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RECORD OF DECISION

USDA FOREST SERVICE
HUMBOLDT-TOIYABE NATIONAL FORESTS
CENTRAL NEVADA ECOSYSTEM

GRIFFON PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

WHITE PINE COUNTY, NEVADA

INTRODUCTION

This Record of Decision (ROD) documents my selection of an alternative for the Griffon Project on the Humboldt-Toiyabe National Forests in White Pine County, Nevada. The alternatives considered and the reasons for my decision are described. The environmentally preferred alternative is also identified.

On January 16, 1996, Alta Gold Company (Alta) submitted a Plan of Operations to the U.S. Department of Agriculture-Forest Service (USFS), Humboldt-Toiyabe National Forests for an open pit heap leach gold operation. The Griffon Project proposal includes development of two open pits, associated waste rock dumps, soil stockpiles, ore stockpiles, haul roads, and support facilities. The legal location for this project is Mount Diablo Meridian, T. 14N., R 58E., Sections 24 & 25.

After review of the proposal, it was determined that prior to a decision on the project, the preparation of an environmental impact statement (EIS) would be required. The analysis began by publishing a Notice of Intent to prepare an EIS which appeared in the Federal Register,Vol. 61, page 19606, on May 2, 1996.

THE DECISION

Based upon the analysis in the Final EIS (FEIS) for the Griffon Project, it is my decision to authorize a modification of Alternative C, hereafter referred to as the "Selected Alternative". The Selected Alternative is described in the next section of this ROD. The Selected Alternative may be implemented only after approval and issuance of a Plan of Operations for the Griffon Project. This decision does not, of itself, approve the Plan of Operations. This decision applies only to components of the Griffon Project which are located on National Forest System lands.

Approval of the Plan of Operation does not relieve Alta of their legal obligation to comply with all applicable county, state and federal requirements. Besides the USFS, other agencies require permits for the Project or have responsibilities as cooperating agencies, as listed in

Table 1.1 of the FEIS. In particular, the U.S. Army Corps of Engineers (Corps) will issue a separate ROD for their federal decision under Section 404 of the Clean Water Act.

Following the required appeal period for this ROD, the Selected Alternative will be implemented as follows:

> Alta will provide the USFS responsible official with a revised Plan of Operations that incorporates provisions of the Selected Alternative. Once the USFS responsible official has approved the Plan of Operations, and once Alta has posted a reclamation bond, Alta may proceed with the Griffon Project.
>
> An annual work plan will be prepared by Alta and submitted to and approved by the USFS each year. The annual work plan will contain required monitoring data, a summary of the previous year's activities, and a description of operations planned for the coming year. The first annual work plan will be submitted and approved prior to any earth disturbing activities. Annual work plans will be submitted by February 15th of each year thereafter.
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> Changes to the approved Plan of Operations will be processed and evaluated in accordance with 36 CFR Part 228 locatable minerals regulations. If the USFS determines the proposed changes are outside the scope of the Selected Alternative, an appropriate NEPA analysis will be conducted.

SUMMARY OF THE SELECTED ALTERNATIVE

The following is a summary of the Selected Alternative including the important mitigation measures designed to minimize or avoid adverse environmental effects. General Project configuration and access is shown in FEIS Figure 2-2.

The Griffon Mine will be an open pit heap leach operation. The current reserves and mine plan call for mining 2.74 million tons of ore and 1.52 million tons of waste rock for a total of 4.26 million tons mined. The mining rate would be approximately 7,500 tons of ore and waste rock per day. Mining and crushing would be completed in approximately 19 months.

The operation will include two pits, two waste rock dumps, process facilities including crushers, leach pad, and recovery processing components, and support facilities. Access to and through the site will be provided by existing and newly constructed road segments. Water will be provided by a well developed for the project, located along Forest Road 406. An additional 9 acres will be disturbed for borrow pits. A total of 163.5 acres of national forest will be impacted by the Project.

The two pits are Discovery Ridge Pit and Hammer Ridge Pit. Discovery Ridge Pit is approximately two times the size of Hammer Ridge Pit. Combined, the two pits would disturb

22 acres of national forest land. The pits would have highwalls ranging in height from 20 feet to 225 feet with 45 to 55 degree slopes. Mining would be conducted on 15-ft benches. Hammer Ridge Pit would be partially backfilled. The backfilled material would be contoured to develop a final configuration that emulates the slopes and forms of the surrounding topography, with 5-10 percent slopes, and with drainage features that allow gentle release of runoff from the pit. Reclamation includes contouring surfaces to blend in with the surrounding landscape; development of drainage features; spreading of surplus growth medium (the objective would be to spread at least 12" of growth medium); and seeding with a seed mixture that provides for rapid establishment of vegetative cover, surface stabilization, diverse vegetative cover, re-establishment of native species and communities, and wildlife habitat. Up to 5 acres of reclamation potential may be realized within the pit as a result of the backfill.

The two waste rock dumps would be constructed at angle of repose during operations. After waste rock dumping is completed, dump faces would be shaped to a 3H:1V slope. Total disturbance associated with the waste rock dumps would be approximately 15 acres. Reclamation of waste rock dumps incudes contouring surfaces to blend in with the surrounding landscape; development of drainage features; spreading of at least 12" of growth medium; and seeding with a seed mixture that provides for rapid establishment of vegetative cover, surface stabilization, diverse vegetative cover, re-establishment of native species and communities, and wildlife habitat.

Facilities developments include crushers, leach pad with drainage developments, recovery processing areas, water storage, working and event ponds, buildings, and service roads, requiring a total of 70.8 acres of land. Reclamation of the facilities area includes removal of all buildings, wires, and pipes; crushing and burial of concrete slabs; recontouring of the area to blend in with the natural topography, spreading of at least 12" of growth medium, and revegetation.

Access to the mine site will be from U.S. Highway 6, up Ellison Creek Road (CR10), around the Ellison Guard Station (CR1163) and up Forest Roads 406 and 638. Development and improvement of roads for access to the mine site will result in 8.3 acres of disturbance. Development of roads at the mine site will result in 28.0 acres of disturbance. A section of FR 406 will be bypassed and reclaimed to avoid disturbance to heritage resources there. Sections of FR 406 and FR 638 will be re-routed to avoid steep slopes and poor soils. The Ellison Meadow road will be closed for the duration of the Project. Additional mitigation measures have been identified for the Ellison Creek Road to prevent degradation of the stream, riparian area, and watershed (FEIS, Appendix B). Access roads will be left in their improved condition after mining. The haul road will be constructed by cutting into the hillside and balancing the cut and fill as well as widening with waste rock from the mine in areas of waste rock dumps. After mining, haul roads will be recontoured and revegetated (FEIS, Appendix A)

Water will be used in the operation to make up leach solution, dust control, and septic systems. A well will be developed along FR 406 for this purpose. A second well site has been identified for use in case the first well is inadequate. Each of the two potential well sites

would disturb approximately 0.2 acres, including access into the sites. The yearly average required flow rate is approximately 70 gallons per minute (gpm) with peak flow rates of 225 gpm during the construction period. A conveyance pipeline of 6 to 8-inch diameter would be buried within the access road prism and would convey water from the supply well(s) to a storage pond in the facilities area. The storage pond would have a capacity of approximately 1.2 million gallons. Potential effects to groundwater and surface water will be monitored, and contingencies have been developed for addressing problems if they arise. Water from the well would be made available to livestock permitted in the area. After mining, the storage pond and well(s) would be reclaimed, unless the USFS determines they would be beneficial to retain for post-mining land uses.

PUBLIC PARTICIPATION

Alta submitted their Plan of Operations to the Forest Service on January 16, 1996. A Notice of Intent to prepare an EIS appeared in the Federal Register on May 2, 1996. Forest Service personnel consulted with the public, organizations, and agencies during the initial scoping process in April, 1996. Comments received during the scoping process were used to identify significant issues. These issues were used to develop alternatives to the proposed action.

A Draft EIS (DEIS) was prepared and released to the public in December of 1996 for review and comment. The Notice of Availability for the DEIS appeared in the Federal Register on December 27, 1996. The main concerns raised in the comments on the DEIS pertained to: water quality, riparian areas and wetlands, wildlife, livestock, Native American values, heritage resources, safety, and mine economics.

The FEIS reflects additional analysis and consideration of comments received on the DEIS. County, State, and other Federal agencies participated throughout the analysis process and development of the FEIS. Cooperating agencies included White Pine County, Nevada Division of Wildlife, U.S. Bureau of Land Management (BLM), and the U.S. Army Corps of Engineers (Corps). The Corps will utilize the FEIS in making decisions regarding permits for the Project which apply under Section 404 of the Clean Water Act. Response letters were prepared and sent to all who commented on DEIS (FEIS, Chapter 6).

POST-MINING OBJECTIVES

In addition to the issues developed during scoping, post-mining land use objectives were framed and used to develop alternatives. These objectives are based on management direction in the Humboldt National Forest Plan. Not all objectives can be met concurrently, but overall, the Project is designed to achieve these post-mining objectives:

Ecological Environment

- ***Plant Communities***: provide for a diverse vegetative cover, promote the re-establishment of native species and communities, ensure successful revegetation efforts, and provide habitats suitable for wildlife.
- ***Watershed:*** maintain or improve ecological conditions and processes in the watershed.

Social Environment

- ***Recreation:*** provide for traditional outdoor recreation activities.
- ***Access:*** re-establish comparable pre-mining public access within the Project area while considering public safety.
- ***Visuals:*** provide a landscape quality with the same color, texture, and tone as the pre-mining landscape.
- ***Heritage Resources:*** protect significant and unevaluated sites for future research, interpretation, and public enjoyment.

Economic Environment

- ***Minerals:*** provide for responsible exploration and development of mineral resources.

ALTERNATIVES CONSIDERED

The following alternatives were analyzed in detail in the FEIS.

Alternative A

Under Alternative A - No Action Alternative, the USFS would not authorize the proposed action or any action alternative. This alternative is required by the National Environmental Policy Act and serves as a baseline for analyzing the effects of the other alternatives. This alternative does not address rights of mining claimants to develop mineral resources pursuant to the General Mining Law of 1872, as amended.

Alternative B

Alternative B - Proposed Action is the action proposed by Alta in the initial Griffon Project Plan of Operations.

Alternative C

Alternative C is a modification of Alternative B, which mitigates many of the environmental concerns. Major differences between Alternative B and C include rerouting the access route to avoid Ellison Meadow and archaeological sites, and development of two waste rock dumps rather than three. It is the basis for the Selected Alternative.

Alternative D

Under this alternative, access would be via U.S. Highway 50 and BLM managed areas to the north of the mine site. This access route would avoid effects on surface water, riparian ecosystems, wetlands, wildlife, fisheries, and heritage resources located along Ellison Creek that would occur in Alternatives B & C. Access road upgrades associated with Alternative D would vary by section of existing road. Minimum upgrades would include grading of existing road surfaces which would not create new disturbance; moderate upgrades would include grading and placement of road bed material on existing road surfaces which, also, would not create any new disturbance; and significant upgrades would include reconstruction or relocation of road sections. Alternative D would utilize waste rock dump locations 2 and 3 with dump face slopes of 2H:1V. This combination would reduce the size of the waste rock dumps by one acre relative to Alternative C. All other components would be the same as those identified in Alternative C.

Alternative E

This alternative would include all of the mining and access components described in Alternative D. This alternative would include mining only one pit at a time to permit backfill of the first pit. Hammer Ridge Pit would be mined first. Waste rock from Discovery Ridge Pit would then be used as backfill material for Hammer Ridge Pit. This alternative would reduce the size of the waste rock dump location 2 by 8.8 acres relative to Alternative D and would allow Hammer Ridge pit to be reclaimed, recontoured, and revegetated.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

Council of Environmental Quality (CEQ) regulations at 40 CFR 1508.2 (b) require an agency to specify the alternative or alternatives which were considered to be environmentally preferable in the process of reaching its decision. The definition of environmentally preferable is the alternative which causes the least damage to the physical and biological environment, and which best protects, preserves, and enhances historic, cultural, and natural resources. The No Action Alternative is the USFS Environmentally Preferred Alternative because it would have no impact on the physical and biological environment.

REASONS FOR THE DECISION

The Selected Alternative was developed after consideration of the advantages of the road access options, dump locations, and final pit configurations of the various alternatives, with respect to the environmental, social and economic issues. The Selected Alternative utilizes what I consider to be the beneficial aspects of the alternatives while meeting the requirements of applicable laws and regulations. The following are the primary reasons for choosing the Selected Alternative:

The Selected Alternative is consistent with the Humboldt National Forest Land and Resource Management Plan and the post-mining land use objectives developed for the Project area.

The Selected Alternative is consistent with the 1872 Mining Law, as amended, other applicable federal laws, and applicable USFS regulations. The Selected Alternative is consistent with the Endangered Species Act and National Historical Preservation Act.

In considering access options, it became apparent that Ellison Creek access road options were not as good as the northern route from an environmental perspective because of water quality, watershed, riparian, and aquatic ecosystem concerns. Additional mitigation measures were added to Alternative C to address these concerns (FEIS, Appendix B), thereby making the Alternative C access option more advantageous. With these additional mitigation measures, it is not expected that significant adverse impacts would occur along Ellison Creek. Mitigation measures, best management practices, and operating procedures collectively will prevent further degradation of the watershed. Post-mining objectives for maintaining or restoring ecological conditions and processes in the watershed will be met.

Mine economics were analyzed as an issue raised by the public. Backfilling pits is considered to be the reclamation activity that has the greatest potential impact on mine company profits. Two alternatives were eliminated from detailed study because of mine economics (considering both the effects on mine profits and future mining potentials). Alternative E - Pit Backfill was considered in detail in the EIS because we believed it would be economically feasible. The EIS shows that backfilling Hammer Ridge Pit is environmentally advantageous because of the benefits for wildlife habitat, watershed integrity, reduced disturbance associated with waste rock dumps, and plant community restoration potential. In consideration of the environmental benefits and economic tradeoffs addressed in the EIS, I determined that partially backfilling the pit is the best option for this Project. The partial backfill described for Hammer Ridge Pit will achieve post-mining land use objectives, and minimize effects on mine company profits.

ISSUE RESOLUTION

The Selected Alternative, as defined in this Record of Decision, provides for the best combination of ecological, social, and economic benefits, and avoids or minimizes predicted adverse effects in the short and long term. The Selected Alternative responds to the issues and concerns that were developed during the scoping process and refined by the environmental analysis, in the following ways:

Ecological Environment:

Air Quality:

- **Dust**: Water or chemical additives will be used to control dust from vehicular traffic on access roads and haul roads. Generally, only water will be used on the portion of Ellison Creek Road from the Forest boundary to Ellison Guard Station. Only environmentally-friendly chemical additives would be used for dust suppression, and only if water is ineffective. Annual particulate emissions are estimated to be below levels of concern.

Surface Water:

- **Pits**: It is not expected that there would be ponding for more than three days in the Discovery Ridge Pit, and the greatest potential for ponding would occur after a 100-year storm event. Ponding depth would not be greater than four inches. The capture of runoff in Discovery Ridge Pit would not affect the surface waters of the area. The backfilled portion of Hammer Ridge Pit would be reclaimed to a final configuration representative of the surrounding topography, and would be recontoured and revegetated to gently release runoff from the pit.
- **Leaching Facilities**: The leaching facilities would be designed and constructed to be a zero discharge operation as approved by the State of Nevada. Safety features such as the leach pad liner would protect surface and groundwater from contamination. Following detoxification of the leach pad, water would be evaporated in the ponds or applied to adjacent lands upon further environmental review and approval by the State of Nevada and the USFS. Test results indicate that no acid rock drainage is anticipated from waste rock or ore.
- **Well(s)**: Modeling indicates a decrease in flow in Ellison Creek of about 0.007 gallons per second (equal to 0.02 percent reduction in flow). Water for road maintenance and dust control would be obtained from the well(s). Reduction in flow would be greatest during the 60-day construction period. There would be minimal effects on water volume in Ellison Creek due to this flow reduction. Modeling also indicates potential flow reduction to one "Unnamed" spring. Flow volume at Easter Spring will be monitored and mitigation measures implemented if there is a 15% reduction in flow, compared to reference springs.
- **Roads**: Calculated dust deposition would be approximately 3.5 grams/sq.ft./year (0.05 inches). Dust and sedimentation effects would be reduced by improving Ellison Creek Road to specified standards, closure of Ellison Meadow road for the duration of the project, and other mitigation measures.
- **Sedimentation**: Best management practices and mitigation measures would be utilized to control erosion and sedimentation. Minimal increases in sediment are predicted in association with road improvements or dust deposited in undisturbed areas. Mitigation measures identified for the Selected Alternative will reduce the potential for sedimentation into Ellison Creek, and would prevent cumulative effects to water quality and aquatic habitat.
- **Hazardous Spills**: The analysis indicates that due to the short duration of the project and the relatively low frequency of hazardous waste shipments, an accidental spill is unlikely. Alta has prepared an emergency response plan of appropriate actions in the event of a spill as part of its Water Pollution Control permit. Use of pilot cars for all hazardous materials and semitruck deliveries will increase traffic safety and further deduce the risk of accidents.

- **Roads/Stream morphology:** The Selected Alternative applies mitigation measures to roads so that further degradation of Ellison Creek watershed does not occur.

Ground Water:

- **Leaching Facilities:** Drilling in the area of the leach pad identified about 700 feet of shale and no groundwater. Leaching facilities will be designed and constructed to be a zero discharge operation as approved by the Sate of Nevada. Safety features for the leaching facilities, as described in the Surface Water section above, will protect ground waters as well. No acid rock drainage is anticipated.
- **Well(s)**: Groundwater modeling indicates potential flow reduction is possible at one spring in the area. Spring flows will be monitored, as described in the Surface Water section above.

Plant and Wildlife Species and their Habitat:

- **Sensitive species:** There are no known threatened or endangered plants or animal species in the Project area. There are at least three bat species of concern that are known to occur in the vicinity of Ellison Creek. The Project may indirectly impact individuals or habitat, but is not likely to contribute to a trend towards federal listing or loss of viability to the population or species.
- **Goshawk/Cottonwood Galleries**: No cottonwood gallery habitat would be removed. Indirect effects to potential goshawk nesting and foraging habitat may occur from the increased traffic.
- **Riparian habitat**: The Project will remove 0.4 acres of riparian vegetation. Loss of riparian vegetation could result in increased water temperatures, reduction in bank stability, and reduction in velocity breaks/cover for fish during storm events and spring runoff. The amount of riparian vegetation that would be removed compared to the amount left intact suggests that the quality of the habitat in Ellison Creek will not be reduced. Fugitive dust may affect amphibians and invertebrates, however, mitigation measures included in the Selected Alternative minimize the potential effects.
- **Wildlife habitat:** Short-term loss of habitat would involve about 160 acres of deer and elk habitat. Due to low current population, small project size, and the short duration of the project, deer and elk are not expected to be adversely affected. About 35 acres of habitat would be lost long-term. This loss should not adversely affect populations.
- **Population dynamics:** The limited area, short duration of the project, and mitigation mitigation measures would result in minimal effect on wildlife populations. Alta will avoid cutting or removing large areas of vegetation during times critical to wildlife reproduction as much as possible.
- **Non-native plants:** The use of certified weed-free seed, seeding all bare areas as soon as possible, providing interim seeding, and using seed mixes comprised primarily of native species will reduce the potential for invasion of disturbed areas by exotics or noxious weed species.

- **Groundwater pumping:** Modeling indicates that pumping of the water well is not anticipated to affect riparian or wetland habitats. Water flow will be monitored at Easter Spring. If there is greater than 15% reduction in flow volume, compared to reference springs, then mitigation measures will be implemented to prevent long-term or irreversible effects to the riparian ecosystem.

Reclamation Potential:

- **Growth medium:** Adequate growth medium will be available to meet reclamation objectives.
- **Tree utilization:** All trees will be used in the reclamation process to develop microsites for seed and wildlife habitat.
- **Ephemeral drainages:** Drainage channels will be restored in areas of proposed silt sources as per USFS requirements.

Social Environment:

***Livestock Grazing*:**

- **Cattle trailing:** Trailing of cattle on the Ellison Creek Road will be coordinated with Alta and the Permittee to reduce the potential for accidents and facilitate movement of cattle from pasture to pasture.
- **Forage:** The small quantity of suitable forage disturbed will result in minimal effects on permitted grazing.

Recreation:

- **Recreation activities:** Overall effects on recreation are minimal. The project will change the local setting from Semi-Primitive Motorized to Roaded Natural and may encourage increased use of dispersed camp sites along Ellison Creek.
- **Wilderness:** Effects to scenery are within visual management objectives for the area. The Project will be in the background (distant) viewshed of the Currant Mountain Wilderness and would not cause significant visual impacts. Noise will be subdued by intervening terrain and buffered by distance.

Wild Horses:

- **Disturbance of wild horses.** Access for the Selected Alternative does not cross wild horse territories. Encounters with wild horses will be rare. People involved in the Project will not harm or harass wild horses that might be encountered.

Heritage Resources:

- **Site disturbance:** Six sites will be affected by the Selected Alternative. Effects will be mitigated through additional data collection, monitoring during project development, and by limiting disturbance adjacent to existing roads.

- **Native American Concerns:** Tribal concerns will be mitigated to the extent possible through avoidance of prehistoric sites, monitoring, and operational procedures of the Project.

Safety:

- Road widening and turnouts, reduced speeds, use of pilot cars for semitrucks and vehicles with hazardous materials, and road signs will reduce the potential for accidents and safety hazards.

Economic Environment:

Mine Economics:

- The Selected Alternative is considered economically feasible to implement. Based on the economic analysis, the total cost of the Selected Alternative is estimated to be less than 4 percent greater than the total cost of Alternative B.

ADMINISTRATIVE APPEAL PROCEDURES

This decision is subject to appeal pursuant to 36 CFR 215.7. Copies of the FEIS are available for immediate public inspection in the local Forest Service offices in Ely, Elko, and Sparks, Nevada, and the public library in Ely, Nevada. A written Notice of Appeal must be post marked or received within 45 days after the date that notice of this decision is published in the Ely Daily Times, Ely, Nevada. The Notice of Appeal should be sent to USDA Forest Service, Intermountain Region, Attention: Appeals Deciding Officer, 324 25th Street, Odgen, Utah 84401; a copy of the Notice of Appeal should be sent to Assistant Forest Supervisor, Humboldt-Toiyabe National Forests, P.O. Box 539, Ely, Nevada 89301.

Appeals must meet content requirements of 36 CFR 215.14. For further information on this decision, contact David Valenzuela, Project Team Leader, Humboldt-Toiyabe National Forests, P.O. Box 539, Ely, Nevada 89301, or telephone (702) 289-3031.

If no appeal is received, implementation of this decision may occur on, but not before, 5 business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition.

Monica J. Schwalbach — 4/25/97

MONICA J. SCHWALBACH — Date
Assistant Forest Supervisor
Humboldt-Toiyabe National Forests