

**U.S. Department of the Interior
Bureau of Land Management**

Environmental Assessment

**Doty — Crystal Caramel Mocha Plan of Operations
WYW168597
WY-050–EA 15–30**

BLM EA No. WY-050–EA15–30

PREPARING OFFICE

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Prepared by
U.S. Department of the Interior
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Chapter 1. Purpose and Need for Action:

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1.1. Introduction:

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the Crystal Caramel Mocha Plan of Operations as proposed by Stewart Doty.

The EA is a site specific analysis of potential impacts that could result from the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impacts” (FONSI). If the decision maker determines that this project has “significant” impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record (DR) may be signed for the EA approving the selected alternative, whether the proposed action or another alternative. A DR, including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in “significant” environmental impacts.

1.2. Background:

Stewart Doty has submitted a Plan of Operations for the extraction of a mineral supposedly similar to Jasper from his mining claim near the Sweetwater River. He plans to excavate a 15ft x 15ft hole up to 8 feet deep and remove a large jasper-type stone. He would use one medium sized excavator and haul the stone from the claim on a semi-truck. Total disturbance would be within a 40ft x 40ft area, and access would be gained through travelling approximately 350ft on rocky terrain from an existing road (0.13 acres total). Mr. Doty constructed an unauthorized underground mine on a nearby claim (Blue Sky Mine) last year and this Plan of Operations will include the bonding for this unauthorized activity which has mostly been reclaimed. This project is located in the South Pass Area of Critical Environmental Concern (ACEC) in NENWSESW Sec. 21, T. 28 N., R. 100 W., 6th P.M., Fremont County, WY. The proposed project is located entirely on Federal lands. Because the project is within an ACEC and represents mining activities, not exploration, a Plan of Operations was required.

1.3. Purpose of the Proposed Action:

The purpose of the proposed action is to consider approval of a mining Plan of Operations for the extraction of valuable mineral deposits located on existing mining claims.

The content standards of 43 CFR 3809.401, and the performance standards as shown in 43 CFR 3809.420 represent the de facto criteria for determining whether or not a proposed plan of operations could result in unnecessary and undue degradation. As long as the operator’s proposed plans of operations meet these minimum standards, BLM has little option but to approve the plan. However, the BLM’s objective in considering the Plan of Operations as proposed is to evaluate whether or not it meets these criteria and prevents unnecessary and undue degradation of public lands.

In addition, because the Plan of Operations included a provision to occupy or use the site for other activities purported to be “reasonably incident” to mining, the proponent must seek concurrence

from BLM before beginning this use and comply with all provisions of this subpart as defined in 43 CFR 3715, Use and Occupancy Under the Mining Laws.

1.4. Need for the Proposed Action:

BLM's need for this action is reflected in the agency's responsibility to process and approve mining plans of operations that do not violate the "unnecessary and undue degradation" standard of the Federal Land Management Policy Act of 1976 (as amended). This standard was promulgated through the 43 CFR 3809 Surface Management Regulations. The approval is required in order for the mining claimant to exercise his statutory rights to explore for valuable minerals from mining claims located under the provisions of the General Mining Law of 1872 on public lands where the mineral interest is reserved to the United States.

1.5. Conformance to BLM Land Use Plan(s):

- The proposed action is in conformance with the Lander Record of Decision and Approved Resource Management Plan (RMP), June 26, 2014.
- The proposed action is outside of any withdrawn areas, but is within an area proposed for withdrawal under the RMP (not segregated).
- The proposed action would not require an amendment to the RMP.

1.6. Relationship to Other Statutes, Regulations or Plans:

The proposed project is subject to the provisions under the Title 43 Code of Federal Regulations (CFR) Part 3809, Surface Management of the Public Lands under Operations of the General Mining Law. Under the requirements of these regulations, the operator must submit a plan of operations describing how activities would be conducted and the environmental resources would be protected to avoid unnecessary and undue degradation.

The activities described in the Plan of Operations (Doty, 2015) are subject to the Wyoming BLM Standard Mitigation Guidelines for Surface Disturbing Activities (Bureau of Land Management, 1987). The purpose of the "Standard Mitigation Guidelines" is

1. To reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection; and,
2. To inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM - administered public lands.

The guidelines are written in a format that allows for their direct use as stipulations to a permit approval, and the addition of specific or specialized mitigation in an environmental analysis.

The proposed operations are also subject to the rules and regulations of the State of Wyoming Land Quality Division (WDEQ-LQD) and the Wyoming Environmental Quality Act. The BLM and the WDEQ-LQD operate under the guidelines of a Memorandum of Understanding approved and signed by both agencies in 1990 and amended in 2003. The WDEQ-LQD would require a License to Explore (LE) and is responsible for establishing the reclamation bond for the proposed

project with BLM concurrence. Joint inspections by BLM and the WDEQ-LQD are provided for in the Memorandum of Understanding and are employed whenever logistically possible.

1.7. Identification of Issues and Resources:

BLM is directed by guidance, statute and regulation to describe the environment of resources to be affected or created by alternatives under consideration. CEQ regulations direct BLM to concentrate efforts on important issues, identified in Table 1 and further described in Chapter 3. All resources that the BLM typically considers were identified, but many were determined to not be pertinent to the Proposed Action or affected to a degree of any importance, and therefore, were not carried forward for further analysis. If particular resources are not affected beyond minimal amount, or if the resource is not present, there will be no further discussion of the resources in the Affected Environment (Chapter 3), or in any of the subsequent impact analysis. The discussion of these environmental impacts is therefore restricted to topics related to resources which are affected and carried forward for analysis.

Table 1.1. Potentially Impacted Resources

RESOURCE	Reasoning
Climate, Climate Change, and Air Quality (See Section 3.2)	Required under 2008 I.M. 171
Cultural, Historical and Paleontological Resources (See Section 3.3)	Unknown features and National Historic Trails
Wildlife including Migratory Birds, and BLM Special Status Species (See Section 3.4)	Within Sage Grouse Core area and Big Game crucial Winter Range
Soil Resources (See Section 3.5)	Topsoil removal; disturbance
Vegetation Including BLM Wyoming Special Status and Noxious/Invasive Species (See Section 3.6)	Disturbance; weeds
Water (Ground Water and Surface Water) Resources (See Section 3.7)	Within Sweetwater Watershed; shallow groundwater
Visual Resources (See Section 3.8)	VRM Class II

1.7.1. Resources Considered But Eliminated From Further Analysis:

These issues are required to be addressed or considered for analysis during the internal BLM scoping process; however, the issues were eliminated from additional analysis including consideration under the affected environment or environmental consequences for the reasons described below under each resource.

1.7.1.1. Floodplains

Although the project areas are close to floodplains along the Sweetwater River, due to the nature of the runoff and drainages in the area as described in detail in the Water Resources Section, 3.7, no impacts to floodplains were anticipated.

1.7.1.2. Prime or Unique Farmland:

No prime or unique farmlands are identified in the project areas or the LFO.

1.7.1.3. Wild and Scenic Rivers:

No Wild and Scenic Rivers as identified in the RMP (2014) are in the project areas.

1.7.1.4. Coastal Zone Areas:

No Coastal Zone Areas are identified in the LFO.

1.7.1.5. Minority and Low-Income Populations:

Because the project is located in an unpopulated area and employment related to the projects is limited to only the mining claimants, impacts to minority and low-income populations would be very minimal or non-existent and are thus not evaluated in detail in this EA.

1.7.1.6. State, or Natural Parks, Forests, Conservation Areas, or Other Areas of Recreational, Ecological, Scenic or Aesthetic Importance:

No areas relating to State, Natural Parks, Forests, or Conservation Areas were observed or identified in the project areas. The project is within the South Pass Area of Critical Environmental Concern (ACEC): thus, the requirement for a Plan of Operations. Impacts related to this ACEC are addressed per the Relevant and Important Values for which the ACEC was designated.

1.7.1.7. Vegetative and Wildlife Resources — Threatened and Endangered Species

The BLM Wildlife Biologist determined that no threatened, endangered, or listed species or habitats protected under the Endangered Species Act are present in the project area.

1.7.1.8. Rangeland Resources:

The effects to rangeland resources were considered minor in the long term because of the very limited amount of disturbance, and no impacts would occur to rangeland facilities or to grazing activities by this action.

1.7.1.9. Wetlands and Riparian Areas

No wetlands or riparian areas overlap the proposed or existing project areas. Additionally, no wetland or riparian areas occur in relation to the project areas where any impacts could be incurred because of the nature of the runoff and drainages within the sites as described in Water Resources Section 3.7. even though the Sweetwater river is downstream of the project area.

*Chapter 1 Purpose and Need for Action:
Resources Considered But Eliminated From Further
Analysis:*

1.7.1.10. Wild Horses:

The project area does not occur in a Wild Horse Management Areas (WHMA's) as defined in the LFO RMP (2014). Additionally, there is no meaningful difference of adverse impacts to wild horses under the alternatives and in both cases the impacts are minimal. Therefore, wild horses are not carried forward for analysis.

1.7.1.11. Geological Resources:

There are no anticipated geologic hazards or unique geologic features that could potentially be impacted by the Proposed Action or any of the alternatives.

1.8. Decisions to be Made:

Once the submitted Plan of Operations met the standards for completeness per the 43 CFR 3809.401 content standards, BLM's decision-making is limited to:

- Determining whether the proposed action would or would not result in unnecessary and undue degradation, using the performance standards in 43 CFR 3809.420 as criteria and then either approve or request modification of the plan until the standards are met, and
- Determining whether the occupancy associated with the proposed action meets the criteria and tests set forth in 43 CFR 3715. BLM would determine whether the operator has complied with the requirements of this subpart together with its decision approving or modifying the plan

1.9. Scoping and Public Involvement:

Following the requirements set forth under the Title 43 Code of Federal Regulations (CFR) Part 3809.5, a plan of operations was submitted by the project proponent on February 5, 2015. The plan was reviewed for completeness per the specific requirements found in 43 CFR 3809.401 and determined complete on April 30, 2015 after reviewing the proposed mining material for consistency with the Mining Laws. As directed by 43 CFR 3809.411(c), following the receipt of the complete plan of operations, a notice of availability of the plan was published in a newspaper of local circulation or published in a NEPA document.

The notice of availability for the Plan of Operations was published in one local paper, the Lander Journal, on May 10, 2015. No public comments on the plan of operations were received. The comment period ended June 10, 2015.

The project was internally scoped in the Lander Field Office with meetings held between BLM staff.

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Chapter 2. Description of Alternatives, Including Proposed Action:

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2.1. Introduction:

Chapter 2 describes in detail the Proposed Action and alternatives and compares the alternatives in terms of the environmental impacts as identified in Section 1.8, Identification of Issues.

The alternatives described in chapter two consist of:

1. Alternative A- No Action Alternative
2. Alternative B- Proposed Action Alternative

2.2. Description of Alternatives, Including the Proposed Action and No Action:

2.2.1. Alternative A- No Action:

Under the No Action alternative, the Crystal Caramel Mocha Plan of Operations would not be allowed on BLM administered surface which comprises 100% of the project areas. Therefore, the BLM would be denying the proponent's right to extract minerals on federal lands. The selection of the No Action alternative may constitute a taking because it violates valid existing rights under the U.S. Mining Laws and result in legal action by the proponent.

Under the No Action alternative, existing land and resource use activities within the project area would continue generally as is, and the operator would be limited to casual use activities which do not allow for mining, only exploration. The Affected Environment descriptions presented in this EA, thus, also constitute the effects of the No Action alternative. The No Action alternative is analyzed in detail in this EA.

The No Action alternative could be selected by the BLM, but such selection must clearly demonstrate that the proposal as designed would cause significant adverse impacts resulting in unnecessary or undue degradation of the public lands or resources. It would then be incumbent upon the proponent to redesign the proposed action to ensure unnecessary and undue degradation does not occur.

2.2.2. Alternative B- Proposed Action:

The Proposed Action consists of the Plan of Operations (Plan) for activities related to the extraction of valuable mineral deposits that would constitute approximately 0.13 acres of total disturbance over the one year life of the project. The complete description of the Proposed Action including detailed maps can be found in Mr. Doty's complete Plan of Operations and is summarized below.

2.2.2.1. Operating Plan:

The Plan consists of excavating one, 15ft by 15ft hole up to 8ft in depth, and remove several large jasper-type stones within a 40ft by 40ft disturbance area. One medium sized excavator would be used to load the stones, consisting of a total of 60 cubic yards of material, onto a dump truck that would be hauled from the site along 350 ft of new overland road to an existing access road where

*Chapter 2 Description of Alternatives,
Including Proposed Action:
Introduction:*

it would be hauled to Big Piney, WY. Mr. Doty constructed an unauthorized underground mine on a nearby claim (Blue Sky Mine) last year and this Plan of Operations will include the bonding for this unauthorized activity which has mostly been reclaimed.

2.2.2.2. Schedule

The operations would commence after July 15, 2015, once the Plan is approved. Operations would occur on the weekends until approximately November, and would likely only consist of one operating season.

2.2.2.3. Equipment

The following equipment would be used for operations: one large 3/4 yard Back hoe, two pickups, one tractor trailer, and up to two four-wheelers.

2.2.2.4. Water Management

Because operations will occur within one summer season, and no water is needed for operations, very little water management is necessary; however, the topsoil will be bermed on the uphill side of the excavation to deflect any surface water from the site if a runoff event occurred.

2.2.2.5. Rock and Soil Handling Plans

Topsoil would be salvaged and stockpiled temporarily prior to disturbances. Rocks would be stockpiled adjacent to the trench within the disturbance area. Specialty rocks will be hand selected for removal totalling approximately 60 yards.

2.2.2.6. Reclamation Plan

Only one pit would be excavated under this plan, and reclamation would occur in the fall after operations are complete. Topsoil would be salvaged prior to operations, and it would be replaced and seeded after operations in the fall. The slight depression left by the removal of stones at this location might collect water and encourage plant growth at this location.

2.2.2.7. Monitoring Plan

The operator would comply with all relevant federal, state, and local regulations during mining activities, and would notify the proper authorities if there are any issues during mining. Sustained monitoring plans are not anticipated other than occasional inspections by the operator to ensure the site is stable post reclamation. Routine inspections to ensure plan compliance shall be conducted jointly by BLM and WDEQ personnel.

2.2.2.8. Interim Management Plan

Seasonal closures would occur from November 1 to July 15 yearly. All equipment would be removed prior to this time and all trenches would be reclaimed.

*Chapter 2 Description of Alternatives, Including
Proposed Action:*

Alternative B- Proposed Action:

2.4. Alternatives Considered, But Eliminated From Further Analysis:

Alternatives to the proposed action are limited to those actions that would not limit the proponent's ability to extract valuable gold deposits on their mining claims. Therefore, the alternatives were limited to the Proposed Action and No Action Alternatives

2.5. Comparison of Alternatives:

Table 2.1. Table of Comparison of Alternatives

Alternative	Major Features	Impacts
Alternative A- No Action Alternative	<ul style="list-style-type: none"> • Deny Plan of Operations • Investigative or exploration activities limited to casual use only. 	<ul style="list-style-type: none"> • Continue the existing environmental trends
Alternative B- Proposed Action Alternative	<ul style="list-style-type: none"> • 0.13 acres of total new disturbance • One pit excavated and stones removed and hauled off-site over one operating season • Reclaim site 	<ul style="list-style-type: none"> • Impacts to soils, vegetation, and habitat related to disturbance. • Mining activities could potentially result in impacts to air resources • 0.13 acres of new disturbance within core area and ACEC.

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Chapter 3. Affected Environment and Environmental Impacts:

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3.1. Introduction:

This section describes the current conditions, organized by resources, as identified in Section 1.7, Identification of Issues that could be affected by the Proposed Action and the No Action Alternative.

3.1.1. General Setting:

The project area is located near the confluence of Pine Creek with the Sweetwater River approximately six miles south of South Pass City, in Fremont County, WY. Although this area is within the area referred to as South Pass it is outside of the South Pass/Atlantic City gold mining district and has not been heavily explored for gold like other areas in the South Pass region. Very few visitors frequent this area since most roads dead end at the Sweetwater river, but use of the area is likely dominated by the local ranchers and hunters in the Fall.

3.1.2. Resources/Issues Brought Forward for Analysis:

The resources described below are ordered and addressed in the same order presented in Chapter 1. Resources that are not impacted or are eliminated from impact analysis are not of concern in the project area and are not discussed below (see Chapter 1).

3.1.3. General Impact Analysis Assumptions and Guidelines:

This section is based on the resource specialists' reports and/or in consultation with the resource specialists. The section organizes the resources as identified in Chapter 1.0; Section 1.7 Identification of Issues, and compares the general current conditions to impacts between the Proposed Action and No Action Alternative.

Impacts, both beneficial and adverse, have been categorized according to the phase of development and duration of activities on the resources. Temporary impacts would be defined in this section as impacts that occur during operations (3 days per week maximum). Short term impacts would be defined as impacts to the resources that persist after temporary operations have been completed in a yearly manner and remain until the site is properly winterized. Therefore, short term impacts primarily consist of the operating season (July 15 to November 15, one year anticipated), or four months. Long term impacts would be defined as the duration of the Project (one year) plus enough time for reclamation to be determined complete. Therefore, long term impacts could last up to 4 years.

Impacts are also categorized as being direct or indirect, and beneficial and adverse. This analysis identifies these types of impacts and compares the alternatives accordingly. Direct impacts are those that are caused by the action and occur at the same time and place. Indirect impacts are those impacts which are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable. Sometimes it is difficult to separate these impacts, and so the impacts may be described together. Because the primary purpose of the project is to create gravel for the maintenance of public roads, there are beneficial impacts anticipated as a result of the alternatives that are described where applicable.

3.1.4. Cumulative Impacts:

Cumulative impacts refer to impacts on the environment which result from the incremental impacts of the Proposed Action when added to other past, present and reasonably foreseeable future actions. Therefore, cumulative impacts are only described for resources that would be impacted. The Cumulative Impacts Analysis Area (CIAA) and Cumulative Impacts Temporal Boundary (CITB) may be different for each resource and are defined accordingly.

Because this is a relatively isolated and small project, the general CIAA for the purposes of analysis is approximately 5 square miles surrounding the site. This area is based off the potential for impacts to relevant resources, and will be defined more fully per resource. Besides the existing Blue Sky Mine reclamation, there are very few, if any, existing or reasonably foreseeable future developments within the CIAA.

3.2. Climate, Climate Change and Air Quality:

3.2.1. Description of Climate, Climate Change and Air Quality Resources:

Climate: The project area is located on South Pass, in a semi-arid, high mountain desert, mid-continental climate regime. The area is typically dry, windy, and has long, cold winters. The nearest meteorological monitoring station is located approximately 10 miles to the northeast at the northeastern end of South Pass, and records average annual precipitation in the area around 11 inches. Most precipitation occurs in this region in the spring and winter months. Average temperatures range between 4.1 degrees F and 34.6 degrees F in January and between 50.8 degrees F and 86.7 degrees F in July. Prevailing wind in this region is west-southwest.

Climate Change: A growing body of evidence indicates that Earth's atmosphere is warming. Records indicate that temperatures in the Wyoming region have risen approximately 1.5 degrees F since the 1960 to 1979 baseline years (GCRP, 2009b). Concentrations of certain gases in Earth's atmosphere have been identified as being effective at trapping heat reflected off Earth's surface, thereby creating a "greenhouse effect." Climate change is likely to combine with other human-induced stressors to further increase the vulnerability of ecosystems to other pests, invasive species, and loss of native species.

Air Quality: Air quality in the area is currently very good, but impacts do exist by being close to major Highways and downwind of oil fields. The extent to which these factors may impact air quality on any given day is dependent primarily on activity, wind conditions, topography, and soil moisture levels.

3.2.2. Impacts to Climate, Climate Change, and Air Quality under Alternative A- No Action:

3.2.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in continuing existing trends of climate and air quality resource conditions.

Chapter 3 Affected Environment and Environmental Impacts:

Cumulative Impacts:

3.2.2.2. Cumulative Impacts:

No reasonably foreseeable development has been identified in the CIAA or CITB (see 3.2.3.2) so there would be no cumulative impacts to climate, climate change, or air quality under Alternative A.

3.2.3. Impacts to Climate, Climate Change, and Air Quality under Alternative B- Proposed Action:

3.2.3.1. Direct and Indirect Impacts:

Climate and Climate Change: Existing impacts and trends on climate and climate change are much greater than anticipated to occur under the Proposed Action; however, Greenhouse Gas (GHG) emissions associated with equipment used during mining activities would occur. An attempt to analyze in detail the impacts of GHG emissions and other climate change factors that result from the consumption of fossil fuels and other resources produced from the project area would be a highly speculative exercise unnecessary for the land management decisions for which the BLM is responsible.

Air Quality: Impacts to air quality in the immediate area being worked would result from dust and fumes from vehicles and excavation equipment employing internal combustion engines. At the project site only the dust and exhaust resulting from the individual backhoe excavation would contribute to air quality impacts. The duration of these activities indicates that impacts are expected to be temporary but after excavation the exposed soils would be subject to wind erosion, the impacts could continue to be short term as particulate matter is picked up by wind during exposure. However, these impacts would not continue after reclamation or last into the long term.

3.2.3.2. Cumulative Impacts:

There are no meaningful differences between the alternatives in their effects to climate, climate change or air quality, so the cumulative impacts are not described in detail. Additionally, the Proposed Action would only add incrementally or very minutely to the cumulative impacts to air within the CIAA, further justifying the lack of detailed analysis.

3.3. Cultural, Historical, and Paleontological Resources

3.3.1. Description of Cultural, Historical, and Paleontological Resources:

No cultural resources were identified during the field investigation of the site. The proposed mine site is within the National Historic Trails Management Corridor (NTMC) as described in the RMP. Under the RMP this area is open to locatable mineral entry, but it is proposed for withdrawal in the future.

Because the geology of the area primarily consists of Precambrian Schist that is void of fossil resources, the potential for paleontological resources is very low.

3.3.2. Impacts to Cultural, Historical, and Paleontological Resources under Alternative A- No Action:

3.3.2.1. Direct and Indirect Impacts

The No Action Alternative would result in the continuing of existing impacts and trends to cultural, historical, and paleontological resources.

3.3.2.2. Cumulative Impacts

The No Action Alternative would result in the existing impacts and trends to cultural, historical, and paleontological resources.

3.3.3. Impacts to Cultural, Historical, and Paleontological Resources under Alternative B- Proposed Action:

3.3.3.1. Direct and Indirect Impacts

Although no cultural or historical resources were identified within the project area, through surface disturbance and excavation into the subsoil, direct adverse impacts to unknown cultural or historical resources could occur. Because the projects are within the NTMC, indirect impacts to the viewshed of the actual historical trails could occur. These impacts would be temporary to short term and minimal considering the disturbance would be very small. Standard mitigation stipulations for cultural and paleontological resources would be applied.

3.3.3.2. Cumulative Impacts

There are no meaningful differences between the alternatives in their effects to cultural, historical, and paleontological resources, so the cumulative impacts are not described in detail. Additionally, because of the minimal impacts likely to incur to these resources as a result of the Proposed Action that would be mitigated appropriately, the impacts would not contribute to cumulative impacts.

3.4. Wildlife Including, Migratory Birds, and BLM Special Status Species:

3.4.1. Description of Wildlife Including, Migratory Birds, and BLM Special Status Species:

No threatened or endangered wildlife or plant species protected under the Endangered Species Act (ESA) were identified within the project area. The project area is within the designated greater sage-grouse priority habitat. Greater sage-grouse ("sage-grouse) are a candidate species under the ESA found by the US Fish and Wildlife Service to be warranted for listing under the ESA but precluded by higher priorities. The RMP adopts the sage grouse Core Area strategy of sage-grouse conservation (see Decisions 4098 through 4120). The conservation measures most directly applicable to this proposed project are Decisions 4104 and 4105 which prohibits surface

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Impacts to Cultural, Historical, and Paleontological Resources under Alternative A- No Action:

disturbance within 0.6 mile from the perimeter of occupied sage-grouse leks and prohibits surface disturbing and/or disruptive activities from March 15 to June 30 in Core Area. the nearest lek is 2.4 miles to the north, and the WDEQ-LQD enforces the sage grouse timing stipulation in coordination with the Game and Fish. The project area might be within Sage Grouse winter habitat but RMP conservation measures are limited to designated seasonal restrictions in greater sage-grouse winter concentration areas (Decision 4108). To date, the WGFD is in the process of mapping winter concentration areas in the Lander planning area but none have been designated. Ninety-nine percent of the Lander planning area includes greater sage-grouse habitat; 70% is priority or core area habitat and 29% is general habitat.

The following BLM Special Status sensitive species have potential habitat within the project area, but have not been positively identified: Migratory Birds (within grasslands, plains, foothills, and wet meadows; and Basin-prairie shrub, mountain foothill shrub), and riparian wetland obligates (Northern Leopard frog, Boreal toad, Spotted frog). The project area is within Moose crucial winter range.

3.4.2. Impacts to Wildlife Including, Migratory Birds, and BLM Special Status Species under Alternative A- No Action:

3.4.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in the existing impacts and trends to wildlife including, migratory birds, and BLM special status species.

3.4.2.2. Cumulative Impacts:

The No Action Alternative would result in the existing impacts and trends to wildlife including, migratory birds, and BLM special status species.

3.4.4. Impacts to Wildlife Including, Migratory Birds, and BLM Special Status Species under Alternative B- Proposed Action:

3.4.4.1. Direct and Indirect Impacts:

Direct impacts to wildlife would be considered those impacts that result in mortality or lowered breeding success of wildlife. Through implementation of the Proposed Action these impacts might include: hitting wildlife on roads during travel; harming or killing wildlife that might fall into the mine or off a highwall; or destroying known nests or significant habitat to the point that the individuals are impacted.

Indirect impacts are those that might not be immediately apparent to individual species but might decrease the breeding success or cause a decline in species' range and diversity through time and continued development. Through implementation of the Proposed Action these impacts might include: disturbing valuable wildlife habitat or nests that would result in decreased breeding success by limiting the habitat and range of a species or impacting water resources that wildlife rely on for survival. Additional indirect impacts might result by disrupting breeding, nesting, fawning, or migrating activities.

Impacts to sage grouse from the proposed action and existing disturbances were evaluated in coordination with the Wyoming Game and Fish Department by completing the Density Disturbance Calculation Tool (DDCT). The project did not exceed the 5% surface disturbance threshold nor the 1 major development per 640 acre threshold (Decision 4109). In fact the percent disturbance threshold was 1.28%, and the density calculation was 0.00/640 acres. The WDEQ-LQD will enforce sage grouse timing stipulations under the Proposed Action.

Activities will result in minimal surface disturbance, and activities planned would only occur outside of seasonal timing restrictions; therefore, direct impacts to wildlife would be minimal but could occur through wildlife interacting with the existing open mine or equipment during operations. These impacts would be short term and further limited by reclamation. Removal of habitat of sage grouse, migratory birds, and sagebrush obligates is an inevitable adverse impact as a result of the proposed action and would result in indirect impacts to those species. Noise from construction activities and increased vehicular traffic is expected to have a direct temporary effect on wildlife in the form of displacement and stress concentrated within the project area. Therefore the BLM will recommend, but cannot require the following mitigation measures would be applied:

Wildlife Mitigation 1: To protect migratory birds the following measure is recommended (not required): Surface disturbing and/or disruptive activities that have the potential to cause destruction of nests, eggs or young of migratory birds would be prohibited during the period of May 1st to July 15th. A survey of the proposed disturbance areas may be conducted by the proponent to determine the presence/absence of nesting migratory birds. Nest surveys must be conducted no more than 7 days prior to surface disturbing and/or disruptive activities.

Wildlife Mitigation 2: To protect Moose Crucial Winter Range the following measure is recommended (not required): Surface disturbing and/or disruptive activities are prohibited or restricted during the time frame of November 15 to April 30 yearly.

3.4.4.2. Cumulative Impacts:

The CIAA for wildlife would vary depending on species, but is generally the 5 square miles surrounding the project area. The CITB for wildlife is approximately 4 years or for the life of the project allowing for reclamation. Ranching activities at nearby private lands when combined with this project could cumulatively add to impacts to wildlife from past, present, and reasonably foreseeable future actions; however, considering there are very few if any existing or reasonably foreseeable projects, and the fact that activities would not occur during sensitive time frames, the Proposed Action would only minutely add to cumulative impacts to wildlife.

3.5. Soil Resources:

3.5.1. Description of Soil Resources:

According to the Natural Resources Conservation Service's (NRCS, 2014) Web Soil Survey online database, the project area consists of the Irigul—Midlight—Rock outcrop association. Which is characterized as an ecological site-type of mountain slopes, channery loam, and unweathered bedrock, and receives 10–14 inches of precipitation per year. Topsoil within this area seems to range between 0 inches deep where bedrock is exposed and 10 inches deep where it has filled minor ephemeral drainages within the site. Total existing disturbance on site equals 0.22 acres at the Blue Sky Mine (included as part of this Plan of Operations for bonding purposes).

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3.5.2. Impacts to Soil Resources under Alternative A- No Action:

3.5.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in continuing trends of soil resource conditions.

3.5.2.2. Cumulative Impacts:

The No Action Alternative would result in continuing trends of soil resource conditions.

3.5.3. Impacts to Soil Resources under Alternative B- Proposed Action:

3.5.3.1. Direct and Indirect Impacts:

The most direct impacts to soils occur during construction and site preparation (topsoil stripping) that destroys the soil horizons and mixes the soil layers. This procedure dramatically reduces chemical and biological processes at work in the soil. In addition, stripping and subsequently stockpiling the soils often results in mixing of the soil layers which then accelerates loss of important plant sustaining nutrients. Direct impacts would occur during topsoil stripping of the project area for the pit and road. Topsoil from the 0.13 acres of total new disturbance at the site would be salvaged and stockpiled for no more than 1 year before being replaced and seeded. Placing subsoil in areas stripped of topsoil will greatly decrease topsoil/subsoil mixing, but topsoil is inevitably mixed with other soils during operations similar to this which will result in direct impacts to the soil. Other direct but short term if not temporary impacts to soil occur through erosion and would be minimized by completing necessary reclamation. See Section 3.7, Water Resources, for more discussion on erosion. The previously impacted soils within the Blue Sky Mine are a result of unauthorized mining activities but are not considered a hindrance to this project's development and reclamation potential because these soils do not appear to inhibit plant growth in the area.

Other direct long term impacts to soil might occur if contaminants such as fuels and lubricants spill into the soil. These spills inherently occur at a site such as this, but measures would be taken to eliminate these spills or clean up existing spills making these impacts to soils infrequent and minor. These measures include routine inspections and removal of any contaminated soils immediately.

3.5.3.2. Cumulative Impacts:

The CIAA for soil resources is limited to the project area because surface disturbance would be limited to that area, so impacts to soils from projects outside of that area would not add cumulatively to the soils in the project area. The CITB for soil resources is the time period required for successful revegetation of the disturbed area (4 years). Although there are no other projects within the Crystal Caramel Mocha mine to contribute to the cumulative impacts to soils, the Blue Sky Mine is part of this authorization and is considered within the CIAA or CITB; however, when added together the Blue Sky Mine would total 0.35 acres of cumulative disturbance which is very minor.

3.6. Vegetation Resources Including BLM Sensitive Plant Species and Noxious/Invasive Plants:

3.6.1. Description of Vegetation Resources Including BLM Sensitive Plant Species and Noxious/Invasive Plants:

Vegetation within the project area is mostly composed of shrubs and grasses such as sagebrush and western wheat grass. The project areas are all within the Rocky Mountain Lower Montane Foothill Riparian Woodland and Shrubland Ecological System which is typically dominated by sagebrush between riparian/wetland zones. No BLM Sensitive plant species have been identified in the project area.

No noxious/invasive plants have been identified within the project area.

3.6.2. Impacts to Vegetation Resources Including BLM Sensitive Plant Species and Noxious/Invasive Plants under Alternative A-No Action:

3.6.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in continuing trends of vegetation resources conditions.

3.6.2.2. Cumulative Impacts:

The No Action Alternative would result in continuing trends of vegetation resources conditions.

3.6.3. Impacts to Vegetation Resources Including BLM Sensitive Plant Species and Noxious/Invasive Plants under Alternative B-Proposed Action:

3.6.3.1. Direct and Indirect Impacts:

Direct short term impacts to vegetation as a result of topsoil stripping would occur until reclamation is successful on the total approximately 0.13 acres of disturbance at the project area. Once reclamation becomes successful, vegetation recovery would likely be slow especially for shrubs like sagebrush; however, the reclamation plan would include seeding of sagebrush and would comply with any applicable standards at the time of reclamation. Noxious/invasive plants will be managed appropriately if they are discovered on site during inspections. However, to ensure that any weeds identified during inspections are managed appropriately the following mitigation measure would be implemented:

Noxious/Invasive Plants Mitigation 1:

The operator/holder will be responsible for managing all noxious and undesirable invading plant species in the reclaimed areas, including cheat grass, until the reclamation activities have been

Chapter 3 Affected Environment and Environmental Impacts:

Vegetation Resources Including BLM Sensitive Plant Species and Noxious/Invasive Plants:

determined to be successful. If noxious or invasive weeds are encountered, the BLM and/or the County Weed and Pest Department would be consulted for suppression and control methods. If chemical herbicide control methods are used on public land, only BLM approved chemicals and application methods would be permitted. A Pesticide Use Proposal (PUP) and written approval from the Authorized Officer for the use of herbicides must be obtained prior to usage of herbicides.

Mobile equipment being transported from an offsite location to the project area should be cleaned prior to arrival using water, steam, or air pressurized cleaning methods to remove any invasive or noxious weed seed and plant parts or materials that could contain seeds or plant parts. When appropriate, identify sites generally off public lands where equipment can be cleaned. Seeds and plant parts need to be collected and disposed of appropriately.

All mulch, seed and other vegetative reclamation materials must be certified weed free. Sand, gravel, or fill materials brought on-site shall be certified weed free.

In addition, the following weeds need to be controlled should they begin to grow in the project areas: <http://www.wyoweed.org/weeds/state-designated-weeds>

3.6.3.2. Cumulative Impacts:

The CIAA for vegetation is generally a 5 mile radius from the project site; which is determined as a reasonable distance from the site to consider potential seeds to travel. The CITB for vegetative resources is the time period required for successful reclamation to occur (~4 years). Because there are very few other projects within the 5 mile radius of the site besides ranching, cumulative impacts to vegetation might occur from spread of weeds as a result of ranching activities in the area. With an increase in traffic associated with activities in the CIAA, comes an increased potential for weeds to establish in this area. However, the project area would likely only minimally or incrementally add to these impacts.

3.7. Water Resources:

3.7.1. Description of Water Resources:

Surface Water: The project area is within the Sweetwater River drainage basin which is part of the North Platte River drainage basin. The Sweetwater River downstream of the project site is a Class 1 river as determined by the WDEQ- Water Quality Division (WDEQ, 2013). Class 1 rivers are considered important water sources where no further water quality degradation by point source discharges would be allowed. The project area is on top of a rim above the Sweetwater River at the top of a minor ephemeral drainage that likely very rarely flows water but is within 1000 feet of the Sweetwater River.

Groundwater: It is possible that shallow groundwater exists during the early spring time within the unconsolidated alluvium of the ephemeral drainage that leads to the Sweetwater River, but there is likely never water during the operating season starting in July.

3.7.2. Impacts to Water Resources under Alternative A- No Action:

3.7.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in continuing trends of water resource conditions.

3.7.2.2. Cumulative Impacts:

The No Action Alternative would result in continuing trends of water resource conditions.

3.7.3. Impacts to Water Resources under Alternative B- Proposed Action:

3.7.3.1. Direct and Indirect Impacts:

Surface Water: Because of the very minor surface disturbance associated with the site, direct impacts to the Sweetwater River would be unlikely. Additionally, because the site is located in a minor ephemeral drainage on a rim above the Sweetwater River that only flows during the early spring, the site will not likely contribute sediment or otherwise disrupt/impact surface waters that reach the Sweetwater River. The project will be designed so that run off to the Sweetwater River does not occur.

Groundwater: It is highly unlikely that shallow groundwater would be encountered in any of the exploration trenches, but if groundwater were encountered, direct impacts to this system could occur through excavating below the water table. These excavations could create sedimentation within this unconfined aquifer system; however, these impacts would be short term since the pit would not remain open for very long.

3.7.3.2. Cumulative Impacts:

The CIAA for water and groundwater would be the Sweetwater River drainage basin directly surrounding the project area (approximately 5 mile radius) which would incorporate the portions of Pine Creek and the Sweetwater River that could potentially allow for impacts to water resources. The CITB for water resources would be the time it takes for reclamation or 4 years. Because impacts to surface water are minor from this project and the fact that the only other project within the CIAA is the Blue Sky Mine (0.28 acres of disturbance) r, cumulative impacts would be non-existent as a result of this project. This project is not expected to result in any cumulative impacts to groundwater.

3.8. Visual Resources

3.8.1. Description of Visual Resources

The Project Area occurs in Visual Resource Management Class II Designation as designated in the LFO RMP (2014). The objective of Class II designation is to retain the existing character

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Impacts:

*Impacts to Water Resources under Alternative A-
No Action:*

of the landscape. The level of change to the characteristic landscape could be moderate. Management activities may be seen but should not attract 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.

3.8.2. Impacts to Visual Resources under Alternative A- No Action:

3.8.2.1. Direct and Indirect Impacts

The No Action Alternative would result in continuing trends of visual resource conditions.

3.8.2.2. Cumulative Impacts

The No Action Alternative would result in continuing trends of visual resource conditions.

3.8.3. Impacts to Visual Resources under Alternative B- Proposed Action:

3.8.3.1. Direct and Indirect Impacts:

The RMP designated the area covered under this project area as Visual Resource Management Class II. Normally, a project in a Class II area is not authorized unless a visual simulation and contrast rating worksheet can demonstrate that the project and associated impacts comport to the visual resource objectives for the area. However, based on the requirements of the 43 CFR 3809 regulations the project would not result in undue or unnecessary degradation to visual resources, and, therefore, no additional analysis, restrictions, or mitigation measures are needed.

3.8.3.2. Cumulative Impacts:

The CIAA for visual resources would be the South Pass ACEC which was created to protect a variety of resources including visual resources and would thus be the limit of the potential for cumulative impacts. The CITB for visual resources would be 4 years or long enough to allow for successful reclamation. The cumulative impacts from RFFD and existing developments would be minimal with the addition of this project especially considering the temporary nature of this project and small scale of operations as compared to some of the other projects within the CIAA (South Pass City mines, Atlantic City, Lewiston Mines, Atlantic City Iron Mine). Therefore, cumulative impacts to visual resources would be minor.

3.9. Unavoidable Adverse Impacts (All Resources):

NEPA section 102(c) mandates disclosure of “any adverse environmental effects which cannot be avoided should the proposal be implemented” These are impacts for which there are no mitigation measures or impacts that remain even after the implementation of mitigation measures. Implementation of the Proposed Action would result in unavoidable adverse impacts to some resources.

The CEQ 40 CFR 1500.2(e) regulations define unavoidable adverse impacts as those that cannot be avoided due to constraints in alternatives. These impacts do not have to be avoided by the planning agency, but they must be disclosed, discussed, and mitigated, if possible.

3.9.1. Unavoidable Adverse Impacts Under Alternative A- No Action:

No unavoidable adverse impacts would occur or continue to occur under the No Action alternative.

3.9.2. Unavoidable Adverse Impacts Under Alternative B- Proposed Action:

There would be some unavoidable adverse impacts to soils, wildlife, and vegetation resources through surface disturbance and loss of vegetation associated with the Proposed Action. These impacts are inherent of mining operations like the Proposed Action, but would be minimized to the extent possible through measures described in the Proposed Action or mitigation measures but would remain after implementation of the Proposed Action and mitigation measures. Therefore, these impacts are not considered substantial and an Environmental Impact Statement is not required.

Unavoidable adverse impacts to soils, wildlife, and vegetation would exist where topsoil is stripped and/or compacted and sedimentation occurs in order to accomplish the objective of the project. Unavoidable adverse impacts might occur to wildlife where habitat is destroyed as a result of the excavation of the trenches, but would be minimized through measures described in the Proposed Action. These impacts are unavoidable and adverse to the existing conditions; however, none of these impacts would result in undue or unnecessary degradation of public lands as defined in 43 CFR 3809.5

3.10. Relationship of Short-Term Uses and Long-Term Productivity (All Resources):

The CEQ establishes (40 CFR 1502.16) that the balance or trade-off between short-term uses and long-term productivity needs to be defined in relation to the activity in question. The decision maker and members of the public need a clear sense of what they are gaining or losing in both the short and long-term. For the purpose of this analysis, the short-term is considered one year, whereas the long-term is 4 years.

3.10.1. Relationship of Short-Term Uses and Long-Term Productivity Under Alternative A- No Action:

The short-term uses of casual use exploration of the area would continue under the No Action alternative, and there would be no comparison to long term productivity that could be made.

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Unavoidable Adverse Impacts Under Alternative A- No Action:

3.10.2. Relationship of Short-Term Uses and Long-Term Productivity Under Alternative B- Proposed Action:

The short-term impacts of soil compaction/mixing, vegetation removal, and temporary wildlife impacts would be offset by the benefit of having these impacts reclaimed and the benefits obtained by the claimant through completing the Proposed Action in accordance with his rights under the Mining Laws.

3.11. Irreversible and Irretrievable Commitments of Resources (All):

Irreversible commitments are those that cannot be reversed, except perhaps in the extreme long term. Examples of irreversible impacts would be species extinction, gravel extraction, and logging of an old growth forest.

Irretrievable commitments are those that are lost for a long period of time. Extraction of the silicate minerals mined would constitute irretrievable impacts because these minerals cannot be renewed in their current location.

Impacts from some actions can be both irreversible and irretrievable for some resources. Management actions most likely to result in irreversible and/or irretrievable impacts include those related to development and surface disturbance such as mineral extraction and energy development.

No resources impacted under either the Proposed Action or No Action Alternatives would be irreversibly or irretrievably committed besides the inherent removal of minerals which is necessary to meet the project objectives.

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Chapter 4. Consultation and Coordination:

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4.1. Persons, Groups, and Agencies Consulted:

Table 4.1. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Tom Sunderland	Geologist	Author
Tim Vosburgh	Wildlife Biologist	Consultation on Wildlife
Craig Bromley	Archaeologist	Consultation on Archaeology
Jeremie Artery	Weed Management Specialist	Consultation on Noxious/Invasive species
Jared Oakleaf	Recreation Planner	Consultation on Visual Resources
Ben Kniola	Assistant Field Manager	Reviewer

4.2. Summary of Public Participation:

Mr. Doty's Plan of Operations was made available for public review by publishing a notice in the local newspapers. The public was allowed 30 days for review and comment on the Plan beginning on April 30, 2015 in the Lander Journal. The public comment period ended on the May 30, 2015 to allow Lander Journal readers adequate time to comment. No comments were received. In addition, this EA would be available on the BLM NEPA Register.

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