

MINE PLAN STIPULATIONS AND REQUIRED OPERATING PROCEDURES

Process Water Recycle and Effluent Discharge Requirements

Recycle Criteria

- Makeup water from the water storage dam will be fed into the recycle/settling ponds, if ground water is insufficient for the mining operation (negative water balance).
- There will be no discharge into the Innoko River at any time that makeup water is being acquired from Anvil Creek.
- Water from the settling/recycle pond will be pumped through the processing plant and sluice box, thus facilitating a 100% mine water recycle.

Discharge Criteria

- If heavy precipitation events keep the settling ponds recharged with water, creating a positive water balance, no makeup water will be pulled from the storage dam pond.
- During positive water balance mining seasons, a discharge from pond one down to the lower ponds and ultimately the Innoko River will be required.
- A discharge from pond one will not allow 100% recycle of process water and will require a discharge in accordance with the Alaska Pollution Discharge Elimination System (APDES) permit.
- Any discharge of process water effluent or mine site storm water into the Innoko River will comply with all conditions with the applicable APDES permit.

Relocation Stream Channel monitoring and maintenance requirements:

- The Anvil Creek channel will be monitored for 3 years to ensure stability. It will be inspected a minimum of twice a year, once after spring runoff and one other time during the summer/fall season. The stream banks will be checked for any failure, any bank undercutting, any scouring of the stream bed, and any reduced connectivity to the floodplain.
- In the event there is any failure to the stream channel reclamation, equipment would be used to repair the damage and reconstruct the area, as needed. The BLM would be notified of any failure that does not cause a water quality issue within 30 days, by written notice. Any failure that does cause a water quality issue to the receiving stream will be reported to BLM within 24 hours, via telephone.
- The new channel would be monitored by the operator 4 times per 24 hours for the first 7 days to evaluate stability of the system; any concerns or issues would be addressed immediately by the operator.
- After the initial 7 days, the site would be monitored once a day unless it is raining, where it would be inspected for stability 4 times a day until the precipitation event subsides.

- Monitoring would continue until the BLM determines that the relocated channel is adequately stabilized. Addressing issues of excessive erosion means that bank failure would be armored and erosion would be repaired. Dramatic change in the creek design or stream failure would be communicated to the BLM and ADF&G.
- Problems such as bank erosion, bed load movement beyond normal, flood plain scouring, or inability to establish vegetation would need to be addressed immediately to prevent unnecessary and undue degradation to the environment.
- All regular channel maintenance would be completed using hand tools and manual labor to prevent damage to the channel from heavy equipment. If a major failure is identified, heavy equipment may then be used to prevent further damage.
- Major failures of the stream channel and its overall functioning system would be reported to the BLM and ADF&G immediately.
- The relocated stream must meet natural stream functionality to be considered “fully reclaimed.” The BLM Mining 3809 Handbook states that a disturbed stream that has been restored should have, “...stable channel form with adequate vegetation to reduce erosion, dissipate stream energy, and promote the recovery of in-stream habitats similar to levels which were present prior to mining...” Stream reclamation should be evaluated to ensure prevention of UUD and to meet the rehabilitation of fisheries habitat.
- To be considered fully reclaimed, the stream channel must show each of the following:
 - Healthy, stable, vegetative cover along the banks (riparian habitat), similar to pre-disturbed conditions, and that requires no additional maintenance with a floodplain and a stream bank cover equivalent to 70% cover within 3 years.
 - Vegetation canopy cover (not basal or foliar cover) will be measured for each reclaimed acre as a value of square feet of cover per reclaimed acre/square feet. The measurement will be expressed as a percentage (sqft of canopy cover/sqft reclamation = X% canopy cover)
 - If 70% cover is not achieved in 3 years or less, vegetation mats will be transplanted to the stream bank areas and spot planted throughout the flood plain in addition to willow staking (during appropriate time of year and plant condition).
 - Bank erosion along the relocated channel is similar in rate to that of natural upstream bank erosion conditions for a continuous six-month period with no maintenance. This would be determined by evaluating the relocated channel section once per week, each mining season, to identify areas of erosion and comparing it to upstream natural banks during the same monitoring time. The number of mining seasons (years) of monitoring is dependent on the successful restoration which must meet the six-month continuous criteria.
 - Stream bed stability, channel sinuosity, and floodplain connectivity functioning at a level similar to pre-disturbance for the same 6 month criteria identified in bullet above.

Concurrent Reclamation

- Tailings on claims #1 and #2 Below Discovery from 2012 & 2013 mining season will be spread throughout the to finalize pond dikes and to help establish final land form in uplands areas to facilitate revegetation.

- The disturbed land along the western side of the airstrip on claims No. 1 Below Discovery and No.2 Below Discovery will be reclaimed by spreading and contouring the overburden/vegetative soil over the area.
- The disturbed land on No. 2 Below Discovery will be spread and re-contoured with overburden/vegetative soil to provide initial stabilization reclamation until final reclamation is completed.
- The active mine operation will include concurrent reclamation as the mining face advances. As the extraction of gold bearing gravel is removed, tailings from the wash plant will be pushed back into the mining cut. The concurrent backfill reclamation will be designed to accommodate ground water outflow areas and to facilitate mining excavation activity. Once a sufficient area of the mining face has been backfilled, overburden will be spread over the area and revegetation will be monitored.
- Sections of the lower effluent water ditch will be continually monitored and actively reclaimed as need by using excess tailings material from the mining operation. Throughout the mine site, concurrent reclamation of disturbed areas and areas no longer needed to support mining will continue.

Uplands Reclamation and Revegetation

Successful reclamation of the site would be measured on the following criteria for soil stabilization and revegetation:

1. The reclaimed area must show stable ground form with no erosion or concentrated flow that forms rivulets and/or flowing surface water in the uplands area. This standard must be maintained through three years which included three full winters, three full spring melts, and three summer growing periods.
2. Vegetation percent cover criteria for Slopes of 20:1 or less with no unsecured sediment sources immediately up gradient from the area will be signed off as “Reclaimed” once final earthwork is complete, topsoil replaced, and slash/vegetation matter spread throughout.
3. Slopes of 20:1 to 5:1 will need to be monitored for revegetation that must achieve 30% cover in 3 years or 70% cover in 5 years . If these criteria are not achieved at their respective year mark than seeding with certified and approved native live-seed and proper fertilizer mix will be required to achieve the required percent cover.
4. Slopes greater than 5:1 will, once final earthwork is complete, topsoil replaced, and slash/vegetation matter spread throughout, will be actively reseed with certified and approved native live seed and proper fertilizer mix need to be monitored for revegetation to meet 70% cover in 3 years. If only 30% vegetative cover is observed by year three then additional seeding and fertilizer will be incorporated to achieve the required 70% cover. Engineering designs may be required by the BLM on a case-by-case basis to control areas of excessive erosion
5. Slopes greater than 3:1 will still require special consideration by BLM for reclamation purposes and may require more aggressive revegetation methodologies on a case-by-case basis.
6. Vegetation canopy cover (not basal or foliar cover) will be measured for each reclaimed acre as a value of square feet (sqft) of cover per reclaimed acre/square feet. The

measurement will be expressed as a percentage (sqft of canopy cover/sqft reclamation = X% canopy)

Regulatory Requirements

43 CFR 3809.415- Prevent Unnecessary and Undue Degradation(UUD)

All mining and mining related activity at the Anvil Creek Mine must ensure the prevention of UUD. Per the regulations, to prevent UUD, the operators and claimants of the Anvil Creek Mine must:

- a) Complying with §3809.420, as applicable; the terms and conditions of your notice or approved plan of operations; and other Federal and State laws related to environmental protection and protection of cultural resources;
- b) Assuring that your operations are —reasonably incident to prospecting, mining, or processing operations and uses as defined in §3715.0–5.

43 CFR 3809.420- Surface Management Performance Standards

The following performance standards apply to your notice or plan of operations:

(a) *General performance standards* —

- (1) *Technology and practices.* You must use equipment, devices, and practices that will meet the performance standards of this subpart.
- (2) *Sequence of operations.* You must avoid unnecessary impacts and facilitate reclamation by following a reasonable and customary mineral exploration, development, mining and reclamation sequence.
- (3) *Land-use plans.* Consistent with the mining laws, your operations and post-mining land use must comply with the applicable BLM land-use plans and activity plans, and with coastal zone management plans under 16 U.S.C. 1451, as appropriate.
- (4) *Mitigation.* You must take mitigation measures specified by BLM to protect public lands.
- (5) *Concurrent reclamation.* You must initiate and complete reclamation at the earliest economically and technically feasible time on those portions of the disturbed area that you will not disturb further.
- (6) *Compliance with other laws.* You must conduct all operations in a manner that complies with all pertinent Federal and state laws.

(b) *Specific standards* —

- (1) *Access routes.* Access routes shall be planned for only the minimum width needed for operations and shall follow natural contours, where practicable to minimize cut and fill. When the construction of access routes involves slopes that require cuts on the inside edge in excess of 3 feet, the operator may be required to consult with the authorized officer concerning the most appropriate location of the access route prior to commencing operations. An operator is entitled to access to his operations consistent with provisions of the mining laws. Where a notice or a plan of operations is required, it shall specify the location of access routes for operations and other conditions necessary to prevent unnecessary or undue degradation. The authorized officer may require the operator to use existing roads to minimize the number of access routes, and, if

practicable, to construct access roads within a designated transportation or utility corridor. When commercial hauling is involved and the use of an existing road is required, the authorized officer may require the operator to make appropriate arrangements for use and maintenance.

(2) *Mining wastes.* All tailings, dumps, deleterious materials or substances, and other waste produced by the operations shall be disposed of so as to prevent unnecessary or undue degradation and in accordance with applicable Federal and state Laws.

(3) *Reclamation.*

(i) At the earliest feasible time, the operator shall reclaim the area disturbed, except to the extent necessary to preserve evidence of mineralization, by taking reasonable measures to prevent or control on-site and off-site damage of the Federal lands.

(ii) Reclamation shall include, but shall not be limited to:

(A) Saving of topsoil for final application after reshaping of disturbed areas have been completed;

(B) Measures to control erosion, landslides, and water runoff;

(C) Measures to isolate, remove, or control toxic materials;

(D) Reshaping the area disturbed, application of the topsoil, and revegetation of disturbed areas, where reasonably practicable; and

(E) Rehabilitation of fisheries and wildlife habitat.

(iii) When reclamation of the disturbed area has been completed, except to the extent necessary to preserve evidence of mineralization, the authorized officer shall be notified so that an inspection of the area can be made.

(4) *Air quality.* All operators shall comply with applicable Federal and state air quality standards, including the Clean Air Act (42 U.S.C. 1857 *et seq.*).

(5) *Water quality.* All operators shall comply with applicable Federal and state water quality standards, including the Federal Water Pollution Control Act, as amended (30 U.S.C. 1151 *et seq.*).

(6) *Solid wastes.* All operators shall comply with applicable Federal and state standards for the disposal and treatment of solid wastes, including regulations issued pursuant to the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*). All garbage, refuse or waste shall either be removed from the affected lands or disposed of or treated to minimize, so far as is practicable, its impact on the lands.

(7) *Fisheries, wildlife and plant habitat.* The operator shall take such action as may be needed to prevent adverse impacts to threatened or endangered species, and their habitat which may be affected by operations.

(8) *Cultural and paleontological resources.* (i) Operators shall not knowingly disturb, alter, injure, or destroy any scientifically important paleontological remains or any historical or archaeological site, structure, building or object on Federal lands.

(ii) Operators shall immediately bring to the attention of the authorized officer any cultural and/or paleontological resources that might be altered or destroyed on Federal lands by his/her operations, and shall leave such discovery intact until told to proceed by the authorized officer. The authorized officer shall evaluate the discoveries brought to his/her attention, take action to protect or remove the resource, and allow operations to proceed within 10 working days after notification to the authorized officer of such discovery.

(iii) The Federal Government shall have the responsibility and bear the cost of investigations and salvage of cultural and paleontology values discovered after a plan of operations has been approved, or where a plan is not involved.

(9) *Protection of survey monuments.* To the extent practicable, all operators shall protect all survey monuments, witness corners, reference monuments, bearing trees and line trees against unnecessary or undue destruction, obliteration or damage. If, in the course of operations, any monuments, corners, or accessories are destroyed, obliterated, or damaged by such operations, the operator shall immediately report the matter to the authorized officer. The authorized officer shall prescribe, in writing, the requirements for the restoration or reestablishment of monuments, corners, bearing and line trees.

(10) *Fire.* The operator shall comply with all applicable Federal and state fire laws and regulations, and shall take all reasonable measures to prevent and suppress fires in the area of operations.

(11) *Acid-forming, toxic, or other deleterious materials.* You must incorporate identification, handling, and placement of potentially acid-forming, toxic or other deleterious materials into your operations, facility design, reclamation, and environmental monitoring programs to minimize the formation and impacts of acidic, alkaline, metal-bearing, or other deleterious leachate, including the following:

(i) You must handle, place, or treat potentially acid-forming, toxic, or other deleterious materials in a manner that minimizes the likelihood of acid formation and toxic and other deleterious leachate generation (source control);

(ii) If you cannot prevent the formation of acid, toxic, or other deleterious drainage, you must minimize uncontrolled migration of leachate; and

(iii) You must capture and treat acid drainage, or other undesirable effluent, to the applicable standard if source controls and migration controls do not prove effective. You are responsible for any costs associated with water treatment or facility maintenance after project closure. Long-term, or post-mining, effluent capture and treatment are not acceptable substitutes for source and migration control, and you may rely on them only after all reasonable source and migration control methods have been employed.

(13) *Maintenance and public safety.* During all operations, the operator shall maintain his or her structures, equipment, and other facilities in a safe and orderly manner. Hazardous sites or conditions resulting from operations shall be marked by signs, fenced, or otherwise identified to alert the public in accordance with applicable Federal and state laws and regulations.

43 CFR 3715.0-5- Reasonably Incident, definition

Reasonably incident means the statutory standard “prospecting, mining, or processing operations and uses reasonably incident thereto” (30 U.S.C. 612). It is a shortened version of the statutory standard. It includes those actions or expenditures of labor and resources by a person of ordinary prudence to prospect, explore, define, develop, mine, or beneficiate a valuable mineral deposit, using methods, structures, and equipment appropriate to the geological terrain, mineral deposit, and stage of development and reasonably related activities.

Cultural Resources:

1. Activities shall be conducted in such a manner as to not cause damage or disturbance to any historical or archaeological sites and artifacts.
2. The Antiquities Act (1906), Archaeological Resources Protection Act (1979), FLPMA (1976), and general United States property laws and regulations, all prohibit the appropriation, excavation, damage, or destruction of any historic or prehistoric ruin or monument, or any other object of antiquity situated on lands owned or controlled by the United States (16 USC 470; 16 USC 432; 43 U.S. 1733(a); 18 U.S.C. 1361; 18 U.S.C. 641; 43 CFR 8365.1). Such items include both prehistoric stone tools and sites, as well as historic log cabins, remnants of such structures, refuse dumps, and other such features.
3. Should any such site be discovered during the permitted activity, the permittee shall avoid impacting such materials, and shall notify the BLM AFO cultural resource personnel immediately.
4. Any sites or features encountered that may be impacted by actions listed in the subject APMA would be evaluated for eligibility for inclusion in the National Register of Historic Places. If it is possible, impacts to eligible properties would be avoided by the operator. If impacts to *historic properties* (defined at 36 CFR § 800.16(l)(1)) cannot be avoided, they would be minimized, and/or mitigated through a mitigation plan agreed upon through consultation with the Alaska State Historic Preservation Officer. Through accepting a condition of approval, the permittee accepts some level of risk that timeframes for access to locations within the subject claims for mining and testing may be compromised by the legislated need to account for impacts to historic properties stemming from this approval.

Invasive Species Management

1. Preventing the introduction of new non-native species in the project area by cleaning heavy equipment of soil or seed bearing material prior to transportation to the mine.
2. Preventing the spread of any existing non-native species in the project area by cleaning equipment that has been working in an infested area prior to moving it to an un-infested area.
3. Reducing or eradicating any existing non-native species in the project area by:
 - a. Adhering to the attached stipulations.
 - b. Instructing mine personnel to watch for and report sighted occurrences of noxious weeds.
 - c. Providing to the BLM AFO records of sightings of invasive species for data base inclusion and/or other action steps.
 - d. Instructing mine personnel in the safe, timely and practicable eradication of small isolated outbreaks of noxious weeds through hand or mechanical means.
 - e. Collaborating with the BLM AFO in the event any large outbreaks are encountered.
4. Accomplishing site reclamation with indigenous plant species by:
 - a. Stockpiling native vegetation for future reclamation, when conducting stripping operations.
 - b. Transplanting native vege-mat to concurrent reclamations when practicable.

- c. Reseeding, for reclamation and stabilization, with approved weed free seed of native species.

Hazardous Material Control

1. Fuel and other petroleum products and hazardous materials shall be stored in containers designed to hold that product, identified with the owner's name, the contents, and date of purchase.
2. Fuel tanks shall be located at least forty (40) feet from any building and 100 feet from surface waters.
3. Fuel storage (tanks, drums, etc.) of 55 gallons and larger capacity, or any size containers that are situated where a spill may reach any type of water body (ground and/or surface water) or watercourse, require secondary containment. Secondary containment is defined as a "diked," impermeable impoundment capable of permanently containing *110 percent* of the volume of the largest independent container plus sufficient freeboard for accumulation of rain/snowmelt water. It is recommended that secondary containment or drip pans be placed under all fuel container inlet and outlet points, hose connections, and hose ends during fuel transfers.
4. Appropriate spill response equipment and supplies must be on-hand when hazardous materials or petroleum products are stored or used.
5. Plano shall be liable for damages to the natural resources of the United States resulting from any potential negligent management of petroleum products and/or wastes, hazardous materials and/or wastes, and solid materials and wastes.

Storm Water Pollution Prevention

1. Storm water would be allowed to infiltrate in undisturbed areas.
2. Storm water would be allowed to drain into the settling ponds in the immediate area of the process operation which may reduce the volume of makeup water needed.
3. Topsoil, vegetation, and overburden muck, not promptly redistributed to an area being reclaimed would be individually separated and stockpiled for future use. This material would be protected from erosion and would not be buried by tailings.
4. Settling ponds would be protected from erosion or fines removal during the mining season and during times of closure.
5. Operations would be managed in accordance with the APDES General Permit.

Solid Waste Management

1. The permit area must be kept clean and litter free. All non-hazardous refuse that cannot be completely burned will be transported and disposed of in an *ADEC approved* landfill. Non-hazardous combustible materials may be burned or incinerated on-site as permitted by State Law. Burning of batteries is prohibited. Pouring or dumping of fuel or oil in a pit for any reason, to include fire starting/trash burning, is prohibited. **There will be no burial of garbage.** At least once a year, all waste (e.g. empty fuel drums, used batteries, used oils, ash, scrap metal) will be removed to a recycle center or waste disposal site approved by ADEC for that purpose, unless otherwise approved by the authorized officer.

Camp Waste Water Management

1. Human waste will be disposed only in a Pit Privy (outhouse) that is constructed in accordance with Alaska Administrative Code Title 18, Chapter 72 (18AAC72), Wastewater Disposal: The Pit Privy shall not be placed in an area prone to flooding, be within 100 feet (measured horizontally) of the high water mark of any body of water, wetland, or drinking water source, and the bottom of the pit must be at least four (4) feet above the water table's annual highest level. Pits will be sprinkled with lime and backfilled with a minimum of two-feet of cover material when the pit has reached capacity or the permit is terminated. If the standards prescribed by 18AAC72 cannot be met, an alternative method such as, but not limited to, using an incinerating toilet or backhauling to a proper disposal site must be used.
2. Grey water (wash water) will not be dumped in a Pit Privy; it may be filtered then disposed of on the ground at least 100 feet (measured horizontally) from the high water mark of any body of water, wetland, or drinking water source. Construction of a septic system/leaching field will require permitting from the Alaska Department of Environmental Conservation (ADEC).