

**MINE PLAN
for
PERMIT TO MINE NO. 268C - UPDATE AREA NO. 6**

INTRODUCTION

Black Hills Bentonite, LLC (BHB) has prepared this mine plan for the Permit to Mine No. 268C - Permit Update Area No. 6 to comply with the non-coal rules and regulations of the Wyoming Department of Environmental Quality/Land Quality Division (WDEQ/LQD), as well WDEQ/LQD Rules and Regulations, Chapter 13, Requirements for Existing Bentonite Mining Operations.

1.0 GENERAL DESCRIPTION OF PERMIT TO MINE NO. 268C

1.1 Mine Operator and Contact Information

The operator of the mining operation is Black Hills Bentonite, LLC, P.O. Box 9, Mills, Wyoming, 82644. The Federal Tax Identification Number for Black Hills Bentonite, LLC is [REDACTED]. Contact information for BHB and this mine is: Ediel Armenta, Regulatory Specialist, P.O. Box 9, Mills, Wyoming 82644. Office Phone: 307-265-3740.

1.2 Type of Mining Activities

The mining method used consists of surface mining, whereby a sequence of excavated areas or pits, typically between three and ten acres in size, are developed to expose and remove the underlying bentonite deposit. Due to the shallow depth of the bentonite deposit, the deepest portion of the pits will typically not exceed fifty feet. No underground mining techniques will be utilized. No explosives or blasting agents will be used in the mining operation.

Typically, the pits are designed in a sequence where each pit is adjoining, allowing for a multiple-cut, direct-backfill sequence. As the excavation of each pit progresses through the sequence, overburden removed from each advancing pit is directly placed (direct-backfill) in the previous open pit. Mining in this sequence allows for reclamation to occur concurrent with each new pit being developed in the advancing sequence.

1.3 Life of Mining Activities

The life of the mining activities on the permit update area is expected to continue for approximately twenty years.

1.4 Equipment and Machinery Used for Mining & Reclamation Activities

Mining and reclamation activities on the permit update area will be conducted using the following equipment:

- Caterpillar 627G Push-Pull Scrapers

- Caterpillar D8R & D8T Dozers with three-shank rippers
- Caterpillar D9R & D9T Dozers with three-shank rippers
- Caterpillar 966 Front-End Loaders
- Volvo L120 & L150 Front-End Loaders
- Caterpillar 140 Motor Graders
- Over-the-road trucks with belly-dump trailers
- John Deere 7800 Series Tractors
- John Deere 8000 Series Tractors
- John Deere Chisel Plows
- John Deere V-Rippers
- Rome Disks
- Wishek Heavy Duty Disks
- Great Plains 1006NT Series No-Till Grain Drill

1.5 Type of Bentonite Mined - Nature of Ore

The bentonite bed mined on the permit update area is in the Steele Formation. This layer of bentonite averages one hundred-eight inches in thickness.

1.6 Existing Underground Mines and other Mining Activities

No underground mining activities are located on the permit update area. Bentonite mining activities have been conducted on the permit update area in the past, probably during the 1960's by the Benton Clay Company. These areas have been identified and documented as "pre-law" mining disturbances, some of which were never reclaimed. No mining activities for other minerals are located on the permit update area or in the immediate vicinity of the permit area.

1.7 Protection of Other Resources

No oil, natural gas, or other minerals are known to exist on the permit update area, although several active oil wells are located adjacent to the permit update area. Due to the shallow mining depths of less than fifty feet, it is not expected that oil or natural gas deposits would be encountered or impacted. Based on the geology of the area and the geologic formations encountered while mining, no other known mineral deposits exist within the strata where bentonite will be mined within these formations.

Exploration drilling on the area has not encountered groundwater due to the relatively shallow depth to which mining will occur (<50 feet). Groundwater will not be impacted by mining activities. As no groundwater is present, no pit dewatering will be required which could potentially impact groundwater in the vicinity of the update area. No springs or water wells have been found on the permit update area.

No significant drainage will be affected by mining operations. Significant drainages are defined by certain WDEQ/LQD district offices, as those that are shown as a blue line on U.S.G.S. topographic maps. Only ephemeral channels which infrequently carry water in direct response to a significant rainfall event or rapid snowmelt will be affected by mining activities. These ephemeral drainages will be reestablished after mining is completed.

The Wyoming Department of Environmental Quality - Water Quality Division has issued BHB a Storm Water Discharge Permit, No. WYR320103, under the Mineral Mining General Permit for Permit to Mine No. 268C. The storm water pollution prevention plan (SWPPP) for this permit describes the best management practices that will be utilized to manage erosion and sedimentation on the permit area.

Erosion will be kept to a minimum. If necessary, straw bales, sediment fences, rock check dams, and/or water bars will be used for erosion control.

All mining activities will be conducted in such a manner as to reduce the total area of disturbance and to prevent the undue and unnecessary degradation of the environment.

BHB will follow the stipulations outlined in the Bureau of Land Management's (BLM) Conditions of Approval for Cultural Heritage, Paleontological Resources, Soils, and Water. BHB, at its discretion, will implement the necessary recommended stipulations for the Greater Sage Grouse as outlined under BLM's Conditions of Approval.

1.8 Quality Assurance Plans

The mine site will be inspected by BHB personnel at regular intervals. The mine foreman, as well as the mine development manager and environmental personnel, visit the site on a frequent basis. During periods when mining and hauling activities are occurring, heavy equipment operators and maintenance personnel visit the mine site daily. The mine development manager coordinates mining activities with the mine foreman, who is on the mine site daily when mining and reclamation activities are in progress, to ensure that proper operations and procedures are followed according to the plan and schedule.

BHB mine site personnel such as heavy equipment operators and mine equipment maintenance personnel have been trained and educated by the mine development manager and the mine foreman to recognize potential problems, such as erosion problem areas or other unnecessary degradation of the resources. These personnel have been instructed to immediately report any potential problems or signs of undue degradation to the mine development manager, the mine site foreman or the environmental staff so that corrective actions can be implemented as soon as possible.

2.0 DESCRIPTION OF THE MINE FACILITIES

2.1 Buildings, Processing Plants, Staging Areas, Fueling Locations & Equipment Areas

No buildings, processing plants, or other facilities will be constructed in conjunction with mining activities on this update area. The bentonite produced from the permit update area will be transported to an existing bentonite processing plant located in Casper, Wyoming for processing, sale, and shipment to customers.

Staging areas which are utilized for equipment parking, repairs and fueling are situated throughout the update area, generally near active mining locations. As mining activities progress through the permit update area, staging areas may be relocated.

2.2 Access and Haul Roads

The permit update area will have one possible access road. The access to the permit update area from Casper, Wyoming is via Interstate Highway 25, State Highway 387, and Frontage Road located approximately three miles southeast of Midwest, Wyoming.

If new roads are constructed on the permit update area, these roads will typically have a top width of twenty-five to thirty feet and a total width of fifty to sixty feet. Road construction will consist of a crowned and ditched road. Typical cross sections for the construction of access roads, as well as drawings depicting typical culvert installations are presented in Figure MP-1 and Figure MP-2, respectively. These typical road construction cross sections and culvert installation drawings have been taken from an early version of the BLM publication referred to as "*The Gold Book - Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development*".

Properly sized culverts will be installed, as needed, during the construction of the access roads. The following criteria will be utilized in calculating peak storm water discharges for culvert sizing determinations. This method was provided by WDEQ/LQD District III as the recommended procedure for determining the volume and rate of runoff in small (<2,000 acre) watersheds. This method has also been approved for calculating peak storm water discharges in small watersheds by WDEQ/LQD Districts I, II and III.

Peak discharge information for proper culvert sizing is based on information presented in the U.S.D.A./Soil Conservation Service Publication SCS-TP-149, *AA Method for Estimating Volume and Rate of Runoff in Small Watersheds*, @ January 1968.

Peak discharge rates are based on the following criteria:

- Type II Storm Distribution
- Land Use: Pasture or Range, No Mechanical treatment
- Hydrologic Condition: Fair
- Hydrologic Soils Group: C (from SCS Handbook NEH-4)
- Rainfall Event: 5 Year, 24 Hour, 1.2 inches based on Wyoming Isopluvials
- Moderate Slopes
- Curve Number: 79

The depth of cover over the culverts will be no less than twelve (12) inches or a minimum of one-half the diameter of the culvert, whichever is greater. The culvert length will be dependent on the geometry of the drainage channel and the culvert diameter. In all cases the culvert length will never be less than forty (40) feet.

2.3 Power Transmission Lines, Communication Lines, and Pipelines

No power transmission lines or communication lines (above ground or below ground) or pipelines will be constructed, removed, or rerouted in conjunction with bentonite mining activities on the permit update area.

2.4 Sedimentation and Treatment Ponds

No sedimentation or treatment ponds will be constructed, removed, or relocated in conjunction with bentonite mining activities. No sedimentation or treatment ponds currently exist on the permit update area.

2.5 Mill and Tailings Disposal Sites

No mill or tailings disposal sites will be constructed or created in conjunction with bentonite mining operations on this permit update area. No mill tailings are generated in the processing or the mining of bentonite.

2.6 Hydraulic Diversions, Retention Systems & Mining Hydrology

No perennial or intermittent streams will be disturbed by the mining activities. Only ephemeral channels which infrequently carry water in direct response to a significant rainfall event or the rapid melting of a significant accumulation of snow will be affected by mining activities. These channels will be re-established during the reclamation phase of the mining operations.

A potential impact of run-off from disturbed areas is sediment loading onto undisturbed lands or surface waters. This can be minimized by diverting storm water flows generated by significant rainfall events or rapid snow melt away from and around disturbed areas associated with the bentonite mining activities. Diversion ditches may be constructed to divert water away from mining activities. Given the small size of the affected watersheds in the permit update area, these diversion ditches may be constructed using the blade on a Caterpillar 140 motor grader or a Caterpillar D8R/D8T dozer. The diversion ditch will be cut to create a ditch which is triangular and a minimum of 1.5 feet deep with 2:1 side slope. Soil derived from the ditch cut will be "thrown" to the down slope side of the ditches, in essence creating a berm that will provide additional protection of the mine area.

If interceptor ditches remain in place for a significant period where down-cutting of the interceptor ditch or sedimentation may become an issue, a Caterpillar 627G scraper may be used to construct the ditch to ensure there is adequate available capacity. The scraper constructed ditch will have a bottom width of approximately ten (10) feet with approximately 1:1 side slope. If down-cutting or erosion should develop in the interceptor ditches or diversions, straw bales, straw logs, rock check dams or other erosion control features may be installed to control down-cutting of the ditch or channel bottom. After mining is completed and as a part of reclamation, all interceptor ditches will be graded out and contoured to blend into the surrounding topography, topsoiled and seeded.

Overburden and topsoil stockpiles will be located and constructed so that they will not block drainages. Topsoil will be removed from the base of all overburden stockpiles to protect the topsoil resources from

"sloughing" which may occur on the side slopes of the overburden stockpiles. This topsoil removal area, which is commonly referred to as a "topsoil buffer", surrounding the base of the overburden stockpiles also forms a basin which will collect and retain sediments originating from the overburden stockpiles because of storm water runoff.

2.7 Spill Contingency and Countermeasure Plan

If a fuel spill were to occur on the permit update area as a result of a mechanical failure, damage to a piece of heavy equipment, storage tank or a fuel delivery truck, mine personnel are instructed to make sure the site is safe, stop additional leakage or spillage, ensure the containment of any spilled fuels or oils, and immediately contact the company's mine development manager and/or a member of the Regulatory Compliance Group of BHB.

Containment of a diesel fuel spill or a lubricating oil spill would most likely be contained utilizing the native earthen materials present at the site. Depending upon the size of the spill and the volume of contaminated earthen materials, the contaminated material would be removed with shovels or with the appropriate size of earth moving equipment. Disposal of the contaminated earthen material would be coordinated by BHB environmental personnel at an approved land farm in accordance with state and federal regulations.

If the volume of a spill is greater than twenty-five gallons, BHB will report the spill to the Wyoming Department of Environmental Quality-Water Quality Division (WDEQ/WQD) within twenty-four hours of the spill and a written report will be submitted to the WDEQ/WQD within seven days of the spill.

Diesel fuel and lubricating oils are stored within secondary containment structures on the staging areas. These containment structures will be constructed to sufficiently contain 110% of the volume of the fuel or oil storage container.

2.8 Solid Waste Disposal

Waste and trash which may be generated because of mining activities will be collected in custom made trash containers which are completely enclosed utilizing expanded metal. These enclosed trash containers prevent trash and waste from blowing in the wind. Trash and waste generated by the mining activities will be collected and stored on staging areas located on or adjacent to the permit update area.

Trash and waste generated by the mining operations will be periodically transported to a municipal landfill for proper disposal. Large amounts of trash and other solid waste will not be allowed to accumulate at the site. Used lubricating oil and filters from heavy equipment will also be collected and properly disposed of or recycled. No hazardous materials will be used, consumed, stored, generated, or disposed of on the permit area.

2.9 Human Waste Management

A self-contained latrine will be located on or adjacent to the permit update area for use by BHB employees, contractors, and visitors. The self-contained latrine will be serviced and maintained in an appropriate manner to provide a safe and healthy work area for mine site personnel, contractors, and visitors. The use of self-contained latrines will also serve to reduce or eliminate unnecessary and undue impacts on the local environment.

2.10 Railroads and Conveyor Systems

No railroad lines or conveyor systems will be constructed in conjunction with the bentonite mining activities associated with the permit update area.

2.11 Storage and/or Stockpile Sites

Overburden, bentonite, and topsoil stockpiles will be constructed in conjunction with the mining activities conducted on the permit update area.

Overburden stockpiles are typically constructed in conjunction with the excavation and removal of the overburden from the first pit mined in an adjoining series of connected pits (multiple-cut sequence). These are commonly referred to as "out-of-pit" overburden stockpiles. Certain out-of-pit overburden stockpiles, in some instances, may remain as permanent reclamation features.

Bentonite stockpiles will be created and developed through the course of bentonite "field drying" activities. Bentonite stockpiles are normally placed on top of either the out-of-pit overburden stockpile, or on backfilled pits, or both, to reduce the surface disturbance area. Due to a limited area for storing and stockpiling field-dried bentonite at the processing plant located in Casper, Wyoming, bentonite stockpiles located on the mine site serve as inventory for the processing plant. Bentonite stockpiles may remain in the permit update area for extended periods of time, depending on market conditions and the demand for a particular quality of stockpiled field-dried bentonite.

To prevent unnecessary and undue degradation of the environment in situations where bentonite stockpiles remain onsite for extended periods of time, containment berms or basins will be constructed around bentonite stockpiles to contain any storm water runoff which may originate from the bentonite stockpiles. Windblown particulates which could impact air quality generally do not originate from these bentonite stockpiles, due to the coarse size of the stockpiled bentonite, as well as the hydrophilic nature of the bentonite.

2.12 Access Control

Due to the remoteness of the area, no access control features are planned. Any potential hazards to humans, livestock, or wildlife which may develop will be addressed on a site-specific basis using fencing or other methods determined to be appropriate for the conditions. The mined lands will be completely reclaimed following the completion of mining, which will eliminate potential hazards such as highwalls and open pits.

2.13 Auger Mining

No auger mining will be conducted on the permit update area.

2.14 Underground Mining

No underground mining will be conducted on the permit update area.

3.0 MINING METHODS AND SCHEDULE

Bentonite mining on the permit update area will consist of mining a series of small pits arranged in a multiple cut, direct backfill or "cut and fill" sequence. Topsoil, where present, will be removed from all affected areas utilizing Caterpillar 627G push-pull scrapers and Caterpillar D8R/D8T dozers. Topsoil will be placed in stockpiles for future use in the reclamation of the mined or disturbed lands. Topsoil stockpiles are generally located near the mining feature where the topsoil was removed. Whenever possible or feasible, the topsoil may be spread directly onto previously backfilled areas, instead of being placed in stockpiles.

Following the removal of topsoil, the exposed overburden will be ripped using Caterpillar D8R/D8T dozers equipped with one to three ripper shanks. The overburden will then be removed from the pit using Caterpillar 627G push-pull scrapers. Overburden from the first pit in a multiple-cut series of pits will be placed in an out-of-pit overburden stockpile. Overburden from each subsequent pit will be directly backfilled into the previous open pit using Caterpillar 627G scrapers and/or Caterpillar D8R/D8T dozers. Cross sections illustrating the development and reclamation of a typical multiple-cut, direct-backfill mining sequence are provided on Figure MP-3.

Following the removal of the overburden from the pit, the exposed bentonite seam will be sun-dried or "field-dried" in the pit during the summer and early fall seasons. Field-dried bentonite stockpiles which are constructed on the mine site serve as feedstock for the bentonite processing plants located in Casper, Wyoming.

3.1 Topsoil Removal and Handling

Topsoil from all proposed affected areas will be salvaged in accordance with the recommended salvage depths presented in the 2023 Baseline Soils Assessment for Permit to Mine No. 268C - Update Area No. 6.

The removal of topsoil will typically be accomplished using Caterpillar 627G push-pull scrapers. In some instances where the topography may be too steep for the safe operation of scrapers, topsoil will be removed and stockpiled using Caterpillar D8R/D8T dozers. In some circumstances, on steep topography, topsoil may be removed with Caterpillar D8R/D8T dozers by dozing the topsoil into a position where it can be safely loaded with a Caterpillar 627G scraper and then transported to a topsoil stockpile.

Ideally, topsoil salvage is conducted in the summer or fall season to avoid salvaging topsoil when it could be saturated by spring rains or snowmelt, or frozen during the winter months. Every attempt will be made to salvage topsoil with scrapers, as control of the depth of topsoil removal is greatly improved with the use of scrapers versus dozers. Typically, salvaged topsoil will be placed in stockpiles. If graded and contoured areas exist, the topsoil may be applied directly (haulback) instead of being stockpiled.

Topsoil will also be removed from the edges of all pits to create a topsoil "buffer area" ranging in width from ten to approximately thirty feet wide. This buffer is necessary to protect the topsoil resources from the possibility of sloughing of high-walls or low-walls on the edges of pits. These buffer areas also facilitate the safe and complete salvage of topsoil along the edges of advancing multiple-cut pit sequences. A wider topsoil buffer approximately thirty feet in width, is typically developed along a pit highwall where the mining will advance. This wider topsoil buffer provides additional protection of the topsoil resources if a highwall should fail. It also creates a greater margin of safety for heavy equipment operators when removing topsoil in conjunction with the development of the next pit to be mined in a multiple-cut pit sequence.

All topsoil stockpiles will be conspicuously identified with signs reading TOPSOIL. BHB will utilize highly visible, PVC posts with six-inch lettering for topsoil signs. These signposts are white in color with black lettering. The round PVC posts are resistant to livestock rubbing on the post and knocking down the topsoil signposts by being able to spin around the steel fence post in the center.

BHB's topsoil stockpile conservation plan requires that all topsoil stockpiles which will remain in place for more than one year be seeded with the approved permanent seed mixture listed in the Reclamation Plan. Seeding of stockpiles will be conducted during the first seeding season (spring or fall) after construction of the stockpile. Seeding will be conducted utilizing a grain drill. Topsoil stockpiles will be constructed in such a manner that the shape of the stockpile will resemble a "dome", which will facilitate the seeding of the entire topsoil stockpile using a tractor and grain drill. Temporary seeding of topsoil stockpiles using an annual sterile small grain such as triticale may also be conducted. The use of a small grain as a "cover crop" will provide for the rapid establishment of temporary vegetation to help hold the soil in place. This will protect the topsoil stockpiles from unnecessary or undue degradation due to wind or water erosion. Seeding of the topsoil stockpiles not only reduces the potential for erosion, it also significantly reduces the establishment of weeds, annual grasses, and noxious weeds on the stockpiles.

Topsoil stockpiles will be located and constructed so that they will not block drainages or be impacted by potential storm water runoff from ephemeral drainages. At the discretion of BHB, berms may be constructed around the base of topsoil stockpiles if it is determined that the topsoil stockpile is not adequately protected from erosion due to the poor establishment of vegetation. Berms would also be constructed around a topsoil stockpile if there's a possibility of contamination from activities such as road grading or vehicle traffic.

3.2 Segregated Overburden Removal and Handling

Replacement of overburden during backfilling open pits will be designed to create the most conducive reclamation substrate for revegetation as possible. Most often the most suitable overburden in terms of plant growth and desirable root zone material is found directly beneath the topsoil strata.

BHB may salvage, segregate and stockpile at its discretion, a portion of the better-quality overburden up to a depth of eighteen inches. This material would then be placed on top of the backfilled overburden prior to the application of topsoil, to create an improved plant root zone as well as a buffer between the topsoil and the bentonitic overburden material. If enough segregated overburden is salvaged, this material may also be spread on area which consisted pre-mining as bentonite outcrops to improve the appearance of the reclaimed landscape.

3.3 Mine Pit Excavation, Backfilling and Contouring

The mining method to be utilized is surface mining, whereby a sequence of small, excavated areas or pits are developed to expose and remove the underlying bentonite deposit. Overburden depths range from one to fifty feet. Overburden removal and backfilling will occur almost exclusively during the winter and spring months, as the scrapers are used exclusively during the summer and fall for bentonite field-drying activities, reclamation activities, and topsoil removal.

Overburden will be excavated from the mine pit areas utilizing Caterpillar 627G push-pull scrapers and Caterpillar D8R/D8T dozers equipped with one to three ripper shanks. Most of the overburden will be excavated and backfilled utilizing the Caterpillar 627G push-pull scrapers. The Caterpillar D8R/ D8T dozers will be utilized primarily to rip the overburden and to assist the scrapers.

Overburden removed from the first pit in a multiple-cut pit series will be placed immediately adjacent to the first pit to form an out-of-pit overburden stockpile. Overburden removed from each subsequent pit in the series will be directly backfilled into the previously mined open pit, allowing for reclamation to occur concurrently with mining activities. No materials will be pushed or dumped over any steep escarpments during the mining process. The locations of the proposed pits and overburden stockpile areas are illustrated on the Mine Plan Map No. 1.

Overburden suitability and rock characterizations, including the analytical protocols and criteria necessary to identify potential acidic and/or reactive conditions, or the generation of deleterious leachate were evaluated for the permit update area. Refer to the Overburden Assessment section of this document for a complete and detailed assessment of the overburden suitability and rock characterizations of the permit update area. BHB will utilize this data to develop overburden handling and overburden replacement plans.

Generally, no special handling of overburden during pit excavation and backfilling is warranted, as a considerable amount of mixing of overburden occurs during the loading and unloading of the overburden using scrapers. This mixing effect should contribute to a blending of overburden materials, thus improving overall quality of the few zones or intervals of overburden exhibiting unsuitable SAR values.

Waste bentonite, which remains on the bentonite stockpile areas after the stockpiled bentonite has been removed for processing, will be disposed of by placing this material at the base of a highwall prior to backfilling. This is done to prevent this highly bentonitic material from being placed directly on the surface prior to the application of topsoil.

After the bentonite is removed from a pit, and as the mining sequence progresses, the open pit is backfilled and contoured to blend in with the surrounding topography and to restore the area to the approximate original contour (AOC). Post mining slopes will be graded to 4H:1V or flatter, with a straight slope profile, unless the pre-mine slopes were steeper. In those cases, post-mining slopes will approximate the pre-mining slopes in terms of magnitude, aspect, and shape. Generally, there is enough "swell" in the volume of overburden being replaced to compensate for the overall volume of the bentonite which was removed from the pit.

In general, most pits are completely backfilled and rough graded to establish AOC and the required slope angles utilizing Caterpillar 627G push-pull scrapers. In certain circumstances, both the Caterpillar 627G push-pull scrapers and the Caterpillar D8R/D8T dozers are utilized to backfill, grade, and contour a pit to create the final surface configuration. At times, overburden may be placed in the pit and against the high wall utilizing the scrapers, to a point where the pit is not completely backfilled. This would create a partially backfilled pit with a section of the high wall remaining above the backfilled overburden. Caterpillar D8R/D8T dozers would then be used to push overburden from above and behind the remaining highwall, into the pit area, thus completing the backfilling of the pit. A schematic diagram of this backfill scenario is illustrated in Figure MP-3.

Any ephemeral drainages which may have existed pre-mining will also be reestablished in the process of rough grading and contouring. In general, most of this rough grading and contouring is done with Caterpillar 627G scrapers and Caterpillar D8R/D8T dozers. Final grading will be accomplished using a Caterpillar 140 motor grader. The haulback of topsoil will be conducted whenever possible in the mining process described above.

Out-of-pit overburden stockpiles or portions of these stockpiles which may remain as a final reclamation feature will be graded and contoured to blend with the existing topography. All slopes will be reduced to 4H:1V or less. Overburden stockpiles which will remain as a permanent reclamation feature will have a maximum height of ten feet and will be oriented in the same direction as nearby topographic features and will approximate the pre-mining topography in terms of magnitude, aspect, and shape.

The outlines of the pits are illustrated on Mine Plan Map No. 1, showing the location of the bentonite to be mined. However, because removal of the various grades of bentonite is subject to customer needs, weather conditions and mining efficiency, the mine plan details are subject to revision at the actual time of mining. i.e., one sequence may be mined before another, pit numbering may be changed, or the exact placement of stockpiles may vary.

3.4 Disposal of Combustible, Toxic, Acid-Forming or Radioactive Materials

Except for diesel fuel, no other combustible materials will be used, consumed, or stored on the permit update area. No toxic, acid-forming, hazardous or radioactive materials will be used, consumed, stored, generated, or disposed of on the permit area. Due to the geology of the area, there is no reason to believe that any radioactive minerals or acid-forming materials would be encountered while conducting bentonite mining activities. Should any such substances be encountered or discovered, the appropriate state and federal agencies will be consulted concerning the handling and removal of such materials.

3.5 Compaction of Backfilled Material

Experience in conducting bentonite mining and reclamation activities over the last forty years has demonstrated that compaction created by passing over backfilled overburden materials with rubber-tired Caterpillar 627G push-pull scrapers is sufficient to provide stability of backfilled material and to prevent subsidence.

3.6 Bentonite Removal

Following the removal of the overburden from the pit, the exposed bentonite seam will be sun-dried or "field-dried" in the pit during the summer and early fall seasons. This drying process is conducted to reduce the amount of greenhouse gases produced by the combustion of fossil fuels. The drying process, utilizing the solar energy of the sun and warm air currents, reduces the natural moisture content of the bentonite by approximately ten to fifteen percent. This in turn reduces the amount of diesel fuel which is consumed when the bentonite is transported to Casper, Wyoming for processing. Additionally, reductions in greenhouse gases are achieved when the field-dried bentonite undergoes further drying in the processing plant, as the consumption of coal and/or natural gas is significantly reduced.

The effect of sun-drying the bentonite is further enhanced by tilling the exposed bentonite using John Deere 7800 and 8000 series tractors pulling an assortment of conventional agrarian tillage implements such as v-rippers, chisel plows and disks. Following several days of shallow tillage to a depth of approximately ten inches, the sun-dried layer of bentonite is removed from the exposed bentonite seam using Caterpillar 627G scrapers and transported to a bentonite stockpile area where a field-dried bentonite stockpile is constructed. Depending on climatic conditions, the size of a pit, and the thickness of the bentonite seam, the field-drying process typically lasts for two to three months.

The field-dried bentonite stockpiles which are constructed on the mine site serve as feedstock for the bentonite processing plant located in Casper, Wyoming. The bentonite from these stockpiles is loaded into over-the-road belly-dump trucks using either Caterpillar 966 front-end loaders or Volvo L120/L150 front-end loaders for transport to Casper, Wyoming for processing and sale. The over-the-road belly-dump trucks have a capacity of approximately twenty-five tons. If the over-the-road belly-dump trucks are equipped with a "pup" trailer, the hauling of the truck's capacity may reach approximately thirty-five tons.

3.7 Handling and Processing

Once the bentonite is transported to the processing plant located in Casper, Wyoming, the bentonite is blended on the plant stockpile area by co-mingling different qualities of bentonite delivered by the over-the-road belly-dump trucks. The stockpiled bentonite is "fed" into the processing plant using either Caterpillar 966 front-end loaders or Volvo L120/L150 front-end loaders. After the bentonite enters the plant, additional drying takes place in a horizontal rotary dryer which is heated using coal and/or natural gas. Following the drying process, the bentonite undergoes a sizing process using a series of screens and classifiers. Some of the bentonite is milled into an extremely fine powder for use as thermal grout or classified into a granular product for clumping cat litter and other uses. The finished products are either bagged or shipped in bulk railcars or trucks to customers throughout the world.

3.8 Mining Sequences, Descriptions and Schedule

Forty-seven mining features are planned for development on this update area. These proposed mine development features consist of five mine development areas, five road segments, fifteen topsoil & segregated overburden stockpiles, four overburden & bentonite stockpiles, and eighteen pits. The total area of these forty-seven proposed mining features is 373.2 acres. Mine Plan Map No. 1 illustrates these proposed mine development features. Table MP-1, Volumetric Calculations, provides detailed information for each proposed mine development feature.

Mining features which will be developed during the first year of operations include initial development activities associated with the construction of the topsoil stockpile and Pit #1 as illustrated on Mine Plan Map No. 1.

The following information provides a description of each mine development feature which will be developed during the first year on the permit update area:

First Year Mine Development Activities

MDA 17-1 Road Segment A' - A – 3.5 Acres

Topsoil salvaged from this mining feature will be placed on MDA 17-1 Topsoil & Segregated Overburden Stockpile #1 and #2.

MDA 17-1 Topsoil & Segregated Overburden Stockpile #1 – 4.9 Acres

Topsoil salvaged will be placed on this mining feature.

MDA 17-1 Topsoil & Segregated Overburden Stockpile #2 – 1.2 Acres

Topsoil salvaged will be placed on this mining feature.

MDA 17-1 Topsoil & Segregated Stockpile #3 – 5.9 Acres

Topsoil salvaged will be placed on this mining feature.

MDA 17-1 Overburden & Bentonite Stockpile #1 – 12.5 Acres

Topsoil salvaged from this mining feature will be placed on MDA 17-1 Topsoil & Segregated Stockpile #3.

MDA 17-1 Pit #1 – 11.0 Acres

Topsoil and segregated overburden salvaged from this mining feature will be placed on MDA 17-1 Topsoil & Segregated Overburden Stockpile #3. Overburden removed from this mining feature will be placed on MDA 17-1 Overburden & Bentonite Stockpile #1. The exposed bentonite in this mining feature will be field dried in the pit and stockpiled on MDA 17-1 Overburden & Bentonite Stockpile #1.

Subsequent Mine Development Activities

The mining sequence and progression is shown on Table MP-1 and illustrated on Mine Plan Map No. 1.

4.0 MINING HYDROLOGY

4.1 Surface Drainage Plan

No perennial or intermittent streams will be disturbed by the mining activities on the permit area. Only ephemeral channels which infrequently carry water in direct response to a significant rainfall event or the rapid melting of a significant accumulation of snow, will be affected by mining activities. These channels will be re-established during the reclamation phase of the mining operations.

A potential impact of run-off from disturbed areas is sediment loading onto undisturbed lands or surface waters. This can be minimized by diverting storm water flows generated by significant rainfall events or rapid snow melt away from and around disturbed areas associated with the bentonite mining activities. Diversion ditches may be constructed to divert water away from mining activities. Given the small size of the affected watersheds in the permit area, these diversion ditches may be constructed using the blade on a Caterpillar 140 motor grader or a Caterpillar D8R/D8T dozer. The diversion ditch will be cut to create a ditch which is triangular and a minimum of 1.5 feet deep with 2:1 side slope. Soil derived from the ditch cut will be "thrown" to the down slope side of the ditches, in essence creating a berm that will provide additional protection of the mine area.

If interceptor ditches remain in place for a significant period where down-cutting of the interceptor ditch or sedimentation may become an issue, a Caterpillar 627G scraper may be used to construct the ditch to ensure there is adequate available capacity. The scraper constructed ditch will have a bottom width of approximately ten feet with approximately 1:1 side slope. If down-cutting or erosion should develop in the interceptor ditches or diversions, straw bales, straw logs, rock check dams or other erosion control features may be installed to control down-cutting of the ditch or channel bottom. After mining is completed, and as a part of reclamation, all interceptor ditches will be graded out and contoured to blend into the surrounding topography, topsoiled and seeded.

Overburden and topsoil stockpiles will be located and constructed so that they will not block drainages. Topsoil will be removed from the base of all overburden stockpiles to protect the topsoil resources from "sloughing" which may occur on the side slopes of the overburden stockpiles. This topsoil removal area, which is commonly referred to as a "topsoil buffer", surrounding the base of the overburden stockpiles also forms a "sump" or "moat" which collects and retains sediments originating from the overburden stockpiles because of storm water runoff.

4.2 Water Treatments Plans

No water treatment plan is required. Exploration drilling on the area did not encounter groundwater, and due to the relatively shallow depth to which mining will occur (<50 feet), groundwater will not be impacted. As no groundwater is present, no pit dewatering will be required, which could require the development of a water treatment plan.

4.3 Quantity and Quality of Groundwater Discharged into Pits

No groundwater will be discharged into pits. Groundwater has not been encountered on the permit update area during exploration drilling, and, due to the relatively shallow depth to which mining will occur (<50 feet), it is not anticipated that groundwater will be encountered. BHB has been mining bentonite in the permit area for over thirty-five years and has never encountered groundwater.

4.4 Source, Quantity, and Quality of Water to be Used

No water will be used in the mining or reclamation activities on the permit area. Should it become necessary to use water for dust control on access roads, BHB will utilize storm water which has accumulated in open pits located on the permit update area.

4.5 Design Details for Sediment Ponds and Treatment Systems

No sediment ponds or treatment systems will be constructed in conjunction with the permit update area. Therefore, no design details are provided.

5.0 REFUSE DISPOSAL

5.1 Plans for Disposal of Waste Materials or Solid Wastes

Waste and trash which may be generated because of mining activities will be collected in custom made trash containers which are completely enclosed utilizing expanded metal. These enclosed trash containers prevent trash and waste from blowing in the wind. Trash and waste generated by the mining activities will be collected on the staging area.

Trash and waste generated by the mining operations will be periodically transported to a municipal landfill for proper disposal. Large amounts of trash and other solid waste will not be allowed to accumulate at the site. Used lubricating oil and filters from heavy equipment will also be collected and properly disposed of or recycled. No hazardous materials will be used, consumed, stored, generated, or disposed of on the permit area. Under no circumstances will trash or waste be buried in the permit area.

6.0 PUBLIC NUISANCE AND SAFETY

6.1 Procedures to Avoid Public Nuisance and Endangerment

Mining activities will not result in a public nuisance or endangerment to public safety, human or animal life, or property. BHB has been conducting ongoing bentonite mining operations on Permit to Mine No.

268C since 1985 and has no knowledge of any instances where its mining activities have resulted in a public nuisance or an endangerment to the public, human life, or property. This is primarily due to the rural setting and the remoteness of the site, coupled with the small size and scope of the mining operation. The closest incorporated community or subdivision to the permit area is the town of Midwest, Wyoming, located approximately five miles from the eastern portion of the permit update area.

The development of additional mining activities on the permit update area will not change the number of workers in the operation, nor will the size of the mining operation increase significantly. The numbers of vehicles entering and exiting the mine site, as well as the amount of machinery operating on the site will not change.

Access to the active mining areas can be restricted due to private land ownership in the area. The main access road can be posted as "No Trespassing" where private property is located along the access roads. Additionally, if necessary, locked gates and other barriers could be constructed as a key point on private lands to restrict the public from entering the mining operations. Where deemed necessary by BHB, fences may be constructed above highwalls to protect wildlife or livestock from the dangers of a fall. No conflicts with grazing are expected to result in conjunction with the development of mining activities.

6.2 Occupied Dwellings, Homes, Public Buildings, Churches within 300 Feet of Affected Lands

No occupied dwellings, homes, public buildings, churches, community or institutional buildings, parks or cemeteries are located within three hundred feet of land which will be affected by mining activities. The nearest occupied dwelling is located over five miles from the nearest active mining area on the permit update area.

6.3 Hours of Operation, Routes of Haulage, Access Routes, and Estimated Truck Traffic

Mining and reclamation activities will be conducted Monday through Friday from 7:00 A.M. until 5:00 P.M. Overburden removal usually occurs from November through June. Once the overburden is removed and the bentonite is exposed, the heavy equipment fleet will conduct bentonite field-drying activities on various sites within the permit area. This "field-drying" fleet of equipment generally consists of two to four Caterpillar 627G push-pull scrapers; a Caterpillar D8R dozer; a Caterpillar 140 motor grader and a John Deere 8000 series tractor with various tillage implements. Field-drying will be conducted for approximately three months, from June through early September.

Following the completion of bentonite field-drying activities around the early part of September, reclamation activities generally begin, lasting approximately two months. During the reclamation phase, areas where the overburden has been previously backfilled will undergo final grading and contouring, ripping or scarification (if required), topsoil application, topsoil tillage, and seeding.

Estimating the potential number of over-the-road, belly-dump trucks which will be transporting field-dried bentonite from the permit area daily is somewhat problematic. Customer demands for various grades and quantities of bentonite vary greatly over the course of a year. At any one time, BHB may be hauling various grades of bentonite from at least a dozen different bentonite stockpiles located on various mining permit areas which serve the Casper, Wyoming processing plants.

BHB estimates that approximately 150,000 tons of bentonite will be hauled from the permit update area on an annual basis using over-the-road, belly-dump trucks with a capacity of thirty-five tons. This would result in a total of 4,285 trucks entering and leaving the mine site annually. It is estimated, based on a hauling schedule of six days per week, that approximately fourteen truckloads per day would be required to transport 150,000 tons per year from the permit update area to the processing plant. The over-the-road, belly-dump trucks typically operate during the daylight hours.

7.0 WILDLIFE PROTECTION AND MONITORING

7.1 United States Fish and Wildlife Service (USFWS) Recommendations

The project will be re-analyzed if a new species is listed, or critical habitat is designated that may be affected by this project.

7.2 Wyoming Game and Fish Department (WGFD) Recommendations

Black Hills Bentonite will, to the best of their abilities, adhere to the recommendations set forth by the WGFD in their letter dated August 30, 2024. A copy of the letter is located at the end of the Wildlife Section of this plan of operation.

8.0 WETLAND PROTECTION

8.1 Wetland Protection within the Update Area

No wetlands will be disturbed because of mining or mining associated disturbances within this update area.

9.0 INTERIM MANAGEMENT PLANS

9.1 Management During Periods of Temporary Closure or Temporary Inactivity

As described in detail in Section 6.3 above, periods of inactivity will occur on various areas within the permit update area. BHB's heavy equipment fleet is highly mobile and moves among the various mining operations within the permit area to meet the demands of customers for a wide variety of bentonite clay qualities. This results in periods of inactivity on all BHB's mining operations at various times of the year. Periods of inactivity may also result due to inclement weather, particularly during and immediately following significant rainfall events. Periods of inactivity due to inclement weather rarely last more than a few days. Temporary closure and temporary inactivity are a period lasting more than twelve consecutive months when no mining, hauling or reclamation activities occur.

Prior to moving mining equipment from an active mine site, a thorough inspection will be conducted to ensure that all berms and ditches constructed to divert runoff around the active mine area are in place and functional. Containment basins will also be inspected to ensure functionality. Berms would be constructed along pit highwalls, as well as at the entrance to any open pit areas. These procedures will be implemented

to prevent unnecessary and undue degradation of the environment, as well as ensuring the safety of the public. The area would be periodically inspected and monitored by BHB's mine and environmental personnel.