



STATE OF
COLORADO

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Ross Claim - seed mix

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Hi Jared –

Got a message from Rand Ross about his mining claim (St. Mary's, State NOI P-2019-002) and the seed mix we'd required. Our Plan approval indicates that if seeding is required we'll provide the seed mix. Which traditionally means we'll provide the actual seed, rather than the ingredient list, but have a message into our botanist to confirm.

Our original approval we predicated on the Ross's accessing the claim from a different route. Now that they've indicated they'll be coming in from the west via a more cross-country route we've asked for some additional information. It may be that we'll have a slightly different seed plan, but will verify. We'll probably limit vehicle access until a point in the season they can drive without causing ruts. Which this year might be later than usual.



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Ross Plan Mitigation.doc

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St. Mary's Mine – Operators Christine and Randy Ross
VI. FOREST SERVICE EVALUATION OF PLAN OF OPERATION
A. Required changes/modifications/special mitigation for plan of operations for the 2018-2019 season

The mine site contains both a placer and lode claim. The portion of the claim proposed for operation during the 2018 and 2019 seasons includes the waste rock pile and collapsed adit near the west end of the claim. Other hand-sampling on the claim may also occur.

The most direct access to the claim is through private parcels that are part of the St. Mary's subdivision. The Operators do not currently have legal access through the private property. The claim is located at the base of a very steep mountain valley leading up to Kingston Peak. There is currently no road access to the site. There are numerous small streams that begin at the slope transition near the claim; one of the streams flows directly downslope from the waste rock pile and is proposed as the source of the water for working the claim. These streams feed into Silver Lake, located ¼ - ½ mile downstream. The area directly downslope of the waste rock pile and adit is wetlands, and is vegetated with a wide variety of wetland plants, including willows, sedges, and alders. Wetland vegetation extends upslope on either side of the pile.

The site was visited on August 23rd 2017, by Acting District Ranger Basia Trout, Abandoned Mine Lands Coordinator Trez Skillern, Archaeologist Larry Fullenkamp, Recreation Tech Brant Wobig, and Lands and Minerals Staff Leslie McFadden. The site was visited again on August 31st by Hydrologist Carl Chambers and Lands and Minerals Staff Leslie McFadden.

The Operators are proposing two phases of mining. For the initial operation, they propose relatively small scale exploration. During this phase, material from the existing waste rock pile would be removed by hand and processed through a high banker, and possibly a pulverisor, which would be encased in sound-proof material to avoid noise disturbance. Additionally, the Operators may do some placer mining the small stream channel at the base of the pile. It is likely that daily volume of material to be moved and processed would be no greater than 1 cubic yd./day. Resource concerns and design criteria/best management practices (BMP's) were discussed in some detail with the operators.

There will be additional requirements for motorized access to the site and greater production rates if the exploration proves to be successful. Should the Operators wish to expand their operation a new Plan of Operation to account for these changes must be submitted to the Forest Service.

Design Criteria

The following design criteria have been established for this specific project and site specific conditions.

- All Federal, State and County permits must be in place prior to commencement of operation. It is the Operators responsibility to understand and acquire the necessary permits.

Physical and Biological Elements of the Environment

Waste, Water and Hazardous Material:

- Storage and use of hazardous materials or explosives is not authorized.

- The operator shall remove garbage from National Forest System (NFS) lands and dispose of this garbage in accordance with state and local regulations.
- A small, portable chemical or compost toilet must be on site during operations. All human waste must be transported off NFS land and disposed of in accordance with state and local regulations.
- No chemicals or additives may be used in water used for washing minerals on site. Any fuels, antifreeze, solvents or potential hazardous materials must be properly stored to contain leaks, and will be placed at least 100 feet away any perennial, intermittent, and ephemeral drainages. Limit refueling to designated areas.
- The Operators will use spill pads when pouring fuel or other petroleum products into tanks or other containers to contain any spillage before it reaches the soil or water.
- In the event of a petroleum (gas, diesel, oil, etc.) spill or other hazardous material spill onto the soil of the claim, immediately contact the National Response Center at 1-800-424-8802 and Clear Creek County. If hazardous substances are spilled on a federal, state or county roadway contact the Colorado State Patrol. All hazardous material spills will be disposed of according to Colorado State Hazmat disposal guidelines.
- Dumping of gray water or washing must be over 100 feet away from any stream channel.
- The high banker shall be located, and the processed rock deposited, on existing disturbed areas.
- After processing through the high banker, waste material should be returned to the location from which it was excavated. This will minimize the footprint of new disturbance.
- The face of the waste pile is very steep, at the angle of repose. Care should be taken when removing material from the face or base of the pile so that the pile is not destabilized and does not slide down into the wetland and stream.
- Sediment fencing or other sediment control devices should be installed downslope below the pile, downslope of other excavation areas, and downslope of the high banker, between the disturbances and existing vegetation. For sediment fencing, 4-6 inch deep trench should be dug along the length of the fencing, and the lower edge of the fabric should be laid in the trench and backfilled. As the fence(s) capture sediment, they should be periodically cleaned and maintained and sediment should be moved to a stable, previously disturbed location. No sediment control devices containing agricultural products (e.g. straw logs, straw wattles), or plastic mesh/netting are permitted. Agricultural products bring a high risk of the introduction of undesirable non-native vegetation, and plastic mesh or netting can entrap and entangle small mammals, snakes, and amphibians.
- To provide water for the high banker, a small depression should be dug outside of the stream channel, in an existing disturbed area. The depression should be lined with plastic or another waterproof material, and anchored above the expected fill level. Water should be pumped into this pool and used to feed the high banker. Water exiting the high banker should be recirculated into the pool. Water can be recirculated until it no longer reusable, at which time the water should be pumped out of the pool and into wetland vegetation which will filter turbidity and sediment before water returns to the stream channel. Locations receiving the

pumped out water should be periodically changed to ensure that vegetation remains an effective filter, that sediment does not damage the vegetation, and that repeated pumping does not begin to create runoff channels through the vegetation. Any sediment remaining in the pool following pump out should be removed and placed back in the excavated areas.

- The Operator shall visually monitor turbidity in the stream above and below their operations. High levels of turbidity are likely to show up in Silver Lake, which may cause conflict with the local residents. If high levels of turbidity occur and persist the Operator should halt operation until other BMP's can be implemented.
- Additional permitting by the Army Corp of Engineers, Colorado Department of Reclamation, Mining and Safety, and Clear Creek County may be required. It is the operators responsibility to ensure State, Federal and County regulations are followed.

Road-Use, Construction and Reclamation:

- Obtaining legal access across private land is the responsibility of the Operators.
- No roads or improvement of access to the site is allowed without prior authorization from the Forests Service.

Dig Site Construction and Reclamation:

- Avoid operations during or directly after periods of heavy rain or when soils are wet. If rutting caused by equipment or vehicles is observed, stop mechanical operations immediately.
- The operator is required to reclaim all dig sites by filling with excavated material, and replacing topsoil as applicable.
- All mining spoil will be separated into two distinct piles: 1) topsoil and 2) general overburden. Topsoil will be considered the uppermost four inches of mineral soil and any organic matter (e.g. litter or duff) above the mineral surface. The topsoil must be piled and clearly labeled. On all slopes greater than 10 percent, topsoil and overburden piles must have silt fencing effectively installed down slope of the piles. Mining spoils must be placed immediately upslope of dig sites such that any eroded material would be captured by the excavation.
- All dig sites above riparian zones will be accessed from upslope positions or along contour (when operator safety permits) to limit soil disturbance and raveling downslope and into riparian areas.

Vegetation and Noxious Weeds:

- If required, reclamation seed mixes will be provided by the Forest Service.
- The operator will seed all recontoured dig sites, associated topsoil piles and reclaimed roads at the end of every season.
- Reclamation in forested areas may require hand tools to pull excavated material away from trees.

Federally Listed, Management Indicator and Sensitive Species-Wildlife:

- There are no concerns with federally listed, management indicator and sensitive species associated with the operation of this site.
- During operation, all foodstuffs will be properly contained and located to minimize conflicts with wildlife, especially bears. Food items should be stored in a bear-proof container away from any tenting or camping sites.

Heritage:

- If a previously unknown site is discovered by either the operator or the Forest Service, operations that could impact the new site will stop immediately until the site is evaluated by the Forest Service and any needed mitigation measures are developed.
- If new proposed dig sites are proposed that are outside the project area, additional Heritage Resource surveys, documentation and OAHP/SHPO concurrence would be required.
- The historic equipment on the mining claim is property of the U.S. Government and may not be removed without permission.

Timber:

- Any timber removal from the site must be approved by the Forest Service.

Fire:

- All internal combustion engines including but not limited to generators, vehicles, mechanized mining equipment and power tools, must be fitted with an approved spark arresting device or muffler in good working order.
- The operator must have and maintain hand tools for fire suppression in the event of a wildland fire.

Reclamation:

A reclamation bond may be required. It required it will be held by the Colorado Division of Reclamation, Mining and Safety.

Continual reclamation will continue throughout the mining season. The claimant will take measures to prevent or control onsite and off-site damage to NFS land resources including (36 CFR 228.8 g):

- Control of erosion and landslides from operation
- Control of water runoff
- Isolation, removal or control of toxic materials

Annual (end-of-season) reclamation will include:

- Removal of all equipment and trash from mining claim
- Seed topsoil piles with native seed and/or monitor spoil piles for erosion problems.
- Recontour and replace of topsoil in disturbed sites where mining operations are complete

- Revegetation of all recontoured areas
- Annual reclamation will be completed by October 31 of each year.

Final reclamation will include:

- Removal of all equipment and trash from mining claim
- Recontouring and replacement of topsoil at all disturbed sites (including dig sites and all temporary access roads)
- Revegetation of all disturbed areas with native vegetation. Before reclamation bond is released, vegetation must be established 80% or better compared to the surrounding undisturbed areas. Reclamation of the site will be approved by the Clear Creek Lands and Minerals Staff and the Colorado Division of Mining, Reclamation and Safety.

Use and Occupancy of the Forest

Mining Access and Occupancy:

- The Arapaho & Roosevelt National Forests and Pawneed National Grassland occupancy and use restrictions apply to the St. Mary's mining operation. The policy prohibits camping on NFS land more than 28 days within a continuous 60 day period, where not otherwise restricted.
- The operator is required to request permission from private property owners prior to utilizing a private access road, constructing any temporary access roads or mining on private property.
- The operator may request a Right-of-Way permit to access closed non-system roads in order to access the mining claim.
- The operator must use necessary precautions to not damage any utility lines or associated facilities en route to dig sites in the project area.

Public Access and Safety:

- The operator will be required to fence individual dig sites with orange snow fence or other Forest Service approved fencing material to promote public safety.
- Adits and shafts must be secured to prevent unauthorized access by the public.
- Gates will be required at the entrances to all temporary access roads. The Forest Service may require signing with Forest Service approved language such as "No Public Vehicle or Mineral Entry."