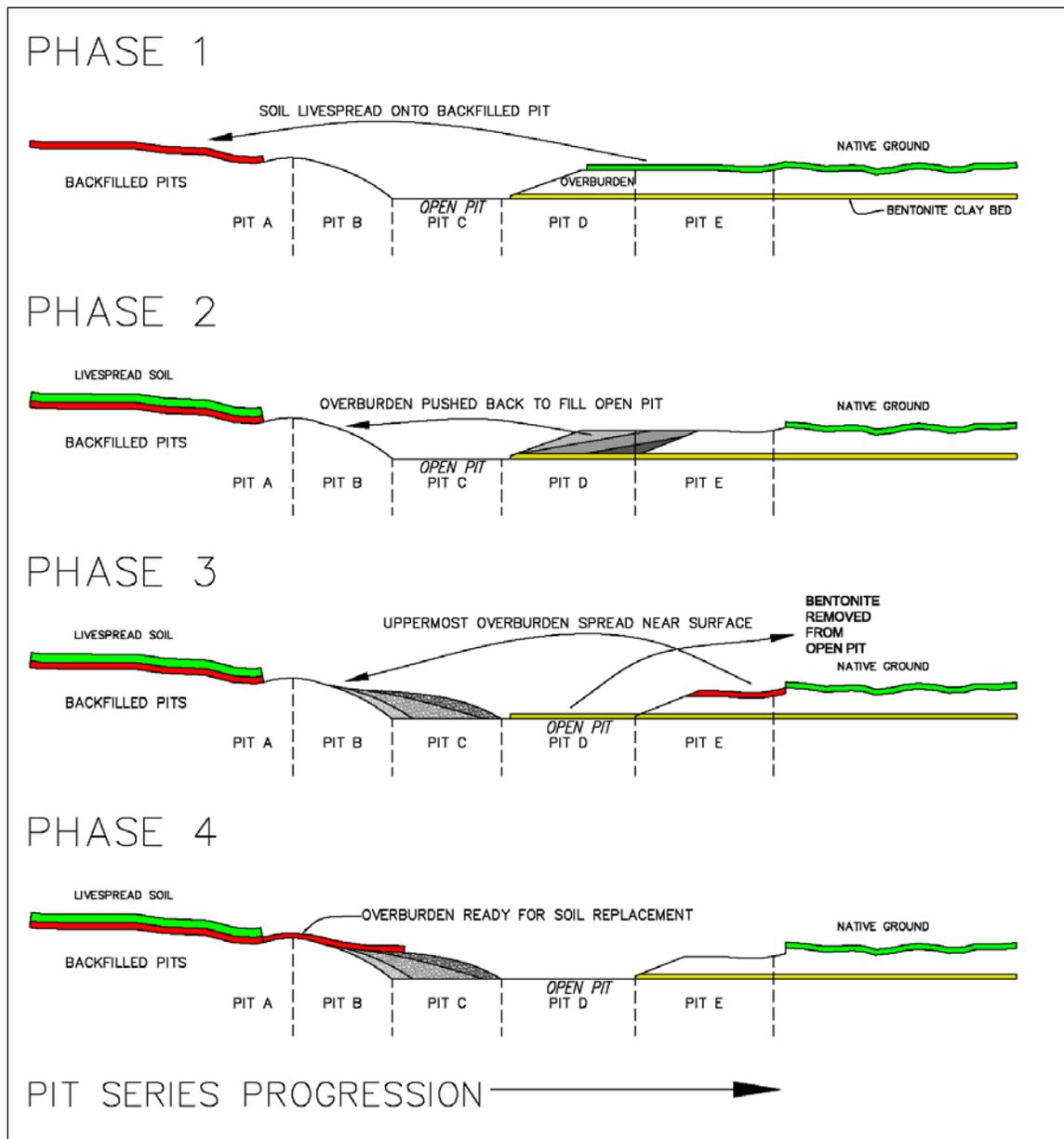


Figure 1 Pit Series Progression Diagram for the Bentonite Pit Mining Sequence

For more information, see APPENDIX 2. Plan Map. All mined bentonite from the PPA would be stockpiled and dried on private surface approximately 2.5 miles to the north (along Bentonite Road) in the NW $\frac{1}{4}$ of section 36, Township 28 North, Range 36 East. Mined material would be hauled by 20 to 30 yard haul trucks on an established BLM-maintained road. The storage and fueling of equipment would also be on the private surface to the north. Final reclamation would use the methods previously used for this site. The surface would be reshaped to natural contour with glacial boulders replaced on top of the re-contoured surface. This is a summary of the PoO (see PoO Appendix 9).

Interim Management Plan

The operations are expected to require a time period of 30 to 60 days, notwithstanding something other than permanent or seasonal closure could occur. To point that follow up inspections and monitoring activities, as outlined in the original document, may be required for several years after mining is complete, and applies to the following:

1. **Temporary Closure** - If a temporary closure is experienced per MSHA, the operator will respond by utilizing the combination of eliminating the highwall of the mine by sloping the highwall back with an excavator to an approved slope of 1.5:1 ratio and backfilling the base of the pit with overburden so the backslope is accomplished and satisfies what is being expected. Additional barricades and Best Management Practices (BMP) Construction will be performed to DEQ standards for anticipated temporary time of closure. Operator will provide advance notice to BLM.
2. **Extreme Weather Closure** - If weather or other circumstances call for seasonal shutdown, operator will respond by utilizing the combination of eliminating the highwall of the mine by sloping the highwall back with an excavator to an approved slope of 1.5:1 ratio and backfilling the base of the pit with overburden so the backslope is accomplished and satisfies what is being expected. Additional barricades and BMP Construction will be performed to DEQ standards for winter time of closure. Operator will provide advance notice to BLM.
3. **Care and Maintenance Closure** - Steps will be same as temporary closure. With the bond that will be provided to ensure the mine is permanently closed as stated in 1 above, this bond will guarantee the owner that the performance of the permanent closure is achieved which is financially guaranteed thru the efforts of the bonding instrument in place.
4. **Permanent Closure** - Per the guidelines illustrated in the PoO where the expected overburden is sufficient to backfill the mine site, topsoil will be restored, surface will be seeded and field rocks will be reset. This would include the pit closure and immediate restoration activities.

ALTERNATIVE C: PROPOSED ACTION WITH ADDITIONAL MITIGATION

Under this alternative, S and B Minerals would operate as under Alternative B but with additional BLM-proposed mitigation. The mitigation listed below is further discussed in Chapter 4.

1. If significant cultural or paleontological resources are discovered during construction, work the operator would immediately cease all operations. The operator would immediately notify the BLM Authorized Officer. Mining Activities would not proceed until the operator received written notice from the Authorized Officer.
2. Pre-extraction mountain plover surveys would be necessary if extraction occurs between July 15 and August 1.
3. Access and haul road maintenance at the site and to the drying location would be the responsibility of the operator during and immediately after mining and hauling is completed. Haul Road and Access routes would be maintained to pre operating conditions and to the standards of Valley County Road Department.

4. Activities would not be performed during periods when the soil is too saturated to adequately support construction equipment/vehicles. If such equipment/vehicles create ruts in excess of 3 inches deep, the soil would be deemed too wet to adequately support construction equipment/vehicles.
5. Topsoil that is not re-spread within 30 days would be covered with a tackifier, mulch, or other approved cover.
6. Reclamation activities would not be conducted using frozen or saturated soil material.
7. Every attempt should be made to reduce or eliminate mining and reclamation activity impacts to visual resources through careful location, minimal disturbance, and repeating the basic landscape elements.
8. Special Reclamation Area - As identified on the map in APPENDIX 3. In addition to the measures described in the Mine PoO/Restoration and as described above, the operator would:
 - a. Remove and store topsoil, from this area, separate from the other top soil material within the mined area.
 - b. All disturbed areas would be reseeded with a mix of native plant species adapted to the site. Only certified weed-free seed would be used. The final seed mixture must be presented to the BLM-Glasgow Field Office for review and approval.

A list of potential species and seeding rates is presented below.

 - i. Prairie sandreed *Calamovilfa longifolia* twelve pounds live seed per acre
 - ii. Little bluestem *Schizachyrium scoparium* twelve pounds live seed per acre
 - iii. Green needlegrass *Nassella viridula* four pounds live seed per acre
 - iv. Western wheatgrass *Pascopyrum smithii* eight pounds live seed per acre
 - v. Wyoming big sagebrush *Artemisia tridentata* four pounds live seed per acre
 - c. After seeding, apply straw mulch to increase infiltration and address soil temperature, soil droughtiness, and wind erosion concerns. Straw mulch would be applied over and crimped into the soil. Stem length of straw used would average ten inches or longer. Straw material would be free from noxious weeds. Straw mulch would be applied at a rate of 1.5 tons per acre.

CONFORMANCE WITH BLM LAND USE PLAN(S)

This proposed action is in conformance with the Hi-Line RMP Environmental Impact Statement approved in 2015. The proposed action meets the Hi-Line RMP objective to *“Provide land use opportunities contributing to economic benefits while protecting or minimizing adverse impacts on other resources.”* (p. 3-51)

This is specifically provided under the management actions for this objective *“Review and process Plans of Operations to ensure the proposed actions do not create unnecessary or undue degradation of the environment (43 CFR, Part 3809).”* (p. 3-51).

A copy of the Hi-Line RMP can be found at:

http://www.blm.gov/mt/st/en/fo/malta_field_office/rmp.html

Relationship to Statutes, Regulations, or other Plans

Under the provisions of the 43 CFR 3809 surface management regulations, as amended (30 U.S. Code 612 *et. seq.*), BLM is authorized to approve a PoO for exploration and mining activity on Public Domain lands open to entry under the General Mining Act of 1872, as amended. BLM is required at 43 CFR 3809.420(a)(6) to ensure that all operations are conducted in a manner which complies with all pertinent Federal and State Laws. These include The Endangered Species Act of 1973 (ESA; 16 U.S.C. § 1531 *et seq.*), and The Archaeological Resources Protection Act of 1979 (16 U.S.C. §§ 470aa–470mm).

CHAPTER 3

AFFECTED ENVIRONMENT

Introduction

The affected environment section describes the existing condition and trend of issue-related elements of the human environment that may be affected by implementing the proposed action or an alternative. This discussion is organized by the resource issues that were identified in Chapter 1 and provides the baseline for comparison of impacts/consequences described in Chapter 4.

General Setting

The PPA is located on a half mile wide northwest-southeast trending flat ridge top between two drainages within the Little Beaver Creek Watershed (see APPENDIX 1.General Map). There are no wetlands, riparian areas, perennial or intermittent streams present in the proposed location. Surface water runoff within this area flows toward Little Beaver Creek, an intermittent stream that resides roughly one mile south of the project area.

The Northern Plains physiographic province consists of rolling northern glaciated plains at an elevation of about 2,300 feet. The target bentonite layers of the proposed project are within the Bearpaw Shale Formation, which is composed of silts deposited in an offshore marine environment in the late Cretaceous period. In places, the shale is overlain by Pleistocene period glacial deposits. These glacial deposits are gravel, cobble, and boulder sized material composed mostly of gneiss, schist, quartzite, and argillite that originate from a far northern source.

The average annual precipitation in the area is approximately 12.5 inches with an average annual snowfall of approximately 25 inches. Temperatures range from lows of minus 50 degrees to highs over 100 degrees, Fahrenheit ([Western Regional Climate Center](#)).

Information concerning wildlife can be found in APPENDIX 5.

RELEVANT PAST and ONGOING ACTIONS

In the late 1970s to the mid 1980s, the Federal Bentonite company commercially produced bentonite in the general area of the PPA for use as drilling mud in the oil and gas industry. The current location of the private stock and drying areas (APPENDIX 1 General Map) are on the site of Federal Bentonite's processing plant that operated until the industry market weakened in 1986. A current increase of oil and gas development in the Bakken, as well as alternative bentonite markets, has once again increased demand.

AFFECTED ENVIRONMENT

The existing condition and potential impacts are described below for resources, including Critical Elements, which are potentially affected by the Proposed Action.

Resource Issues Brought Forward for Analysis

Resource Issue 1 – Upland Vegetation

Vegetation in the PPA is typical of what would be expected within the soil types on the northern glaciated plains. The PPA is located on a shallow clay and dense clay soil. Vegetation within this area is western wheatgrass, green needlegrass, prairie sandreed, needle and thread, prairie junegrass, sandberg bluegrass, little bluestem and blue grama. Forbs include scarlet globemallow, yellow sweet clover, woolly pliantain, prickly pear cactus, salsify, prairie coneflower, western yarrow, and prairie thermopsis. Shrubs include Wyoming big sagebrush, rubber rabbitbrush, broom snakeweed, and fringed sagewort.

Resource Issue 2 – Soils

Soils were identified from the Natural Resources Conservation Service's Web Soil Survey (WSS) website (<http://websoilsurvey.nrcs.usda.gov/app/>) and confirmed at the time of an onsite visit of June 5, 2015 (Natural Resources Conservation Service (NRCS), 2014). Soil surveys were performed by the Natural Resources Conservation Service's according to National Cooperative Soil Survey standards.

The primary soil map unit the proposed action would occur on is the 34 - Lisam-Dilts clays, five to 35 percent slopes. Appendix 4 provides a description of the major soils that occur in the soil map unit. Descriptions of non-soil (miscellaneous areas) and minor soil map unit components are not included. Minor components (less than 15 percent combined total) include: Thebo, Elloam, Sunburst, and Vaeda soils. There are areas of bare bentonite and exposed shale.

Soils are droughty due to very low available water holding capacities. Depths range from very shallow (less than 10 inches) to very deep (more than 60 inches). Wind erosion hazard is moderate and water erosion hazard is slight. Textures range from silty clay to clay. Soils range from non-saline to strongly saline (Electrical Conductivity values - zero to 16 millimhos per centimeter). Maximum in profile Sodium Adsorption Ratios range from zero to 25. Organic matter content is low. Soils with high amounts of salts, sodium and/or heavy clay textures, within the rooting zone, are sparsely vegetated.

Lisam, Dilts, Elloam and Vaeda soils are poorly suited for reclamation due to droughtiness, shallow rooting depth, salt and sodium content, and wind erosion. Thebo and Sunburst soils are moderately suited for reclamation due to greater soil depth and less limiting chemical properties.

Resource Issue 3 - Greater Sage-grouse Breeding and Nesting Habitat

A known Greater sage-grouse strutting ground occurs approximately a half-mile east of the PPA. Other strutting grounds occur across southern Valley County and Greater sage-grouse use is expected everywhere there is sagebrush habitat. Nesting habitat is lacking in some areas due to soil types that do not support adequate grass or sagebrush cover. Nesting cover is present in a small portion of the PPA. The general area is also important winter habitat for sage-grouse migrating from Canada and northern Valley County. Winter use is not always predictable, but the breeding and nesting season is of importance from March 1 to June 30 each year. Additionally, the disturbance caused by this project within Greater sage-grouse Priority Habitat Management Area is less than three percent required by the Hi-Line RMP and disturbs 0.76 percent of the calculated area.

If an exception is granted to the timing restrictions, there is a potential that off road vehicle usage may affect nesting and brood rearing. Off road vehicle usage, after the timing restrictions, may result in vehicle-wildlife collisions since Greater sage-grouse have been observed in the right of way of the Bentonite Road in late summer and early fall. Increased activity within the Project Area such as equipment noise and increased vehicle usage along the Bentonite Road may affect Greater Sage-Grouse in terms of their complete avoidance of the area or vehicle-wildlife collisions.

Resource Issue 4 - Migratory Bird Nesting (including Sprague's pipit and mountain plover)

Northeastern Montana is one of the last large intact tracts of native short- and mid-grass prairie in North America. Southern Valley County is mostly BLM-administered land and the land use is not expected to change from livestock grazing being the primary use. These large tracts of native habitat result in extensive nesting by migratory grassland bird species. Many of these are BLM Sensitive Species due to their long-term decline in other areas of the West. Important grassland nesting birds are listed in Chapter 5.

The mountain plover is unique in that it nests on areas devoid of vegetation, including prairie dog towns. A nesting population exists in southern Valley County in bentonitic soils that lack vegetation. The migratory bird nesting and brood-rearing seasons at this latitude is generally April 15th to July 15th for most species. It may extend to August 1 for the mountain plover.

An Area of Critical Environmental Concern for mountain plovers is located adjacent to the PPA to the east and south. A BLM road serves as the boundary between the Area of Critical Environmental Concern and the PPA. No surface disturbance would occur in the Area of Critical Environmental Concern, but would occur in potential mountain plover habitat in the PPA.

Resource Issue 5 - Pronghorn Winter Range

Designated pronghorn winter range occurs over a large portion of southern Valley County. Sagebrush is the primary food source for wintering pronghorns and large tracts of sagebrush, with little human disturbance during the winter, blankets southern Valley County. The area is important in severe winters for migrating herds from as far away as Canada that are migrating south towards the Missouri River. Pronghorn winter range considerations should be in place from December 1st to May 15th.

Resource Issue 6 - Socioeconomic

The proposed operation is located in Valley County, Montana. The closest town is Glasgow Montana with a population of approximately 3,380. Communities in Valley County include Glasgow and Hinsdale. In 2010 the population of Valley County was reported as 7,369 people. Valley County covers 4,926 square miles. Recently, mining has not been an important sector of the local and regional economy. The proponent indicates approximately eight employees could be employed by the proposed PoO.

CHAPTER 4

ENVIRONMENTAL EFFECTS

Introduction

Potential effects include direct, indirect and cumulative effects. Direct effects are those which are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative effects result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

Methodology and Analytical Assumptions

The effects analysis is based on scientific literature, professional judgment, experience, and field measurements. This analysis is organized by resource issues. Under each resource issue, the estimated effects common to the alternatives or those unique to a particular alternative are described. The analysis of effects focuses on the predicted or anticipated change to the resource impact indicator(s) identified for each resource issue.

How would the proposed action and the alternatives affect upland vegetation?

Alternative A - No Action

Under the no action alternative, upland vegetation would not be affected because BLM would not approve the Plan of Operations amendment and S and B Minerals would not be allowed to continue mining bentonite from the PPA.

Alternative B - Proposed Action

Under this alternative, 17.8 Federal acres of existing native upland vegetation within the PPA would be disturbed and/or removed during mining construction. This is less than ½ of 1 percent of the total acreage in the north pasture of the Upper Little Beaver allotment which has 3,729 acres. The vegetation removed would be upland grasses, forbs and shrubs. All acres of vegetation would be reclaimed upon project completion.

An increase in surface disturbance during mining activities may increase the potential for noxious weeds to invade. Design features described in Alternative C would help prevent or control the spread of invasive species.

Alternative C - Proposed Action with Additional Mitigation

The amount of upland vegetation removed by the mining operations would be the same as described in Alternative B. The disturbed areas should be substantially unnoticeable after the native grasses and shrubs that are seeded as part of the reclamation process become established.

Cumulative Impact Analysis

Historic and on-going activities within and adjacent to the project mining area include: other bentonite mining projects, livestock grazing, and recreation. It is reasonably foreseeable that there could be up to 120 acres of disturbance for future bentonite mining operations within a five mile radius of the PPA. It is not expected that the surface disturbance associated with the proposed action and, past, present and reasonably foreseeable actions would have consequential cumulative impacts on upland vegetation due to the implementation of BMPs, stipulations, mitigation measures, successful reclamation, and adherence to standards and guidelines for livestock grazing.

How would the proposed action and the alternatives affect soils?

Alternative A - No Action

There would be no effects because BLM would not approve the PoO amendment.

Alternative B - Proposed Action

There would be 17.8 acres of soil disturbance during the mining operation. Soil effects would result from the removal, storage, and replacement of the soil. Effects would include soil removal, soil horizon mixing, compaction, rutting, erosion by wind and water, and changes to soil physical, chemical, and biological properties/processes. As a result of the mining operation, the topography and native undisturbed nature and characteristics of affected natural soils would be changed.

Soil horizon mixing would bring salts and/or unweathered parent material to the surface affecting soil and plant health and reclamation. Mixing could also result in moving organic material and nutrients to depth out of reach of surface plants.

Soils would be compacted and rutted from equipment and vehicles. Severity would be directly related to soil moisture, frequency and weight (pounds per square inch) of equipment. Compaction alters soil structure, decreases porosity, infiltration rate, air space and available water-holding capacity. Soils are the most susceptible to compaction and rutting during wet and moist conditions.

Replaced soils would return natural rates of erosion and support stable and productive vegetation capable of sustaining post-mining land uses, livestock grazing and wildlife habitat, post reclamation. The duration for successful reclamation would vary between two to ten years. Some areas would only be sparsely re-vegetated or remain bare similar to pre-mining conditions (see Figure 2). The Montana Department of Environmental Quality approved mining permit, Storm Water Pollution Prevention Plan, and BLM PoO would serve to mitigate soil resource effects.

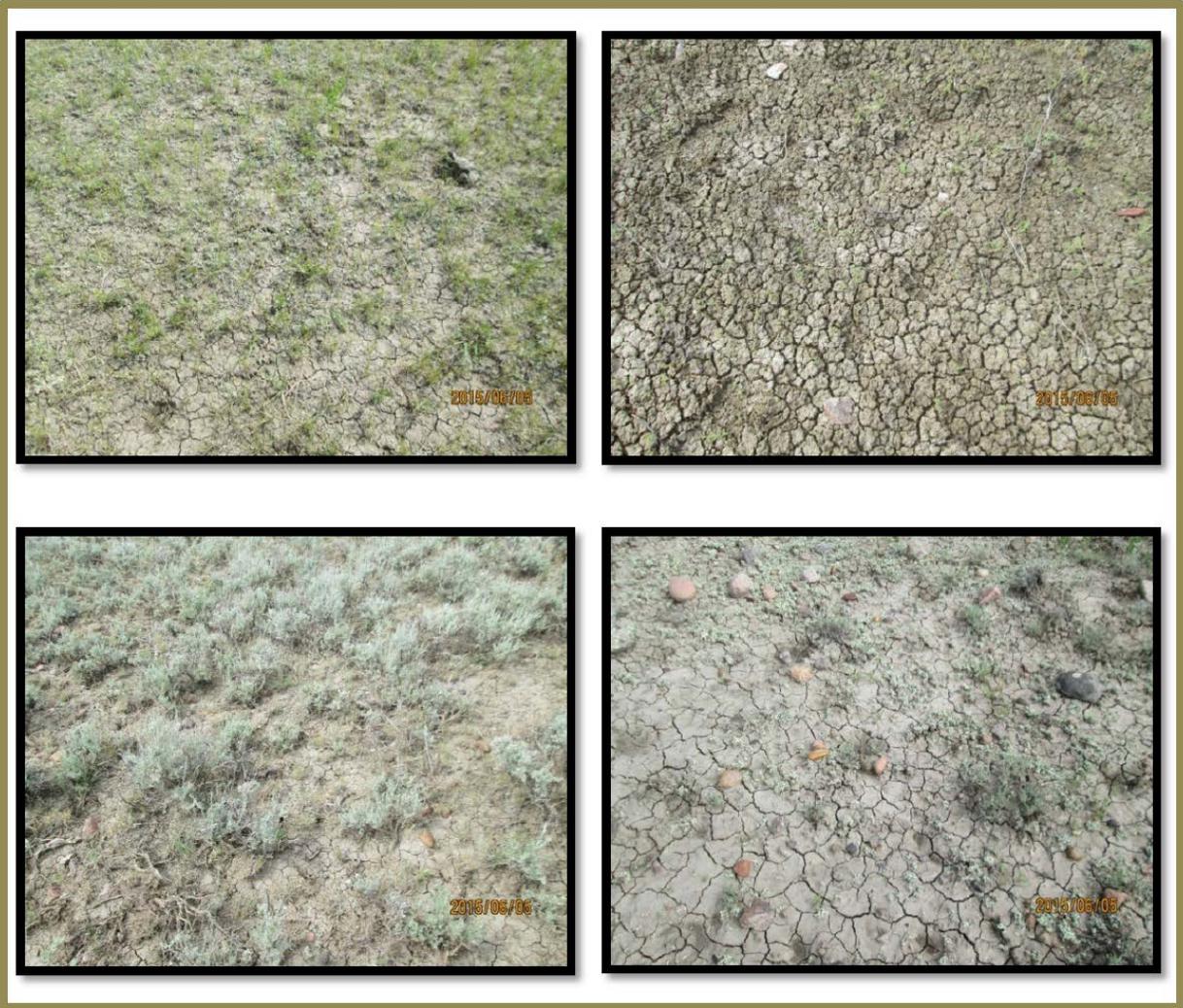


Figure 2 Photographs of Pre Mine Soil Conditions

Alternative C - Proposed Action with Additional Mitigation

The effects and amount of soil disturbance from the mining operation would be the same as described in Alternative B. The additional stabilization/reclamation measures would provide additional mitigation to minimize the effects of soil erosion, compaction, rutting, and to return soil productivity and reclamation success.

Cumulative Impact Analysis

Historic and on-going activities within and adjacent to the PPA include: other bentonite mining projects, livestock grazing, and recreation. It is reasonably foreseeable that there could be up to 120 acres of disturbance for future bentonite mining operations within a five mile radius of the PPA. It is not expected that the surface disturbance associated with the proposed action and, past, present and reasonably foreseeable actions would have consequential cumulative impacts due to the implementation of stipulations, mitigation measures, BMPs, reclamation, and adherence to standards and guidelines for livestock grazing.

Soils experienced disturbance impacts during past mining operations. These disturbances resulted in short-term soil erosion, loss of topsoil productivity, soil mixing, and compaction. Soils within and adjacent to the project area have been reclaimed. Recent mining and reclamation practices have increased the likelihood of successful reclamation compared to historic disturbed sites. The conservation and soil handling and preservation are now an integral part of reclamation. Limited soil impacts from other uses within and adjacent to the project mining area have been identified.

Mining operations, as a result of the proposed action, would result in soil removal, soil mixing, compaction, rutting, erosion by wind and water, and changes to soil physical, chemical and biological properties/processes. These impacts would not add meaningful cumulative impacts due to the implementation of mitigating measures/stipulations and reclamation. It is anticipated that there would be up to 17.8 acres of disturbance.

It is reasonably foreseeable that there could be up to 120 acres of disturbance for future bentonite mining operations within the area. Impacts to soils would result from the removal, storage, and replacement of the soils during mining operations. Impacts would include soil removal, soil mixing, compaction, rutting, erosion by wind and water, and changes to soil physical, chemical and biological properties/processes. Reclamation would be required on those acres as well.

How would the proposed action and the alternatives affect Greater sage-grouse breeding and nesting habitat?

Alternative A - No Action

Under the no action alternative, Greater sage-grouse breeding and nesting habitat would not be affected because BLM would not approve the PoO amendment, and S and B Minerals would not be allowed to continue mining bentonite from the project area. Greater sage-grouse activity would not be disrupted by mining activities.

Alternative B - Proposed Action

Under the proposed action, 17.8 acres of potential Greater sage-grouse nesting habitat would be disturbed within a half mile of a known strutting ground. Noise from equipment and disruption from mining and hauling equipment would affect breeding and nesting sage-grouse if conducted during the period of March 1st to June 30th. Wintering Greater sage-grouse could be affected if mining were to occur from December 1st to February 29th.

Alternative C - Proposed Action with Additional Mitigation

A timing limit of March 1st to June 30th would protect breeding and nesting Greater sage-grouse. Reclamation of nesting habitat would restore habitat within a few years or less. The pronghorn winter range timing limit of December 1st to May 15th would also protect wintering Greater sage-grouse. Bentonitic soils often do not support ideal nesting cover, but the mining activity would remain disruptive to Greater sage-grouse. Although breeding and nesting season and winter season timing limits provide protections, the area is used by Greater sage-grouse throughout the year and some birds may be temporarily disrupted and displaced during mining activities.

Cumulative Impact Analysis

Historic and on-going activities within and adjacent to the project mining area include: other bentonite mining projects, livestock grazing, and recreation. It is reasonably foreseeable that there could be up to 120 acres of disturbance for future bentonite mining operations within a five mile radius of the PPA. It is not expected that the surface disturbance associated with the proposed action and, past, present and reasonably foreseeable actions would have consequential cumulative impacts on wildlife resources due to the implementation of BMPs, stipulations, mitigation measures, successful reclamation, and adherence to standards and guidelines for livestock grazing.

Furthermore, in the reasonably foreseeable future there is the potential to mine an additional 120 acres within the area. Impacts would result in additional loss of sage brush habitat, as well as additional direct impacts as described in the above alternatives to sage grouse over a larger area. If the additional 120 acre bentonite were approved, it would result in additional temporary alteration within a BLM designated Greater Sage-Grouse Priority Habitat Management Area and Sagebrush Focal Area.

How would the proposed action and the alternatives affect migratory bird nesting (including Sprague's pipit and mountain plover)?

Alternative A - No Action

Under the no action alternative, migratory bird nesting would not be affected because BLM would not approve the PoO amendment, and S and B Minerals would not be allowed to continue mining bentonite from the PPA. Nesting would not be interrupted and nesting habitat would not be altered.

Alternative B - Proposed Action

The proposed action could potentially benefit mountain plovers by creating bare ground, after the project area has been reclaimed, that is preferred nesting habitat. Vehicle traffic during the proposed action may result in direct mountain plover chick mortality. The PPA is considered medium quality habitat for Sprague's pipit. Any alteration of existing vegetation will likely be detrimental to Sprague's pipit during mining operations.

Alternative C - Proposed Action with Additional Mitigation

A timing limit of April 15th to July 15th for most migratory bird species and April 15th to August 1st for mountain plovers protects nesting birds. Active nests would be less apt to be destroyed and nesting birds in adjacent habitats would not be disrupted by mining and hauling activities. If mining occurs after the timing limits, the activity would disturb 17.8 acres. Timely reclamation would restore nesting habitat for Sprague's pipit and eventually restore mountain plover brood rearing habitat.

Cumulative Impact Analysis

Historic and on-going activities within and adjacent to the project mining area include: other bentonite mining projects, livestock grazing, and recreation. It is not expected that the surface disturbance associated with the proposed action and, past, present and reasonably foreseeable actions would have consequential cumulative impacts on wildlife resources due to the implementation of BMPs, stipulations, mitigation measures, successful reclamation, and adherence to standards and guidelines for livestock grazing.

Furthermore, in the reasonably foreseeable future there is the potential to mine an additional 120 acres nearby. Impacts from this future action would result in additional disturbances and potential impacts at a larger-scale than this 17.8 acres. The specific impacts to migratory birds would be similar to those listed above, but at a larger scale, depending on the mining plan.

How would the proposed action and the alternatives affect pronghorn winter range?

Alternative A - No Action

Under the no action alternative, pronghorn winter range would not be affected because BLM would not approve the PoO amendment, and S and B Minerals would not be allowed to continue mining bentonite from the PPA. Sagebrush areas would not be disturbed and wintering pronghorns would not be disrupted by mining activity and noise.

Alternative B - Proposed Action

Under the proposed action, 17.8 acres of pronghorn winter range would be disturbed temporarily during mining, hauling, and reclamation. Pronghorns would be displaced from the mining site, along the haul road, and from adjacent habitat within line of sight in the short term. Pronghorn would be expected to return after completion of the project, but that return could be delayed depending on the season and the severity of the winter season. Re-establishment of sagebrush habitat would occur over the long term since Wyoming big sage takes decades to grow to maturity. The total disturbed acreage would be insignificant when compared to the total acreage in southern Valley County.

Alternative C - Proposed Action with Additional Mitigation

A timing limit of December 1 to May 15 would protect wintering pronghorns both on the 17.8 acres of disturbance and on adjacent areas where noise and activity would be disruptive. The seed mixture used in reclamation will provide pronghorn habitat, although as discussed previously, Wyoming big sage takes decades to grow to maturity.

Cumulative Impact Analysis

Historic and on-going activities within and adjacent to the project mining area include: other bentonite mining projects, livestock grazing, and recreation. It is not expected that the surface disturbance associated with the proposed action and, past, present and reasonably foreseeable actions would have consequential cumulative impacts on wildlife resources due to the implementation of best management practices (BMPs), stipulations, mitigation measures, successful reclamation, and adherence to standards and guidelines for livestock grazing.

In the reasonably foreseeable future there is the potential to mine an additional 120 acres within the area. Impacts from this future action would result in additional habitat loss within pronghorn winter range.

How would the proposed action and the alternatives affect socioeconomic factors in Valley County Montana?

Alternative A - No Action

The PoO incorporates mining of 17.8 acres of bentonite on BLM administered lands. The denial of the proposed action would have negligible influence on the economy of Valley County Montana. The denial could result in eight fewer jobs the proponent is indicating would be employed by the PoO.

Alternative B - Proposed Action

Approval of the Proposed Action would benefit S and B Minerals by providing the company with a mine that provides high quality bentonite. It would also assist the local economy by providing eight temporary jobs associated with the proposed PoO.

Alternative C - Proposed Action with Additional Mitigation

Approval of the Proposed Action would benefit S and B Minerals by providing the company with a mine that provides high quality bentonite. It would also assist the local economy by providing eight temporary jobs associated with the proposed PoO.

CHAPTER 5

CONSULTATION and COORDINATION

Introduction

Internal BLM Scoping and External Public Scoping were completed for this EA. A public scoping period of 30 days was given for public comments prior to completing the EA. The completed EA is being made available to the public for an additional 30 day comment period.

Notice of Proposed Action – Web

A notice of proposed action regarding this EA was posted on the Glasgow Field Office NEPA log available online at <http://www.blm.gov/mt/st/en/info/nepa.html> on July 7th, 2015.

Notice of Proposed Action – Glasgow Courier

A notice of proposed action was published in the Glasgow Courier (local newspaper) on July 8 and July 15 of 2015 (Appendix 8).

Persons, Groups, and Agencies Consulted

Appendix 6 identifies grazing lessees, individuals, organizations and agencies that were consulted during the preparation of this document and were provided a copy of this EA and an initial scoping letter for a notice of proposed action.

An initial scoping letter (Appendix 7) was sent to interested parties (Appendix 6) on July 7, 2015. An external scoping request was posted at the BLM Glasgow Field Office website on July 7, 2015. The Bent Number Four Mine Proposal was posted on the BLM Glasgow Field Office NEPA log on May 21, 2015.

One public comment was received from a grazing lessee in support of the project.

List of Preparers

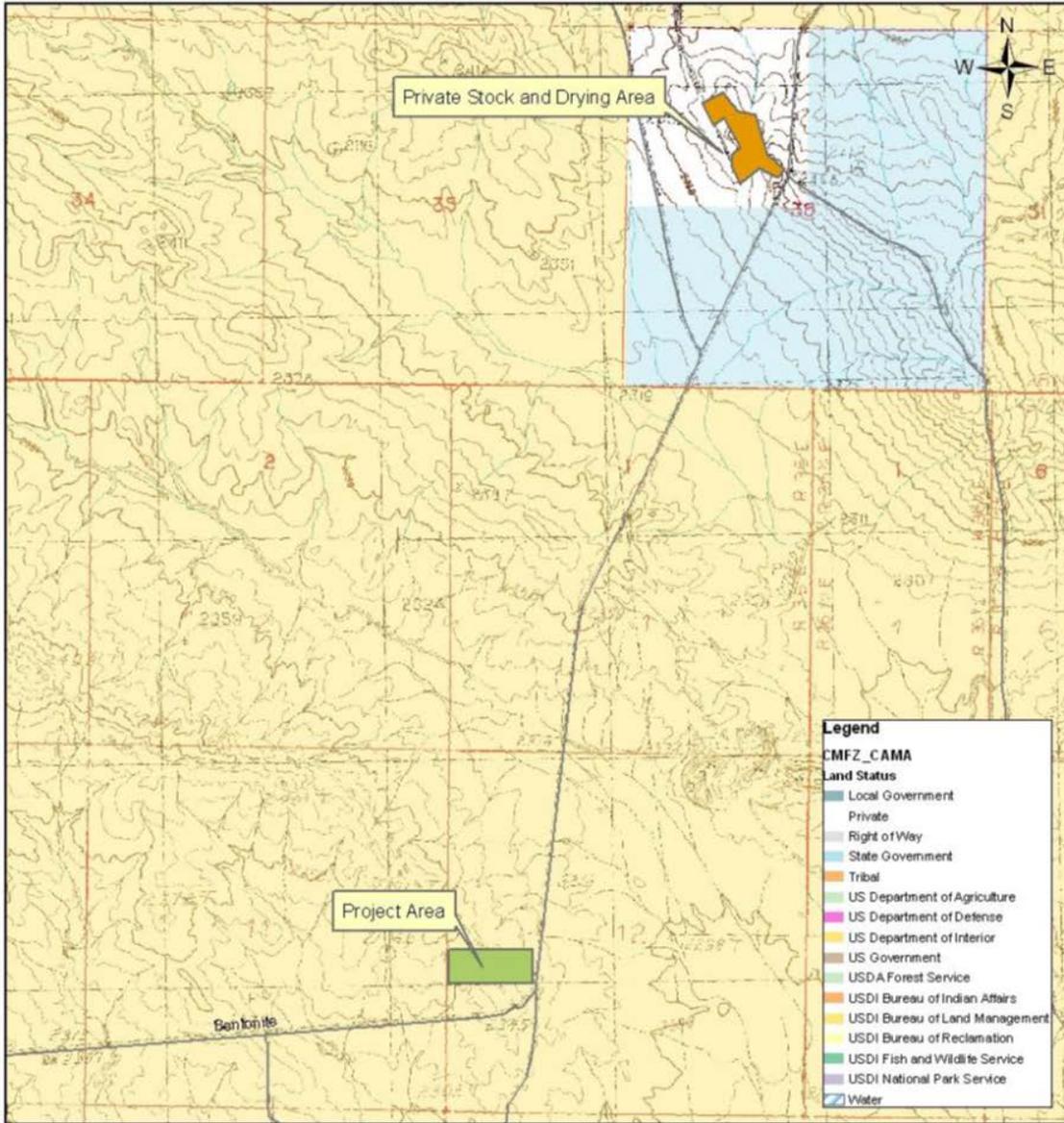
Reviewer	Title	Assignment	Initials/Date
Abel Guevara	Wildlife Biologist	Fish and Wildlife, Special Status Species, Migratory Birds	<i>/s/ Abel Guevara 9/1/15</i>
Josh Chase	Archeologist	Cultural	<i>/s/ Josh Chase 8/27/2015</i>
Raymond Neumiller	Rangeland Management	Range and Vegetation/ noxious weeds	<i>/s/ Raymond Neumiller 8/28/2015</i>
Thomas Probert	Hydrologist	Water Quality, Wetland	<i>/s/ Thomas Probert 8/27/2015</i>
Josh Sorlie	Soil Scientist	Soils	<i>JS/9-2-2015</i>
Kathleen Tribby	Outdoor Rec Planner	Recreation, Visual Resources, and Special Designations	<i>/s/ Kathy Tribby 9/01/2015</i>
Dean Jensen	Civil Engineering Tech	Engineering	<i>/s/ Dean Jensen 9/2/2015</i>

References

- Hanna, R. R. (2007). *Class I Overview of the BLM Malta Resource Management Plan Area*. Malta, MT: BLM.
- Natural Resources Conservation Service (NRCS). (2014). *Web Soil Survey*. Retrieved 2014, from United States Department of Agriculture Natural Resources Conservation Service: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

APPENDIX 1 General Map

Bent#4 Project - S&B Industrial Minerals N.A., Inc.



T.35N., R.26E.



United States Department of the Interior
Bureau of Land Management
Montana/Dakotas State Office
Map created on September 28, 2011
by Christopher Rye



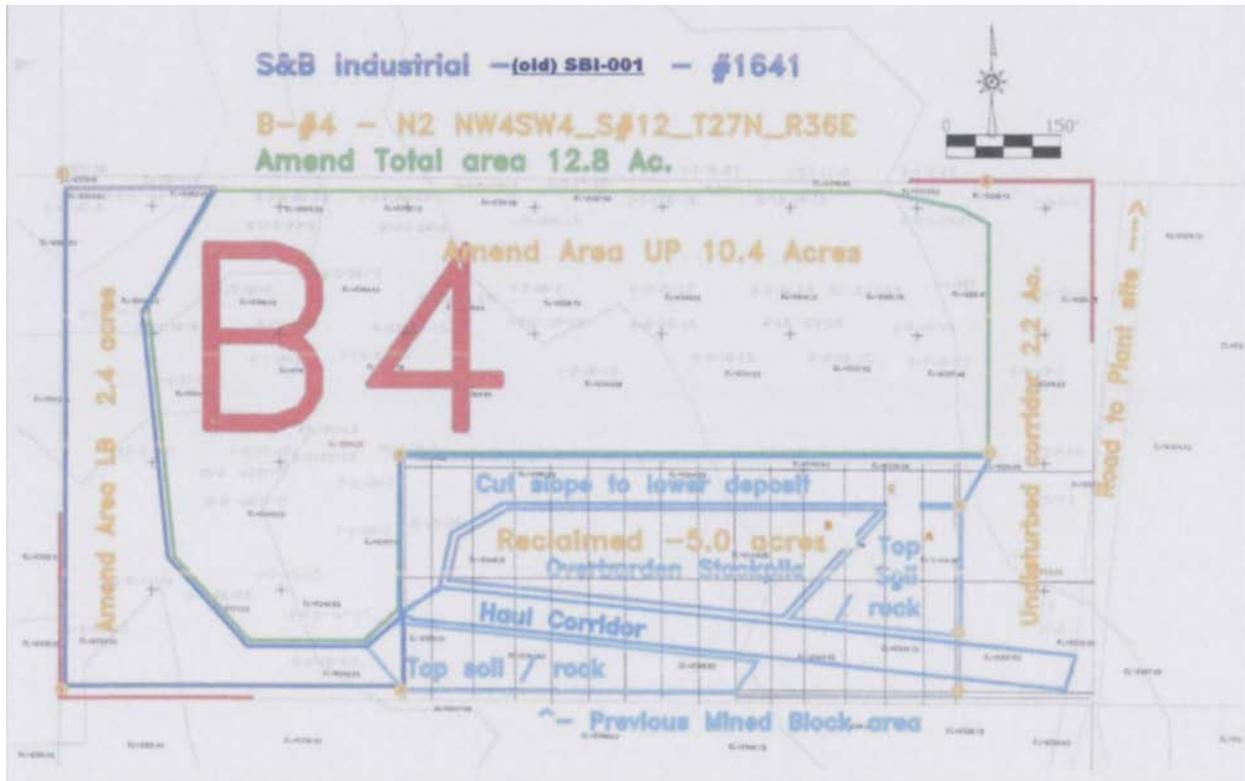
1:24,000

No warranty is made by the Bureau of Land Management
for the use of the data for purposes not intended by the BLM.

APPENDIX 2 Plan Map

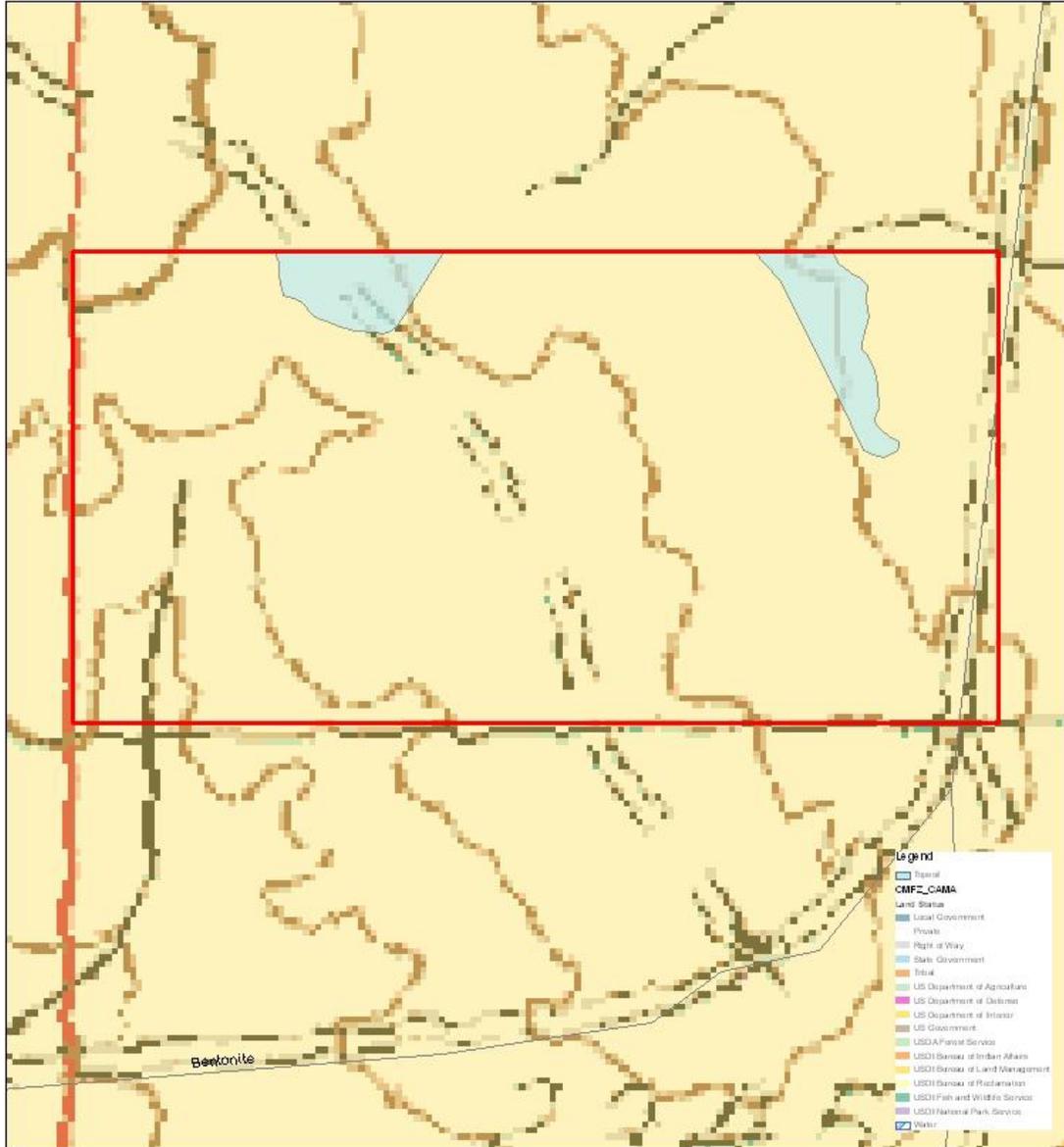
Site Mine Layout Plan:

Green and Dark Blue outline the area of the amended Plan of Operations that will be mined. The light blue is the area that was mined under the original Plan of Operations and will serve as a haul d and stockpile area.



APPENDIX 3 Special Reclamation Area

Bent#4 Mining Claim Boundary - Topsoil Areas



United States Department of the Interior
Bureau of Land Management
Montana/Dakotas State Office

Map created on October 17, 2011
by Chris Rye



No warranty is made by the Bureau of Land Management
for the use of the data for purposes not intended by the BLM.

APPENDIX 4

Soils

Map unit:

34 – Lisam-Dilts clays, five to 35 percent slopes. The Lisam component makes up 45 percent of the map unit. Slopes are 5 to 35 percent. The parent material consists of residuum weathered from clayey shale. Depth to a root restrictive layer, bedrock (paralithic), is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low.

Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R058AE199MT Shallow Clay (swc) 10 to 14 inches P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed three percent. The soil has a very slightly saline horizon within 30 inches of the soil surface.

The Dilts component makes up 40 percent of the map unit. Slopes are five to 35 percent. This component is on hillslopes. The parent material consists of residuum weathered from acid shale. Depth to a root restrictive layer, bedrock (paralithic), is ten to twenty inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of sixty inches is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R058AE199MT Shallow Clay (swc) ten to 14 inches P.z. ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

APPENDIX 5

Wildlife

Fish and Wildlife:

Wildlife resources are diverse and widely distributed in Valley County, Montana. Big game animals include pronghorn antelope (*Antilocapra*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), elk (*Cervus elaphus*), and occasionally moose (*Alces alces*). Large blocks of native grasslands, sagebrush grasslands, and breaks topography are important habitats for big game species and designated big game winter range areas are spread across much of the area. Moose are becoming more abundant as transient animals from Canada may stay in certain drainages throughout the summer.

Smaller mammals

This includes cougar (*Puma concolor*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), badger (*Taxidea taxus*), beaver (*Castor*), porcupine (*Erethizon dorsatum*), striped skunk (*Mephitis mephitis*), red (*Vulpes vulpes*) fox, white-tailed jackrabbit (*Lepus townsendii*), mountain cottontail (*Sylvilagus nuttallii*), muskrat (*Ondatra zibethicus*), mink (*Mustela vison*) and up to three species of weasels (*Mustela* spp.). A variety of shrews, rodents and other small mammals can also be found, including periodic high populations of Richardson's ground squirrels (*Spermophilus richardsonii*). Representative small mammals found in the area include species such as deer mouse (*Peromyscus maniculatus*), meadow vole (*Microtus pennsylvanicus*), sagebrush vole (*Lemmiscus [Lagurus] curtatus*), montane vole (*Microtus montanus*), northern grasshopper mouse (*Onychomys leucogaster*), olive-backed pocket mouse (*Perognathus fasciatus*), western harvest mouse (*Reithrodontomys megalotis*), and masked shrew (*Sorex cinereus*).

Upland game birds

This includes the native sharp-tailed grouse (*Tympanuchus phasianellus*) and Greater sage-grouse (*Centrocercus urophasianus*), while introduced species include ring-necked pheasant (*Phasianus colchicus*) and gray partridge (*Perdix perdix*). There are active greater sage-grouse strutting grounds or leks in sagebrush habitat, with leks more abundant in Wyoming big sagebrush areas in the southern half of the County than in the silver sagebrush dominated areas in the northern half. Greater sage-grouse typically nest within four miles of active leks. Woody draws are especially important for sharp-tailed grouse. Pheasant, gray partridge, and mourning doves are most abundant near crop fields and Conservation Reserve Program lands in the area.

Amphibians and reptiles of northeastern Montana

This includes the Great Plains toad (*Bufo cognatus*), Woodhouse's toad (*Bufo woodhousii*), Plains spadefoot (*Spea bombifrons*), Boreal chorus frog (*Pseudacris triseriata*), northern leopard frog (*Rana pipiens*), tiger salamander (*Ambystoma tigrinum*), greater short-horned lizard (*Phrynosoma douglasi*), common sagebrush lizard (*Sceloporus graciosus*), painted turtle (*Chrysemys picta*), eastern racer (*Coluber constrictor*), western hog-nosed snake (*Heterodon nasicus*), plains garter snake (*Thamnophis radix*), gophersnake (bullsnake) (*Pituophis catenifer*), milksnake (*Lampropeltis*), and western rattlesnake (*Crotalus viridis*). Amphibians are restricted to wetlands and stockponds during most of the year. Most species are widespread throughout the area, with the exception of the milksnake and common sagebrush lizard.

Migratory Birds Raptors found in northeastern Montana

This includes the bald (*Haliaeetus leucocephalus*) and golden (*Aquila chrysaetos*) eagles, peregrine (*Falco peregrinus*) and prairie (*Falco mexicanus*) falcons, northern harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), ferruginous hawk (*Buteo regalis*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), merlin (*Falco columbarius*), turkey vulture (*Cathartes aura*), northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), rough-legged hawk (*Buteo lagopus*), and numerous species of owls.

Important grassland birds occurring in native prairie habitat in Valley County

This includes the Baird's (*Ammodramus bairdii*) and grasshopper (*Ammodramus savannarum*) sparrows, Sprague's pipit (*Anthus spragueii*), long-billed curlew (*Numenius americanus*), marbled godwit (*Limosa fedoa*), willet (*Cataprophorus semipalmatus*), and McCown's (*Calcarius mccownii*) and chestnut-collared (*Calcarius ornatus*) longspurs. The Brewer's sparrow (*Spizella breweri*) is locally abundant in sagebrush habitat. Many of these species have experienced declines across much of their range in recent years, and large blocks of intact native grasslands remain important in maintaining healthy breeding populations of these birds. Areas with reduced or no livestock grazing are especially important. The nesting season for migratory birds generally is May 1st to August 1st.

Special Status and T and E Species

According to the FWS Ecological Services, Montana Field Office (August 2015), endangered species that may be found within Valley County include: Pallid Sturgeon (*Scaphirhynchus albus*), Black-footed Ferret (*Mustela nigripes*), Interior Least Tern (*Sterna antillarum athalassos*), and Whooping Crane (*Grus*). The only threatened species that may be in Valley County is Piping Plover (*Charadrius melodus*) and Red Knot (*Calidris canutus rufa*). There are no known threatened or endangered species in the project area. Candidate species include Greater Sage-Grouse (*Centrocercus urophasianus*) and Sprague's Pipit (*Anthus spragueii*), and both of these species have been observed within the project area.

Greater Sage-Grouse are a BLM Special Status Species as well as a Federal Candidate species. There is one known active Greater Sage-grouse leks within half mile east of the PPA. The PPA is within a Greater Sage-Grouse Priority Habitat Management Area and is in the Sage Grouse Focal Area designated by the Hi-Line RMP (September 2015). The habitat within the PPA Area contains medium habitat for Sprague's pipit.

Montana/Dakotas BLM Listed Sensitive Species that could be in the PPA

This includes the Great Plains toad (*Bufo cognatus*), Plains spadefoot (*Spea bombifrons*), greater short-horned lizard (*Phrynosoma hernandesi*), milksnake (*Lampropeltis*), northern leopard frog (*Rana pipiens*), western hog-nosed snake (*Heterodon nasicus*), black-tailed prairie dog (*Cynomys ludovicianus*), bald eagle (*Haliaeetus leucocephalus*), black-crowned night-heron (*Nycticorax nycticorax*), black tern (*Chlidonias niger*), burrowing owl (*Athene/Speotyto cunicularia*), dickcissel (*Spiza*), ferruginous hawk (*Buteo regalis*), Franklin's gull (*Larus pipixcan*), golden eagle (*Aquila chrysaetos*), greater sage-grouse (*Centrocercus urophasianus*), loggerhead shrike (*Lanius ludovicianus*), long-billed curlew (*Numenius americanus*), chestnut-collared longspur (*Calcarius ornatus*), McCown's longspur (*Calcarius mccownii*), marbled godwit (*Limosa fedoa*), mountain plover (*Charadrius montanus*), northern goshawk (*Accipiter gentiles*), peregrine falcon (*Falco peregrinus*), sage thrasher (*Oreoscoptes montanus*), Baird's sparrow (*Ammodramus bairdii*), Brewer's sparrow (*Spizella breweri*), Le Conte's sparrow (*Ammodramus leconteii*), Nelson's sharp-tailed sparrow (*Ammodramus*), Sprague's pipit (*Anthus spragueii*), Swainson's hawk (*Buteo swainsoni*), and white-faced ibis (*Plegadis chihi*). Many of these migratory bird species nest between April 15th and July 15th.

APPENDIX 6

External Mailing List

Andrew Schultes
4227 MT Hwy 250
Wolf Point, MT 59201

Cheryl Uphaus
P.O. Box 14
Glasgow, MT 59230

Corby Palm
P.O. Box 132
Hinsdale, MT 59241

Curt Wesen
P.O. Box 13
Glasgow, MT 59230

Don Jones
520 Billingsley Rd.
Glasgow, MT 59230

Dr. Mark Baumler
Montana State Historic Preservation Office
1410 Eighth Ave
Helena, MT 59620

Gary Porter
3360 Heeb Road
Manhattan, MT 59741

Hugh Brookie
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Saco, MT 59261

Jack Billingsley
P.O. Box 768
Glasgow, MT 59230

Lee Dix
P.O. Box 544
Glasgow, MT 59230

Montana Department of Environmental
Quality
Attn: JJ Conner
PO BOX 200901
Helena, MT 59620

Montana Department of Natural Resources
and Conservation, Glasgow Office
Attn: Matt Poole
222 6th St. South
Glasgow, MT 59230

Montana Department of Natural Resources
and Conservation, Minerals Management
Bureau
Attn: Monte Mason
PO BOX 201601
Helena, MT 59620

Montana Department of Natural Resources
and Conservation, Northeastern Lands
Office
Attn: Clive Rooney
PO Box 1021
Lewistown, MT 59457

Montana Fish Wildlife and Parks
Attn: Tom Flowers
54078 Highway 2 West
Glasgow, MT 59230

Natural Resource Conservation Service
Glasgow Office
Attn: Tracy Cumber
54062 Highway 2 West
Glasgow, MT 59230

Natural Resource Conservation Service
Attn: Warren Kellogg
PO BOX 201601
Helena, MT 59620

U.S. Fish & Wildlife Service
Ecological Services
Montana Field Office
585 Shepard Way, Suite 1
Helena, MT 59601

USEPA Region 8 Montana Office
Attn: Julie Dal Soglio
10 West 15th Street, Suite 3200
Helena, MT 59626

Valley County Commissioners
501 Court Square Number 1
Glasgow, MT 59230

Valley County Conservation District
54062 Highway 2 West
Glasgow, MT 59230

Valley County Grazing Districts
Box 422
Glasgow, MT 59230

William Uphaus
421 2nd Ave. North
Glasgow, MT 59230

APPENDIX 7 Dear Reader Letter



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Glasgow Field Office
5 Lasar Drive
Glasgow, Montana 59230
www.blm.gov/mt



In Reply Refer To:
3809 [LMTM020]
MTM- 108262

July 7, 2015

Re: Scoping Effort for S&B Minerals Plan of Operations – Bent Number Four Bentonite Mine

Dear Reader:

The Bureau of Land Management (BLM) Glasgow Field Office received a Plan of Operations (Plan) from S&B Minerals for a proposed Bentonite Mine near Glasgow, Montana. The proposal identifies 12.8 acres of disturbance adjacent to a previously mined and reclaimed disturbance area of 5 acres, all of which is located on BLM administered lands.

As a part of the development of an Environmental Assessment (EA), public scoping comments are being requested to identify relevant issues concerning the proposed Plans. The Plan is available by stopping in or contacting the Glasgow Field Office at (406) 228-3750. Scoping comments are most useful when they are specific, cite relevant issues and/or determine the extent of those issues. Written scoping comments should be received by August 5, 2015, and may be submitted via email, mail, or hand-delivery during regular business hours (8:00 a.m. to 4:30 p.m.) to:

Email: blm_mt_gfo_sbminerals_ea@blm.gov

Mail: Bureau of Land Management|
Glasgow Field Office
Attention: S&B Minerals
5 Lasar Drive
Glasgow, MT 59230

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, please be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold, from public view, your personal identifying information,

we cannot guarantee that we will be able to do so. All submissions from organizations, from businesses, and from individuals identifying themselves as representatives of organizations or businesses, will be available for public review.

After the scoping period, an EA will be prepared to analyze the Plan. BLM will make this EA available for a public comment in late August, 2015. A letter requesting your assistance in providing comments to this EA will be sent to you at that time.

Please contact Craig Towery, Solid Minerals Geologist, at (406) 538-1906 with any questions. We appreciate your attention and look forward to hearing from you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Pat Gunderson", with a long horizontal flourish extending to the right.

Pat Gunderson
Field Manager
Glasgow Field Office

APPENDIX 8

External Scoping – Notice of Proposed Action

BLM Notice of Application for S&B Industrial Minerals Bent #4 Plan of Operations MTM-108262

Under the provisions of Section 102(2)(C) of the National Environmental Policy Act (NEPA) of 1969, as amended, and Surface Management Regulations at 43 CFR 3809, the Bureau of Land Management (BLM) intends to prepare an environmental assessment (EA) for S&B Industrial Minerals North America, INC. (S&B) Bentonite open cut mining project, Bent #4. This notice, pursuant to Section 102(2) (D) (IV) of NEPA, solicits the views and comments of private and governmental stakeholders in order to ensure that potential socioeconomic and environmental issues are considered and addressed.

The BLM is the designated lead Federal agency for preparation of the EA for this project. Agencies with legal jurisdiction or special expertise have been invited to participate as cooperating agencies and/or will be consulted in the preparation of this EA.

S&B Minerals Bent #4 Information

Description of the Proposed Action:
The proposed Bent #4 Plan of Operations (POO) MTM-108262 would disturb 12.8 acres adjacent to a previously mined and reclaimed disturbance area of approximately 5 acres, POO MTM-093961. The proposed Bent #4 POO would use open cut mining techniques to strip and haul bentonite to a private laydown area approximately two miles north from the proposed disturbance area along Bentonite Road. The proposal includes hauling the finished bentonite from the private inholding to the city of Glasgow, Montana, approximately 15 miles away on a county road (Bentonite Road, Valley County, Montana).

General Location: Approximately 20 Miles along Bentonite Road, Southwest of Glasgow, Montana.

Legal Description: Township 27 North, Range 36 East, Section 12, NW¼ of the SW¼ of the S¼.

Purpose of BLM's Notice
The purpose of the notice process is to obtain public scoping comments on relevant issues that may influence the scope of the environmental analysis, including alternatives, and guide the process for developing the EA. BLM personnel have preliminarily identified the following issues that will be addressed in the EA: potential impacts to surface water and groundwater, plant and animal species including special and sensitive status species; cultural resources and historic properties; noxious weeds; migratory birds; soils; socioeconomic impacts.

The BLM is providing notice of the proposed S&B POO and welcomes all comments on the proposed project for consideration in the EA. BLM will use the NEPA public participation requirements to assist the agency in satisfying the public involvement requirements under NEPA and Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. 470(f) pursuant to 36 CFR 800.2(d) (3). The information about cultural resources within the area potentially affected by the proposed POO will assist the BLM in identifying and evaluating impacts to such resources in the context of both NEPA and Section 106 of NHPA.

Contact Craig Towery, BLM Geologist at 406-539-1906 with any questions pertaining to the proposed Bent #4 POO.

Once scoping is completed, the BLM will develop the EA analysis. Upon completion BLM will post this EA for public comment for 30 days pursuant to 43 CFR 3809.411(c). The EA is expected to be completed by late August and will be made available on the BLM's website at: http://www.blm.gov/mt/tenfo/glasgow_field_office.html.

Written scoping comments and/or resource information can be mailed to:
Bureau of Land Management
Glasgow Field Office
Attn: S&B Industrial Minerals
5 Lasar Drive
Glasgow, MT 59230

Comments also can be submitted electronically at:
blm_mt_to_stroinerals_ea@blm.gov

The BLM must receive all written comments and information by August 5, 2015, in order to ensure that such comments and information are fully considered during the preparation of the EA.

DISCLAIMER: Entire comments, including personal identifying information, may be made publicly available at any time. You may ask the BLM, in your comment, to withhold such information from public review; however, the BLM cannot guarantee that will be possible.

* Facsimile comments will not be accepted. Documents pertinent to this proposal may be examined during business hours, 8:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays, at the BLM Glasgow Field Office, 5 Lasar Drive, Glasgow, MT 59230.
(Published July 8 & 15, 2015)

MNAXLP

AFFIDAVIT OF PUBLICATION

STATE OF MONTANA

County of Valley

James Walling being duly sworn, upon oath says: That he is the Managing Editor of The Glasgow Courier, a newspaper of general circulation published once each week at Glasgow, in the county of Valley, State of Montana. That the notice hereunto attached was published in the said Glasgow Courier once each week for Two (2) successive weeks.

That the first publication of said notice was on the 8th day of July 2015.

That the last publication of said notice was on the 15th day of July 2015.

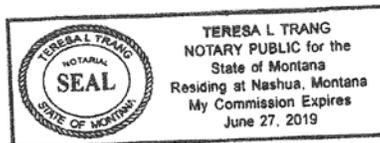
That the said notice was published in the regular and entire issue of every number of the said Glasgow Courier, during the period and time of said publication, and in the newspaper proper and not in the supplement.


James Walling

State of Montana
County of Valley

Signed or acknowledged before me
on July 16, 2015 by James Walling


Teresa L. Trang



Cost of Publication: 7 Folios 2 Publications \$154.00

The rate charged for the above legal printing does not exceed the minimum going rate charged to any other advertiser for the same publication set in the same size type and published for the same number of insertions.

APPENDIX 9
Plan of Operations Bent Number Four

The PoO is attached below:

BLM CFR3809 Regulatory Compliance to Plan of Operations

Submitted May 2015 to:

Bureau Land Management

1920 East Main St.

Lewistown, MT 59457

Phone: (406) 538 1900

Contact: Craig Towery ; Regional Geologist PH: (406) 538 1906

Submitted By:

S&B Industrial Minerals N.A., Inc.

920 Cassatt Rd Suite #205

Berwyn, PA, 19312-1178

Phone: (484) 615-1757 Cell (708) 363 6856

Fax (484) 615 1787

Email: p.Laurence@sandb.com

OVERVIEW:

S&B Industrial Minerals North America (S&B) is submitting this 3809 section 400 response document as requested at the April 22, 2015 meeting in Glasgow field office with Pat Gunderson, Nate Avary, Craig Towery and Gregg Menge in attendance. A site visit walk over was also conducted. The meeting was scheduled in follow up to a September 9, 2014 letter From Pat Gunderson to Brian Glackin.

This document references Montana Open Cut Bureau Mining Division of Department Environmental Quality approved Plan of operations and the reclamation permit #1641 and BLM case file MTM-93981 for 20 acre mining claim Bent-#4 (MTM193986).

The area discussed is within NW1/4 of Sec. #12, Twn27 N Rng 36E. The center of the mine permit is approximately N 48 6.5 and W 107 2.18.and boundary points follow with map.

Narrative statements below are in accordance with and relation to the findings and conclusions found in of BLM documents. Department of Interior publications references:

(i) Dept. of Interior Montana State Missouri Breaks Environmental Statement (MRB_EAS)

(ii) Environmental Impact Statement "Judith Valley Phillips" Resource Management Plan (JVP_EIS). A revision is in draft to update since 1992.

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(iii) Mountain Plover ACEC Plan Amendment and Environmental Assessment (MP_ACEC_EAS).

(iv) The NEPA review and conditions of acceptance of appealed decision with copy attached.

(v) This submittal provides additional information for concerns of BLM to the greater sage grouse outlined in the Sage Grouse mitigation section that follows..

There is no groundwater, heavy metal or other environmental contamination issues associated with this mining project. The project is to extract and sell unprocessed sodium bentonite to serve environmental protection markets:

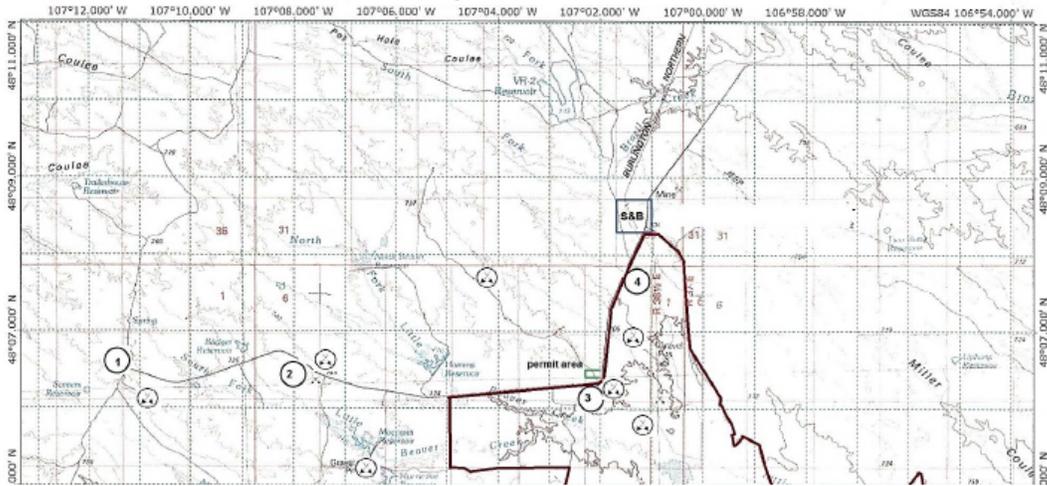
1. Lining materials for and common landfill protection
2. Lining materials for frack/drill chips in water protection
3. Lining materials for spill containment areas protection
4. To meet Fed. Specifications on engineering quality control
5. water quality protection
6. Potential exists to sell high grade unprocessed product to companies for
 - a. beer and wine clarification, and water purification.
 - b. Processing to filter petroleum distillates from water to several parts per million.

LOCATIONS and Directions to site:

Directions to the site: Starting point Glasgow heading west on First St So. Proceed~2.0 miles turning left on "Bentonite" road. Proceed approximately 20 miles at a junction at the old S&B plant site, stay to left to remain on Bentonite road heading South ~2.75 miles continue on the road as it makes a sharp turn to the left heading West. The site, private property and ACEC area are shown from Montana Topo:

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**S&B Industrial Minerals North America Inc.
BLM/BENT#4 N2 NW4SW4_S#12_T27N_R36E
Permit #1641
Drawn August 9, 2011**



DESCRIPTION of OPERATIONS:

Equipment and Staging:

Mining operations would commence once approval is obtained and depending upon suitable contractor availability. Operations will be staged from the operator's private property site 2.5 miles to the North with electricity for campers. .

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No stockpiling or any field drying of clay will occur at the mine site. Mined materials will immediately be transported from the pit to operator's private property and stockpiled for natural sun drying on pads and FOB sale. Existing field drying pads on private land are approximately 3 acres.

In-fill drilling during mining in the extraction area may be performed for quality and thickness verification. Borings typically would be of small 2 inch diameter approximately 30 inches deep. Any potential need for 8 inch core bores within the pit area would be less than 30 feet. Any bores not to be immediately destroyed by mining will be shovel back filled.

No structures will be constructed or storage sheds brought on site. No processing will be conducted on site. No backfill from any outside source will be brought onto site. No blasting will occur. No other potential pollutants are anticipated.

No fuel tanks will be placed on site. Equipment will be fueled by mobile trucks daily during mining. Refueling vehicles will be off site during inactivity.

Equipment may include but not be limited to: road grader, front end loader with 3 yard to 6 yard capacity, two or more 15 to 30 yard capacity rubber tired scrapers, one or two steel track excavator(s) with capacity of 1 to 3 yards, a steel track push cat of size rating D6 or greater, an auger drill no greater than 8 inch diameter, three or more 20 to 30 yard capacity haul trucks, water truck, several support vehicles, skid steer, and one or more four wheelers. Sub-contractors are required to meet the 25 ton per axel road restriction.

(II) PRELIMINARY:

ACHEOLOGICAL:

In March of 2009, Aaberg Cultural Resource Consulting Service (ACRCS) of Billings, Montana was contracted by S&B to conduct a Class III cultural resource survey of the approximately 20-acre B4 tract where mineral extraction is proposed. Class III survey of Claim B4 was carried out in late May of 2009.

Neither historic nor Pre-contact cultural properties were discovered during survey of the claim B4 tract. Paleontological specimens of any sort were not found during the survey. Two inventory locations, 24VL177A and 24VL1778A were recorded. A copy of that report was previously submitted and is on file with BLM.

Soils Study:

A previous site walk over was completed by BLM field specialists with S&B attendance prior to the previous NEPA approval. A copy of the soils study report by John Falghren in 2012 and 2013 on various locations to over 800 acres is currently on file with BLM.

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The canopy cover is minimal at this site. Depending on weather patterns, the annual production of vegetation may vary widely by plant species and extent of growth.

Site contains soils classified as #34 & #35 lisam and dilts. These soils are found in bentonite outcrop areas. This site and soil type is typical to have little vegetation due to the lack of organic matter, a higher PH and is impermeable.

A discussion of the big sage is in the mitigation section. The previously mined and reclaimed area was not reseeded at the request of BLM's biologist. Vegetative recovery without reseeded exceeded that of the undisturbed area. This request to not to reseed was to favor Mountain Plover habitat.



Noxious Weeds:

Valley County issued a Weed permit for this site in July 2012. It is held as an attachment to this document. Contact information detail change has been provided to the Weed District personnel.

A preliminary site inspection did not reveal the occurrence of noxious weeds. Immediately prior to mining the county weed district will be requested to conduct a site investigation.

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The conditions set forth in the weed permit will be followed. Operator would assume to control any infestations on disturbed areas for two years following completion of the mining. Furthermore all mining equipment will be power washed prior to tram or trucking on to site. Support vehicles will also consider to re-wash if driven off road into outside areas of this general area. This protocol has been shown to effectively reduce spreading of infestations.

Monitoring by inspections for noxious weeds will continue for 2 years after mining and/or extend until the reclamation bond is release.

SITE CONDITIONS and PRESERVATION:

The pre-mine use of surface is livestock grazing, however little forage is resourced from this outcrop area as reflected by the areas average grazing rights carrying capacity. Restoration will be such that agricultural and wild life grazing resumes.

Temporary electric fencing may be constructed during operations and restoration. The test mining and restoration demonstrated that the growth period and timing of cattle pasture rotation for grazing was not deleterious to regrowth to require fence.

There are four small areas of big sage in the claim. A 2.2 acre area of greater sage located on the easterly side of the parcel is mineable. The operator after discussions with BLM staff excluded this larger area as well as a small natural strip adjacent to the planned access ramp from the proposed mine area to preserve these existing stands of sage. A third minor area on the NW mine may be disturbed, however attempts will be made to avoid if possible. A fourth minor spot area will be mined; and is addressed in the sage grouse mitigation section.

Water Management:

This South Valley county site has no near surface ground water less than 150 feet. The bentonite in the Bear Paw Formation consisting of marine shales which are impervious to water percolation. This formation at the mine site extends to a depth of approximately 200 feet.

The absence of ground water is no anomaly. The expansive nature of the underlying shale, that consistently tests montmorrillonite clay content approximately 35%, precludes any permeability to form alluvial ground water basins. This barrier shield prevents the occurrence of ground water.

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The area is primarily bentonite bed outcrop and gently sloping terrain. The soils type #34 and #35 are erosive and would be significantly rutted with gullies if the slope were greater. There are no existing gullies, however existing rills are expected to naturally re-establish with the post mine topography being modeled to the pre-mine contour.

The last five years have had two greater than 50 storm water events. These events have eroded undisturbed ground throughout the general area. Passage of time is softening the deeper rills created from those extreme events.

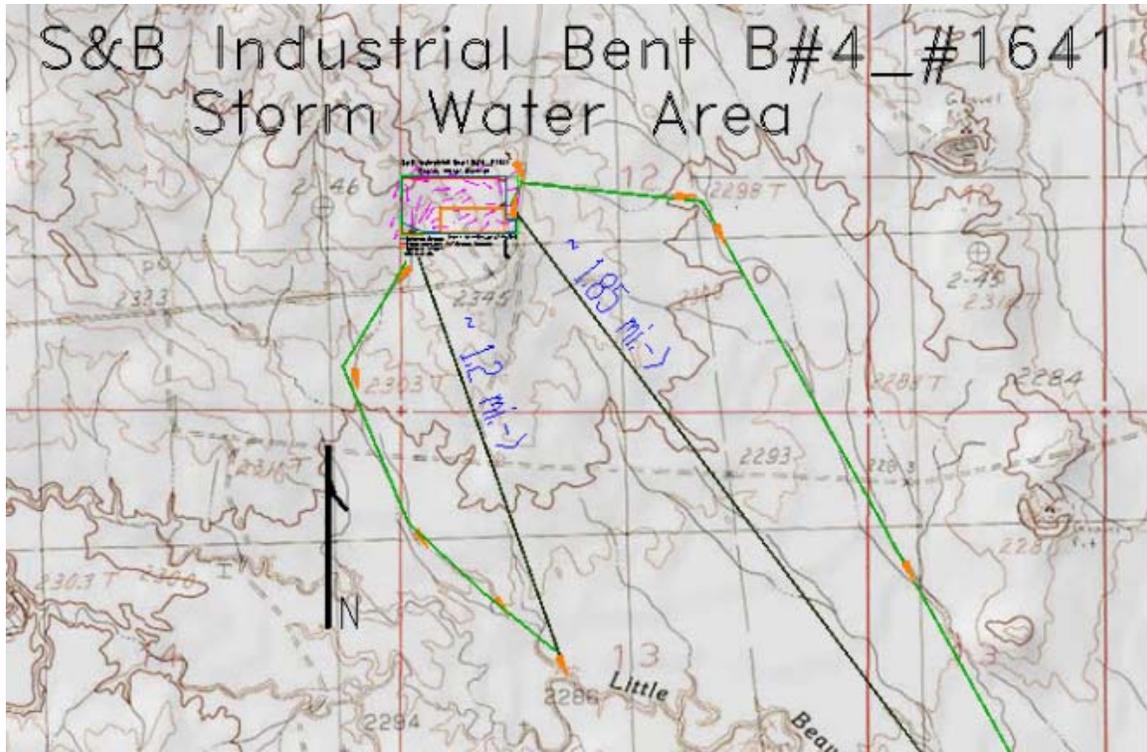
There is no open water such as ponds near or within the mine area. The closest stock water pond is approximately 1.5 miles north and up-gradient to the site by 26 feet elevation. No stock pond is called for in the reclamation plans.

The closest water well to the site is 2.4 miles away on operator's property. First ground water was reached at 700 feet and drilled to 1200 feet for sufficient water supply. No other wells are known to exist for 10 miles. The original POO on file shows a petroleum well drilled in 1981 in section #3 by Arco to a depth of approximately 7800 feet with the formations encountered.

No water features in the amendment area indicate perennial or intermittent flow. Approximately 0.5 miles to the East of this site an ephemeral southeast trending drainage occurs that terminates 1.75 miles further down into Little Beaver creek as previously displayed on the site map.

The original mining in 2008 showed no indication of near surface groundwater. The maximum depth of this amendment is ~30 feet below surface as typical to the mining in 2008.

The relative distances for ephemeral discharge into tributaries leading into any live State waters is shown on the following map.



STORM WATER:

Mining is planned during the dry months when runoff is unlikely. Occasional thunderstorms may occur during this time. Storm water pollution prevention measures will be taken according to best management practices.

Inspections will be conducted in accordance with the approved SWPPP and Montana DEQ approved mining permit. Compliance according to BMP guidelines will be adhered to. A sedimentation basin may be constructed as included in the storm water plan on file with the State.

In accordance with best management practices, containment zones, berms, horizontal wheel tracking, wattles, straw rolls and silt fences will be utilized to reduce potential erosion or sediment deposition.

A Montana certified storm water administrator will be assigned to comply with the current regulatory agency guidelines, rules and regulations. Full documentation of inspections will be maintained up to date in the field as required.

ROCKS:

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No waste rock is involved in this bentonite mining operation. Surface rocks (glacial erratics) will be collected prior to mining, stockpiled in the designated area and re-distributed during after mining restorations.

QUALITY ASSURANCES:

Pit run moisture bentonite is non-hazardous. Milled bentonite is an additive in food products for both human and animal consumption. No on-site dust is expected from damp pit run bentonite.

No blasting will be required, therefore no explosives will be on site.

Only pit run and field dried bentonite will be produced and therefore no tailings will be generated.

Dust will be controlled through the use of water truck as needed.

Spill Containment:

Operator and sub-contractors will be required to certify current training compliance. Appropriate containment and cleanup measures will be taken should any event occur.

No fuel storage tanks will be located on site.

Rarely, heavy equipment leaks can occur due to equipment malfunctions or breakdown. Spill control supplies will be available on site.

NO Support Constructions:

No external access roads are required. A ramp access to Bentonite road is included in the mine plan.

No structures will be constructed or storage units moved onto the site. Mobile living quarters will be staged on the private property 2.5 miles distant owned by operator.

No supporting infrastructures such as utilities, pipelines will be required for extraction activities. Equipment maintenance will generally be performed on the operator's private property.

Time Schedule of Operations:

Mining operations will commence once approvals are obtained and depending upon contractor availability. The scope of operations is expected to require a time period of 30 to 60 days. This would include the pit closure and immediate restoration activities.

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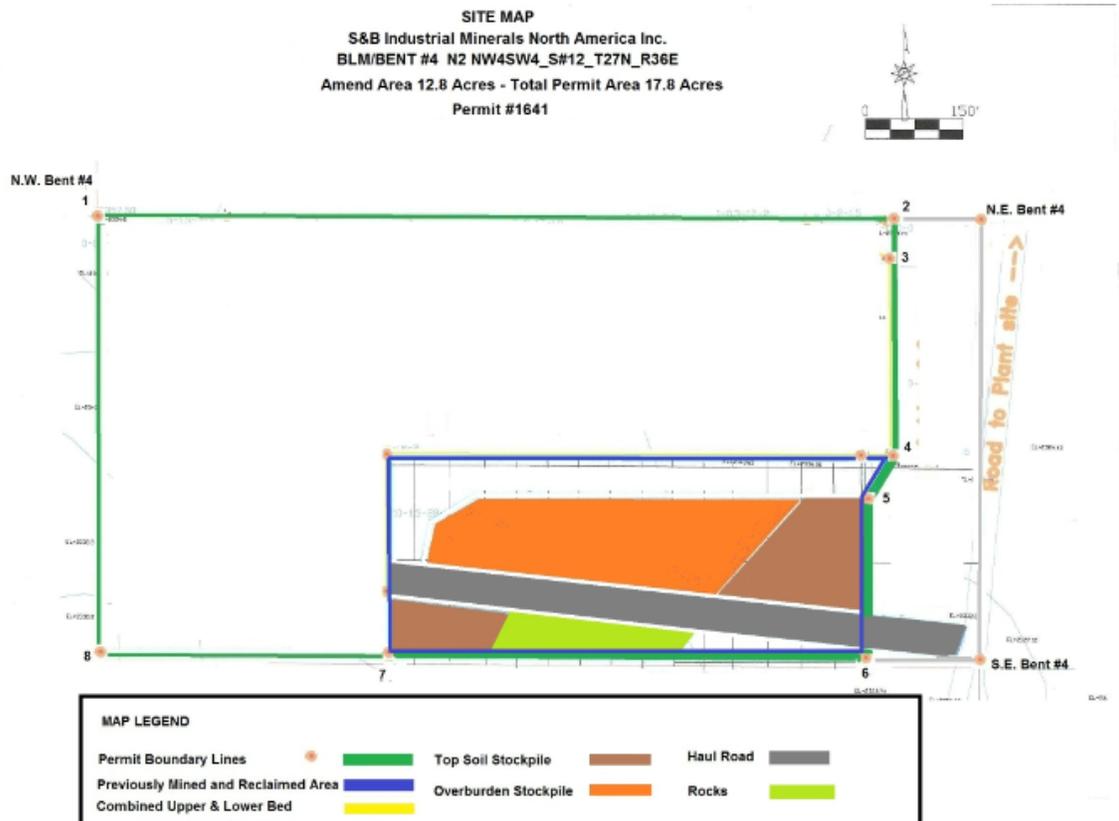
Should time window dates or weather call for temporary or seasonal shut down before completion, any remaining pit area would be barricaded with construction fencing and appropriate warnings posted. The operator will provide notice of temporary shut down

Follow up inspections and monitoring activities as outlined herein may last for several years after mining is complete until 2019.

GENERAL OPERATING METHODS and PLANS :

- (a) Initial activity is posting of areas.
- (b) Equipment will be mobilized to the site.
- (c) Surface glacial rocks will be collected and stockpiled.
- (d) Top soil will be removed by scrapers in designated area.
- (e) Small bore drilling may occur at any time after removal of top soil.

The staging areas for top soil separations, overburden and rocks display in the following diagram:

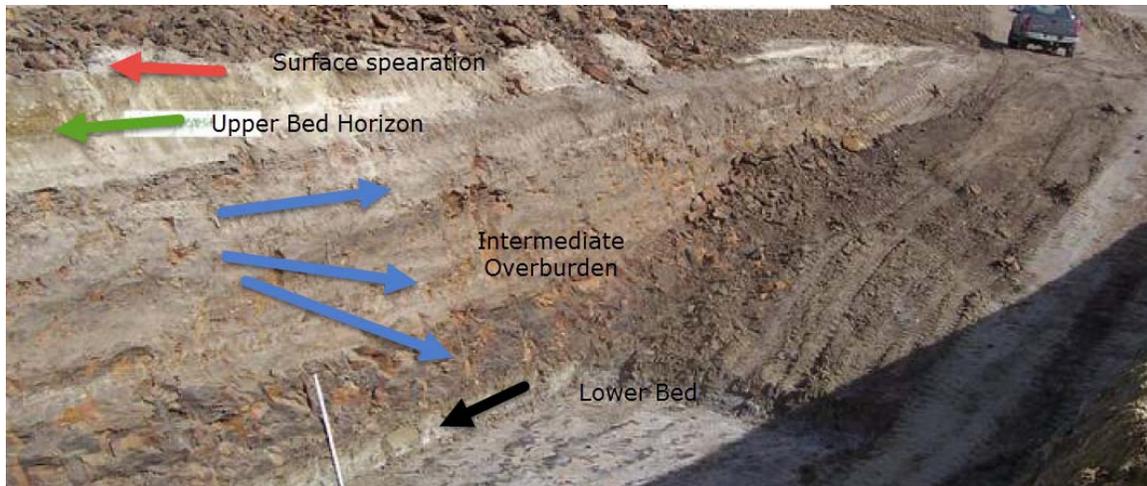


- (f) Quality drilling may occur at any time during the mining sequence..

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- (g) Overburden will be removed and performed with 15 to 30 yard class scrapers. A push cat of size D6 or more may be utilized where marine shale is harder.
- (h) Target clay horizons will be loaded into side or end dump haul trucks by excavator(s) in size range from 1 to 3 yard capacity.
- (i) Bentonite road between site and private property will be maintained during mining and clay hauling operations.
- (j) Concurrent backfill with overburden excavation will prevail after the initial pit exposure. In essence creating a small foot print moving pit to resource the mine area deposit of clay.
- (k) The back fill operation with grade to blend in with existing topography. The expansive nature of the shale adds volume back to compensate for clay removed. The exercise of physics and math and previous mining shows this assertion to be accurate.
- (l) Re-deposition of surface or top soil values and bed preparation will be ongoing and completed after final pit closure using the initial stockpiled overburden.
- (m) Re-Distribution of surface rocks with front end loader will assist to camouflage disturbance into unmined background as visual restoration.
- (n) Re-seeding, according to the Plan of Operations for BLM recommended seed mixture and application broadcasting rates, will be performed with small rubber wheeled tractor or four wheeler.
- (o) Monitoring after reclamation will include required storm water and noxious weed inspections and re-growth monitor until accepted approval for bond release.
- (p) If any significant cultural or paleontological resources are discovered during mining, work would immediately cease and the local BLM field office notified.

The mine area holds two high quality bentonite horizons and a mid-grade horizon . The mineral overburden will be stripped with scrapers and dressed with track excavator(s) initial pit is obtained a revolving pattern of cut and back fill is performed. The detail, photo and sketch to show:



Specific Mining Detail:

The method is to use concurrent back fill and reclamation in a stepwise process as follows:

- Step 1: Collect surface rock and place at one of 2 staging locations as shown on map.
- Step 2: Remove 6 inches of top surface and stockpile to location as shown on map.
- Step 3: Expose / dress top bed and stockpile burden to location as shown on map.
- Step 4. Resource ~ 2-3+ feet upper clay deposit and transport to S&B plant site for field drying
- Step 5: Excavate ~13 – 17 feet of intermediate overburden zone to initial stockpile as on map.
- Step 6: Resource ~ 1.5-2+ feet of lower clay deposit and transport to S&B plant site for field drying.
- Step 7: Repeat Step 1-6 with topsoil to reclamation and overburden to back fill in a tier system. See initial pit exposure photo to clarify method.

Final steps:

- 1: Dispose initial stockpiles to finish final site pattern to grade.
- 2. Harrow/seed if reseeding is determined by BLM/surface owner and DEQ.
- 3. Redistribute surface rocks to final dressing and equipment tracks covered.
- Steps 1,2,3, 5 performed with rubber tired excavation scrapers.
- Steps 4, 6 performed with track hoe and trucks to transport to plant site.
- Step 5 to also use push cat as may be needed.
- Step 1, 3, 6 to also use grader and bucket loader as may be needed.

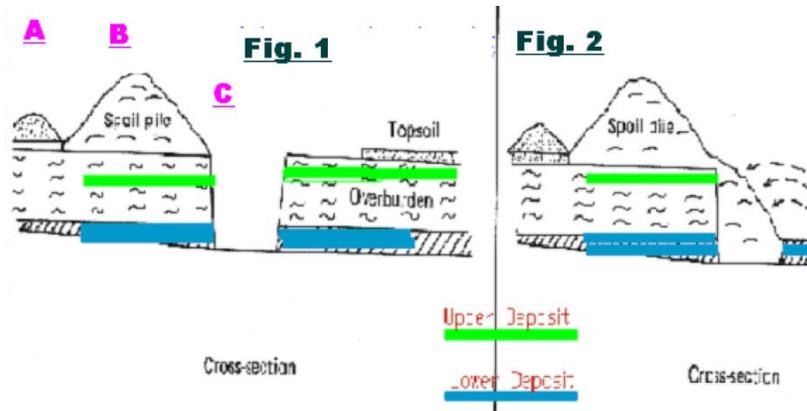
Temporary seeding of topsoil stockpile should not be issue for the short duration planned.

Final terrain sloping and restoration steps will use grader, bucket loader, skid steer, broadcast seeder, harrow, 4 wheeler.

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No roads will be constructed and previous haul corridor will be extended and reclaimed as well

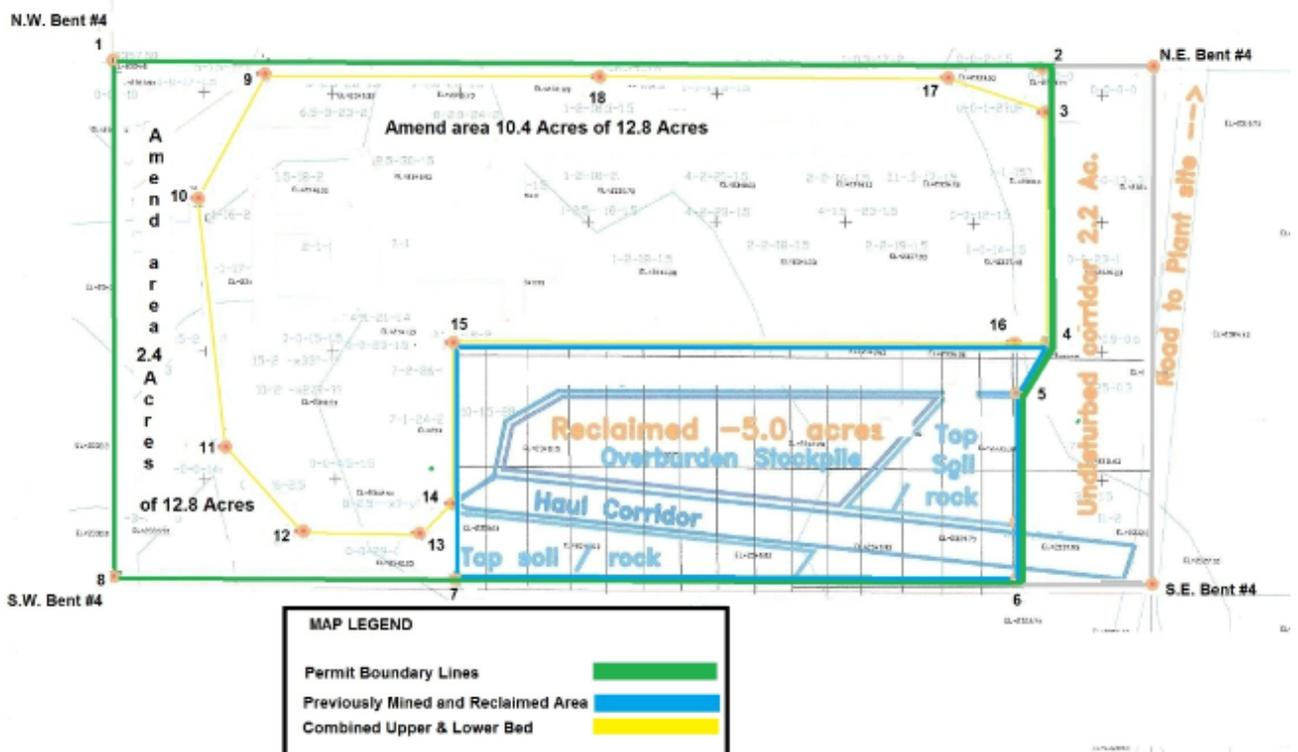
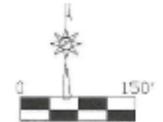
The basic sketch of methods is also shown by construction photo as follows:.



The initial expansion of the old pit will involve stockpiling material on the reclaimed area to open the working face where the previously mined pit stopped in 2009. After that, the pit will consist of a box shaped excavation with the dimensions of 20 feet deep, 50 to 60 feet wide at the bottom, and a potential maximum length of 750 feet. As the overburden is removed it will be placed against the back wall of the pit and the Bentonite trucked out of the pit over the existing disturbed area to the drying plant 2.5 miles north on the existing road. In this way the box shape will move northwesterly as restoration occurs southeasterly. The pit will be backfilled along the back wall as the working face of the mine moves forward. At the end of the six week duration of activity a total of 12 acres will have been mined but less than 1 acre will need to be restored to conclude the activity for the current year



S&B Industrial Minerals North America - permit #1641
 BLM/BENT #4 N2 NW4SW4_S#12_T27N_R36E
 Amend Total Area 12.8 Acres



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POSTINGS NUMBERED on map above are reflected to the following:

Site Name:		BLM/Bent #4		
Permit # (if an Amendment, Request to Commence, or Partial Release Request):				1641
MAP ID#	LATITUDE	LONGITUDE	BOUNDARY TYPE	DESCRIPTION
Center	48.10845	-107.03761	Permit Center Point	Approximate Center of Site
1	48.10917	-107.03889	Permit Boundary	North West Corner of Permit
2	48.10907	-107.03393	Permit Boundary	North East Corner of Permit
3	48.109	-107.03393	Permit Boundary	Intermediate East End of Permi
4	48.10809	-107.03393	Permit Boundary	Intermediate East End of Permi
5	48.10791	-107.03424	Permit Boundary	Intermediate East End of Permi
6	48.10726	-107.03428	Permit Boundary	South East Corner of Permit
7	48.10732	-107.03720	Permit Boundary	Intermediate South End of Perr
8	48.10736	-107.03897	Permit Boundary	South West Corner of Permit

Mining and Reclamation Considering Animal Mitigation plans:

MINING SEASON

Mining is set to occur from July 15th to Nov. 30th to conform to the various wildlife restrictions based on the 2012 appeal determination.. This same appeal laid out additional guidelines for the mining operations that will be followed.

Mining areas will be restored to approximate original contour and therefore will not be a hazard to wildlife. In the unlikely event of a temporary cessation of mining prior to the backfilling of the mining cut, the operator will maintain areas where the slopes will be 3:1 to allow easy egress to any animal that wanders into the workings. Construction fencing and or electric fencing will be used during periods of cessation to discourage animals from entering the portions of the excavation with slopes greater than 3:1.

The RMP notes a landowner study of wildlife assessments that deer, elk and antelope from time to time pass by or thru the site in transit between grazing areas. Note was made that elk would be a rare sighting. No concentration of wildlife is expected to occur during the proposed mining period.

Coyotes prevail throughout the general area and roam to consume food sources including sage grouse.

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There are no trees on site or in the larger surrounding area for raptors to nest in. Raptors frequent the area in hunt for food including the sage grouse, especially young fledglings.

Rabbits, like sage grouse, were very common until recently as these predator populations (coyotes and raptors) increased since the 1980s. Rabbit sightings have not occurred on the mine site, but a few remain in the general surrounding area. Song birds and piping plovers also frequent the area. Observations of other upland birds are rare in the vicinity.

No observations of bears or moose have been reported. Transient moose have been reported approximately 25 miles to the NE on 4th Creek drainage in Phillips County. No sightings or evidence of pocket gophers have been observed on the mine site in recent years.

RIPARIAN Mitigation:

The proposed area is distant to any riparian classed areas. The area is void of hydrophilic plants. An ephemeral routed drainage lies approximately ½ mile to the East that can hold some summer rain in pockets. State live waters are over 12 miles distant.

Mountain Plover Mitigation:

Unless by special request provisions and notifications, avoidance of mining activities during the nesting season in May and June will be adhered to. Since studies show that mountain plovers are already flocking to other areas by July 1, the start mining date was set to be July 15.

The mountain plover habitat was called into consideration of concern. BLM studies have shown the nesting plovers to prefer bare areas, such as previously mined areas inside and outside the ACEC area. One study proposed to conclude the reason plovers were in the immediate area is due to previous mining, where reclamation was not performed prior to the mid-1970s.

This mine area bounded to the East by the county road is adjacent to the plover area as shown on the area map. The ACEC MP sets forth the date window restrictions for mining activities and also concluded mining bentonite was not harmful to them. The operator holds proven deposit claims both inside and outside the ACEC area.

The mine area is primarily bentonite outcrop and void of vegetation. Restorations will attempt to achieve surface values close to original grade and vegetative cover.

GREATER SAGE GROUSE MITIGATION PLAN:

The naturally occurring corridor of big sage as part of the acreage is seen in the following picture could be mined, however this 2.2 acre area will be avoided.



During the conditions appeal meeting in 2012 at the State office, S&B expressed it was willing to work with the Agency if it desired to explore methods to expand the presently sparse Greater Sage habitat.

If big sage is in a recommended seeding mixture for portions of the restoration area, seeding will be targeted after the soil temperatures are below 40 degrees and forecasted weather predicts to lower temperatures. The time period target would be after mid November and most likely mid December.

Glacial erratics as boulders and rocks collected at the beginning process will be redistributed randomly over the reclaimed surface area before broadcast reseeded. These rocks presently serve as local spot rain and moisture reserves and wind protection for young sage sprouts and other plant species to gain roots.

Roughly 10 months after seeding a vegetation study will be conducted to determine whether sufficient growth has been established. A BLM representative from Glasgow will be invited to participate.

For mitigation of the small area of sage to be mined out, a swap out will be set according to discretion of the local field office supervisor. Tentatively the compensating habitat improvement value will be to supply BLM with a selected wheat grass seed variety to jointly participate in a separated habitat improvement

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study area administered by the field office. This will provide for an area greater than removed and thus result to a net increase in sage habitat removed in mining.

A long known sage grouse lek exists roughly a half mile East of the mine site. To the operator's knowledge that lek remains active, however at much lower numbers than a decade ago.

Concern for potential increased bird road kills by trucks has been raised. The decision involved investigation and the conclusions follow:

1. Trucks owned by operator will adhere to posted speed limits.
2. The operator was advised he holds no authority to set speed limits or enforce such on county roads; nor can operator transfer authority from Valley county to BLM or another agency. To voluntarily declare to subscribed limits would be authority violation.
3. If BLM and other agencies feel the existing county road speed limits endanger sage grouse, the operator would support that effort and offers to publish a public letter of support to encourage those with authority to post and enforce speed restrictions.
4. Operator will cooperate with BLM supervisor who may hold authority to set for posting speed limits related to the public road south of operator's property.

RECLAMATION in Summary:

Points of restorations:

- (1) Surface is restored close to approximate original contour and approximate original vegetative cover.
- (2) Surface is segregated and top soils restored.
- (3) Surface rocks collected will be randomly redistributed back.
- (4) Re-seeding will be according to the local BLM recommended seed mixture and rate unless optioned to leave as natural as prior demonstration to Plover nesting.
- (5) Best seeding time is proposed circa late November to December as weather may demonstrate to hold winter ground freeze unless BLM provides other conditions.

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(6) Monitoring will include appropriate actions called for including: Storm water inspections, and noxious weed inspections, and inspections of restoration values.

(7) Final is request for bond release anticipated in 2018 and possibly 2019.

The proposed operations are focused to restoration as opposed to reclamation associated to other mining operations. The test mining was not reseeded at the advice of the biologist in favor of the benefits to the Mountain Plover. One year after restoration, the average traveler on the road would not recognize that any disturbance or mining had ever occurred. This remains our goal unless BLM sets other conditions such as reseeding in patterns to better benefit the sage grouse.



No off site back fill will be required as the swell factor of the excavated overburden and interburden compensates for the removal volume of bentonite clays. This is unlike gravel pits where a major depression or backfill needs to be addressed.

It is anticipated that reseeding guidelines will be set in BLM's conditions of approval response as determined by BLM's local field technicians based on the agency's priority of either the plover or grouse habitat.

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MONITORING and POST MINING ACTIVITIES:

Post mining monitoring will conform as determined by BLM. Monitoring will include vegetation recovery, storm water, and noxious weed inspections.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul R. Laurence", with a long horizontal flourish extending to the right.

Paul R. Laurence
Vice President
S&B Industrial Minerals N.A., Inc.

BLM CFR3809 400-1-d to AMENDMENT POA

Submitted August 7, 2015

Bureau Land Management

1920 East Main St.

Lewistown, MT 59457

Phone: (406) 538 1900

Contact: Craig Towery; Regional Geologist PH: (406) 538 1906

Submitted By:

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AMENDMENT:

S&B Industrial Minerals North America, Inc. (S&B) is submitting this response for clarifications requested circa July 30, 2015 by Mr. Craig Towery to Gregg Menge. This follow up response relates to activities defined as various types of closures.

The operations are expected to require a time period of 30 to 60 days, notwithstanding something other than permanent or seasonal closure could occur. To point that follow up inspections and monitoring activities, as outlined in the original document, may be required for several years after mining is complete, and applies to the following:

1. **Temporary Closure** – If a temporary closure is experienced per MSHA, the operator will respond by utilizing the combination of eliminating the highwall of the mine by sloping the highwall back with an excavator to an approved slope of 1.5:1 ratio and backfilling the base of the pit with overburden so the backslope is accomplished and satisfies what is being expected. Additional barricades and BMP Construction will be performed to DEQ standards for anticipated temporary time of closure. Operator provide advance notice to BLM.
2. **Extreme Weather Closure** – If weather or other circumstances call for seasonal shutdown, operator will respond by utilizing the combination of eliminating the highwall of the mine by sloping the highwall back with an excavator to an approved slope of 1.5:1 ratio and backfilling the base of the pit with overburden so the backslope is accomplished and satisfies what is being expected. Additional barricades and BMP Construction will be performed to DEQ standards for winter time of closure. Operator provide advance notice to BLM.

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3. **Care & Maintenance Closure** – Steps will be same as temporary closure. With the bond that will be provided to ensure the mine is permanently closed as stated in 1 above, this bond will guarantee the owner that the performance of the permanent closure is achieved which is financially guaranteed thru the efforts of the bonding instrument in place.

4. **Permanent Closure** – Per the guidelines illustrated in the plan of operation where the expected overburden is sufficient to backfill the mine site, topsoil will be restored, surface will be seeded and field rocks will be reset. This would include the pit closure and immediate restoration activities.

RESPECTFULLY SUBMITTED

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Paul R. Laurence
V.P. Supply Chain

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