

Environmental Assessment

for

Black Beauty Stone Wholesale, Inc.

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Casper, Wyoming

WY-060-EA14-065



1.0 INTRODUCTION

Stone Wholesale, Inc. (SWI) has proposed to develop a 57.3 acre dimensional stone quarry targeting an amphibolite deposit for sale as decorative stone in the building market. The Black Beauty Mine as proposed would be located at T. 23 N., R. 70 W., portions of Sections 13 and 24 in Platte County, Wyoming approximately 13 miles SW of Wheatland, WY. This EA (WY-060-EA14-65) is being prepared by the Bureau of Land Management, Casper Field Office in compliance with the NEPA. BLM has assigned Black Beauty Mine case file no. WYW181442.

1.1 Background

In July 2012 SWI initially expressed interest to the BLM about developing the amphibolite resources in Platte County. Their initial proposal was for a mine with a permit boundary of 165 acres with a disturbed area of 81.3 acres. In January 2014 SWI submitted changes for a redesigned mine plan reducing the permit boundary to 80 acres with a disturbed area of 57.3 acres.

All mining at the site would be conducted by hand quarrying using machine extraction only for slabs or blocks too large to be handled by hand. Material would be loosened and separated from the formation in layers along bedding planes. Smaller material may be then collected by hand and palletized. Large slabs or blocks of amphibolite would be extracted from the quarry using heavy equipment. Pallets and slabs/blocks of material would then be transported by machine to the facilities area where it would be stored for future loading onto transport trucks. Large slabs may be cut to dimension on the facilities area using a stone saw or stone cutter before transport.

1.2 Purpose and Need for the Proposed Action

The purpose of the action is to react to a Plan of Operation to develop locatable federal minerals on BLM federally administered lands as described in the General Mining Law of 1872 as amended.

The need for this project would be established by the BLM's responsibility for the rights of entry and use under the Mining Laws (1872), as amended; the requirements in the regulations at 43 CFR 3809; to review the submitted Plan of Operations modification to ensure it would prevent unnecessary or undue degradation, and ensure proper reclamation bonding for each year of mining disturbance.

Decision to be Made: The BLM will decide whether or not to authorize the Plan of Operations to develop an amphibolite deposit and, if so, under what terms and conditions.

1.3 Relationship to Statutes, Regulations, Plans or Other Environmental Analyses

These statutes provide the authority for the BLM's consideration of applications submitted for removal of federal mineral materials from public lands.

The federal law governing locatable minerals is the General Mining Law of 1872 (May 10, 1872), which declared all valuable mineral deposits belonging to the United States ... to be free and open to citizens of the United States to explore for, discover, and purchase.

Materials Act of 1947, as amended: Mineral materials include common varieties of sand, stone, gravel, pumice, pumicite, cinder, and clay. This Act allows for the disposal of such minerals if disposal would not be detrimental to the public interest. This law authorizes the BLM to sell mineral materials at fair market value.

The Materials Act regulations establish procedures for the exploration, development, and disposal of mineral material resources on the public lands, and for the protection of the resources and the environment (43 CFR 3602 p. 731). These regulations apply to the sale of mineral materials.

Federal Land Policy and Management Act (FLPMA) of 1976, as amended: FLPMA provides an overall policy and management direction for public lands. It directs the BLM to manage public lands in a manner that recognizes the Nation's need for domestic resources of minerals, food, timber, and fiber while protecting the quality of important resource values (e.g., scientific, scenic, historical, archeological, etc.).

The National Environmental Policy Act (NEPA) [42 U.S.C. 4321 et seq.] was signed into law on January 1, 1970. The Act establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within the federal agencies.

Pursuant to 40 CFR 1508.28 and 1502.21, this EA tiers to and incorporates by reference the information and analysis contained in the *Record of Decision and Approved Casper Resource Management Plan* (ROD/RMP) approved in December 2007

1.4 Scoping, Public Involvement and Issues

Internal scoping was performed with an interdisciplinary team of specialist within the BLM. Issues identified during the internal scoping process are discussed in the Affect Environment in Chapter 3. The EA will be released for a 30 day comment period.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternatives Considered but Not Analyzed in Detail

No other alternatives were considered.

2.2 Alternative I – No Action Alternative

The No Action Alternative would be to reject the proposal or deny the application and not authorize the action.

2.3 Alternative II – Proposed Action

The Black Beauty Mine would be a dimensional stone quarry targeting an amphibolite deposit. General mining operations would consist of stripping and stockpiling topsoil to expose the underlying amphibolite, removing the amphibolite by hand quarrying and palletizing smaller pieces of rock by hand (using shovels, picks, rock bars), moving the larger blocks or palletized material with a front-end loader, and loading the material onto trucks. SWI may also include a stone saw and/or stone cutters in the facilities area to cut stone to dimension prior to loading for transport. The facilities area would include; fuel and equipment storage, parking for crew vehicles, an office trailer, and a pallet scale (initially, with the possibility of a truck scale). The operation would not include any blasting, crushing, or screening.

SWI would use small crews of less than ten men. The cut rock would be loaded onto pallets then onto trucks for transport using rubber treaded frontend loader/fork lift with an estimated 2 to 3 truckloads leaving the site each week during peak production times. SWI estimates saleable material production rates of 15,000 tons of amphibolite annually. At this production rate the life of the mine is estimated at approximately 22 years. Actual life of mine would be dictated by market conditions, and SWI may mine more or less saleable material each year than the initially estimated 15,000 tons depending on demand for the product.

Mine Access Road

The mine access road is an existing two track across BLM administered federal surface (See Map MP-1) approximately 2.3 miles from county Cooney Hills Road. SWI will have use of the road as an authorized access road. SWI does not anticipate constructing a new access road or upgrading the existing access road. If, however, extensive road maintenance or construction is required, a right of way application and permit maybe required. SWI anticipates using a crew of up to 10 staff (2-3 trucks per day) during the peak season (May to October), and hauling from 1-3 transport truckloads of material per week. Due to the low traffic volumes required to transport mined material to market and the remote location of the mine, SWI anticipates that the existing access road is sufficient to meet its needs without degradation. To ensure that the road remains intact, SWI would not access the mine during inclement weather, and would only haul stone with transport trucks during prolonged dry periods. SWI would continually monitor the access road condition, and work with BLM to determine if upgrades or modifications become necessary (gravel surface, culverts, turnouts, cattle guards, etc.). If access modifications are necessary, SWI would submit mine plan and reclamation bond revisions to detail any access modifications.

Haul Roads

SWI would only create haul roads across previously disturbed areas or area which would be disturbed by future mining areas. Due to the small scale of disturbance, SWI would construct up to two haul roads within the proposed affected area to connect quarry areas with the facilities area (See Map MP-1). These roads would be constructed across undisturbed mining blocks to access the planned initial mining

areas. The haul road locations would be stripped of any available topsoil resource, and the topsoil would be stockpiled in the facilities area topsoil stockpiles or as windrows along the haul road. Due to the shallow soils existing in the quarry areas, the haul road surface would be weathered amphibolite bedrock after any available topsoil has been salvaged. As mining progresses, the initial haul roads would be mined-out, and portions of the pit bottom would be used as the haul road.

Buildings, Processing Plants, and Other Facilities

No permanent structures or buildings would be constructed in association with this mining permit. A portable office would be placed near the mine entrance at the fence gate between Sections 24 and 13 on the eastern side of the permit area. No crushers, screens, or processing plants would be constructed in association with this mining permit. Sawing or cutting of stone with relatively small, portable stone saws/cutters would occur within the facilities area disturbance. All loading of material transport trucks would occur within the facilities area disturbance.

Approximately 500-1000 gallons of diesel fuel would be stored in one or two Aboveground Storage Tanks (AST) within the designated facilities area. Containment berms with liners would be constructed around the AST to contain 120% of potential spills.

Electrical power would be provided to the mine by a portable diesel generator. Off-permit communications would be handled using cell phones. No existing electric power, communications, or utility lines or Rights of Way are known to exist within the permit area.

Equipment List

The mining equipment is listed below in Table MP-1. Equipment is generally left on-site for most of the year, but may be removed from the site as mining conditions dictate. All mining equipment would be portable and would be stored on the facilities area or within pit/quarry disturbance areas. Equipment may be added, repaired or replaced throughout the life of mining as required by operational needs. SWI would own or control all stone transport trucks that would be used to transport stone to market and would have direct control over employee drivers instead of contractors.

Table MP-1: Equipment List

Equipment	Quantity
Caterpillar IT24 Front-End Loader/Forklift (or similar)	1
Caterpillar 320 Hydraulic Excavator (or similar)	1
Caterpillar 226 Skid Steer Loader (or similar)	1
Diesel Powered Generator Set	1, possibly 2
Stone Saw	1
Stone Cutter	1
Office Trailer	1
Water Truck (if needed)	1

Surface Water Control Structures

No sedimentation, treatment ponds, or hydraulic diversions are planned in association with this mining permit. The existing, undisturbed topography surrounding the permit area would convey any potential runoff around the affected area. The quarried pit may impound small amounts of direct precipitation during heavy rain events. If pumping is required to dewater a pit area, SWI would discharge pumped water through an appropriate sediment filtering device/structure (Dirtbag™ or hay bale containment structure). However, due to the small potential catchment, this situation is very unlikely. SWI would continually monitor erosion and sedimentation issues, and work with BLM and LQD to determine implementation of any corrective actions such as Alternative Sediment Control Measures (ASCM) to control sediment-laden runoff during mining, and would submit modifications to the permit through the revision process if changes are necessary.

Solid Waste Disposal

All solid waste generated from operations in the pit area would be hauled to the Platte County landfill on an as needed basis. Used equipment oil would be temporarily stored onsite in approved containment vessels (plastic or steel drums), and transported to approved disposal sites as quickly as practicable.

No hazardous material generation is anticipated as a result of mining, processing, or equipment use in association with this mining permit.

Stripping and Handling Techniques

Topsoil would be managed primarily with stockpiling with the possibility of direct haul-back to reclamation areas where practical. Topsoil would be pre-stripped prior to the initiation of quarrying operations to prevent unwanted loss of topsoil.

Topsoil, where existent, would be stripped with an excavator and moved with a front-end loader to salvage the maximum amount available at any particular location. Due to the nature of the target amphibolite outcrop, salvage depths vary between 0 to 8 inches of topsoil material. Much of the salvaged material would also include rock fragments up to cobble sized material. Prior to initiation of salvage operations, target salvage depths would be determined by digging test holes and determining the salvage depth at each location. These depths would be determined by qualified personnel. Estimated suitable material depths range from 0" along the outcrop ridge to 8" in lower slope areas (facilities area) with an average of approximately 4" of suitable material expected across the affected area. Existing vegetation would be removed during salvage operations, and included in stockpiles.

Topsoil would be stockpiled in flat areas along the edges of the mining blocks within the proposed affected area. They would be located to minimize interference with other mining operations and reclamation efforts. The schedule for topsoil stripping would follow the normal mine progression as shown on Map MP-1.

Stockpile Quantities

The estimated total strippable volume of suitable topsoil for the proposed affected area of 57.3 acres is approximately 30,800 cubic yards (based on an estimated average depth of 4”), all of which may be stockpiled during the life of the mine. There would be less stockpiled volume if direct haul methods are used during later stages of mining and reclamation. SWI anticipates using a back fill process in the reclamation sequence so it is unlikely that stockpiled topsoil volumes would exceed 3 years of salvaged topsoil volume.

During the first year of mining, SWI anticipates disturbing approximately 6.99 acres for quarry, facilities, and haul road operations. This planned disturbance is expected to yield approximately 3,760 cubic yards of topsoil salvage material. SWI anticipates relatively similar disturbance area quantities for the first several years of mining with similar annual yields of salvaged topsoil volumes.

Initial reclamation is anticipated to begin after initial mining blocks are mined-out, likely during the second or third season of mining. After reclamation is initiated, the volume of stockpiled topsoil would vary, and would likely decrease as pit slopes are backfilled and completed to final grade. Protection of the stockpiled topsoil from wind and water erosion would primarily be accomplished through the use of toe ditch-berms and seeding.

Annual reports would be submitted to the BLM and contain an accounting of topsoil salvage and stockpile volumes to document topsoil related activities throughout the life of the mine.

Topsoil Stockpile Conservation Plan

Topsoil piles would be located in areas best suited to manage and conserve salvaged material. Topsoil piles would be located on low slope areas surrounding quarry pit and facilities disturbance areas. Where operations allow, topsoil piles would be located on the first mining bench below the existing ground surface. To limit erosion from topsoil piles, all would be broadcast seeded with a temporary seed mix (See Table MP-3), and a ditch-berm would be installed around the toe of each topsoil pile. If topsoil is added after the initial seeding and berming, additional seeding, and berming would occur.

All topsoil stockpiles would be delineated with a sign labeled “TOPSOIL.”

Table MP-3: Temporary Seed Mix

Common Name	Cultivar	PLS LBS/AC
Western wheatgrass	Rosana	10.0
Thickspike wheatgrass	Critana	10.0
Needle and Thread		4.0
	Total LB/PLS/AC	24.0

Pit Excavation and Mining Sequence

Pit excavation would be completed in the pattern defined by the mining sequence shown on Map MP-1 and Table MP-4. Map MP-1 details the location of anticipated mining blocks, and Table MP-4 details the expected years in which each mining block would be mined. If modifications are necessary, SWI would modify the mining permit through the revision process, and/or document changes in annual report submittals.

Table MP-4: Mining Blocks By Year

Mining Block(s) (Map MP-1)	Mining Years (Planned)
A1 and A6	2014 through 2016
A2 and A7	2017 through 2019
A3 and A8	2020 through 2022
A4 and A9	2023 through 2025
A5 and A10	2026 through 2028
A11 and A12	2029 through 2031
A13 and A14	2032 through 2034
A15	2035 through 2036

SWI would begin by excavating a trench to expose the bedded amphibolite. During the next step, SWI would separate the bedded amphibolite using hand tools, and the product would be removed using an excavator or front-end loader with a forklift attachment. SWI would remove the amphibolite to a depth of 10', and then move horizontally approximately 20' before removing amphibolite to a depth of 20. By

removing material in 10' depths to 20' horizontal, SWI would create a 2H:1V benched highwall along the outside edges of the mining blocks. Interior edges of the mining blocks would not be benched because these edges would be mined to the full 40' mining depth over the course of mining. Mining block progression would be from east to west beginning in mining blocks A1 and A6. In the late stages of mining, SWI would mine out the eastern edge of the affected area as they work their way out of the affected area and complete final reclamation.

Highwall heights would be approximately 40'. Highwalls would be benched with 10' heights and 20' widths, yielding 3, 20' wide benches at the maximum depth of mining (40'). Because no blasting would be used, and the material would be removed as "in-situ" blocks and slabs, highwall bench heights and widths may vary based on actual conditions and bedding dimensions of the stone, but SWI would endeavor to maintain a bench width: height ratio of 2H:1V.

The maximum depth of mining would be 40', and the post-mining pit floor elevation would vary from approximately 5156' above MSL to approximately 5200' above MSL depending on existing topography (See Exhibit MP-2).

Overburden Stockpiles, Saleable Mineral Processing and Storage

Reject/overburden material would be stockpiled along the edge of each mining block initially. As additional areas are quarried, and areas of the pit side slopes and pit floor are mined out and available for the start of reclamation operations, SWI may direct haul reject/overburden material into the mined out areas. As these areas are backfilled, reject/overburden stockpiles may be used less or become unnecessary.

Reject/overburden stockpiles that appear to be suitable as a growth media (some fines present) may be seeded with the temporary seed mix shown in Table MP-3 to enhance stability. However, the reject/overburden stockpiles are expected to be predominantly composed of rock and rock fragments, and would likely be stable without vegetative cover.

Saleable material would not be stored in stockpiles because the nature of the unprocessed stone does not lend itself to stockpile storage. After removal from the quarry area, smaller stone would be palletized, transported to the facilities area by front-end loader, and stored on the facilities area to await transport to market. Larger slabs and/or blocks would also be moved to the facilities area by front-end loader, possibly cut to dimension on the facilities area, and stored on the facilities area to await transport to market.

Other than palletizing smaller stone and cutting some larger stone to dimension, no processing of the mined materials would occur in association with this mining permit (no washing, crushing, screening, etc.).

All material transported off site for sale would initially be weighed on a pallet scale prior to loading on stone transport trucks. If it becomes necessary, SWI may install a truck scale near the mine entrance. SWI would track weights of stone leaving the site with load tickets, and load ticket records would be kept in the office trailer on the mine site.

Backfilling and Contouring

As mining is completed in portions of the mining blocks, SWI would begin backfilling the benched highwall side slopes with reject/overburden material to a 3H:1V final configuration. As side slope backfill is completed, SWI would final grade the slopes, followed by topsoil placement and seeding. After mining reaches maximum depth (40') in a particular mining block, reject/overburden would be placed on the mined out pit floor to backfill the pit to the reclamation surface elevation (See Map RP-1). As shown on Map RP-1, SWI would use all the reject/overburden in grading operations to yield a reclaimed surface that blends into the native, surrounding terrain to the greatest extent practicable.

Mining Operations Water Source

The Black Beauty Mine may need to acquire water for dust suppression operations and a very small amount of cooling water if a water-cooled stone saw is used to cut stone to dimension. Any water required for use on access roads or for stone saw cooling would be acquired from a municipal source in Wheatland, WY, and transported to the permit area by truck and stored therein until used.

Hours of Operations

Normal hours of operations would be between 7:00 A.M. and 7:00 P.M, Monday through Friday. The mine would operate only during daylight hours, and no artificial light would be used. If weekend hours are required to meet product demand, they would follow the same hours as normal operations (7:00 AM to 7:00 PM). Weekend hours are anticipated during peak seasonal times (May – October). Because of the nature of projects requiring dimensional stone and the weather conditions of the permitted area, quarry operations would be seasonal and would be most active during the late spring, summer and early fall. Truck traffic would also vary seasonally, and would depend on product sales and market conditions.

Applicant Committed Environmental Protection Measures (ACEPM)

- Mining operations would follow recommendations provided by the WGFD and USFWS to minimize, and if necessary mitigate.
- If any new raptor nests are discovered within the permit area, the U.S. Fish and Wildlife Service would be contacted to determine if any mitigations measures are necessary.

- The facilities area would be bermed with topsoil stockpile windrows to prevent any migration of runoff off the facilities area. The above ground fuel storage area would be lined and bermed using reject/overburden material. SWI would monitor the sufficiency of this system, and work with BLM and LQD if it is determined that other ASCM are necessary and modify the mine plan through the revision process. SWI does not anticipate the need for the installation of any ASCM other than perimeter berms.
- Any small spills of diesel fuel, hydraulic fluid, equipment oil, or similar hydrocarbons would be excavated and disposed of according to the WYPDES storm water permit. If acceptable to BLM and LQD, SWI would land farm and monitor hydrocarbon contaminated material until the material is acceptable for use as backfill. Spills over 25 gallons would be reported to WY DEQ spill response, and handled according to their specifications as required by Chapter IV of the Wyoming Water Quality Rules and Regulations .
- SWI would strictly enforce a maximum speed limit of 15 MPH on all access and haul roads associated with this mining operation, and would lower the maximum speed limit if necessary to control fugitive dust.
- SWI would continually monitor fugitive dust production (visually) on the access road, and would implement dust suppressing activities (watering, chemical suppressant, additional gravel surface, etc.) if necessary, and/or as required by the approved DEQ, Air Quality Division permit for the mine.
- SWI is committed to preventing the spread of noxious weeds on the affected lands as well as the surrounding native lands. The Platte County Weed and Pest agency would be consulted for the use of chemical herbicides as needed to control noxious weeds.
- Fencing would be installed if necessary to keep cattle out of them mine and would meet BLM fencing standards.
- The operator would comply with VRM Class III objectives. The site would be monitored annually and followed up with consultation.
- Mining operations would be staggered and reclamation efforts would begin immediately following each pit closure. An environmental appropriate color would be selected for on-site facilities, as designated by the BLM.
- Benches would be constructed in unblasted bedrock, a 2H:1V bench ratio to provide a high degree of slope stability during mining.
- Containment berms with liners would be constructed around the AST to contain 120% of potential spills.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

The proposed Black Beauty Mine is located on a high terrace at 5,180 to 5,220 feet in an isolated enclosed valley approximately 13 miles south west of Wheatland, WY. It is

surrounded by the typical vegetation and wildlife associated with the desert high plains of Wyoming. The area receives limited precipitation throughout the year and is used primarily for grazing of cattle. Cooney Hills and South Cooney Hills are located to the east of the project area and Squaw Mountains to the west.

The following are not present and will not be further analyzed:

Environmental Justice

3.2 Air Quality

Air quality does not exceed standards according to WY-060-EA12-227. The two nearest monitoring stations Cheyenne NCore station number 56-021-0100 and Converse station number 56-009-0801. SWI has applied for an AQD air quality permit (tracking number AP-15418) for the small mining operation.

3.3 Heritage Resources

3.3.1 Cultural Resources, Traditional Cultural Properties, Native American Religious Concerns

Cultural resources are fragile and non-renewable remnants of prehistoric and historic activity, occupation, or endeavor as reflected in sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that are of importance in human history. Section 106 of the *National Historic Preservation Act of 1966* (as amended) and the *Archaeological Resources Protection Act of 1979* (as amended) protect these resources.

The area of potential effect (APE) is defined by the Wyoming State Protocol Agreement between the BLM and the State Historic Preservation Office (SHPO) as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. The APE was defined by the BLM to include the physical footprint of the proposed surface disturbance (direct) and the foreground (i.e. approximately 4 miles within the enclosed landscape) of the proposed surface disturbance (indirect).

A Class III cultural resource inventory was conducted for the direct APE (BLM cultural project #62-2012-0011). Two cultural resource sites and two isolated resources were identified; one prehistoric and the other of unknown age. The prehistoric site was evaluated as eligible for the National Register of Historic Places (NRHP); the other is not eligible for the NRHP. No historic properties were identified within the APE.

3.3.2 Paleontology

The surface geology of the project area has been classified and scored by the Potential Fossil Yield Classification (PFYC) system which indicates the relative potential for the presence of fossil materials in given locations. The PFYC is a relative value that rates the potential for an entire formation and is not a true indicator of the presence or absence of fossils in any given location. For example, Morrison Shale has high concentrations of paleontological materials in some areas and is devoid of them elsewhere. The numeric score is between one and five, with five being the most sensitive. Paleontology localities are often common in formations with a PFYC rating of 3 / 3a or higher.

The surface formation within the proposed project area is Lower Miocene and Upper Oligocene Rock (Tmo) which has a PFYC rating of 4/5 meaning it has a moderate to high sensitivity for paleontological resources. However, the surface material is a thin, loosely consolidated layer not likely to contain paleontological resources. Geologic survey and assays of the project area revealed that the target mineral material is amphibolite, a metamorphic rock also not likely to contain paleontological resources. Fossils are most prevalent in sedimentary rocks.

3.4 Hazardous or Solid Wastes

All solid waste generated from operations in the pit area would be hauled to the Platte County landfill on an as needed basis. Used equipment oil would be temporarily stored onsite in approved containment vessels, and transported to approved disposal sites as quickly as practicable.

3.5 Invasive, Non Native Species

No invasive or non-native species are known to occur at the proposed location or along access or haul roads.

3.6 Livestock Grazing

The permit area is located within a publicly open, remote (approximately 2 miles to the nearest residence) area managed by BLM. The area is managed as BLM grazing allotments, Cooney Hills on the north side and Squaw Mountain to the south. 80 acres of potential disturbance represent a loss of 10 AUMS, if proper reclamation is not conducted as each mine phase is completed. SWI would work with BLM to determine the most appropriate method for controlling access to the site. Initially, due to the remote location and shallow quarry depth in the early stages of mining, SWI proposes no specific exclusion methods in association with this mining permit. However, if BLM and/or LQD prefer some method of exclusion from the outset of mining, SWI would work with the agencies to determine an exclusion method that is appropriate. BLM well Cooney Hills #1 is located 630 feet to the north of the new proposed area and is use for stock.

3.10 Recreation

The mine location has limited public access through a legal motorized route and several existing primitive routes. Recreation opportunities in the vicinity include mountain biking, wildlife viewing, dispersed camping, photography and hunting. In addition, there are 24 commercial big game outfitters approved to operate on BLM lands in the immediate location.

3.11 Soils

There are three soil types mapped by the USDA NRCS in the project area that are characterized as well drained with no known flood hazards and are nonsaline and nonsodic. The Aberone-Cragola complex parent material is an alluvium with 10-30% slopes and an A-horizon comprised of gravelly sandy loam. The Selpats-Hiland complex parent material is an alluvium with 0 -6% slopes and an A-horizon comprised of gravelly sandy loam. Sunup-Rock outcrop complex with 10-40% slopes is comprised of residuum derived of sandstone with a very thin A-horizon of very cobbly fine sandy loam.

3.12 Threatened and Endangered Species

Consultation with the U.S. Fish and Wildlife determined that there are no federally listed plant species that are endangered or threatened within the project area.

3.14 Vegetation

Species that compose the vegetation community type include, Needle and thread, western wheatgrass, blue gramma, big sagebrush, little bluestem, winterfat, prairie sandreed, thickspike wheatgrass, threadleaf sedge, sand bluestem, silver sagebrush, and bluebunch wheatgrass. A fire in 2011 reduced vegetative cover on the site.

3.15 Visual Resource Management

The proposed location is currently located in a VRM Class III area. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be low to moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

3.16 Water Quality

3.16.1 Surface Waters

There are no tributary or surface water impoundments. However, an unnamed ephemeral channel, which is a tributary to the abandoned WY Development Company Canal lies 1000 feet to the south and 300 feet to the west is a portion of the abandoned

WY Development Company Canal. The closest Class I & II Waters in Slate Creek are located to the northwest approximately 1.5 miles from the project area and within a different watershed that is downslope of the project area.

The Wyoming Game and Fish Department agreed with SWI assessment that there are no perennial streams which support fish population with 0.5 miles of the project. SWI submitted a Notice of Intent to Discharge Storm Water from a Mineral Mining Activity to WQD, and received approval from WQD on May 23, 2013 under Permit Number: WYR320761. The Black Beauty Mine is located in an upland area with no active streams, wetlands, springs, or waters of the U.S. located within the permit area. Because no disturbance would occur to any Waters of the U.S., no permit is required from U.S. Army Corps of Engineers (USACE) Wetlands and Waters of the U.S. SWI contacted USACE to confirm this assertion, and USACE responded on August 19, 2013 confirming that no Waters of the U.S. would be affected by the mine.

3.16.2 Ground Waters

The maximum depth of mining would be 40', and the post-mining pit floor elevation would vary from approximately 5156' to 5200' above mean sea level (MSL) depending on existing topography (See Exhibit MP-2). As shown on Exhibit MP-2, the estimated ground water surface elevation in the area is 5098' above MSL based on static water levels in the closest well (Cooney Hills No. 1). The lowest pit floor elevation after mining would be 58' above the local ground water surface elevation so the mine is not expected to intersect the groundwater. The BLM Cooney Hills No. 1 well located 630 feet to the north of the new proposed area is used for stock and produces approximately 3 gallons per minute. The Amelia well located 650 feet to the east is located on private land.

3.17 Wildlife

The wildlife that may be present and affected, and therefore considered in relation to the proposed action are: big-game, prairie dogs, raptors, mountain plovers, and other BLM Wyoming sensitive species. The permit area is not located in a mapped Sage-grouse core area. There was one raptor nest identified just under ½ mile from the project site during a field survey. Only a small area of the proposed project site falls within the ½ mile radius of the nest so raptor stipulations would only apply to that portion of the site. The project is located within an area delineated by the Wyoming Game and Fish Department as crucial big game winter range, specifically mule deer winter range at this location. Crucial ranges describe seasonal ranges or habitat components that are a crucial element of a populations' ability to maintain itself at a certain level (theoretically at or above the population objective) over the long term. Also, field surveys found that there is a black-tailed prairie dog colony immediately adjacent to the proposed project area.

3.18 Socioeconomic

Social economic value for public lands within the project area is derived from the existing ranching operations and commercial big game outfitters permitted within the area. These types of operations are highly valued within the state both as a way of life and for their economic value. Tourism tied to the ecology of the area also adds to the social economic value for public lands in the project area. These types of resources uses generally have less impacts to natural resources but may conflict with other resources uses such as mining and oil and gas operations. There are no known oil and gas facilities or other mineral resources that conflict with this project. SWI applied for a zoning special review with the Platte County (Wyoming) Planning and Zoning department (PCPZ). SWI received approval from PCPZ on March 22, 2012.

3.19 Public Health and Safety

The permit area is located within a publicly open, remote (approximately 1.7 miles to the nearest residence) area on BLM administered federal lands. The area is managed as a grazing allotment by BLM. SWI would work with BLM to determine the most appropriate method for controlling access to the site. Initially, due to the remote location and shallow quarry depth in the early stages of mining, SWI proposes no specific exclusion methods in association with this mining permit. However, if BLM and/or LQD prefer some method of exclusion from the outset of mining, SWI would work with the agencies to determine an exclusion method that is appropriate.

4.0 ENVIRONMENTAL EFFECTS

4.1 Direct and Indirect Effects of the Proposed Action

This chapter focuses on the environmental analysis of the proposed action and no action alternatives presented in the previous chapter. In many cases, impacts are assessed qualitatively but, when possible, quantitative impacts are evaluated. Evaluation focuses on direct, indirect, and cumulative impacts of both the no action and proposed action alternatives.

4.1.1 Air Quality

Emissions are expected from a front-end loader or forklift, excavator, skid steer loader, 1 to 2 generators, stone saw, stone cutter, and water truck for the life of the mine, which is expected to be 22 years.

Potential fugitive dust issues arising from mining and facilities area operations would be controlled primarily by limiting the scale of disturbance at any one time. The quarry/pit areas would likely be a minimal source of fugitive dust due to the fact that mine equipment would run only intermittently over a short distance at low speeds to move material from the quarry/pit areas to the facilities area. SWI would lower the maximum speed limit of 15 MPH on the access and haul roads if necessary to control fugitive

dust. Most of that travel distance would be over native stone or large particle size reject/overburden. Stockpiles would be located below grade whenever possible, would often have large particles at the surface, and would be seeded to provide vegetative cover to limit wind entrainment of fines. The facilities area is the most likely source of fine material production on the mine site, and would be a relatively small source of fugitive dust due to the small disturbance area (3.9 acres).

4.1.2 Heritage Resources

4.1.2.1 Cultural Resources, Traditional Cultural Properties, Native American Religious Concerns

Impacts occur to historic properties when a proposed project would directly or indirectly alter any of the qualities of that property that qualify it for inclusion in the NRHP. Potential impacts from the proposed action include physical destruction of or damage to all or part of a property (direct impact) or introduction of visual or atmospheric elements that diminish the integrity of the property's significant features (indirect impact).

No historic properties were identified within the APE for the action as proposed. Surface disturbance resulting from the proposed action, approximately 57.3 acres, would have no effect on known historic properties. No historic properties were identified that would be indirectly affected by changes to the setting or introduction of atmospheric elements (e.g.dust). Additional indirect effects (e.g. increased awareness of site location, vandalism, or inadvertent/accidental impact) would be minimized through site monitoring and mitigated through implementation of the standard cultural stipulation.

4.1.2.2 Paleontology

Surface and subsurface disturbance would occur as a result of the proposed action. No localities have been recorded within the project area. The target mineral material is amphibolite, a metamorphic rock. As such, the potential for the presence of fossils within the target formation is negligible. Unknown fossil localities may be affected once disturbances are implemented as proposed. To mitigate affects to unknown subsurface significant paleontology localities standard paleontology stipulations apply and are included in the conditions of approval.

4.1.3 Hazardous or Solid Wastes

Due to the nature of the target stone, SWI does not anticipate that quarry operations would produce combustible, toxic, acid-forming or radioactive materials. Minimal processing would occur in this operation, mined materials would essentially remain in the same state (very large particle size) as the in-place, native deposit, and provide a minimal change in potentially reactive surface area.

Reject/overburden materials generated by this mining operation are not considered toxic for soil, surface water, or groundwater resources. If issues related to toxicity arise, SWI would work with BLM and LQD to arrive at an appropriate solution.

4.1.4 Invasive, NonNative Species

In accordance with the ACEPM in chapter 2, the proponents would be responsible for the invasion and spread of invasive and nonnative species. If the proponent disregards the spread of invasive weeds due to the disturbance of this mine, not only could the 80 acres become contaminated, but the surrounding native landscapes as well.

4.1.5 Livestock Grazing

Due to the small scale and staggered mining plan, cattle should experience few impacts from this project. 10 Aums have the potential to be lost if reclamation is not conducted as soon as possible and in a successful manner. By maintaining speeds of less than 15 mph, cattle should experience less disturbance, likelihood of being hit by a vehicle or fugitive dust issues.

4.1.9 Recreation

Impacts to recreational values from the mining operation would be minimal.

4.1.10 Soils

The three soil types are known to drain rapidly, therefore should not cause major flooding or standing water. Two of the three soil types are known to be poorly suited to range seeding and range renovation and may therefore be difficult to reclaim. Proper management of topsoils would aid in reclamation success. The USDA recommends controlling wind erosion in the Selpats-Hiland complex by strip cropping at right angles to the prevailing winds and for the soil surface to be left rough.

4.1.11 Threatened and Endangered Species

No federally listed endangered or threatened plant species would be impacted by this mine.

4.1.13 Vegetation

57.3 acres would be disturbed by the proposed action, which is not entirely covered with vegetation due to rock outcrops.

Mitigation

Due to the staggered approach involving the mining phases, reclamation would be conducted on previously mine areas as the amphibolite is removed. The Reclamation Plan would be adhered to obtain successful reclamation.

4.1.14 Visual Resource Management

Impacts to visual resources would be minimal as the operator has agreed to meet VRM Class II Objectives, which require retention of the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

However, internal scoping has noted the potential for increased sensitivity and scenic quality of the existing landscape. A house is 1.7 miles to the north, but possible residence can't see the mine. A complete inventory of visual resources in the area would be completed as weather permits.

These objectives would be met by the ACEPMs. The proposed project area would be monitored annually with follow-up consultation when objectives are not being met. Visual resources would not be negatively affected by the mining operations.

4.1.15 Water Quality

Since the Black Beauty Mine would not use any surface or ground water for mining or mineral processing operations, no direct depletion is anticipated. All operations would be conducted in such a manner to minimize disturbance of the hydrologic balance outside the permit area and to support post mining land uses. A minimal amount of water depletion from Wheatland's municipal water supply is expected.

4.1.15.1 Surface Waters

Mining is not expected to impact surface water quantity or quality, because of the relatively small permit area located on a high, relatively flat-lying terrace that is segregated from local drainage patterns by existing topography. Natural runoff from surrounding areas would be routed around the permit area eliminating the need to manage runoff from the mine site. Potential precipitation runoff would be relatively low and only isolated to the quarry pit disturbance and would accumulate at the bottom of the pit and naturally infiltrate over time. The unmined, flat-lying facilities area has the most potential to generate runoff; however, initially, the facilities area disturbance would be limited to approximately 3.9 acres or less, and any potential runoff from a disturbance of this size in a low slope situation is easily controlled by the perimeter berms that would be installed around the facilities area. Quarry pit areas would also be surrounded by perimeter berms of overburden and/or topsoil ensuring additional control of any potential runoff at the edge of the mining disturbance to protect off-site water resources. During mining, SWI does not anticipate the need for the extensive use of sediment control structures or water storage and treatment facilities. SWI would visually monitor the development of erosional issues and would work with BLM and LQD to develop a plan to install ASCM to protect surface water resources related to all mining

operations in compliance with the approved WYPDES stormwater discharge permit (WYR320761).

4.1.15.2 Ground Waters

Based on a local groundwater elevation that is 58' below the maximum extent of mining, the lack of blasting as part of the mine plan, and an estimated 20' of low permeability amphibolite bedrock remaining below the proposed maximum extent of mining, no impacts to groundwater are anticipated from the mining operation.

4.1.16 Wildlife

Being that the project is within an area designated as crucial big game winter range, the activity would be scheduled to take place during a time when it would not affect animals during this particularly stressful time of the year. A Timing Limitation Stipulation (TLS) is warranted in order to mitigate impacts to wintering mule deer, which would prevent activity associated with this project from November 15 through April 30th annually. Mine operations may cause localized displacement of mule deer that are sensitive to the activity.

There was a lone raptor nest that was identified in the area during a field survey nearly ½ mile from the project location. Activities within ½ mile of raptor nests are prohibited during the nesting season (TLS). The northwestern most part of the permit area falls within the ½ mile radius of the raptor nest. The area of planned disturbance does not fall within this radius. Therefore TLS would not affect mining operations.

There was a prairie dog colony identified in close proximity to the project area. Due to the rocky nature of the mine area the colony does not overlap with the project area. Prairie dogs are under a controlled surface use stipulation on public lands and the colony is to be avoided by the mining operations. Impacts to the prairie dog town are expected to be minimal and indirect in nature. The topography becomes more rolling in the project area as well. Mountain plover nesting habitat, often associated with prairie dog colonies, exists more toward the center of the prairie dog colony where the terrain flattens out and bare ground is plentiful. Overall operating practices would be conducted in a way that prevent unnecessary disturbance, thus minimizing impacts to all associated wildlife. Reclamation is proposed to take place after each mining phase thereby minimizing impacts. Native grasses and forb seeds for the reclamation would be used to offset the disturbance to this habitat.

4.1.18 Public Health and Safety

The approval of the proposed action would result in no change to the public health of the surrounding communities. Since the Black Beauty Mine is located in a remote location and the proposed mining methods would not produce significant amounts of dust, noise or hazardous waste, the mine would not promote a decline in public health.

However, Cooney Hills Road is a relatively low traffic volume road, and sight distances at the intersection with the BLM trail/road are adequate to ensure that mine related vehicles can access Cooney Hills Road with no disturbance to existing traffic patterns. To ensure safe access onto Cooney Hills Road, SWI would strictly enforce stopping at the intersection prior to entering Cooney Hills Road. Additionally, a fence gate is present near the intersection forcing all traffic to stop to open/close the gate before proceeding onto Cooney Hills Road. Because SWI would mine the site using hand quarrying methods, with only intermittent use of equipment to move mined materials to the facilities area, and because the nearest residence is approximately 1.7 miles away, noise related nuisance issues are not expected in association with this mining operation. The low volume of truck traffic is not expected to constitute any nuisance concerns.

4.2 Direct and Indirect Effects of No Action

Selection of the No Action alternative would have no effect on natural or non-renewable resources within the analysis area. Any impacts described under the Proposed Action would not occur.

4.3 Cumulative and Residual Effects

The cumulative effects of the proposed action would be limited to the mine site and view-shed area for approximately 22 years. This area is limited by the enclosed landscape and low profile facilities, therefore the view-shed would be approximately five miles. The proposed action would not substantially add to the cumulative effects to natural resources or resource uses. The impact of the proposed action would be spread over the operational period of the mine. Most of these impacts would be mitigated through ACEPMs or conditions of approval. There are no known or residual effects anticipated after final reclamation from the proposed action.

There would be slight effects on recreation and mostly seasonal. These effects would be mitigated by the seasonal nature of the recreation. As the primary recreation is beginning the mining operations are decreasing due to weather.

5.0 TRIBES, INDIVIDUALS, ORGANIZATIONS, or AGENCIES CONSULTED

Wyoming DEQ Air Quality Division (AQD) Permitting

Wyoming DEQ Water Quality Division (WQD) Storm Water Discharge Permitting

Army Corps of Engineers (USACE) Wetlands and Waters of the U.S

Local Zoning or Planning Agency Statement

6.0 LIST OF PREPARERS

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7.0 REFERENCES

USDA NRCS Soil Survey of Platte County, Wyoming

8.0 Appendix 1: Map MP-1