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MINERALS & MINING PROGRAM

BENTONITE
Performance Minerals LLC
Colony, Wyoming Plant
554 US Hwy 212,
Belle Fourche, SD 57717
Phone (307)896-2596/Fax (307)896-4588

April 8, 2024

Eric Holm
Engineer III
Department of Agriculture & Natural Resources
Mining and Minerals Program
523 East Capitol Avenue Pierre, SD 57501-3392

Dear Eric Holm,

Bentonite Performance Minerals, LLC (BPM) is submitting the enclosed a revised Large Scale Mining/Milling Permit Application and supporting information in accordance 45-6B-5 with for the Security bentonite project located west of Belle Fourche, South Dakota. The submission is complete with responses to your comments.

The enclosed booklet contains the response to comments, pages to be replaced and instructions on how to augment the copy of the permit you have in your possession.

Should there be any questions, please call reach out to me at 307.896.6060 or at Michael.Barr@Halliburton.com.

Sincerely,

Michael Barr
Senior Project Coordinator

Enclosures:
(1) Booklet containing response to comments, instructions and pages
(2) Letter from Butte County Courthouse

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1. Application Form: I have enclosed the front page of the Large Scale Mine Permit application form for the following revisions:

    a) The proposed starting date of April 1, 2024, is not feasible since the current public, review agency, and other timelines will not allow our program to issue the mine permit until May at the earliest. Therefore, please change the proposed starting date to another date, such as "June 1, 2024, or when mine permit is issued".

Response to comment:

BPM has adjusted the timeframe on the new application form.

    b) Instead of using the local address phone number for the general address location in Houston, Texas, please change the phone number for the general address to the phone number for the Houston office.

Response to comment:

BPM has changed the phone number to reflect the Houston Office.

    c) In addition to Mr. Garman, the name and address for the Butte County Highway Department needs to be added to the "Surface Owner" portion of the form. Also, the name and address for Dave Garman and the Chicago and Northwestern Railway need to be added to the "Mineral Owner" portion of the form". Please note that you can refer to the surface and mineral table on page 84 of the mine permit application.

Response to comment:

BPM has adjusted the surface and mineral owner pages and has referred to them on the application.

I have also enclosed a new Large Scale Mine Permit form if you want to submit a new form instead of revising the current form.

Response to comment:

BPM has utilized your enclosed form.

2. SDCL 45-6B-10(3), ARSD 74:29:01:17, ARSD 74:29:02:09, ARSD 74:29:02:11(2) and ARSD 74:29:02:12(7): Regarding the Operating Plan Map, the proposed mine permit boundary is not included in the map legend. Please submit a new map with the permit boundary included in the map legend. Also, there is no map scale on the two Surface Hydrology and Feature maps. Please submit new maps with a map scale. In addition, the Surface and Mineral Ownership map does not have a title and the "American Colloid" name under "Surface Ownership" in the map legend has something else typed over it and is hard to read. Please submit a new map with a title and the typo in the legend corrected.

Response to comment:

The referenced maps have been adjusted.

Finally, the geologic cross section on page 170 of the application is more a generic cross section rather than a representative one. This cross section would not apply to all bentonite operations since some may mine the Pierre Shale in addition to the Belle Fourche Shale. Also, depths and thicknesses of the units depicted in the cross-section may vary depending on location of the mining area. Therefore, please include a narrative with the cross section which describes the geology of the Security Mine area, the thickness of the Belle Fourche Shale, the general trend of the formations, whether the bentonite bed is found shallower or deeper in areas due to formation thickness, and which portions of the proposed mine area has shallower and deeper bentonite beds.

Response to comment:

I have created a Geologic Cross Section Summary on page 171A that discusses the local and regional geology. I have also relabeled the cross section on page 170 to clarify it being specific to the Commercial bed. Through this process I also noted that the cross-section B-B' was incorrectly labeled, I have corrected this ;....k;w3eddxe3by switching the B and B' on page 227.

3. SDCL 45-6B-12, SDCL 45-6-44, and ARSD 74:29:02:03: In the Surface and Mineral Ownership table on page 83 of the mine permit application, the name and address for the Butte County Highway needs to be added to the "Surface Owner Within Permit Boundary" portion of the table. Also, the name and address of Dave Garman, American Colloid, and the Butte County Highway Department needs to be added to the "Adjacent Surface Owner" portion of the table.

Response to comment:

BPM has made the requested changes.

In addition, BPM only submitted an acknowledgement from Mr. Garman that he received a copy of the reclamation plan. Since Mr. Garman is the surface owner, SDCL 45-6B-12 requires BPM to send him an instrument of consultation in which Mr. Garman acknowledges receipt of the **operating and reclamation plan** and grants BPM permission to enter and commence the mining operations on his property. Also, since Butte County Highway Department is also a surface owner, BPM will also need to send them an instrument of consultation. Therefore, please send both parties copies of the operating and reclamation plan along with an instrument of consultation which is to be signed and dated by both parties. I have enclosed an example of an instrument of consultation that you can use as a template.

Response to comment:

BPM has engaged with the County and Mr. Garman. Once BPM receives the signed consultation from the respective surface owners, I will email you the documents.

Finally, in Section 1.0 on page MP3 of the Operating Plan, please discuss the mineral rights held by Dave Garman and the Chicago and Northwestern Railway.

Response to comment:

BPM has made comment of the mineral ownership not to be mined in Section 1.0.

4. SDCL 45-6B-7(11), SDCL 45-6B-40 and ARSD 74:29:07:07(2 and 5): In Section 5.11.1 on page RP14 of the Reclamation Plan, BPM lists topsoil and subsoil salvage volumes

from Table A-6 in the Baseline Soil Survey. However, these volumes are for the entire project area or the entire area inside the mine permit boundary. Since BPM does not plan to disturb the entire area within the mine permit boundary, it should only list the topsoil and subsoil salvage volumes listed in Table A-7 of the Baseline Soil Survey for the proposed disturbed area where the topsoil and subsoil will be removed. Also, the topsoil and subsoil removal volumes should be included in Section 6.0 of the Operating Plan.

Response to comment:

BPM has changed the values in Section 5.11.1 and has included volumes in Section 6.0 of the operating plan.

Also, for areas undergoing interim reclamation or during periods of temporary cessation, please address **in detail** the temporary distribution of topsoil as required under subsection 2 of ARSD 74:29:07:07. In your discussion, please address whether topsoil productivity will be diminished, whether it will be protected from erosion, and whether it will be available for final reclamation.

Response to comment:

BPM has made some changes to section 11.0 of the Reclamation Plan to accommodate ARSD 74:29:07:07 (2). BPM will handle topsoil and other resrouces in accordance with the practices outlined in the Operating and Reclamation plan and the SWPPP. These describe reasonable measures to remove, stockpile and place topsoil resources. BPM shall consult with the DANR and other agencies to ensure that material movement at the given stage of mining will be stabilized to protect the state's resources prior to preparing the site for interim reclamation or temprorary cessation.

We also have the following technical comments:

1. BPM's Response to DANR's November 7, 2022, Comment Letter: Under the response to Item No. 3 in the comment letter, BPM states the planned pits are subject to change given changes in the market, ground conditions, or other factors. All pits should be considered conceptual at this point. Please note that any changes to the pit locations or sequences shown on the Operations Plan Map will require BPM to submit a technical revision to our office before any changes to the mine plan can be made.

Response to comment:

BPM does not intend to increase the size of the pits or other planned disturbance and BPM understands that a technical revision would need to be submitted for changes to the operating plan that would increase or notably change the intent of an approved permit.

2. Section 5.12.2, Seed Mix Substitutions, Page RP-15, Reclamation Plan: In the last paragraph of this section, please clarify the statements "Otherwise, BPM will substitute a native or naturalized species of the same life form with similar characteristics" and "BPM will report the substitutions in the first available annual report". Are these two sentences necessary since BPM will be required to submit a technical revision for any seed mix changes?

Response to comment:

BPM has removed the confusing language.

3. Section 5.13.1, Noxious Weed Plan, Page RP-16, Reclamation Plan: In this section, please refer to the Weed Control Plan approved by the Butte County Weed and Pest Board on pages 176 and 177 of the mine permit application.

Response to comment:

BPM has made reference to pages 176 and 177 of the mine permit application.

4. Section 10.0, Reclamation Costs, page RP19, Reclamation Plan: In the second sentence of this section, BPM states it will hold the full bond amount. This sentence will need to be changed so that it reads that DANR will hold the full bond amount. After a final bond amount is determined, BPM will submit the appropriate bond instrument (certificate of deposit, surety bond, letter of credit) with the final amount to DANR before the mine permit is issued.

Response to comment:

BPM has made changes that reflect the DANR holding the full bond amount.

5. Bond Calculation, pages 190 and 191: In the bond calculation, BPM estimates that a total of 500,000 cubic yards of material will need to be moved during final reclamation.

   What is this figure based on? How many pits are open and need to be backfilled and how deep are the pits?

Response to comment:

BPM recognizes an error in the first paragraph of section 5.0 on page 137. BPM has changed the maximum size of the pits to reflect 250,000 CY instead of 450,000 CY. I have calculated that the combined CY of two of the larger pits to be ~400,000 CY. BPM does not propose changing the bond amount given the CY in the reclamation cost estimator is relatively close and is considered an estimate.

BPM should also be aware of the following general comments and questions concerning the permit application:

1. ARSD 74:29:01:10. Please find enclosed a summary document for the permit application. DANR is required under ARSD 74:29:01:10 to consult with BPM during development of the summary document. Therefore, please review the document and let me know if any changes are needed.

2. In responding to the items requested in this letter, BPM does not need to resubmit the entire mine permit application. BPM only needs to replace the sections of the application that need to be revised.

Response to comment:

1) BPM has reviewed the summary document and does not propose any revisions.
2) BPM has only supplied what is needed to replace in the existing document and instructions on which pages to change out.

Change Log		
Remove	Insert	Description
5 & 6	5 & 6	Large Scale Mining/Milling Permit Application
84	84	Surface and mineral owners list
132	144	Operating Plan
146	167	Reclamation Plan
170	170	Represenative Cross Section of the Commerical bentonite bed in the norther black hills
N/A	171A	Geological Cross Section Summary
226	226	Operating Plan Map
227	227	Operating Plan Cross Section
235A & 235B	235A & 235B	Hydrology Maps
239	239	Surface and Mineral Owner Map

Butte County Register of Deeds
Belle Fourche, SD 57717

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April 8, 2024

Eric Holm
Engineer III
Department of Agriculture and Natural Resources
Minerals and Mining Program
523 E. Capital Ave
Pierre SD, 57501

Mr. Holm,

Bentonite Performance Minerals, LLC has provided the Butte County Register of Deeds with a copy of the Security Project Large Scale Mining/Milling Permit Application to be kept at the Butte County, SD courthouse during the permitting process for the property. The Permit Application was submitted as a paper copy enclosed in a binder. The binder containing the permit application and rounds of comments from the DANR and the responses and proposed permit modifications shall be in the records vault and will be available to the public during regular business hours.

This permit application was submitted by Michael Barr, agent of Bentonite Performance Minerals, LLC November 1, 2022. Should there be any questions, please contact Michael Barr at 307.896.6060 or at Michael.Barr@Halliburton.com.

Sincerely, Julie Brunner

Printed Name: Julie Brunner

Butte County, South Dakota Register of Deeds

Department of Agriculture and Natural Resources
Minerals and Mining Program
523 East Capitol Avenue
Pierre, South Dakota 57501-3182
605 773-4201; Fax: 605 773-5286

LARGE SCALE MINING/MILLING PERMIT
Pursuant to SDCL 45-6B and ARSD 74:29

Relating to The Extraction and Processing of Minerals in Operations Affecting More Than 10 Acres and/or Removing over 25,000 Tons Per Year or For Operations Utilizing Cyanide Leaching or Other Chemical or Biological Leaching Agents

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Operator's name:
Bentonite Performance Minerals, LLC

General office address:
3000 N. Sam Houston Pkwy E
BLDG J - 4th Floor
Houston, TX 77032

Telephone: 281.871.4000

Local mailing address:
554 US HWY 212
Belle Fourche, SD 57717

Telephone: 307.896.2596

Resident agent (if out-of-state corporation):

Resident agent address:
Capitol Corporate Services, INC
300 S. Phillips Ave, ste 300
Sioux Falls, SD 57104

Resident agent telephone: 302.730.8212

Legal description of affected land:
Please refer to page 134 for a complete legal description.

County:
Butte

Name and address of surface owner:
Please refer to page 84 for a complete list.

Name and address of mineral owner:
Please refer to page 84 for a complete list.

Minerals to be extracted or milled, or both:
Bentonite

Proposed starting date: Third or Fourth Quarter 2024 or after the mine permit is issued.

Proposed completion date: 12/31/2031

Size of area (acres) to be worked at any one time: Pit excavations of 2-20 acres w/ ≤ 25.75 acres of ancillary disturbance, more or less.

Estimated working days per year: 180

Estimated tons of ore per year: ~40,000

Estimated overburden/waste tons per year: ~250,000

Estimated total tonnage per year: ~290,000 tons

Include a copy of your source of legal right to enter and initiate operations: ✓ Lease ____ Letter ____ USFS Permit

Include a copy of your source of legal right to dispose of tailings: ____ Lease ____ Letter ____ USFS Permit N/A

INSTRUCTIONS:

Please reference SDCL 45-6B and ARSD 74:29. This large scale mining/milling permit must be accompanied by:

1. A narrative description of the methods of mining and milling to be employed per Section 6(8).
2. A reclamation plan pursuant to Section 7.
3. A map of the affected area pursuant to Section 10.
4. A fee of $1,000 payable to the Department of Agriculture and Natural Resources pursuant to Section 14. For precious metals, coal, or uranium, a fee of $50,000 payable to the Department of Agriculture and Natural Resources is required.
5. A map clearly depicting all surface and mineral owners of the affected land pursuant to Section 10 and ARSD 74:29:02:03.
6. Proof of compliance with all local and county zoning ordinance requirements pursuant to Section 4 and ARSD 74:29:02:02.

Before a hearing on this large scale mining/milling permit can be conducted by the SD Board of Minerals and Environment, the operator must submit the following:

1. Certified mail receipts confirming mailing of notice to all surface owners and lessees pursuant to Section 17.
2. A copy of the affidavit of publication of notice pursuant to Section 16.
3. Proof of filing a copy of the large scale mining/milling permit with the Register of Deeds pursuant to Section 15.
4. A surety in an amount to be determined by the department pursuant to Section 20.
5. A copy of instruments of consultation from all surface landowners, if different than the owner of the minerals, including written receipt of the operating and reclamation plans pursuant to Section 12 and 13.

Applicant affirms that the mining or milling will be conducted pursuant to SDCL 45-6B or any regulations promulgated thereunder, that he will grant access to the SD Board of Minerals and Environment or its agents to the area under this large scale mining/milling permit from the date of application and during the life of the permit as necessary to assure compliance with SDCL 45-6B.

I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct.

_____ Date: 4/8/24
Signature

Title: Operations Manager

STATE OF Wyoming

COUNTY OF Crook

On this 8th day of April, 20 24, before me personally appeared Tyler Tetrault, who acknowledged himself to be the Operations Manager (Title) for Bentonite Performance Minerals (Operator) and that he is authorized to execute the Large Scale Mining/ Milling Permit for the purposes contained therein.

_____ My Commission Expires: 10-23-2024
Notary Public

SEAL

NOTARY PUBLIC
CHERYL L. WOLFF
STATE OF WYOMING
COUNTY OF CAMPBELL
My Commission Expires 10-23-2024

FOR DEPARTMENT USE ONLY

DATE APPROVED: BOND AMOUNT: PERMIT NUMBER:

_____
Chairman, SD Board of Minerals & Environment

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Security Surface Owner List	
Within Permit Boundary	
David Garman	PO Box 207 Belle Fourche, South Dakota 57717
Butte County Highway Department	830 6th Ave #1 Belle Fourhce, South Dakota 57717
Adjacent Surface Owners	
David Garman	PO Box 207 Belle Fourche, South Dakota 57717
Butte County Highway Department	830 6th Ave #1 Belle Fourhce, South Dakota 57717
Pioneer Townsite Company C/O American Colloid Company	PO Box 2010 Belle Fourche, South Dakota 57717
American Colloid Company	PO Box 2010 Belle Fourche, South Dakota 57717
Harvey A. Garr	10737 3V Road Belle Fourche, South Dakota 57717

Security Mineral Owner List	
For Minerals to be Mined	
Bentointe Performance Minerals, LLC	554 US HWY 212, Belle Fourhce, South Dakota 57717
For Minerals NOT to be Mined	
David Garman	PO Box 207 Belle Fourche, South Dakota 57717
Chicago and North Western Railway Company	226 W Jackon Boulevard, Chicago, IL 60606 (LKA)
BPM does not warrant the owenship of minerals except hose held exclusively by BPM	

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Operating Plan

Bentonite Performance Minerals Security Mine

Bentonite Performance Minerals, LLC
554 US HWY 212
Belle Fourche, SD 57717
307.896.2596

Contents

Operating Plan

BPM Security Bentonite Mine

1.0 Security Bentonite Mine Overview (SDCL 45-6B-6 (1-4, 6-7))

Bentonite Performance Minerals, LLC (BPM) has prepared the Security Bentonite Mine Permit Application to support BPM's ongoing efforts to provide environmentally safe and economical bentonite to consumers in accordance with all local, state and federal laws. BPM has successfully mined and is currently monitoring the final reclamation of the Killinger and Purple Bentonite Mines, permits 481 and 482 respectively, located 4 miles to the northwest of the Security Bentonite Mine.

The permit boundary for the Security Bentonite Mine is legally described as:

Township 9 North, Range 2 East, Black Hills Meridian, Butte County, South Dakota

Section 31: SE4SE4NE4NE4, E2E2SE4NE4 and that portion of the E2E2NE4SE4 north of 3 View Road.
Section 32: SW4NW4, NW4SW4, W2W2NE4SW4, those portions of the S2S2NW4NW4, SW4NE4NW4, & W2W2SE4NW4 south of the ACC Haul Road and those portions of the W2W2SE4SW4 & NE4SW4SW4 north of 3 View Road.

BPM holds the bentonite mineral rights as patented mining claims (Patent #1207088) and the surface estate is held by David Garman. Minerals within the permit boundary that will not be mined by BPM are held by David Garman and Chicago and Northwestern Railway according to the public record. Please refer to the Surface and Mineral Ownership map in Appendix A. Disturbances shall occur north of 3 View Road and south of American Colloid Company's Haul Road (ACC Road), both shown on the Operating Plan Map in Appendix A. BPM will retain a Surface Use Agreement with the surface owner through the life of the mining operation as described in the Operating and Reclamation plan. BPM processes crude bentonite at BPM's processing plant in Colony, WY, located approximately 17 miles NW of the Security permit area. The plant is considered the local office for this project, contact information is provided below:

Bentonite Performance Minerals, LLC
554 US HWY 212
Belle Fourche, SD 57717
307-896-2596

2.0 Mining Method and Type (SDCL 45-6B-6 (8(a -d)), ARSD 74:29:02:04 (1, 2, 3 & 6), ARSD 74:29:07:04 (6 & 7) & ARSD 74:29:07:02 (1 - 10))

Bentonite Performance Minerals (BPM) will use surface mining methods exclusively to extract bentonite by removing bentonite exposed at the surface and by stripping overburden stratigraphically above deposits of bentonite. Mining will occur in a series of relatively small (2 to 10 acres) engineered pits designed to sustain desired annual production. After the initial pit is mined out, concurrent reclamation begins by using the overburden from the next pit to backfill the initial pit minimizing the number of pits open at any one time. This mining method will be used

throughout the mine.

Approximately 83 acres of the 128.4 acre permit boundary will be affected by BPM's operation. Approximately 69% of the total disturbance area is comprised of bentonite pits and 31% for associated disturbance. Temporary haul roads and spurs, soil placement areas, mine camps and other ancillary mining features are examples of associated disturbance and are generated as needed.

Topsoil and subsoil will be removed with scrapers and stockpiled in designated areas or applied directly onto previously backfilled pits. Overburden is typically ripped with track dozers or motor graders and then is removed with scrapers or pushed by dozers to the previously mined pit. Due to the relatively soft nature of the overburden associated with bentonite mining, blasting is not a consideration for this mining project.

Bentonite is stripped from the pits with scrapers and then piled either in the bentonite pit itself or in a designated stockpile area. The depth of mining will vary throughout the project. Bentonite is exposed at the surface immediately north of 3 View Road. The depth of bentonite gradually increases to a depth of approximately forty (40) feet below ground surface along the northern extents of the bentonite pits south of the ACC Haul Road. BPM intends to begin excavations in the SW portion of the property and advance north and then swing eastward. BPM will then mine from the north to the south to finish the pit sequences on the eastern half of the permit boundary. BPM utilizes a backcast mining method and estimates a total of approximately fifty (50) bentonite pits, approximately ten (10) per phase through the life of the mining project. Phases have been generated to depict to the agencies the approximate order in which the property will be mined. BPM shall remove the soils and overburden in compliance with the SD DANR rules and regulations and shall determine the most economically and cost-effective methods in the field.

Front-end loaders will load the clay into haul trucks that will transport bentonite to BPM's processing plant in Colony, WY. 3 View Road and Highway 212 will be primarily utilized to transport bentonite between the mine and the plant. There will be no tailings produced at this site therefore, no onsite tailings disposal is required.

BPM's mine design utilizes the available space between pit sequences for ancillary disturbances that facilitate mining, this practice minimizes the size of the permit boundary and optimizes utilization within the mining area. BPM will consider the existing topography and drainage patterns when designing temporary drainages to ensure that the existing outfall locations along the permit boundary are not impacted during and after mining operations. The post-mining topography shall approximately match the pre-mining topography, including slope direction. As BPM mines through any particular area, BPM shall ensure that proper through drainage shall be maintained to prevent excess surface water out falling into a pit, eroding a stockpile or otherwise impacting surface features. Therefore, any given drainage may be relocated however, BPM shall construct the temporary or permanent drainage to ensure that surface waters will not overwhelm the constructed feature and that surface waters will discharge to the current out fall locations along the permit boundary. All mine related features and equipment are subject to BPM's Best Management Practices (BMP) discussed in Section 10.0 to ensure that potential impacts are minimized.

For any permanent reclamation feature, BPM shall contour the feature itself and the surrounding topography to reduce/remove erosion potential and ensure that proper drainage is maintained post mining in accordance with the information provided in this permit application. The permanent out of pit overburden pile shall be the only feature that will notably augment the pre-mine topography. BPM shall blend the reclaimed stockpile surface to match existing topography and

the reclamation slopes shall adhere to the pertinent sections of the permit application. Small scale features on the property have variable slope angles between 1 and 18%. The Overall slope between 3 View Road and the ACC haul road is approximately 3.2%. Overall, the slope direction has a bearing of ~42 degrees. Local features have variable slope angles with the majority bearing perpendicular to northeasterly drainage directions.

Reclamation will occur as soon as reasonably possible after bentonite has been removed from a pit. Reclamation activities are conducted while mining progresses through the planned pit sequences. Pits are backfilled and contoured to naturally blend into surrounding topography. Subsoil and then topsoil are reapplied once the pit has been backfilled. Reclamation is completed using a no-till seed drill which places the seed at the correct depth and then presses the soil back over the seed promoting suitable soil to seed contact while minimizing potential erosion. The land will be reclaimed to rangeland, which is the primary pre-mine land use.

The contour basis for the mining operation will adhere to the 2015 United States Geological Survey (USGS) Sourdough Flats, SD Topographic map, which depicts the region in 20-foot vertical contours. Premining contours shall reasonably match the post mining contours upon final reclamation with the exception of the proposed overburden stockpile as depicted in the Pre-Mine and Post-Mine Contour Maps in Appendix A. Overburden depth ranges from zero (0) to forty (40) feet below ground surface. The deepest pits are located at the northern portion of the disturbance boundary and bentonite outcrops on the southern portion of the disturbance boundary.

Visual inspections for health, safety and environmental hazards are evaluated before employees begin work each working day. CPM will perform monthly visual inspections if BPM is not actively working on the property. Visual inspections are also conducted as part of the Storm Water Pollution Prevention Plan (SWPPP), Spill Prevention Control and Countermeasure Plan (SPCC), quarterly contractor assessments, and unscheduled and regular site visits by the Mine Manager and Mine Supervisor. General site conditions, ground control, equipment, temporary storage facilities and excavations are examined to ensure that HSE standards are met and are in compliance with issued permits.

Site access to any BPM mining property controlled and maintained by BPM to ensure public safety. Signs are placed at the entrance(s) to the property to restrict access to authorized personnel only, notify of mining related traffic and provides the public with contact information. The Surface Owner for this property maintains site access with fencing that is currently installed on the permitter and within his privately held surface estate. The Surface Owner does not allow the general public to enter his property without prior consent from the Surface Owner.

3.0 Life of the Mining Operations (SDCL 45-6B-6)

BPM intends to conduct mining and reclamation operations over a 5-to-8-year timeframe however, this schedule is dependent on market conditions. The initial proposed sequence proposes to accomplish the actual mining over a 6-year period. The Operating Plan Map included in Appendix A depicts the planned sequence of mining and the general timeframes for the mining of different areas.

4.0 Primary Equipment Used in Mining Operations

BPM utilizes some combination of the following equipment to conduct the bentonite mining operations:

- D9L & D9T Caterpillar dozers

- Caterpillar 637E & 637D scrapers
- Caterpillar 988 front-end loaders
- Caterpillar 14G or 14H patrol blade
- Track-hoe excavator
- Highway Tractor-Trailers Haul Trucks
- Water trucks

This equipment list may change as new equipment is incorporated into the current fleet. BPM may utilize contractors for various operations. Contractor's equipment fleet may vary from the above list however, the equipment selected will be of a similar and reasonable scale to perform the contracted work.

5.0 Mining Progression, Planning & Time Schedule (SDCL 45-6B-6 (8(a & b) &9) & ARSD 74:29:07:02 (1 - 3, 6 - 10) & ARSD 74:29:02:04 (3))

Typically, BPM excavates a sequence of small pits which are 2-10 acres in size. Each small pit removes 50,000-250,000 cubic yards of overburden depending upon the depth of overburden and the size of the pit.

As each new cut is made, the salvaged topsoil, subsoil and overburden materials are used to reclaim the previous pits in a timely and contemporaneous manner. The Operating Plan map in Appendix A illustrates the integrated mining and reclamation process, storage locations and general site layout. The mining progression will follow the generalized sequences described below.

The overburden from the first pit is used to re-contour the landscape near the pit. Then the tiered system of backfilling of successive pits will be utilized. The last pit is filled by leveling out the immediate area surrounding that pit. This scenario is useful to make the landscape more traversable to livestock and wildlife and to stabilize slopes. An alternative method of mining is when the overburden from the first pit is used to backfill the last pit of different sequence. The last pit is filled by leveling out the immediate area surrounding that pit.

When concurrent reclamation is not feasible BPM includes storage locations for topsoil, subsoil and overburden as on the Operating Plan map of this permit. These locations were selected by evaluating reasonable distances to the excavating areas, site access, surface hydrology considerations and by determining storage needs. Typically, BPM has elects the shortest viable storage location on relatively even ground with enough storage capacity to reduce energy usage, prevent cross contamination and to minimize project disturbance.

The Operating Plan Map illustrates the proposed sequence and schedule for mining operations within the proposed mine. As per SDCL 45-6B-36, BPM will within 60 days of the anniversary of the permit approval submit an updated Operating Plan Map illustrating the mining and reclamation progress made over the course of the past year and propose any changes in the proposed mining time schedule.

The design of the mine facilities is compatible with surrounding land uses which is primarily Rangeland, to which some has been historically mined for bentonite. BPM has suggested utilizing modern and concurrent mining practices for this property as the surface and land use is typical of the other mining properties BPM has and is successfully mining today. Concurrent mining practices do not significantly permanently alter the ground surface.

BPM's mining and reclamation practices described in this permit application will result in similar pre-mine and post-mine topography and revegetated surfaces.

Bentonite Performance Minerals does not intend on future exploration or mining plans for the Security Bentonite Mine for the legal descriptions to which BPM holds the mineral rights.

6.0 Topsoil and Subsoil Salvage, Storage and Protection Procedures (SDCL 45-6B-6 (8(c)) ARSD 74:29:07:14 (3, 4))

In general, A horizons and the top of B horizons are salvaged as topsoil and the bottom of the B horizon through the C horizons are salvaged as subsoil. Paralithic material is not salvaged with the subsoil.

Topsoil and subsoil salvage operations are supervised by the Mine Manager or Mine Operation Supervisor. Salvage instructions are taken from the approved permit and written on a pit diagram for the Stripping Supervisor to implement in the field. Soil salvage information is available in the Soils Baseline Report in Appendix C and on the Soil Salvage Map in Appendix A.

BPM will salvage all topsoil (31,398.1 CY) and subsoil (93,078.2 CY) from affected lands including:

- overburden stockpile sites
- bentonite stockpile sites
- new haul roads
- all pit areas and a buffer zone around their perimeter
- all equipment parking, fueling and maintenance areas

BPM (and its contractors) generally use rubber-tired scrapers to salvage topsoil and subsoil. Topsoil and subsoil will be separately and selectively salvaged. If backfilled and regraded lands are available, BPM will live-spread the salvaged subsoil and topsoil in their premining vertical arrangement.

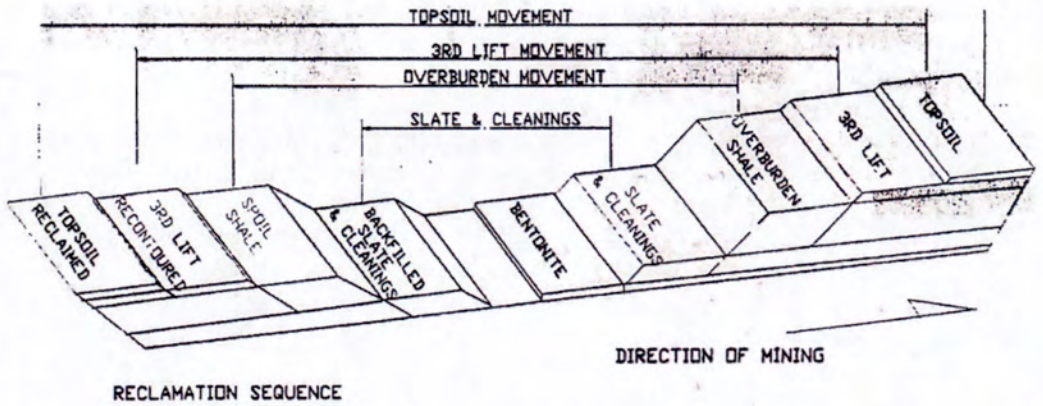
The topsoil and subsoil stockpiles will be marked with signs reading "TOPSOIL" or "SUBSOIL" and the stockpiles are constructed according to the best practices in BPM's SWPPP to prevent erosion and surface degradation. The sign lettering will be clearly visible from a reasonable distance. New topsoil and subsoil stockpiles will be seeded with the approved permanent seed mix during the first available fall seeding period. The Annual Report will show the location and type of all existing stockpiles.

A Petroleum Contaminated Soils Land Farm (PCS Farm) was permitted within the property and was closed in 2008 by the surface owner. Site closure was approved by the DANR in 2008. BPM will salvage and store the PCS Farm soils separately from the rest of the area. BPM anticipates 17,328 cubic yards of topsoil and 51,221 cubic yards of subsoil to be salvaged from this area. The Operating Plan Map in Appendix A depicts soil storage space for these soils. This space allows for four piles to be constructed that will have a capacity of ~20,000 cubic yards per pile. These soils will be replaced in the PCS Farm footprint upon final reclamation. These soils will be seeded and revegetated in the same manner as all other lands and in accordance with this reclamation plan.

7.0 Overburden Removal, Handling and Backfilling Procedures (SDCL 45-6B-6 (8(c)), ARSD 74:29:07:14 (3, 4) & ARSD 74:29:07:02 (1, 2, 4, 7-10))

After removing the defined topsoil and subsoil on a specific pit, dozers usually rip the overburden in lifts. Rubber-tired scrapers remove the overburden and use it to backfill an open pit. Figure 1 illustrates the general process.

FIGURE 1. MINING & RECLAMATION SCHEMATIC OF MATERIAL MOVEMENT



BPM will utilize a "tiered" system for backfilling open pits. The tiered system consists of placing poor quality overburden from pit excavation to fill the lower third of the previous pits. The upper portion of overburden removed from the next pit is placed on top of the previous pit's lower quality material. This procedure enables the overburden closest to the bentonite to be buried as deep as possible. Third lift material immediately below the subsoil from the next successive pit is then placed on top of the upper portion of overburden removed from the previous pit. The third lift material is brought to the approximate original grade and blended with the surrounding native lands. Topsoil and subsoil are then direct hauled from the next pit and placed on the third lift.

If the overburden is not directly backfilled, it will be stockpiled on lands stripped of subsoil and topsoil. A containment berm will prevent stockpile runoff from contaminating native soils and to minimize loss of materials due to water erosion. Overburden stockpiles will not be placed in intermittent or perennial stream channels. Overburden stockpiles will not be placed directly in defined ephemeral drainage channels unless a temporary drainage is developed. Overburden may be temporarily or permanently relocated to improve site access during the mining operations. Relocated overburden is placed in areas only deemed necessary and that have had the topsoil and subsoil removed in accordance with Section 6.0. Topsoil and subsoil will be replaced upon reclamation of any relocation area.

Historical analyses of overburden and bentonite beds have not identified combustible, toxic, acid-forming or otherwise hazardous materials. Should any such materials be encountered in the mining process, it will be handled according to applicable state and federal laws.

8.0 Bentonite Handling Procedures (SDCL 45-6B-6)

Exposed bentonite beds are typically ripped by a dozer then removed by rubber-tired scrapers and stockpiled for field drying or temporary storage.

Bentonite stockpiles will be created only on surfaces where native topsoil and subsoil have been removed in accordance with Section 6.0. If the stockpile is not confined by an open pit, a containment berm is constructed around the stockpile, removing or reducing a potential loss of bentonite and prevents potential pollution of soils and surface waters.

Bentonite will be loaded into side dump or belly dump trucks (from the pit or stockpiles) for over-the-road delivery to the permittee's processing plant at Colony, WY

9.0 Protection of Other Resources (ARSD 74:29:07:02 (3, 4 & 6))

Due to the shallow at depth which mining will occur, it is not anticipated that groundwater will be encountered or impacted by mining operations.

Watersheds and existing drainages will be minimally affected during mining. Surface flow will be temporarily diverted around active disturbance and into the existing drainages. Final contouring will direct similar-size drainages and watersheds toward the premine outfalls. No significant effects on surface water are anticipated due to mining.

Wildlife observed within or near the Security permit area during mining and reclamation operations will not be intentionally impacted by BPM and their contractors. Should species listed under the U.S. Fish and Wildlife Service Threatened and Endangered Species, South Dakota Endangered and Threatened Species or other species of concern be noted during operations, BPM will contact the appropriate state or federal agencies as soon as reasonably possible.

The mining operation will be readily visible from 3 View Road and can also be seen from a distance from Highway 212 in both the NW and SE directions. Pits, stockpiles equipment and other mine facilities will be visually inspected every operating day while BPM has equipment and a presence onsite. Should BPM demobilize from the mining area for any duration greater than 4 weeks, BPM shall conduct a visual site inspection monthly to ensure the obligations of this permit application are met.

Residences in the area do not have a direct line of sight of the entire proposed mine permit boundary due to topographic relief. BPM does not intend to implement visual screening that would prevent the public from observing mining and reclamation activities on the project. The closest residence is ~.25 miles from the center of the permit area however, the topographic relief and minor trees block the direct line of sight to most of the proposed activities. Evidence of mining and reclamation activities are readily observed NE of 3 View Road. BPM's optimized seasonal mining and concurrent reclamation will reduce the opportunity for visual impacts to the public. BPM does not anticipate the need to visually block the proposed activities from the public utilizing 3 View Road or Highway 212.

10.0 Best Management Practices (ARSD 74:29:07:02 (1, 4, 6, 8, 10), ARSD 74:29:02:11 (13))

BPM will apply for coverage under SD's General Permit for Storm Water Discharges Associated with Industrial Activities prior to beginning mining operations. A SWPPP has been prepared for

the mining activities as is required for coverage under the general permit. The SWPPP is included in Appendix B of this application. The SWPPP lists general Best Management Practices (BMP's) that BPM will utilize to prevent pollution from occurring during storm water discharge at the mine during active and inactive periods for the mine. These BMP's include:

- Total Suspended Solids (TSS) resulting from entrainment from sediment into storm water is managed by maintaining a vegetated buffer and/or depressions around overburden piles that collect runoff. Further, any errant runoff from the overburden is collected in drainages that have additional BMPs such as water bars and sediment ponds.
- Before pumping from a pit, sediments in the water must first be given an opportunity to settle. Water then may only be pumped into an area that does not connect with a major drainage. If water is pumped to a major drainage, the drainage must contain BMPs such as water bars or a sediment pond(s).
- Fueling of pumps is performed either in the pit bottom or in camp areas which have been stripped of topsoil and are cupped/bermed for containment.
- Topsoil is usually live-spread immediately after it is collected in accordance with BPM's policy of concurrent mining and reclamation. However, there are times when topsoil and subsoil piles must be stockpiled for final reclamation. New topsoil and subsoil stockpiles will be seeded with the approved seed mix during the first available fall seeding period. A berm can be placed around topsoil and subsoil stockpiles to prevent storm water from eroding the piles and/or catchment basins or sumps can be downgradient of the stockpiles to minimize sediment loading to the surrounding native ground.
- Each campsite is bermed and constructed on a shallow one to three percent grade. On the down-gradient end of the camp, a sump is constructed to catch runoff and prevent possible discharge. All trash and debris generated at the camp is collected and regularly transported to the plant site or landfill for disposal.
- The management of field storage, dispensing, and clean-up of hydrocarbons is discussed in BPM's SPCC Plan (Appendix C). In summary, this plan directs all storage of petroleum products to be maintained within the bermed and graded camp area. The camp area has a sump that is capable of storing 110% of the largest storage container in the camp area. Fueling of equipment is also performed in the camp area. Camp areas are situated on bentonitic overburden. The bentonitic overburden readily absorbs and retains possible spilled petroleum products, due to the presence of the absorbing clays. The bentonitic component of the overburden swells upon absorption and prevents further infiltration of contaminates. In the event of a spill of petroleum product, the overburden is excavated and placed into a pile and transported to BPM's permitted PCS

landfarm in Colony, WY. The spill is reported internally as a spill inside containment per the SPCC plan.

- Management of the roads includes dust control, blading and ditching, crowning, use of proper road construction materials and routine maintenance. The dust control measures include watering the roads using several water trucks on a regular basis during each day. The roads are also bladed with a maintainer to remove fines and help establish a crown. The road ditches are cut to help promote water runoff and settling. Appropriately sized culverts are installed to divert water under roads to control and maintain proper drainage.
- Stockpiled bentonite is cupped (ditched) and bermed to prevent loss of material (product).
- Loading of bentonite outside of pits occurs in areas that have been cleared of topsoil and has had a berm placed around it to prevent contamination of storm water.

11.0 Temporary Diversion of Unchannelized and Ephemeral Stream Flows, Proposed Reservoirs, Tailings Ponds, Tailings Disposal Sites, Dams and Dikes (SDCL 45-6B-7 (10), SDCL 45-6B-41, ARSD 74:29:02:11 (9) ARSD 74:29:02:04 (5), ARSD 74:29:07:09 (1- 5, 7 & 8) & ARSD 74:29:07:10 (1))

There are no unchannelized, perennial or intermittent streams within 10 feet of the proposed permit boundary. Tailings dams/ponds, reservoirs, heap leach pads and other critical earth structures will not be constructed to support this bentonite mining project therefore, no stability analysis was performed in support of this permit application.

Drainages may be temporarily diverted to support the Operating Plan. Temporary drainages will be constructed to minimize hazards to humans, wildlife and livestock, will utilize riprap, filters or other methods and will not have side slopes greater than 2:1 and will be seeded and stabilized as needed to prevent erosion. Diversions will not be constructed in rock and will not discharge onto topsoil, subsoil, spoil storage areas or other unconsolidated material such as newly reclaimed lands. Drainage from the property will not be impacted and culverts will be utilized as necessary where traffic intercepts existing and temporary drainage diversions. Culverts will be sized appropriately to handle a 2-year, 6-hour storm event and will be regularly inspected and maintained as needed. Other transport facilities and utilities (as they may apply) shall be constructed and maintained to control degradation of water quality and quantity. Diversion ditches shall be constructed to minimize hazards to humans, wildlife and livestock as needed. All surface water diversions shall be capable of carrying a minimum of a two-year six-hour precipitation event. Please refer to the Surface Hydrology and Features Maps in Appendix A.

12.0 Wetland Disturbance

There are no wetlands present within the mine boundaries according to the U.S. Fish and Wildlife Service National Wetlands Inventory.

13.0 Processing and Handling Facilities (SDCL 45-6B-6 (8(c)))

All bentonite mined at this site will be hauled to BPM's bentonite processing plant at Colony, WY. There will be no bentonite processing facilities located at this site. There will be no tailings produced at this site therefore, no onsite tailings disposal is required.

14.0 Solid Waste Disposal (ARSD 74:29:07:02 (4, 6, 8, 9), SDCL 45-6B-38 & ARSD 74:29:07:05

Solid waste generated as part of the approved mining activities will be removed from the permit boundary by BPM or a third-party contractor and disposed of in a permitted landfill or will be managed appropriately and in accordance with South Dakota regulations by the third party. BPM will not establish a solid waste disposal site within the permit boundary or attempt to utilize the existing closed solid waste facilities previously permitted. BPM employees will be informed, and the necessary training will be provided to ensure personal and mining related waste products do not accumulate onsite and are managed as they are generated.

The closed solid waste facilities, permitted not by BPM, contained within the Security permit boundary will not be utilized by BPM. BPM has identified the physical boundaries of the closed solid waste facilities based on the surface expression of piled rubble and other solid wastes on the provided Pre-Existing Permitted Disturbance map in Appendix A and at the end of Appendix C.. Bentonite outcrops nearby the solid waste facilities and bentonite exists below the solid waste facilities themselves. BPM will not excavate the bentonite underlying the solid waste facilities. BPM does intend to mine the bentonite exposed at the surface nearby the solid waste facilities and will leave sufficient space between the boundaries of excavation and the solid waste facilities to prevent potential negative impacts to the closed solid waste facilities.

In the event BPM impacts the closed solid waste facilities, BPM shall immediately notify the DANR and begin the appropriate permitting process to manage the impacted facilities if necessary.

Acid-forming or toxin-producing materials are not anticipated to be mined according to the data supplied by BPM and the DANR regarding this property. Should any Acid-forming or tox-producing materials be encountered, they shall be handled and disposed of in a manner that will control unsightliness and protect the hydrologic system from pollution and shall be handled in accordance with the South Dakota hazardous waste regulations in ARSD 74:28. This includes petroleum contaminated soils generated by BPM's equipment during the mining process from leaks, spills or other actions as a direct result by BPM personnel. BPM does not anticipate the need to remove contaminated soils from the closed PCS Farm as the closure of the permit was approved by the DANR.

15.0 Power Transmissions and Communication Lines

No power transmission or communication lines will be constructed for the mining operations. BPM will not mine within a ten-foot radius of any power or communication poles. This practice ensures a stable pedestal will be left around any poles in the permitted area, thus preventing destabilization. Any underground utilities will be relocated before mining or marked by the utility company to ensure mining does not impact those utilities.

16.0 Haul, Access and Light Use Roads (ARSD 74:29:07:12)

A county road (3 View Road) and a Bentonite haul road owned by American Colloid Company transverse portions the disturbance boundary as seen on the Roads and Utility Map in Appendix A. These existing roads will be utilized to haul the mined bentonite to the Colony Wyoming Plant.

3 View Road will be primarily used to access US Highway 212 to haul bentonite to the Colony, WY plant. There will be no roads constructed across perennial, intermittent streams, riparian zones or significant water features. Temporary haul roads may be constructed across drainages as needed and will be constructed at or near right angles whenever possible. Running width of roads will be sized for mining traffic and will be approximately 20-25 feet of not including the needed amount of disturbance to ensure drainage ditches are effective. Culverts will be installed and inspected as needed to avoid plugging, collapsing or erosion at the inlet and outlet. Culverts will be routinely inspected, repaired, and cleaned. All roads will have ditches and culverts as needed and road surfaced will be sloped as discussed in the SWPPP.

17.0 Buildings and Structures (ARSD 74:29:07:13)

No buildings, structures or railroads exist within the proposed Security Project Bentonite Mine boundary. No buildings, structures or railroads will be constructed at the site.

18.0 Operational Water Use (ARSD 74:29:07:04 (6), ARSD 74:29:02:11 (11), SDCL 45-6B-41 & ARSD 74:29:07:08 (1 & 2))

BPM will not construct any processing facilities at this site. The only site operational water use will be for road dust suppression. BPM will apply water to 3 View Road and the ACC Road during the life of this project as needed. BPM either perform these activities with their own equipment or utilize a subcontractor. Water will come from a pond near BPM's Colony Plant which is permitted according to applicable Wyoming regulatory requirements. Water trucks can hold 8,000 gallons, which will water approximately 8 miles of road. The initial flow rate will be 1,000 gallons per mile of road, depending upon conditions; the flow rate may be more or less. BPM will not need to obtain any water right permits for water used during the life of this project.

Any disturbance to the quality and quantity prevailing hydrologic balance of the affected land and the surrounding area is not anticipated to be impacted in any capacity. In the event any disturbance to the affected land does, BPM shall minimize any impacts during and after the mining operation and during reclamation.

BPM shall comply with South Dakota water rights laws and regulations and water quality laws and regulations.

19.0 Impoundments ARSD 74:29:07:27

BPM does not anticipate any impoundments to remain on the affected land that require a permit once mining is complete.

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APR 11 2024
MINERALS & MINING PROGRAM

Mine Reclamation Plan

BPM Security Bentonite Mine

Bentonite Performance Minerals, LLC
554 US HWY 212
Belle Fourche, SD 57717
307.896.2596

Contents

Reclamation Plan

BPM Security Project Bentonite Mine

1.0 Types of Reclamation (SDCL 45-6B-7 (1), ARSD 74:29:07:20 & ARSD 74:29:07:01)

Bentonite Performance Minerals, LLC (BPM) will restore all mining related disturbances to rangeland to match the surrounding area and to conform with the surface owner's future land use plans. The concurrent and collective reclamation techniques discussed in Section 5.0 and BPM's history of successfully reclaiming bentonite mines will ensure compliance with South Dakota Codified Law (SDCL) 45-6B-7 and Administrative Rules of South Dakota (ARSD) 74:29:07:01

2.0 Soil Survey (SDCL 45-6B-7 (2), SDCL 45-6B-8, SDCL 45-6B-9 & ARSD 74:29:07:17))

The SWCA Environmental Consultants (SWCA) baseline soils survey in Appendix C indicates there are seven overall soil mapping units consisting of five different soil series in the portion of the project area to be disturbed by mining activities. These soil series are very typical of soils in this region and areas mined for bentonite. These soil series should not create any unusual issues with revegetation once mining has been completed.

Soil profiles were described in the field, GPS coordinates were collected for each sample location and a minimum of one laboratory confirmation sample was collected for each soil series identified. From this data, determinations were made about the depths of available topsoil and subsoil materials. The study was conducted by Chris Johnston, a Certified Professional Soil Scientist, and the lab work was conducted by Pace Analytical in Sheridan, Wyoming.

The predominant soil series is Grummit clay found in both the Grummit and Grummit – Shale Land Map Units. This soil type occupies a large, central, east-west swath and is a thin, intermittent soil comprised of a thin A horizon over altered shale bedrock. The soil series in the northeastern and southeastern section of the project area are Bidman loam and Demar loam soil series. These soil types consist of deep to very deep, moderately well-drained and well-drained loams parting to clay with depth. The soil series in the western section of the Project are Hisle silt loam with a small area of Graner clay on the westernmost edge. These series consist of moderately deep and very deep soils that are well drained. Previous mining of any kind or variety has not occurred within the permit boundary. Overtime, previous surface owners permitted a Solid Waste Facility located in the southwest portion of the permit area and a Petroleum Contaminated Soils Land Farm was permitted in central portion of the permit boundary. The Request for Determination of Special, Exceptional, Critical or Unique Lands addresses these previous permits which are now closed.

Detailed reports on the baseline soil surveys are included in Appendix C of this mine permit application.

3.0 Vegetative & Wildlife Surveys (SDCL 45-6B-7 (3-4))

Environmental baseline surveys for both vegetation and wildlife were conducted by SWCA between September 2020 and May 2021 and are presented in Appendix C. The result of these wildlife and vegetation baseline studies indicates that the proposed permit area lacks any special, exceptional, critical or unique characteristics, features or habitats. The study also indicates that the area does not appear to be ecologically fragile. Plant and wildlife species here are adapted to withstand wide ranges of fluctuation in temperature, moisture, sunlight,

and wind. It is not expected that the proposed mining operation will have a strong influence on the total ecosystem.

The vegetation surveys show that the dominant plant community observed in the project area was perennial graminoid grassland. Species diversity and composition sampling show the area is dominated by native cool season perennial grasses with 95% of transects containing one or more species from this category. The dominant cool season grass is western wheatgrass. Introduced perennial grasses were the second most common type of grass found in 80% of the transects. Kentucky bluegrass and crested wheatgrass were the two most common introduced perennial grasses. Plant species in the survey area are very similar to the surrounding area.

The vegetation survey did not identify any state or federal threatened, endangered, or rare plant species or habitat in the Project area. No wetlands were identified. The survey also did not identify any critical resources as identified by SDCL 45-6B-92(3)) which include riparian zones, mountain meadows, wetlands, and threatened or endangered species.

A wildlife survey including a desktop analysis was performed, and results were field verified for potential habitat or presence of federally or state-listed species or other species of concern. No federally threatened or endangered species were observed within the Project and no habitat was identified. Additionally, no South Dakota State–listed endangered or threatened species were observed and no suitable habitat was identified within the Project. Seventeen bird species were observed in the survey area during breeding bird surveys, none of which were federally or state listed. The Project is unlikely to have population-level impacts on the observed species as any displaced individuals could use similar habitat adjacent to the proposed Project.

No bald eagle roosts or active raptor nests were observed within the project area; however, there is potential habitat that could be used by eagles within 0.5 mile of the project boundary. Four raptor species were observed during the surveys or general site visit.

The northern-long eared bat is unlikely to occur within the Project. There are no caves or mines that would provide suitable winter habitat within project boundary. There are also no large tracts of continuous forested land within the project area that would provide habitat.

The proposed Project is not anticipated to negatively impact populations of upland game birds, small mammals, reptiles, or big game species as any displaced individuals could use similar habitat adjacent to the proposed Project. The mine impacts will be temporary in nature as once the mining is completed, the area will be revegetated.

The proposed Project is not anticipated to negatively impact populations of amphibians, waterfowl and shorebirds, or fish species. There are no aquatic habitats present within the project boundary and no mine related activities will impact either the Belle Fourche River or Middle Creek.

4.0 Known Significant Characteristics (SDCL 45-6B-7 (5))

The land does not have unique historic, archaeologic, geologic, scientific, or recreational features of significance. The land can return to its former uses as soon as reclamation is complete.

4.1 Historic, Archaeological, Cultural, Ethnological

In June 2021, Quality Services, Inc. (QSI) conducted a Level III cultural resources inventory on behalf of BPM for the Security Project. Cultural resources records search with the South Dakota State Historic Society revealed no cultural resources in the area of potential effect but did reveal multiple sites within one mile. A pedestrian survey totaling 133.98 acres was conducted, covering the area of potential disturbance. One isolate flake was located during the inventory. The site is recommended not eligible for the National Register of Historic Places. QSI concluded that no significant cultural resources will be impacted by the proposed project.

4.2 Water Resources

The project area is located between two streams, the Belle Fourche River and Middle Creek. Middle Creek is a perennial stream located to the north-northwest of the project area. The stream is approximately 650 feet from the project boundary at the closest point. Middle Creek has an annual mean flow of 2 cubic feet per second in this area. The Belle Fourche River is south of the Project and is also a perennial stream. The stream is approximately 600 feet from the project boundary at the closest point. The Belle Fourche River in this area has an annual mean flow of 228 cubic feet per second (USGS 2021). No intermittent drainages are shown crossing the proposed mine on available topography maps.

The Belle Fourche River is classified for Fish/Wildlife Propagation Recreation and Stock Watering; Immersion Recreation; Irrigation Waters; Limited Contact Recreation; and Warmwater Permanent Fish Life. The river is classified as full support for the Irrigation Waters, Limited Contact Recreation and Fish/Wildlife Propagation Recreation. The river is listed as Non-Support for Immersion Recreation due to Fecal Coliform and as Non-Support for Warmwater Permanent Fish Life for Total Suspended Solids.

There are no surface water rights in the project area or within 1 mile of the project area.

National wetlands inventory mapping (Appendix A & D) and baseline vegetation surveys did not identify any wetlands in the project area.

There are no groundwater wells within the project boundary and no groundwater was encountered during exploration drilling. There are two wells located within 1 mile of the project boundary. The closest well is a domestic/stock well approximately 500 feet from the southwest corner of the project boundary. Information regarding these wells is shown on Table 1.

Table 1. Groundwater Wells within 1 mile

Owner	Location	Depth (feet)	Completion date	Type
Gary Steel	NESE, S31, T9N, R2E	510	2004	Domestic
Craig Saiz	NWNE, S31, T9N, R2E	560	2015	Domestic

Note: S = Section; T = Township; R = Range; N = north; E = east.
Source: SD DANR (2021).

4.3 Scenic

The project area has historically been used for rangeland. The area is similar to surrounding lands and does not exhibit unique scenic or aesthetic qualities. The area lies between Colony, Wyoming, and Belle Fourche, South Dakota, a region which has been historically mined for bentonite and sand and gravel. There are several active bentonite mines located in this area currently.

There are three residences located within 0.5 mile of the project boundary. All residences are located on the south side of 3 View Road, where no mining activity is planned. The closest residence is approximately 250 feet from the west side of the project boundary. The second home is approximately 1,000 feet from the southeast corner and the third home is approximately 2,000 feet from the west side of the project boundary.

The proposed permit land is rangeland pasture that is similar to surrounding lands and does not exhibit unique scenic or aesthetic qualities. A Petroleum Contaminated Soils Land Farm (PCS Farm) was permitted within the central portion of the permit area by the previous surface owners. The current surface owner applied for closure of the PCS Farm and it was closed by the DANR in 2008.

The proposed mining activities on the project will be visible to occasional motorists on the nearby 3 View Road (Butte County) and ranchers in the area but should not have a strong or significant impact. The nearest resident is Harvey A. Garr, who lives approximately .5 miles southwest of the proposed mining.

4.4 Topographic

There are no unique topographic features within or near the project area. The Project is located to the northwest of the Black Hills in Butte County, South Dakota, and is approximately 3 miles northwest of Belle Fourche, South Dakota. The Project sits on an upland area between the Belle Fourche River and Middle Creek. The area has minimal relief and generally slopes downward from the southwest to the northeast at approximately 1%. Elevations in the project area range from 3,080 to 3,115 feet above mean sea level, with the highest area being in the southwest corner.

4.5 Geologic

The project area is located in the Black Hills bentonite mining district, which includes parts of Crook County, Wyoming; Carter County, Montana; and Butte County, South Dakota (U.S. Geological Survey [USGS] 1962). Bentonite mining has occurred in the Belle Fourche area for over 50 years. Today, there are several active bentonite mines located between Colony, Wyoming, and Belle Fourche, South Dakota. The Project is in the Semiarid Pierre Shale Plains of the Northwestern Great Plains ecoregion (Bryce et al. 1996). The overall geologic structure of this area is that of a broad northwestward-plunging anticline, in which the strata dips gently toward the northeast, north, and northwest. The overall structure is interrupted, however, by several subordinate folds. The northern Black Hills district is an important source of commercial gel-forming bentonite (USGS 1962).

The formation of bentonite resulted from an in-situ alteration of volcanic ash. Volcanic ash was ejected into the atmosphere by volcanic activity and deposited as sediment in a marine environment. The volcanic ash was subsequently buried by sea and terrestrial sediments, encouraging diagenesis. The resulting alteration of volcanic ash is the material we call bentonite.

The many uses of bentonite include: bonding agent for sands used in foundry cores and molds; drilling muds for commercial and domestic wells; binder for animal and poultry feeds; in water retention applications; in cosmetics, wine clarification, cat litter, etc.

Mining on the Security Project Bentonite Mine will consist of surface mining for bentonite clay in the "Commercial" bentonite bed.

Based on exploration drilling conducted in 2019, the overburden depth ranges from 5 to 40 feet and the bentonite bed is approximately 26 inches thick. The drill logs and laboratory analyses do not indicate any special or unique geologic characteristics.

4.6 Scientific

Baseline soils, vegetation, wildlife and water resource surveys did not identify any special, unique, or critical resources in the Project. The baseline surveys show that project area is similar to what is typically found in this region. Bentonite mining and livestock grazing are typical in this area.

4.7 Recreational

There are no unusual or aesthetic features that would suggest that the area should be classified as a recreational site or that it has been used for recreational activities. The area has historically been used as rangeland. There are isolated areas, less than 5 acres, within the project area that have been used for equipment storage. The project area lies between and is adjacent to ACC Haul Road on the north side and the 3 View Road to the south. The 3 View Road acts as the southwest boundary of the project area.

Further beyond these two roads are Middle Creek to the north and the Belle Fourche River to the south. Both streams are perennial and are more than 500 feet, at their closest point, from the project boundary. Neither stream will be impacted by the proposed mining activity. Recreational use is limited to hunting, which is restricted by the landowners. Reclamation activities will occur concurrently with mining and as soon as possible after mining and will restore what recreational value exists within the proposed mine boundaries.

4.8 Critical Resources

The Request for Determination of Special, Exceptional, Critical or Unique Lands submitted to the SD DANR did not identify any Critical Resources within the permit area that may be affected by the mining or reclamation activities. Critical Resources include wildlife, aquatic, vegetation, water, visual resources, soils, cultural resources, air quality and noise.

5.0 Description of Reclamation (SDCL 45-6B-7 (6,7))

Reclamation of the approximately 86 acres of surface disturbances generated by mining and mining related activities will restore the surface to rangeland use after mineral removal will be conducted according to the following practices, methods and schedules.

5.1 Disposal of Refuse. (SDCL 45-6B-38, ARSD 74:29:07:05 & ARSD 74:29:07:13)

Disposal of refuse will not occur at the site during mining or during reclamation activities. Temporary storage of refuse in labeled storage containers may occur until proper offsite disposal can be arranged. BPM will remove any and all equipment upon final reclamation of the property. Site inspections in compliance with BPM's Best Management Practices (BMPs) ensure proper handling and disposal of refuse generated during the mining process. Mechanical processing is not a consideration for this mining project, therefore oversized rocks and tailings will not need to be managed.

The surface owner may have wind shelters on the property to support his cattle operation. Should the structures need to be relocated, BPM and the surface owner will relocate the wind shelters at a mutually agreed upon location that will not interfere with the mining or cattle operation. BPM will not erect any structures to support mining and reclamation activities.

5.2 Hydrologic Balance (SDCL 45-6B-41, ARSD 74:29:02:11 (1, 3 & 4), ARSD 74:29:07:08 (1-4 & 6) through ARSD 74:29:07:11 & ARSD 74:29:07:27)

Bentonite mining has historically occurred in proximity to the Belle Fourche River and Middle Creek between Colony, WY and Belle Fourche, SD. Bentonite mining does not occur within the respective channels. The USGS Sourdough Flats Topographic map (Appendix A) does not depict any perennial or intermittent streams, springs, lakes or significant ponds within the within the permit boundary. Therefore, surface water will not need to be diverted around the permit boundary. SWCA's baseline Hydrology report is located in Appendix C of this permit application.

Surface water runoff within the permit area will be managed in accordance with the Storm Water Pollution Prevention Plan (SWPPP) located in Appendix B. The primary outfalls are located along the eastern boundary of the permit area, BPM's mining and reclamation activities will not impact existing outfalls. Dams or ponds will not be constructed for utilization by BPM to support mining and reclamation activities. Operational use of water is described in Section 18 of the Operating Plan, chemicals will not be utilized for dust suppression. Potential adverse impacts to surface features and environmental resources will be avoided or minimized due to the local topography and BMPs discussed in the Storm Water Pollution Prevention Plan (SWPPP). 3 View Road acts as a ridge along the southern disturbance boundary, serving as a physical barrier between the mining operations and the Belle Fourche River. Any temporary sedimentation, erosion or drainage control structures shall be removed after the affected lands have been vegetated and stabilized.

Subsurface baseline water quality was not required by the DANR to support this permit application due to the shallow nature of bentonite mining. The nearest well draws water from approximately 2,550 feet above sea level (asl) and the anticipated depth of mining is above 3,000 feet asl. In addition, ground water was not encountered during exploratory drilling. There are no wells located within the permit boundary. There are two wells located within 1 mile of the project boundary. The closest well is a domestic/stock well approximately 500 feet from the southwest corner of the project boundary. Both of these wells are at least 500 feet deep and will not be impacted by the shallow bentonite mining activity. Well locations are depicted on the Surface Hydrology Map in Appendix A. The surface owner has a water line for Rangeland use located in the southern portion of Phase 5 on the Operating Plan Map. BPM intends to temporarily remove only the needed portions within the planned disturbance to allow for mining and will replace the water line in approximately the same location.

Wetlands will not be impacted due to wetlands not being present within the boundaries of the proposed mine on the U.S. Fish and Wildlife National Wetland Inventory Map in Appendix A and in Appendix D.

BPM shall conduct mining operations in compliance with state, federal and local water quality laws and dredge and fills laws as applicable. BPM shall also comply with Dredge and Fill laws in sections 401 and 404 of the Federal Clean Water Act as they existed on February 1, 1987.

5.3 Storm Water Pollution Prevention (SWPP) ARSD 74:29:02:11 (7 – 9)

BPM will apply for coverage under SD's General Permit for Storm Water Discharges Associated with Industrial Activities prior to beginning mining operations at the facility. A Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the mining activities as is required for coverage under the general permit to discharge. The SWPPP is included in Appendix B of this application. The SWPPP lists BMPs that BPM will utilize to prevent pollution from occurring during storm water discharge at the mine during active and inactive periods for the mine. More information on the SWPPP is included in Section 9.0 of the Security Project Operating Plan.

5.4 Backfill, Grading, Contouring Plans and Schedules (SDCL 45-6B-46)

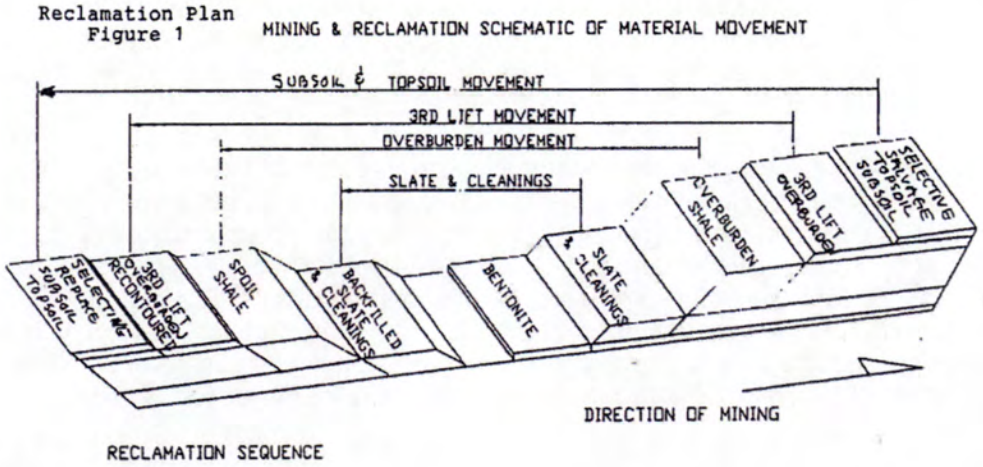
The BPM Security Bentonite Operating Plan Section 5.0 outlines the general mining progression and schedule. This Reclamation Plan section describes detailed and general reclamation practices which demonstrate timely reclamation that is concurrent with the mining operations. Ti also depicts reclamation activities with provides surface configurations that support the specified land uses. There are no roads, permanent pools or lakes which will be disturbed by mining activity where reclamation will not be feasible. A PCS land farm is located within the proposed disturbance area. No reclamation issues are expected as DANR has approved the closure of this land farm. If unforeseen soil degradation is encountered during the mining process, BPM will notify DANR immediately to generate a resolution plan. As discussed in the operating plan, soil salvaged from the land farm shall be piled separately from other soils. Individual pits will be reclaimed within a five-year period or when the pit is ready to be reclaimed as part of the concurrent sequence. Disturbances for mine camps, stockpiles and other reasons ancillary to mining will be reclaimed as soon as reasonably possible.

BPM will not utilize tailings impoundments, tailings disposal areas, heap leaching facilities nor spent ore disposal areas and, therefore, this Reclamation Plan does not address such facilities or areas.

5.5 Backfill Progressions, Temporary Overburden Stockpiles and Schedules (SDCL 45-6B-37, ARSD 74:29:07:03 & 74:29:07:04)

The BPM Security Project Bentonite Operating Plan Sections 5.0 & 6.0 and Operating Plan Figure 1 outline the general backfill progression and demonstrate that backfill is placed at approximately the same stratigraphic level from which it was removed. The cleanings from the top of the bentonite bed and other slate/shale cleanings are backfilled on the previous pit bottom. The "tiered" system (Reclamation Plan Figure 1) continues by replacing the lower overburden layers from the current pit over the cleanings. The upper portion of the mined overburden from the current pit is placed at an intermediate level in the backfilled pit. Lastly, the third lift (immediately below the subsoil) from the current pit is placed closest to the surface. This third lift is graded to the desired contour and surface configuration as shown in Reclamation Plan Figure 1.

Reclamation Plan
Figure 1



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

5.6 Permanent Out of Pit Overburden (SDCL 45-6B-37, ARSD 74:29:07:03, ARSD 74:29:07:04 & ARSD 74:29:07:14 (1))

The BPM Security Bentonite Operating Plan Section 5.0 discusses an initial pit cut being excavated, deposited nearby the initial pit cut where soils have been removed and finally contoured to the existing topography. Contouring is accomplished by utilizing the existing topography and the permanent features to create a continuous reclamation surface that blends into the existing topography.

If BPM creates a permanent overburden stockpile, the reclamation will achieve the following:

- Overburden placement will not occur on native slopes that exceed 20 degrees (approximately 33% or 3:1 slopes).
- Stabilizing the overburden slopes by grading and contouring them to approximately 33% or 3:1, or less, to blend with adjacent native and reclaimed lands.
- Covering the stabilized overburden by covering it with subsoil and topsoil.
- Seeding the topsoil with an approved permanent seed mix.
- Overburden placement will not block intermittent or perennial drainage channels. If any existing drainage is augmented, it shall adhere to Section 8.0 of this Reclamation Plan.
- Areas outside of permanent reclamation features shall be protected by the above practices and monitoring and remediation if necessary.
- BPM has held a record of successful reclamation with these same practices in Montana and Wyoming on significantly similar projects.

BPM believes that the operating and reclamation practices contained within this permit application in conjunction with the proposed size and topographic location do not merit the need for a critical earthen structure analysis. The proposed stockpile will not impound water, will be sloped and allow proper drainage, will not significantly alter the existing topography and will not impact the post-mine land use. BPM has constructed permanent overburden stockpiles in Montana and Wyoming as part of their mine and reclamation operations without being required to conduct a stability analysis. BPM has a record of success with post mine topography by implementing the same practices as described in the operating and reclamation plan, SWPPP and other supporting information provided which BPM applies at their mining operations. In the event the board determines that BPM must demonstrate long-term stability of the dump through geotechnical stability analysis conducted by a registered professional engineer competent in the field of geotechnical analysis, BPM requests that the criteria for evaluation be provided to BPM to fulfill the request.

5.7 Reclamation Progression Maps and Schedules

The BPM Security Project Bentonite Operating Plan Section 5.0 outlines the general progression of mining and reclamation during the life of the mine. The Operating Plan Map in Appendix A illustrates the proposed sequence and schedule for mining operations within the proposed mine. As described in Section 5.4 of this reclamation plan, reclamation progress is concurrent with mining progress based on the sequential way pits are mined and backfilled.

Seeding is conducted annually usually in the fall of the year to take advantage of proven reclamation techniques. Seeding may also occur in the spring in the event a given year provides for suitable planting. All reclaimed land that is contoured and ready for seeding will be seeded annually as the mining progresses according to the schedule on the Operating Plan Map.

As per SDCL 45-6B-36, BPM will within 60 days of the anniversary of the permit approval submit an updated Operating Plan Map illustrating the mining and reclamation progress made over the course of the past year and proposing any changes in the proposed mining time schedule.

5.8 Post Mining Slopes (ARSD 74:29:07:20(2))

In general, the post mining slopes will approximate the premining slope configurations except where initial "box cut" overburden material is permanently reclaimed. The reconstruction of approximate original slope gradients and timely completion of reclamation will assure stability of post mining landscapes.

The slopes on the final pit in any given sequence may have slopes as steep as 3:1 (~20 degrees or 33%). The permittee will ensure that these slopes blend with surrounding native lands and reclaimed lands, that the slopes support the post mining land uses and that the slopes are stable.

5.9 Grading and Post Mining Topography (SDCL 45-6B-37 & ARSD 74:29:07:04)

All post mining topography will be integrated with the surrounding topography and terrain and will re-establish stable contours consistent with the existing pre-mining topography and post mining land uses. BPM has provided a Post-Mine Contours Map in Appendix A that shows expected topography of the reclaimed land.

Grading will occur during concurrent reclamation as described in Sections 5.0, 6.0 and 7.0 of the Operating Plan and Sections 5.5 & 5.6 of this Reclamation Plan. All disturbed mining related features such as temporary roads, piling areas, pits and mine camps will be graded and contoured when operationally feasible.

BPM will reclaim the final pit in a pit series by either utilizing overburden generated and stored from the initial pit(s) or by reducing the highwall and creating through drainage where necessary. The reduced highwall slopes may be as steep as 3:1 (18 degrees or 33%) and will be revegetated for stability. To ensure stability on relatively steep slopes and/or long slope lengths, BPM will break up these slopes by creating terraces during grading the third lift backfill. These terraces will generally be approximately the width of a single pass of reclamation equipment. The gradient of the terraces will be as gentle as possible and non-erosive. The downstream end of terraces will feather into the reclaimed surfaces to create non-erosive transitions.

Reclamation features, including backfilled pits, reclaimed pit with highwall reductions, backfill pits and/or any other permanent reclamation feature shall be visually and functionally compatible, structurally stable and suitable for the post mining land use of rangeland by being subject to the following:

- Reclamation features shall not have slopes that exceed ~20 degrees (33%).
- Reclamation features shall provide for suitable through drainage to prevent water pooling, undercutting or otherwise eroding the reclamation efforts.
- Reclamation features shall be suitably compacted by the operating equipment once located.
- Reclamation features shall be contoured and blended into the existing adjacent topography.
- Reclamation features shall not be equal to or greater than the angle of repose.
- BPM shall use equipment suitable for reclamation and will include graders, dozers, backhoes, articulated trucks, and other equipment as needed in order to obtain the needed reclamation slopes, compaction, grading and contouring.

Backfilled pits shall be visually and functionally compatible with the pre and post mining contours. Backfilled pits are filled with overburden material in accordance to section 5.5, the relocated overburden is compacted by the mining equipment during the placement process. BPM does not anticipate notable loss of volume after extracting the bentonite due to the swell and compaction of the overburden, resulting in structural stability and visually minimal differences in pre and post mining topography. Therefore, the final slopes shall not exceed the angle of repose.

Un-backfilled pit and highwall reduction of any final pit not fully backfilled shall have the following:

1) Slopes shall not exceed 33%
2) Shall be covering the stabilized overburden by covering it with subsoil and topsoil.
3) Slopes will approximate existing topography and through drainage shall be maintained.

For more information on permanent out of pit reclamation features, please see Section 5.6.

5.10 Through Drainage

All backfilling, grading and contouring operations will maintain through drainage on all reclaimed lands. There will be no depressions which accumulate water unless a similar depression was already existing prior to mining. Restored drainage patterns and through drainage will be designed to prevent pollution or diminution of the quantity and quality of surface and subsurface

waters. Generally, final drainage patterns shall resemble pre-mine drainage patterns to the effect that fall out locations shall remain the same and shall receive approximately the same amount of water prior to mining activities.

5.11 Subsoil and Topsoil Redistribution Methods (SDCL-6B-7 (11), SDCL 45-6B-46 (2), SDCL 45-6B-40 & ARSD 74:29:07:07 (1,3-8))

5.11.1 Introduction

The BPM Security Project Bentonite Operating Plan Sections 5.0 & 6.0 outline BPMs topsoil and subsoil salvage and storage (stockpile) procedures. BPM practices concurrent reclamation whenever possible to minimize the amount of topsoil and subsoil in a stockpile and duration of time stockpiles are retained. BPM shall remove and replace subsoil and topsoil according to the topsoil salvage depths as recommended in the September 2021 SWCA Security Project Baseline Soil Survey. Temporarily stored subsoil and topsoil shall be marked with clearly identifiable signs containing letters not less than six inches high. The volume of topsoil required to establish vegetation is estimated to be the same amount of subsoil (93,078.2 CY) and topsoil (31,398.1 CY) to be removed from the respective areas. Should BPM discover a shortage of subsoil and/or topsoil to revegetate the disturbance area as described in the plan, BPM shall consult with the DANR to develop a resolution plan. A Petroleum Contaminated Soils Land Farm (PCS Farm) was permitted within the central portion of the permit area by the previous surface owners. The current surface owner applied for closure of the PCS Farm, and it was closed by the DANR in 2008. Soils from the PCS Farm will be extracted and piled separately from other soils salvaged within the permit boundary. These same soils will be replaced within the PCS Farm footprint upon final reclamation. These soils will be seeded and revegetated in the same manner as all other lands and in accordance with this reclamation plan. BPM anticipates 17,328 cubic yards of topsoil and 51,221 cubic yards of subsoil to be salvaged from this area. The Operating Plan Map in Appendix A depicts soil storage space for these soils. This space allows for four piles to be constructed that will have a capacity of ~20,000 cubic yards per pile. Trees, large rocks and other waste material shall be identified, collected and appropriately discarded offsite prior to soil salvaging activities. At this time, no fertilizer or other soil amendments have been identified to be added to the topsoil to establish and maintain vegetative cover.

5.11.2 Subsoil Redistribution Methods and Depths

BPM will use scrapers to replace all subsoil. As shown in Reclamation Plan, Figure 1, the available subsoil will be replaced on top of the recontoured "third lift" overburden. Should BPM determine that the third lift, has been unduly compacted, the high compaction areas will be ripped to eliminate slippage between the backfill and subsoil. If BPM is direct hauling from a new pit cut, all the salvaged subsoil will be redistributed at approximately uniform depths. When redistributing stockpiled subsoil, the redistribution depths will be approximately uniform. Subsoil will be replaced as soon as operationally feasible. The subsoil will be graded as necessary, during grading activities excessive compaction will be reasonably avoided.

5.11.3 Topsoil Redistribution Methods and Depths

BPM will use scrapers to replace all topsoil as illustrated in Reclamation Plan, Figure 1. If BPM is direct hauling from a new pit cut, all the salvaged topsoil will be redistributed on available

subsoil at approximately uniform depths. When redistributing stockpiled topsoil, the redistribution depth will be approximately uniform. The redistributed topsoil may be graded and will be left in a roughened condition to protect the topsoil from wind and water erosion. The permittee will always conduct operations to limit excessive compaction of the redistributed topsoil and efforts will be made to redistribute topsoil as soon as operationally feasible.

5.12 Revegetation and Seeding Method (SDCL 45-6B-39, ARSD 74:29:07:05 & ARSD 74:29:07:06)

5.12.1 Seedbed Preparation, Seed Mix and Seeding

BPM has consulted with Butte County Natural Resources Conservation Service and the Surface Owner to select a seed mix that will support the postmining rangeland land use. The seed mixture includes a variety of species selected based on the soil type and current USDA_NRCS guidance. The NRCS has also provided a seed mixture to support annual crop cover for temporary features, such as temporary soils stockpiles.

Permanent seeding will occur from September to November each year as long as the topsoil is not frozen. Given suitable planting conditions, BPM may elect to seed in the spring as well. Seeding will occur as soon as reasonably possible and opportunities for areas to be seeded will be assessed annually. The seedbed will be prepared with a no-till drill, which consists of a specialized disk set-up that opens the dirt to allow for the placement of seeds at an appropriate depth and then presses the soil back over the seed promoting good soil to seed contact and prevents erosion. Seeding will be on the topographic contour unless safety considerations overrule or are perpendicular to the prevailing wind direction on very flat lands. Topsoil may be seeded with a temporary crop cover in the event permanent placement of the topsoil occurs untimely in consideration to optimal seeding timeframe. The temporary cover will protect the topsoil and help conserve available moisture. No irrigation of the reclaimed and revegetated lands is proposed.

5.12.2 Seed Mix Substitutions

BPM commits to the permanent seed mix in the Seeding Plan and Record when the mix components are readily available. Seed purchasing history for the Killinger and Purple permits, where 7 of the 9 species, and consultation with BPM's seed vendors indicates that purchasing the approved seed mixture annually will be likely. In the event any species approved in this permit is unavailable, BPM shall consult with the DANR, the Butte County NRCS and the Surface Owner to determine what varieties may be available and if a minor modification is needed to supplement the approved seed mixture. In addition, BPM will submit a Technical Revision to the DANR for approval prior to any changes being made to the seed mix.

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

BPM may need to substitute a small number of species given the above considerations. If the total number of substitutions is one (1) or more, BPM will secure prior approval from the landowner and the SD DANR, Board of Minerals and Environment.

5.12.3 Vegetation Reference Area (SDCL 45-6B-39 & ARSD 74:29:07:06 (2-3))

BPM and SWCA have selected vegetation reference areas which are depicted on the Soils Salvage Map in Appendix A and Vegetation Map in Appendix C. Reference areas were selected based on their representative qualities of rangeland use and similarity to the proposed disturbance sites. The reference areas are currently and will continue to be utilized as rangeland. The eastern reference area is 3.9 acres, and the western area is 3.8 acres, both of which are located outside of proposed disturbance and will not be impacted by mining. These areas are large enough to measure reclamation success and are representative of rangeland surface use. Existing fencing and the surface owners use of the surface will help ensure similar management of the reference area and the proposed permit area.

5.13 Husbandry Practices on Revegetated Lands (SDCL 45-6B-43 & ARSD 74:29:07:15))

5.13.1 Noxious Weed Plan

BPM will use certified weed-free seed and standard agricultural practices to minimize the introduction of noxious weeds. BPM will consult with appropriate county and state agencies when other weed control methods, e.g., spraying, appear appropriate to control localized weed infestations on stockpiles or revegetated lands. BPM will adhere to the practices approved by the Butte County Weed and Pest Board on pages 176 and 177 of this application until the reclaimed lands are fully released from the reclamation performance bond.

5.13.2 Protection of Revegetated Lands (ARSD 74:29:17:20 & SDCL 45-6B-45 (2))

BPM will protect newly seeded areas from livestock, as needed, until the vegetation is self-renewing. BPM will employ some combination of the following practices to accomplish this standard.

5.13.3 Selective Fencing

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

5.13.4 Grazing Deferral and Controlled Grazing

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

5.14 Evaluation of Revegetation Success, Bond Release and Post Closure Plan (SDCL 45-6B-5(5), SDCL 45-6B-91, ARSD 74:29:07:01 (1-3)), ARSD 74:29:07:20)

BPM will restore a stable, non-erosive post mining surface which promotes a post mining rangeland use. Revegetation practices will establish cover sufficient to prevent undue erosion. Revegetation will establish cover and production and species diversity and composition which support the land use. A Revegetation Success Plan for evaluating reclamation success based on completeness standards as set in ARSD 74:29:07:06 can be found attached to this Reclamation Plan. The revegetated lands will be reclaimed to support a livestock carrying capacity that is equivalent to that of the surrounding area or to that of the reference area; slopes

will not exceed three to one unless approved by the SD DANR, and reclamation will be deemed complete when the reclaimed range can support proper stocking rates for two consecutive years prior to bond release. All reclamation activities for the duration of the mining project shall be subject to the concurrent, interim, and final reclamation requirements of chapter 74:29:08 and as discussed in this permit application. Sampling for final bond release will be in accordance with the Reclamation Requirements section of the Reclamation Plan contained within this application.

5.15 Drainage, Sediment and Erosion Control Plan (ARSD 74:29:02:11(9), ARSD 74:29:07:04(2), ARSD 74:29:07:08 (4) & SDCL 45-6B-41)

It is a common mining practice for BPM to construct and implement BMPs, as described in detail in the SWPPP, to reduce or prevent sediment loss and erosion potential. BMPs consist of constructing temporary sediment traps to reduce water flow rates, berms to prevent storm water from entering open pits, diversions to re-route water from contacting open pits and soil piles. Soils piles will be seeded to establish vegetation and prevent erosion. Final reclamation topography and temporary piles will be constructed with slopes that are no greater than 3:1. All diversion, berms and sediment traps will not be permanent and will be removed as part of final reclamation. Temporary diversions and sediment traps will be implemented as needed throughout the permit area as mining progresses. The dimensions for the BMPs will vary at each location in efforts to construct small enough features to minimize disturbance but large enough to be effective. Temporary sedimentation, erosion or drainage control structures shall be removed once a features purpose is no longer needed or after affected lands have been vegetated and stabilized.

Final reclamation features will have reclamation slops of 3:1 or less, they shall be compacted by heavy operating equipment, be constructed to allow for proper drainage, topsoil and subsoil placed in accordance with this permit application, seeded and subject to site monitoring and remediation as necessary to ensure final reclamation success. These factors shall reduce/remove the potential for slides occurring during final grading and after reclamation is complete.

6.0 Reclamation Map (SDCL 45-6B-7(8))

BPM has included a Post Mine Land Use Map in Appendix A.

7.0 Slides, Subsidence, or Damage Protection, Fencing (SDCL 45-6B-42, ARSD 74:29:07:16 & ARSD 74:29:07:02 (5))

BPM minimizes hazards posed by post reclamation slides and subsidence by adequately compacting and contouring backfilled excavations to merge with the undisturbed topography. During contouring activities, the operating equipment sufficiently compacts overburden which prevents settling and subsidence post reclamation. Drainages are constructed to prevent surface water runoff collecting or pooling to ensure proper through drainage to protect the reclaimed areas. Postmining contours will approximately match premining contours, therefore there will be minimal topographic changes or hazards upon reclamation that will require mitigation or management.

During mining operations, BPM maintains shallow highwalls on advancing and retreating pit faces during mining activities, these shallow slopes allow suitable ingress and egress for wildlife, livestock and equipment. Highwalls with steeper slopes are bermed in accordance with MSHA requirements to prevent equipment and deter wildlife and livestock from entering pit areas with relatively steeper slopes. Reclamation activities remove highwalls by backfilling excavations or by contouring excavations to merge with the surrounding topography as discussed in Section 5.9.

Fencing may be utilized to prevent livestock from impacting newly seeded areas as discussed in Section 5.13. Fencing of mining related features is not anticipated post reclamation as the premining contours will approximately match the post mining contours. BPM and the surface owner will mutually agree upon fence locations during mining and reclamation activities that support both the mining operation and the surface owners' activities.

Mining and reclamation activities will occur on private land. The surface owner controls access to his surface through the use of adequate fence and gates on the perimeter of his property restricting access to the general public. The portion of the surface owner's property subject to mining and reclamation activities will be contained within the fence. BPM will access the property across a gate and/or cattle guard/auto gate from 3 View Road. The gate shall remain controlled by the Surface Owner and BPM shall comply with the Surface Owners requests to keep the gate locked if the surface owner desires the gate to be locked. BPM's access to the property is governed by a formal agreement between BPM and the Surface Owner. The Surface Owner does not allow the general public to enter his property without prior consent from the Surface Owner.

8.0 Location of Certain Proposed Features (ARSD 74:29:07:27, ARSD 74:29:07:14 (1), ARSD 74:29:07:12 (9) & ARSD 74:29:07:09 (1 - 5 & 7- 8))

BPM is not proposing the creation of any reservoirs, tailings ponds, tailings disposal sites, dams or dikes during the mining activities at the site. BPM intends to construct a diversion channel to appropriate water around the proposed permanent out of pit overburden stockpile. BPM does not intend to change the outfall location and the existing channel shall remain relatively close to its current location however, the center line of ephemeral flow will be relocated to the north within the same drainage itself. The diversion will not be constructed in rock and will have sides that are no steeper than 2 horizontal to 1 vertical to maintain stable sides and to protect wildlife. BPM will utilize BMPs (riprap, filters etc.) to ensure that erosion in the diversion is minimized, surface water does not impact existing or proposed topographic features, topsoil storage areas or vegetation resources. Culverts will be utilized as necessary to ensure that surface waters can flow through or bypass any topographic features during the mining and reclamation activities. Upon final reclamation, any culverts employed will be removed and topography will be restored to premining contours to ensure stable through drainage. Other transport facilities and utilities (as they may apply) shall be constructed and maintained to control degradation of water quality and quantity. Diversion ditches shall be constructed to minimize hazards to humans, wildlife and livestock as needed. All surface water diversions shall be capable of carrying a minimum of a two-year six-hour precipitation event.

9.0 Stripping, Storage and Replacement of Overburden

Section 5.0 of this reclamation plan includes information on the Stripping, Storage and Replacement of Overburden.

10.0 Reclamation Costs (ARSD 74:29:02:08, SDCL 45-6B-7(12))

Detailed costs are attached to this Reclamation Plan. The DANR will hold the full bond amount for all surface disturbance activities which include soil removal and storage, grading and seeding for the entire planned permit disturbance. BPM's will account for two years of overburden (500,000 cubic yards) in the reclamation bond amount, which coincides with the mine and reclamation plan activities. Reclamation costs were calculated using Wyoming Department of Environmental Quality, Land Quality Division's Guideline 12.

11.0 Interim Reclamation and Temporary Cessation (ARSD 74:29:08:02, 74:29:07:01 (2) & 74:29:07:07)

BPM does not intend to cease operations for a period of more than two years which would prevent concurrent reclamation from occurring. In the event operations cease for more than 2 years, BPM will initiate interim reclamation which shall conclude one year after the two-year period. Interim reclamation will include regarding and recontouring overburden, applying subsoil and topsoil in accordance with the practices discussed in this permit application and revegetating. The described practices in the Operating and Reclamation plans and SWPPP ensure that all resources shall not be diminished in quality or quantity, shall be protected from erosion and shall be available for final reclamation in accordance with ARSD 74:29:07 including part 07 subsection 2. In the event BPM determines the facility will need to enter a temporary cessation BPM shall consult with the DANR to ensure that all activities conducted leading up to the temporary cessation are in accordance with the administrative rules and codified law of South Dakota.

12.0 Description of Critical Resources affected by Reclamation Plan (SDCL 45-6B-92)

(1) The proposed mine site and vicinity lacks suitable habitat for any federally threatened, endangered, or candidate wildlife species with the exception of the Northern Long-eared Bat. This species is unlikely to inhabit the mine site itself due to the lack of suitable habitat which would include cave or underground mines and no large tracts of contiguous forested habitat. The Black Hills National Forest is located to the south of the mine site; therefore, this species may be present in the vicinity of the mine site however, it is very unlikely to observe this species within the mine site itself. Of the animal species listed as threatened or endangered by the State of South Dakota, potentially suitable habitat is present on the site or in the vicinity for the Osprey, Peregrine Falcon and Swift Fox. The Swift Fox inhabits open shortgrass or mixed-grass prairies, the mine site and surrounding area can contain open grasslands therefore the fox has low potential to occur at the mine site. The Black Hills National Forest is the only location within South Dakota that may occupy in the summer months. Trees suitable for nesting is present within the vicinity of the mine site however, not located within the mine site itself. The Peregrine falcon are

considered statewide migrants are uncommon during the winter months and has limited nesting distribution in South Dakota. It is unlikely that this species would occur in the survey area; any occurrences would likely consist of individuals passing through the area. The SD GFP has not designated any critical deer winter range in Butte County.

(2) There do not appear to be any special, exceptional, critical, or unique aquatic resources within the Security Project. The Belle Fourche River is located approximately one tenth of a mile south of the proposed mine boundary. There is a topographic high separating the mine site from the Belle Fourche River and mining activity is not expected to affect the Belle Fourche River due to the topographic relief between the mine and the river. Middle Creek is located approximately one tenth of a mile to the north-northwest of the proposed mine boundary and is outside of the permit boundary. The ACC Haul Road separates Middle Creek from the permit boundary and will not be disturbed. Storm water pollution prevention BMPs as listed in Section 6.0 of the SWPP Plan will be employed to prevent or minimize any impacts to either stream.

(3) The vegetation survey did not locate any unique vegetation communities or species on the proposed permit. There were no threatened, endangered, and sensitive vegetative species identified during baseline surveys. (See Vegetation Survey)

(4) Exploration drilling encountered no ground water within the proposed mine boundaries; therefore, it is anticipated that groundwater will not be impacted. BPM is not aware of any domestic or livestock wells within the proposed mine boundary.

(5) Visual resources are not unique within the proposed permit boundary. Bentonite mining is common in the region and is frequently visible from roads in the area. The mining operation will be readily visible from 3 View Road and can also be seen from a distance from Highway 212 in both the NW and SE directions. Pits, stockpiles equipment and other mine facilities will be visually inspected every operating day while BPM has equipment and a presence onsite. Should BPM demobilize from the mining area for any duration greater than 4 weeks, BPM shall conduct a visual site inspection monthly to ensure the obligations of this permit application are met. BPM's optimized seasonal mining and concurrent reclamation will reduce the opportunity for visual impacts to the public. BPM does not anticipate the need to visually block the proposed activities from the public utilizing 3 View Road or Highway 212.

(6) The soil surveys and topsoil/subsoil analyses did not reveal any unique properties of the soils on the proposed permit, although erosion hazard requires best management practices during reclamation and revegetation. The shale-bentonite outcrop (SBO) soil unit encompasses less than seven percent of the proposed disturbance area and has no salvageable topsoil or subsoil. No other soils were identified with a low revegetation potential.

(7) A Class III cultural resource inventory was conducted for Bentonite Performance Minerals' SD Permit Colony Mine, Security Claim area, Belle Fourche Archeological Region, Butte County, South Dakota by Quality Services, Inc. This resource inventory showed that the land does not have unique scenic historic, archeologic, topographic, geologic, ethnologic, scientific, cultural, or recreational feature of

significance. The land can return to its former uses as soon as reclamation is complete.

(8) Dust suppression is accomplished by water spraying to minimize dust. The nearest residence is owned by Harvey Garr located approximately two tenths of a mile to the southeast of the proposed permit boundary. Haul trucks will utilize 3VVV Road to gain access to Highway 212 and then travel northwest to BPM's processing plant in Colony, WY.

(9) Noise levels generated by BPM's mining and hauling operations have been within acceptable ranges. No complaints have been received from any of BPM's previous mining operations. Mining and haulage activity are generally conducted during daylight hours to minimize noise impacts to nearby residence.

(10) The S.D. Department of Environment and Natural Resources has determined that the proposed permit area does not have special, exceptional, critical, or unique land status.

13.0 Post Mine Land Use (ARSD 74:29:06:02 (1-4))

(1) This permit application itself demonstrates that the affected land has the capability of meeting reclamation criteria of chapter 74:29:07.

(2) All land surrounding the purposed mine is currently used for livestock grazing, which demonstrates that the postmining land use is compatible with surrounding land uses.

(3) The reclamation plan included in Section 3 of this permit application details support and maintenance activities required for successful implementation.

(4) (a) BPM has had successful reclamation operations in similar conditions throughout parts of Wyoming and South Dakota, including the Purple and Killinger mines. The primary land use on the proposed permit has been as rangeland for livestock grazing for many years and this will be the postmining use.

(b) BPM and the Solid Waste Program of the DANR have identified and discussed potential environmental impacts regarding the pre-existing permitted and closed Solid Waste Facility and Petroleum Contaminated Soil Land Farm. BPM has discussed the known information about these facilities and has adopted mining and reclamation practices in this permit application to address initial concerns brought forth by the Solid Waste Program of the DANR. BPM anticipates working closely with the DANR to ensure mining and reclamation practices described are effective and the known potential impacts are mitigated and/or avoided.

(c) The outline of costs found in the Section 3 of the permit application shows that the proposed operation is practicable on the basis of private financial capability for completion.

(d) The schedule found in Section 2 of this permit application integrates the mining operation and reclamation with the postmining land use.

(e) The proposed mine plan is consistent with existing state and local land use plans and programs.

(f) The proposed mining and reclamation operations will be of beneficial use.

14.0 Statement of Compliance to Permit Requirements (SDCL 45-6B-32 & SD CL 45-6B-33 (1-6)) & ARSD 74:29:07:18))

BPM's Permit Application and all supporting components have been constructed and compiled to be in compliance with any and all applicable local, state and federal laws for lands that are suitable for mining as defined by SDCL 45-6B-33. This application has been reviewed by BPM and their consultants to ensure the Permit Application is:

- Complete.
- BPM either has retained, or will retain, a bond that is suitable for the proposed actions contained within this permit application prior to commencement of mining.
- BPM intends to pay all fees required by the DANR and its Divisions as well as any other fees in order to hold and maintain a mining permit.
- There are no man-made structures located within two hundred (200) feet of the proposed land to be affected.
- The Operating and Reclamation plans do not violate any county zoning or subdivision regulations as supported by the Zoning Letter from Butte County, SD in Section 1 of this Permit Application.
- The proposed mining operations and reclamation can be carried out in conformance with the SDCL 45-6B-35.
- BPM is not in violation of the provisions of SDCL 45-6B with respect to any mining operations in this State.
- Reclamation of the affected land pursuant to the requirements of this chapter is physically and economically feasible.
- Substantial disposition of sediment in stream or lake beds, landslides, and water pollution is feasibly preventable.
- The proposed mining operation will not result in the loss or reduction of long-range productivity of aquifers, public or domestic wells, watershed lands, aquifer recharge areas, or significant agricultural areas.
- The biological productivity of the land is such that the loss would not jeopardize threatened or endangered species of wildlife indigenous to the area.
- The probable adverse socioeconomic impacts of the proposed mining operation do not outweigh the probable beneficial impacts of the operation.
- The Request for Determination of Special, Exceptional, Critical, or Unique Lands (Request) was received by the DANR in December of 2021. The DANR has determined that the lands to be affected by the mining operation are not unsuitable lands as defined by SDCL 45-6B-7 (5) and SDCL 45-6B-33 (1-6) for the activities described in this permit application.
- BPM will submit to the DANR, annually within sixty (60) days of the anniversary date of the permit, map(s) on the scale provided by subdivision 45-6B-10 (3) that depicts the reclamation accomplished and any deviations from the originally approved operating and reclamation plans. The Operating and Reclamation plans in the Permit Application conform to the requirements of 45-6B-45.
- The Reclamation Plan was developed by Jennifer Henson (previously Hartman), Michael Barr, Nathan Swanson, and Jay Pfarr of Halliburton/BPM in conjunction with the support of Lecia Craft of SWCA. Jennifer and Jay have been with Halliburton/BPM for over 10 years working on mine permitting and operations and Michael and Nathan have been with the company for over 5 years working on mine permitting and operations. Lecia Craft has worked in the mining industry for the majority of her career in mine planning, permitting and reclamation.

GEOLOGIC X-SECTION

Representative cross section of the Commercial bentonite bed in the Northern Black Hills

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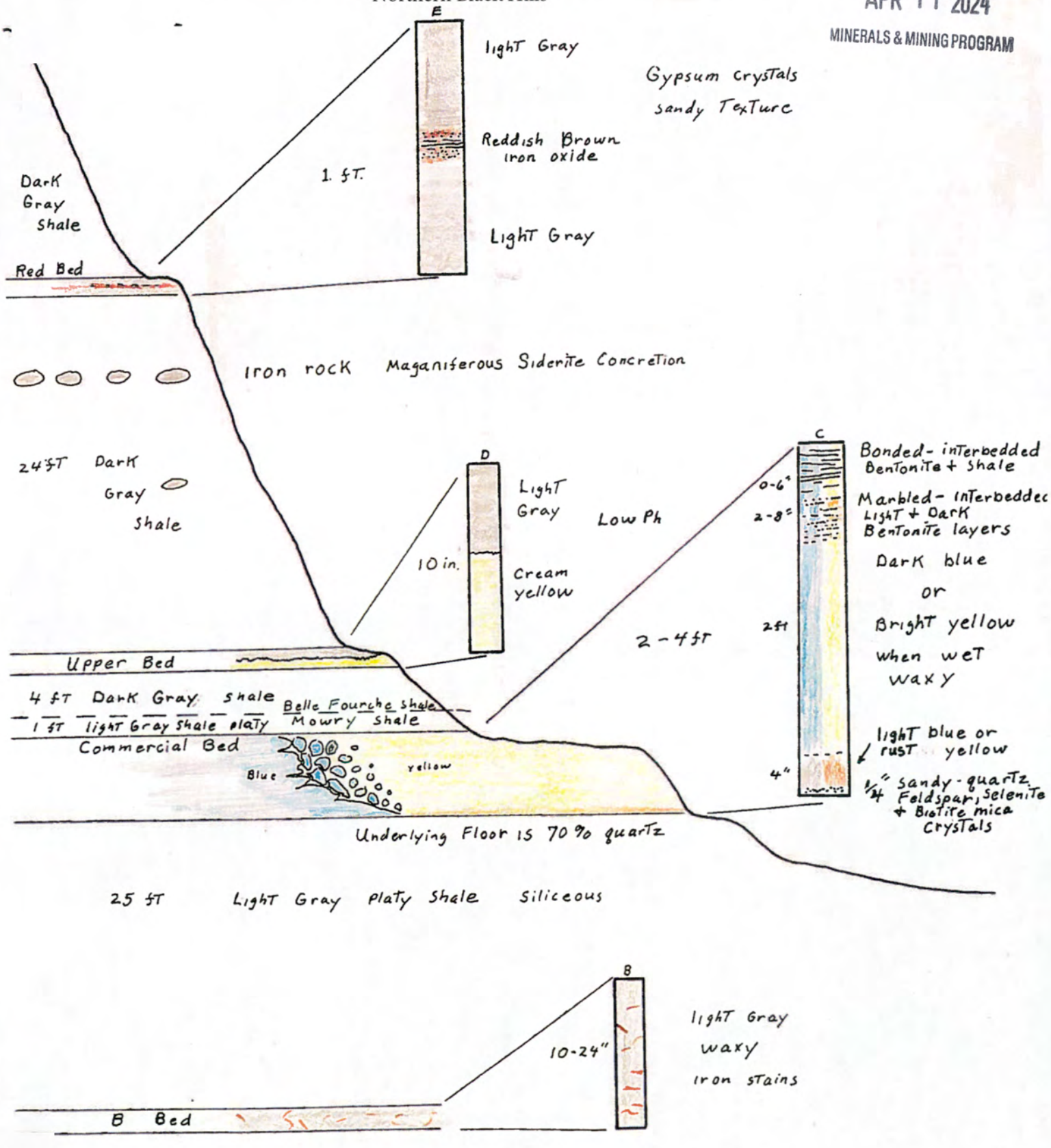

Criteria: ARSD 74:29:02:11 (2)
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Geological Cross Section Summary

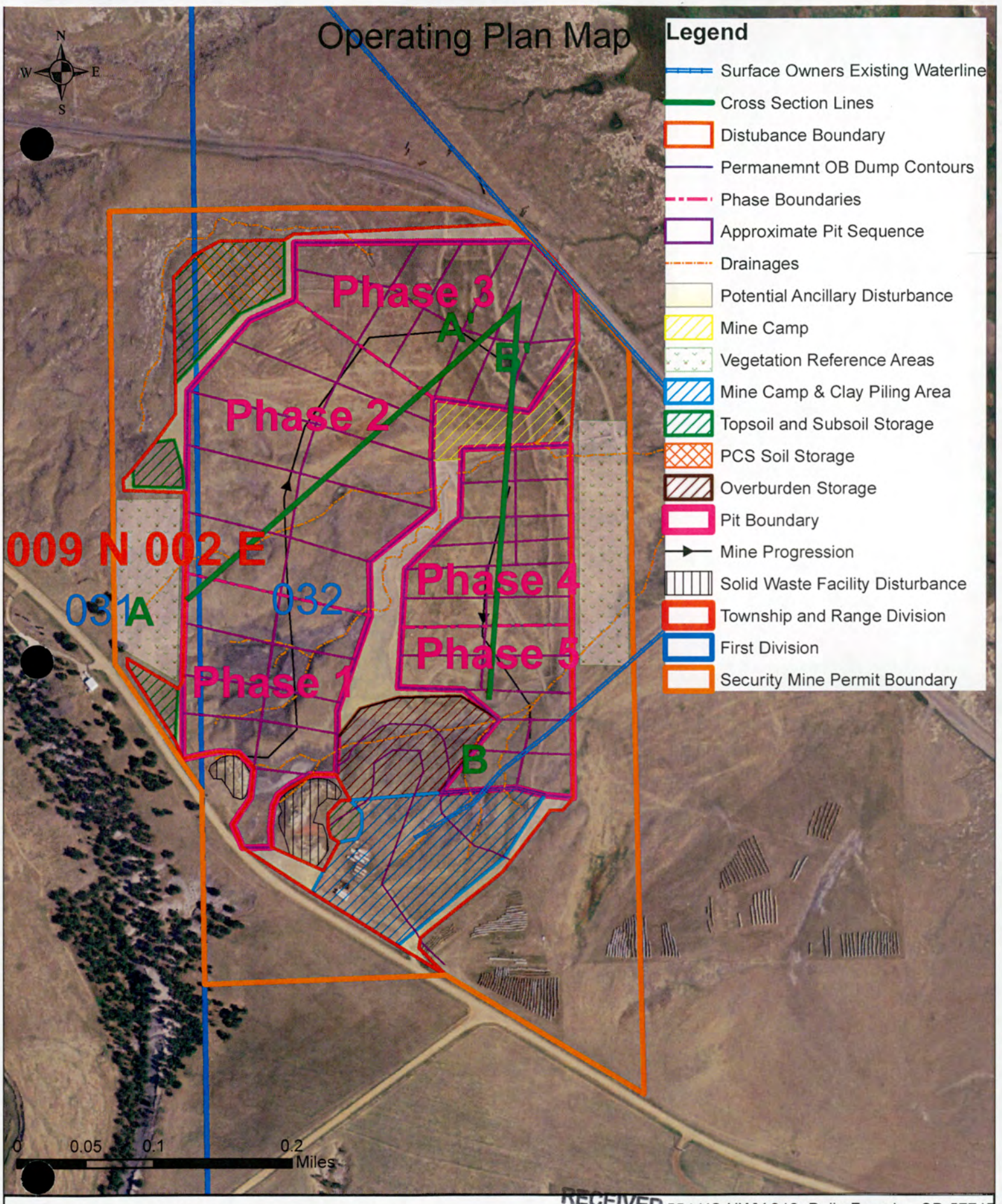
BPM intends to extract bentonite from the "Clay Spur", or "Commercial" bed as referenced in the geologic cross sections on pages 170 and 171. Regionally, the Commercial bed is located near the top of the Mowry Shale just below the contact of the overlying Belle Fourche Shale. The thickness of the Belle Fourche shale varies and can be between 425 and 1,125 feet thick. The thickness of the Belle Fourche shale within the permit boundary varies between 0' where bentonite is outcropped down to approximately 40' in the deepest planned excavations in the NE portion of the permit area. The thickness of the Mowry shale is 195-250' thick and the commercial bed is known to be within approximately 1 foot of the contact between the Belle Fourche shale and the Mowry shale. BPM does not intend to mine below the contact of the bottom of the Commercial bed therefore, BPM shall only mine the top foot of Mowry Shale overlying the Commercial bed.

The Clay Spur bed within the project area gently dips to the north/northwest as indicated in the Operating Plan Cross Sections A and B on page 227. The dip approximates 5% overall but due to the relative soft nature of bentonite, dip varies between 0 and 10% in different areas within the permit boundary. The mountain-building episode near the end of the Cretaceous period responsible for the Black Hills uplift likely plays a role in the north-northwesterly dipping bentonite beds within the permit boundary.

As indicated on page 170, there are bentonite beds above and below the commercial bed. These beds typically don't provide significant economic value due to their relatively thin beds. The B bed underlies the Commercial bed by approximately 25' typically has a light gray color with iron stains and a waxy texture. The D bed is stratigraphically higher than the commercial bed and is separated by approximately 5'. The D bed is also known as the "Upper bed" to the Commercial bed. Approximately 24' above the Upper bed is the E bed which is also known as the Red bed. The Red bed is typically light gray in color and can contain gypsum crystals and have a sandy texture.

Other bentonite beds known to occur within South Dakota are the G and F beds as well as the H and I beds. The G and F bed are located stratigraphically higher than the Commercial bed typically near the contact between the Belle Fourche shale and the Greenhorn formation. The H and I beds are located stratigraphically higher than the G and F beds typically near the contact between Gammon ferruginous and Mitten Black shale members of the Pierre shale.

Operating Plan Map



Legend

- Surface Owners Existing Waterline
- Cross Section Lines
- Distubance Boundary
- Permanemnt OB Dump Contours
- Phase Boundaries
- Approximate Pit Sequence
- Drainages
- Potential Ancillary Disturbance
- Mine Camp
- Vegetation Reference Areas
- Mine Camp & Clay Piling Area
- Topsoil and Subsoil Storage
- PCS Soil Storage
- Overburden Storage
- Pit Boundary
- Mine Progression
- Solid Waste Facility Disturbance
- Township and Range Division
- First Division
- Security Mine Permit Boundary

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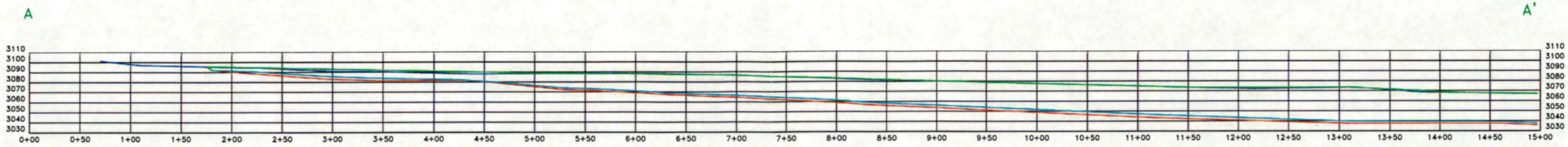
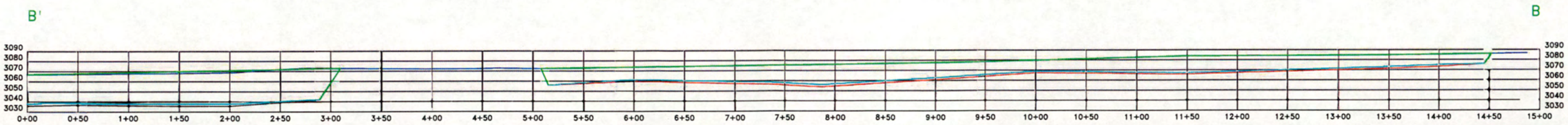
Operating Plan Cross Sections



Ground Surface
Reclamation Surface
Bentonite Surface
Pit Floor



Stations are set to 50' increments

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Criteria: ARSD 74:29:02:04 (2 &3), SDCL 45-6B-6 (8a)
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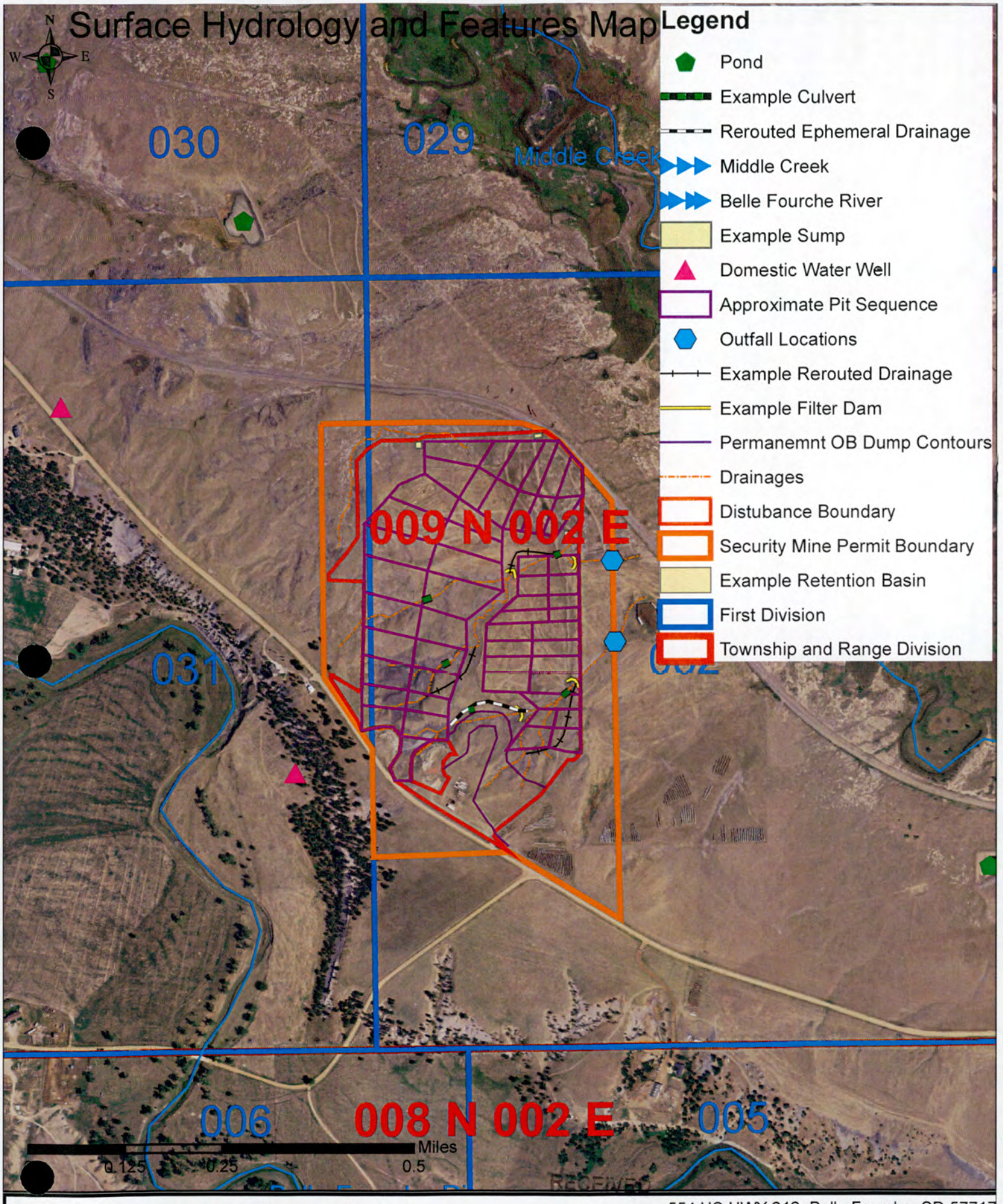
Surface Hydrology and Features Map



Legend

- Pond
- Example Culvert
- Rerouted Ephemeral Drainage
- Middle Creek
- Belle Fourche River
- Example Sump
- Domestic Water Well
- Approximate Pit Sequence
- Outfall Locations
- Example Rerouted Drainage
- Example Filter Dam
- Permanemnt OB Dump Contours
- Drainages
- Distubance Boundary
- Security Mine Permit Boundary
- Example Retention Basin
- First Division
- Township and Range Division

Map Prepared By: Michael Barr
Date/Signature: 4/8/24
Map Criteria: 74:29:07:08 (6), 74:29:02:11

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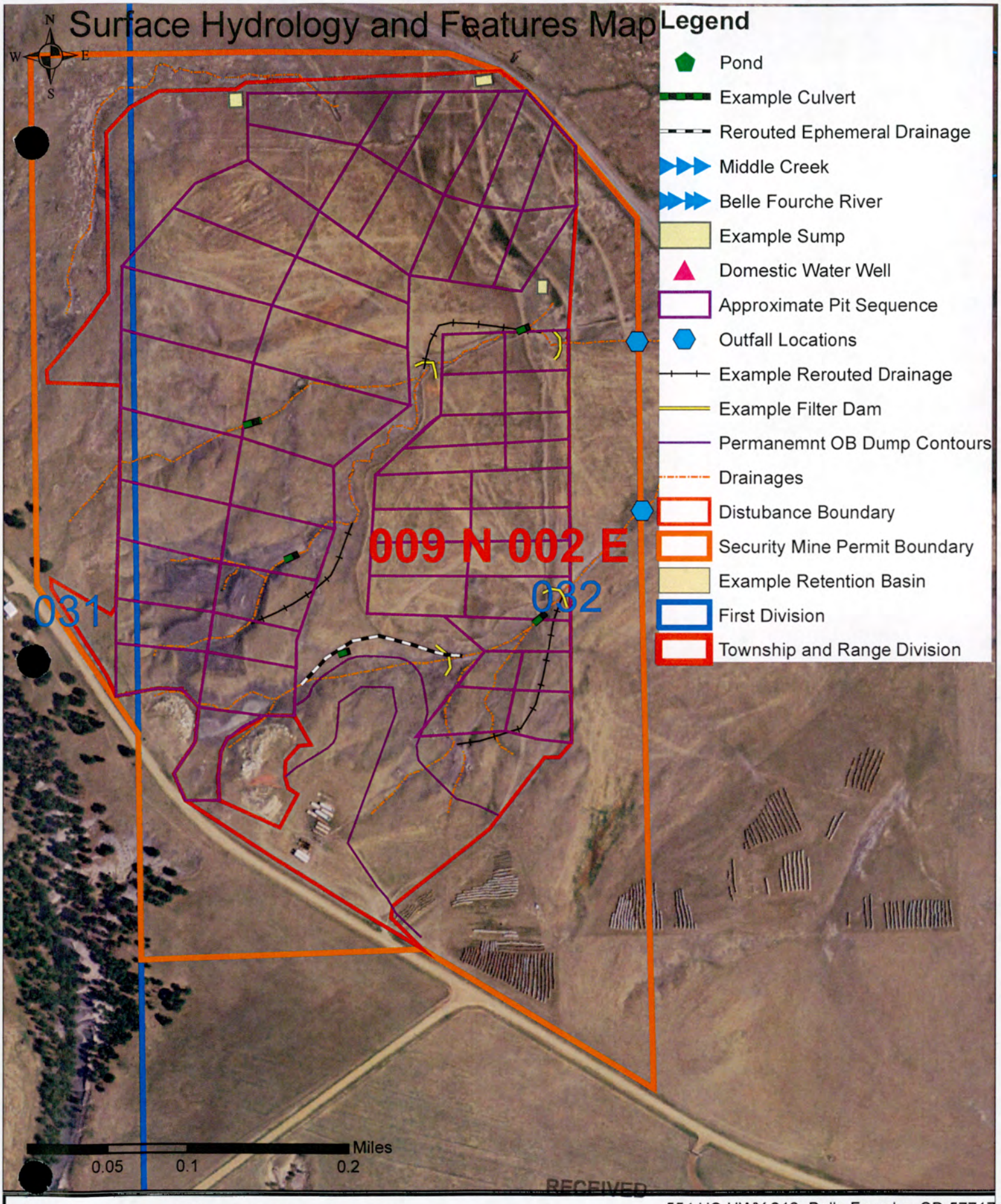
Surface Hydrology and Features Map



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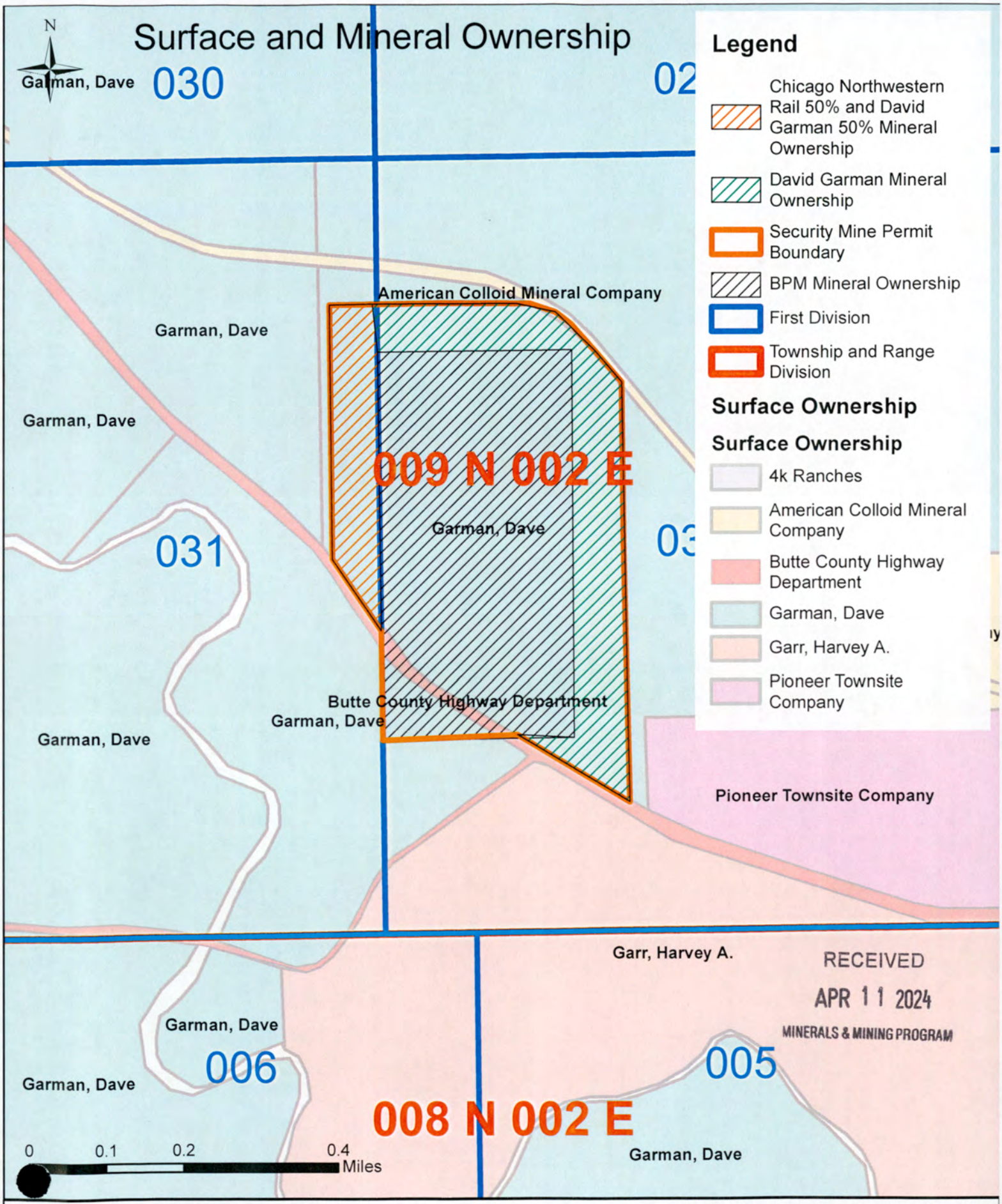

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Map Prepared By: Michael Barr
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Map Criteria: ARSD 74:29:02:03 & SDCL 45-6B-10(2)

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