USDA United States Department of Agriculture | Forest Service | Mancos/Dolores Ranger District | 29211 Highway 184
Dolores, CO 81323
(970) 882-7296
TDD: (970) 882-6841

File Code: 2810
Date: December 19, 2022

Jason Weber
President & CEO
Tarsis Resources, Inc
241 Ridge St
Reno, NV 89501

Dear Mr. Weber,

I am writing you regarding Alianza Minerals Ltd.'s (Alianza), a wholly owned subsidiary of Tarsis Resources (Tarsis) Twin Canyon exploratory drilling program Plan of Operations (POO). We have assigned the number 0213-POO-2021-01. The drilling proposal was submitted on 09/28/2021 to the Dolores Ranger District and was revised and amended in an iterative fashion. The project lies in Township 36 North, Range 12 West, Sections 13, 14, 23 & 24. A Categorical Exclusion (CE) was prepared under the National Environmental Policy Act (NEPA), for which I have approved the attached Decision Memorandum (DM).

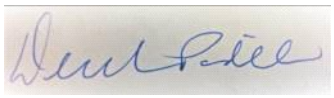
For me to approve the 2021 plan of operations, the enclosed permit conditions must be incorporated into your plan of operations. Procedurally, you can acknowledge the incorporation signing the Permit Conditions document attached to the POO as Attachment 1. A signature on this document constitutes your agreement to incorporate, by reference, these measures into the Plan.

If you choose not to proceed with the option above, you may appeal my decision to require you to update your current 2021 Plan of Operations under the regulations outlined at 36 CFR 214. Information about how to appeal a decision is included at the end of this letter.

In addition, we will need confirmation from CDRMS that a reclamation financial guarantee in the amount of $18,104.00 has been accepted by them. Attached is a copy of DM, CE, Plan of Operations, and Permit Conditions for the Project.

If you have any questions about this, please contact James Blair, SJNF Geologist at (970) 882-6856 [work] or (970) 560-6630 [cell].

Sincerely,

X 

Signed by: DEREK PADILLA

DEREK PADILLA
District Ranger

CC: Rob Hartford, Gabe Sweet, CDRMS, Files

Attachments: (4) DM, CE, POO & Permit Conditions.

36 CFR 214 Appeal Regulations

Pursuant to 36 CFR 214.4(b)(1), "Approval or denial of an initial, modified or supplemental plan of operation or operating plan; …" is subject to appeal. If you wish to appeal the approval, you must submit a written notice of appeal. The notice of appeal, including the reasons for appeal, must be postmarked or received by the Appeal Deciding Officer within 45 days of the date of this letter.
The Appeal Deciding Officer is the San Juan National Forest Supervisor. Appeals filed by regular mail or express delivery must be sent to: Forest Supervisor, San Juan National Forest Headquarters, 15 Burnet Ct, Durango CO 81301. Appeals may also be hand-delivered to the above address between the hours of 8:30 AM and 4:30 PM Mountain Time, Monday through Friday, excluding holidays.
Electronic appeals must be submitted in a rich text format (.rtf) or Microsoft Word (.doc) format as an email message to: Mailroom_R2_San_Juan@usda.gov. E-mailed appeals must include the project name in the subject line. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.
A copy of the notice of appeal should be mailed simultaneously to District Ranger, Dolores Ranger District, 29211 Hwy 183, Dolores, Co 81323. A copy may also be hand-delivered to the above address between the hours of 8:00 AM and 4:30 PM Mountain Time, Monday through Electronic copies may be emailed to: james.blair2@usda.gov, care of the District Ranger.
Appeals must meet the content requirements at 36 CFR 214.8. The specific content requirements are outlined below.

36 CFR § 214.8 Appeal Content

(a) General requirements for the contents of an appeal. All appeals must include:

1) The appellant's name, mailing address, daytime telephone number, and email address, if any;
2) A brief description of the decision being appealed, including the name and title of the Responsible Official and the date of the decision;
3) The title or type and, if applicable, identification number for the written authorization and the date of application for or issuance of the written authorization, if applicable;
4) A statement of how the appellant is adversely affected by the decision being appealed;
5) A statement of the relevant facts underlying the decision being appealed;
6) A discussion of issues raised by the decision being appealed, including identification of any laws, regulations, or policies that were allegedly violated in reaching the decision being appealed;
7) A statement as to whether and how the appellant has attempted to resolve the issues under appeal with the Responsible Official and the date and outcome of those efforts;
8) Any statement of the relief sought;

9) Any documents and other information upon which the appellant relies; and
10) The appellant's signature and the date.

(b) Specific requirements for the contents of an appeal. In addition to the general requirements in § 214.8(a), the following specific requirements must be included in an appeal, where applicable:

1) A request for an oral presentation under § 214.16;
2) A request for a stay under § 214.13.

If you have any questions, please contact the Geologist for San Juan National Forest, Mr. James Blair at (970) 882-6856 [work] or (970-560-6630 [cell] and he can assist you.

Alianza Minerals Limited
Twin Canyon Exploration Drilling Project

Decision Memo

Alianza Minerals Limited Twin Canyon Exploration Drilling Project

U.S. Forest Service

Mancos/Dolores Ranger District, San Juan National Forest

La Plata County, Colorado

This decision incorporates all information in this document and included in the project file.

Decision

I have decided to authorize the activities described in the "Proposed Action" section, including any modifications that resulted from environmental analysis and review of regulatory compliance. These modifications include removal of three proposed drilling sites that were included in the scoping documents.

Applicable Categorical Exclusion and Findings Required by Other Laws

This proposal is categorically excluded from documentation in an environmental assessment or environmental impact statement because it fits the following category or categories, pending extraordinary circumstance determinations:

Applicable Category or Categories:

36 CFR 220.6(e)(8) (DM Required)

This category is applicable for this project because it allows for short-term (1 year or less) mineral, energy, or geophysical investigations and their incidental support activities that may require cross-country travel by vehicles and equipment, construction of less than 1 mile of low standard road or use and minor repair of existing roads, as is proposed for this project.

Proposed Action

The purpose of the proposed action is for the San Juan National Forest (SJNF) to decide whether to allow Tarsis Resources US Inc., a wholly owned subsidiary of Alianza Minerals Ltd. ("Alianza") to conduct an exploratory drilling program on its Twin Canyon property in the SJNF. The Twin Canyon property consists of a series of unpatented federal lode mining claims within the SJNF held by Alianza and its partners. The project involves the construction and use of up to 9 drill pads, 1 laydown area, and the establishment of approximately 1,150 linear feet of temporary minimum maintenance access. All remaining project infrastructure will utilize existing road networks within the SJNF. The proposed project will take less than one year from initiation of activities to their completion.

The proposed drill project layout and design has been developed to minimize new surface impacts. Existing roads and trails are utilized wherever practicable, and new overland route development is kept to a minimum. Areas of prior disturbance are utilized where overland travel is proposed. Drill pad and laydown locations favor areas clear of trees with level ground. This specificity will serve to minimize dirt work and the clearing of mature trees and will simplify project reclamation. Further, flexible drilling

equipment layouts on individual drill pads will minimize surface disturbance wherever possible. Table 1 shows proposed project surface activities.

Table 1. Twin Canyon Project proposed surface activities.

Surface Activity	Number / Linear Feet	Total Acres/Miles	Comments
Drill pads	9	0.51 acres	2500 sq ft max footprint
Laydown	1	0.25 acres	8000 sq ft max footprint
Maintenance of Existing FS System Route(s)	6900	NA	Pothole filling, repair of road surface
Maintenance of Non-FS System Route	410	NA	Regrading, repair, local re-alignment
Temporary overland route	1160	0.22 miles (.32 acres)	12 ft nominal width
Total Proposed Acres		**1.08 acres total**	All new disturbance would be reclaimed at end of project.

Mechanized activities being conducted for this project include diamond core or reverse circulation drilling, access maintenance and development, pad clearing, and reclamation activities.

Access and Transportation

Primary access to the project area will be via NFSR 316, originating from CO Hwy. 160. An existing non-FS system road leading southwest from the northern terminus of NFSR 316 (herein termed the Caviness Mountain Ridge Road) will be utilized to access the drill pads along the Twin Canyon ridge (TC-D, TC-E, TC-F, TC-G, TC-J, TC-K). An existing non-FS system road leading down the Charlene mine will be utilized to access the remaining drill pads in Twin Canyon (TC-A, TC-B, TC-C).

Multiple sections of existing SJNF system roads may require minor maintenance prior to drill equipment mobilization, which will require coordination with FS engineering personnel. Sections of SJNF system road that will require maintenance are displayed in the project map. Maintenance will include the filling of potholes and evening of surfaces to provide safe access to the project site for all project personnel, vehicles, and equipment. Water control features will be maintained and/or re-enforced per FS requirements.

New, temporary overland access routes are proposed for this project in order to safely access drill pads (TC-F and TC-G) on the southernmost extension of the Caviness Mountain Ridge Road. Where proposed, overland travel routes coincide with previously-established roadbeds (presumably from legacy drill programs in the area) and will be constructed to a minimum standard.

There is no proposed construction of permanent roads or structures associated with this project.

Use of non-SJNF system roads for the Twin Canyon project will require maintenance to provide safe and practicable access to drill pads. These road sections are identified in the attached map. Minor vegetation trimming will be performed on an as needed basis. The existing non-system user-established route along the crest of Caviness Mountain that would be used for access to drill sites TC-D, TC-E, TC-F, TC-G, TC-J, and TC-K would be reclaimed after drilling is completed.

Drill Pads

Drill pads and the laydown area will be located in areas of prior disturbance and/or clearings wherever possible. All drill pads will be constructed with a footprint of approximately 2,500 square feet (e.g., 50ft by 50ft), the shape and layout of which will be dictated by minimization of required tree clearing and leveling/dirt work. Drill site locations may vary slightly for a “field fit” without increasing the proposed pad size. There are 3 potential laydown yard options that have been identified, the final location will be determined prior to project implementation. All three of the potential laydown area are next to an existing road and do not require any dirtwork/blading. Minor brushing may be required. The final laydown area will be utilized as a secure location to store drilling equipment, muds, and materials.

As is best practice for the mineral exploration industry, drill pads will contain a sump. Sumps will retain drill cuttings and water during drilling operations. Sump size can vary, but may typically be dug approximately 15 feet wide, 10 feet long and 5 feet deep. This standard system of water management allows for the percolation and infiltration of water back into the ground while retaining drill cuttings and mud in the sump. Depending on drilling conditions, a two-tiered sump may be constructed to facilitate settling of drilling fines. Fresh water, with only non-hazardous additives, if necessary, will be used for drilling operations.

Project Operations

Project startup will likely involve at least 1 week of dirt work and maintenance prior to drill rig mobilization. Following access and drill pad preparation, the following equipment will be used to perform and support the exploratory drilling at Twin Canyon:

A. One (1) track mounted reverse circulation (RC) drill rig, OR one (1) diamond drill rig

B. Drill rod and casing tray (track or pickup mounted)

C. One (1) to two (2) compressors (track or trailer mounted), OR recirculation system

D. One (1) water truck

E. One (1) excavator

F. One (1) dozer

G. Two (2) 4x4 pickup trucks

H. Up to two (2) ATVs or UTVs as necessary to shuttle crews and supplies

I. Water line/hose, mud pump and mixing tanks for grouting/cementing of drill holes

The drill rig, rods, casing, rod tray, and compressor(s)/recirculation system will be used to conduct the exploratory drilling. This equipment will be used continuously throughout the project until the project is completed.

The water truck will be used to haul water as needed for drilling (anticipated once per 12-hour shift). Pickup trucks and/or ATVs/UTVs will be used by both Alianza and its contractors to access the drill sites. The excavator, dozer, and skid-steer/backhoe will be utilized on an as-needed basis for clearing drill sites, maintenance, and reclamation. This equipment will be stored at the laydown site when not in use.

Similar to the drilling of a water well, the proposed exploratory borings require the leveling and/or grading of a pad area (approximately 50x50 feet) for a drill rig and support equipment. A small diameter (approx. 6 inches) bore hole will be drilled into the ground from the drill pad to depths of approximately 300 to 1,500 feet. Rock chips or drill core will be removed for analysis. The drilling process will not entail the use of pressurized fluids or environmentally hazardous materials. The hole will be filled and sealed in accordance with state and federal guidelines and requirements immediately following completion of the drill hole.

If the program is approved, drilling from each drill pad is anticipated to average approximately 5 days. During occupancy of a drill pad, vehicle traffic will include drill crews at shift change, geologists to monitor the drilling, and a water truck 1-2 times per day. Drilling operations will be conducted in 12 hour shifts and may be continuous (24 hours a day) during the project.

Abandonment and Reclamation

Drill hole abandonment and reporting will be performed in accordance with required Colorado State and federal rules and statutes.

Reclamation of project infrastructure will occur concurrently with the drill program and following drill program completion. Reclamation will be comprised of regrading and revegetation of drill pads, scarifying and/or recontouring of temporary overland access routes, and revegetating as needed. Reclamation-specific parameters, locations, and requirements will be developed and agreed upon prior to project initiation with the SJNF and the Colorado Division of Reclamation and Mining and will be reflected in bonding.

After drilling activities are completed, the existing unauthorized two-track road along the ridgeline will be recontoured anywhere there has been dirtwork to provide for drilling access, and then ripped and seeded. Alianza is responsible for stormwater and invasive species management until USFS deems the area meet final reclamation requirements.

Design Elements

The following design elements are required, and are incorporated into the proposed action to ensure land management plan compliance:

Design Element Label	Design Element Description	Plan Component
Hydrology/Soils - 1	The well pad shall be constructed with a 12-inch-high berm along the top of the fill slopes of the proposed well pad.	Water Resources 2.6.31
Hydrology/Soils - 2	When soils are saturated, equipment operations will cease until the ground dries out or freezes. Soils are considered saturated when ruts created by equipment are 4 inches deep (beyond the lug tread of the tire) for 10 feet or longer. Repair any rutting deeper than 4 inches.	Water Resources 2.6.21
Hydrology/Soils – 3	The operator shall provide timely maintenance and cleanup of access roads. A regular schedule for maintenance shall include, but not be limited to dust abatement; reconstruction of the crown, slope, or water bars; resurfacing; cleaning out of ditches, culverts, and catchments. When rutting of the travel way becomes greater than 6 inches, maintenance such as blading, and/or gravelling shall be conducted.	Water Resources 2.6.32
Hydrology/Soils – 4	The operator shall ensure roadside ditches on sloping terrain have appropriately spaced lead-off ditches or water velocity dissipaters (e.g., cobble check-dams, etc.) to reduce erosion within ditches.	Water Resources 2.6.34

Design Element Label	Design Element Description	Plan Component
Hydrology/Soils – 5	The operator shall not impede the water flow in ephemeral or perennial drainages. Low water crossings and/or culverts shall be installed where drainages cross the access road. 1. If a low water crossing is constructed, the low water crossing shall be accomplished by dipping the road surface down to the bed of the drainage. Material moved from the banks of the crossing shall be stockpiled near the road edge, contoured, and reclaimed. Coarse gravel or cobble shall be used as the primary material for the roadbed in the low water crossing. Where the bottom of the drainage is bedrock, the bedrock shall be used as the roadbed. 2. Where low water crossings are not appropriate, an appropriately sized culvert shall be installed to prevent water impoundment. The culvert shall be no less than 18 inches in diameter. The depth of material cover over the culvert shall be no less than 12 inches or one half the diameter of the culvert, whichever is greater. Culvert inlets and outlets shall be installed at the grade of the surface and incorporate energy dissipation treatments. Culverts shall be installed and maintained to BLM Gold Book standards.	Water Resources 2.6.29
Hydrology/Soils - 6	The operator will utilize stormwater management actions to ensure disturbed areas are quickly stabilized to control surface water flow and to protect both the disturbed and adjacent areas from erosion and siltation. This may involve construction and maintenance of wattles, berms, ditches, mulching, rock rundowns, etc. Cut-and-fill slopes shall be protected against erosion with the use of contouring, swales, water bars, lateral furrows, pocking/pitting of the soil surface, or other measures approved by the authorized officer. Erosion shall be monitored by the operator and corrected when features such as gullying, head-cutting, slumping, and deep or excessive rills (greater than 3 inches) are observed. Diversion ditches must incorporate appropriate energy dissipation treatments (e.g., wattles, cobble check-dams, etc.). A stormwater management checklist can be found in Attachment 1.	Water Resources 2.6.21
Recreation	All non-system or temporary roads will be gated/bermed or reclaimed in coordination with the district recreation program.	2.14.48

Design Element Label	Design Element Description	Plan Component
Silviculture	Trees cut or damaged during duration of project should be processed on site, including piling of slash. Slash is considered tops of trees and bole pieces up to a 6" diameter. Bole pieces that are larger than 6" diameter shall be removed from USFS lands at the cost of the permittee. Cut stump heights shall be less than 12" and removed volume will need to be accounted for. Prior to start of cutting trees permittee should contact the district fuels specialist for further guidance on slash placement.	NA
Engineering and Wildlife	Activities will be conducted in accordance with seasonal road closures on roads used to access the project area. Work activities will occur between June 1 and November 14.	Access and Travel Management 2.13; Terrestrial Wildlife 2.3
Engineering	Before project activities begin, Alianza must prepare traffic control plan a grazing permittee communication plan for USFS review and acceptance.	NA
Range	Before project activities begin, Alianza must prepare a grazing permittee communication plan for USFS review and acceptance. Utilization of any water resources must be authorized in writing by the authorizing official. Any damage to range infrastructure, such as cattle guards, fences, and gates must be timely repaired to original condition.	NA
Botany	Invasive Species: Equipment entering the forest must be free of debris and mud to avoid introducing invasive species seed. Following completion of the project, areas of disturbance must be monitored for establishment of invasive species and treated as necessary.	Terrestrial Ecosystems and Plant Species 2.2.84
Engineering/Minerals	The FS representative and Operator representative shall schedule and attend a pre-work meeting before any on the ground project activities begin. The meeting should also be attended by any subcontractors that will be working on the project. The purpose of the meeting is to: • Review and finalize laydown/equipment storage areas, and • To agree on areas and extent of NFS roads maintenance and, • Review and finalize pad construction/reclamation activities (sump location, vegetation removal, storm water controls, sump ramp design for wildlife/cattle egress, sump fencing, etc., and • Review and agree on final reclamation of unauthorized two-track along ridgeline.	NA

Design Element Label	Design Element Description	Plan Component
Multi-Resource (Engineering, Soils, Hydrology, Recreation, Wildlife, Vegetation)	After drilling activities are completed, the existing unauthorized two-track road along the ridgeline will be recontoured anywhere dirt work occurred during drilling access, and then ripped and seeded. Berms, rocks, slash, and timber created by clearing trees for pads, and/or a gate will be placed as needed to prevent future access on this route. Alianza is responsible for stormwater and invasive species management until FS agrees that the area meets final reclamation requirements.	Terrestrial Ecosystems and Plant Species 2.2.84
Minerals	Alianza's Plan of Operations can't be signed and approved by the District Ranger until after this CE has been finalized, and Alianza has completed a financial guarantee reviewed and accepted by both the USFS and the State of Colorado, Division of Mine Reclamation and Safety	NA

Agencies, Organizations and Persons Contacted

A list of Agencies, Organizations and Persons Contacted regarding this proposal is provided in the project file. Scoping was conducted in August 2021 by direct mailing to adjacent landowners, permit-holders, and other agencies with jurisdiction in the project vicinity. Six comments were received which resulted in the withdrawal of exploration sites near communications facilities, the requirement for coordination with grazing permitees, and design elements to prevent travel management issues. A summary Colorado Division of Reclamation, Mining and Safety was also consulted regarding the project.

Implementation Date

I intend to implement the decision in summer of 2023. Project activities would occur between June 1 and November 14.

Administrative Review

Decisions that are categorically excluded from documentation in an environmental assessment or environmental impact statement are not subject to an administrative review process (Agriculture Act of 2014 [Pub. L. No. 113-79], Subtitle A, Sec. 8006).

Contact

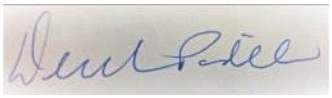
James Blair, SJNF Geologist
29211 Highway 184
Dolores, CO 81323
James.Blair2@usda.gov
(970) 882-6856

Decision

This decision incorporates all information in this document and included in the project file.

I have decided to authorize the activities described in the “Proposed Action” section, including any modifications that resulted from environmental analysis and review of regulatory compliance.

12/13/2022

X 

Signed by: DEREK PADILLA

Categorical Exclusion Review

Project Information

Proposal Name: Alianza Minerals Limited Twin Canyon Exploration Drilling Project

Proposal Date: 6/15/2021

Project Contact: James Blair

Responsible Official: Derek Padilla**,** District Ranger

Unit: San Juan National Forest

Ranger District: Dolores

County: La Plata

State: Colorado

Anticipated Implementation: Summer 2022

Signing Authority: District Ranger

Public web link: https://www.fs.usda.gov/project/?project=60254

General Location: The project area is along the summit ridge and Twin Canyon area of Caviness Mountain. The project area is accessed by NFS Road 316 from Mancos Hill.

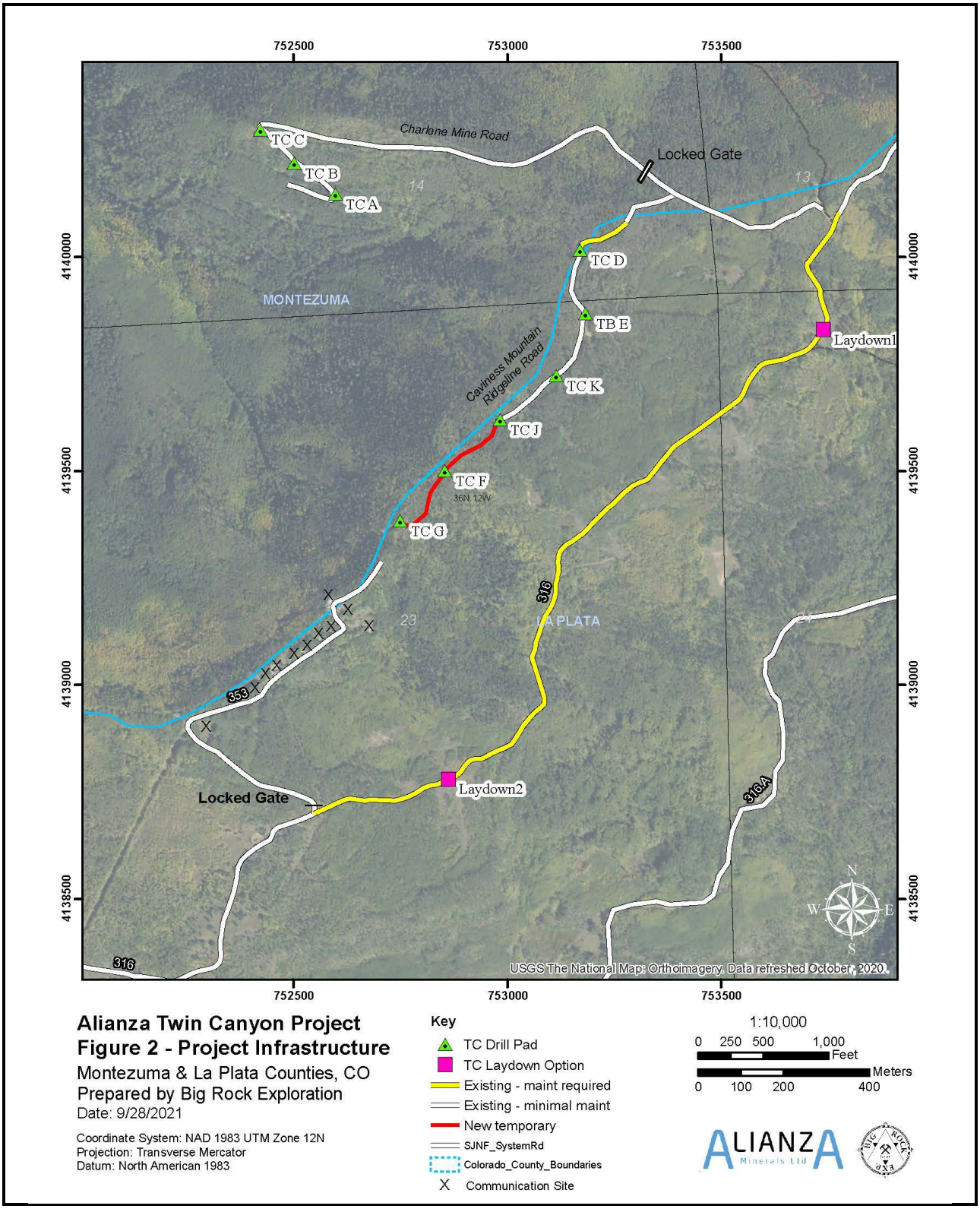
Applicable Management Areas: Management Area 3

Legal Description: T36N, R12W, Sections 13, 14, 23

Elevation Range: 9,500’ to 10,200’ above sea level

Watersheds: Upper Mancos Valley-Mancos River (140801070108) and Headwaters Cherry Creek (140801050107)

Project Map


752500
753000
753500
4140000
4139500
4139000
4138500
Charlene Mine Road
Locked Gate
TC C
TC B
TC A
TC D
TB E
TC K
TC J
TC F
36N 12W
TC G
Laydown1
Laydown2
Cavitess Mountain Ridgeline Road
MONTEZUMA
LA PLATA
14
13
23
316
316A
353
Locked Gate
N
S
E
W
USGS The National Map: Orthoimagery. Data refreshed October, 2020.
Alianza Twin Canyon Project
Figure 2 - Project Infrastructure
Montezuma & La Plata Counties, CO
Prepared by Big Rock Exploration
Date: 9/28/2021
Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983
Key
TC Drill Pad
TC Laydown Option
Existing - maint required
Existing - minimal maint
New temporary
SJNF_SystemRd
Colorado_County_Boundaries
Communication Site
1:10,000
0 250 500 1,000 Feet
0 100 200 400 Meters
ALIANZA Minerals Ltd

Extraordinary Circumstance Determinations

Pertinent specialists have reviewed the proposal and made the following determinations with regards to degree of effects for the resource conditions considered:

Table 1. Resource conditions considered for extraordinary circumstance determinations

Resource Conditions Considered for Extraordinary Circumstances	Is there a degree of potential effect that raises uncertainty over its significance? Briefly explain.
Federally listed threatened or endangered species, designated critical habitat, and Forest Service sensitive species	Botany: N/A, not present Rationale for yes/no: T&E – No critical habitat in the project area. Sensitive – May impact individuals or habitat but will not likely contribute to a trend towards federal listing or loss of viability to the population or species.
	Fisheries: N/A, not present Rationale for yes/no: T&E – No individuals or habitat present in the project area. Sensitive – No habitat in project area
	Wildlife: NO, there is no uncertainty Rationale for yes/no: T&E – Not likely to adversely affect. Sensitive – May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species
Floodplains, wetlands, or municipal watersheds	N/A, not present Rationale for yes/no: Not present in the project area.
Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas	N/A, not present Rationale: Not present in the project area.
Inventoried roadless areas	N/A, not present Rationale: Not present in the project area.
Research natural areas	N/A, not present Rationale: Not present in the project area.
American Indians and Alaska Native religious or cultural sites	N/A, not present
Archaeological sites, or historic properties or areas	The proposed undertaking will have no adverse effect to historic properties; SHPO concurrence received 1/26/2022.

ATTACHMENT 1
United States Forest Service, San Juan National Forest
Locatable Minerals Exploration Plan Of Operations (Plan)

PERMIT CONDITIONS

For
Tarsis Resources US Inc., a wholly owned United States subsidiary of Alianza Minerals LTD's (Operator) Twin Canyon Project
0213-POO-2021-01
Generally located in the Caviness Mountain Area, Dolores Ranger District
12/15/2022

I. PROJECT REQUIREMENTS

1) The FS representative for this project is Jamie Blair (980-882-6856, james.blair2@usda.gov). An Operator representative shall be designated for on the ground activities.
2) In an emergency, appropriate action shall be taken and the FS representative shall be promptly notified. Emergencies should also be reported to the San Juan Public Lands Dispatch Center at 970-385-1324. Any resource damage resulting from, or in response to, the emergency shall be rehabilitated as soon as practicable in a manner approved by the FS representative.
3) The FS representative and Operator representative shall schedule and attend a pre-work meeting before any on the ground project activities begin. The meeting should also be attended by any subcontractors that will be working on the project. The purpose of the meeting is to:
   - Review and finalize the laydown/equipment storage area, and
   - To review areas and extent of NFS roads maintenance and,
   - Review and finalize pad construction/reclamation activities (sump location, vegetation removal, storm water controls, sump ramp design for wildlife/cattle egress, sump fencing, etc., and
   - Review final reclamation plan of unauthorized two-track along ridgeline.
4) The Operator will notify the FS representative at least 48 hours before project activities begin on the ground. The Operator will notify the NF lands & realty specialist (M. Denise Kusnir; mary.kusnir@usda.gov; 970-394-4792) and Caviness Mountain Communications at least 14 days before project activities begin on the ground.
5) A transportation plan, including design for the roads to be improved and decommissioned, must be submitted to the Forest Service.
6) A traffic control safety plan shall be submitted by the Operator and accepted by the FS before project activities begin. The plan shall address all aspects of traffic control, including how roads will be used, what type of control measures will be put in place based on actions to be conducted, a map detailing where control measures will be located. All necessary signs must be installed before construction activities begin. Signs must not be nailed to trees.
7) From June 1st to October 15th, the Operator or its representatives utilizing a gate to access the project site must close the gate immediately upon passing through. Unless instructed by the FS or grazing permittee, gates are to remain shut during this time period.

Utilization of any water resources must be authorized in writing by the authorizing official. Any damage to range infrastructure, such as cattle guards, fences, and gates must be timely repaired to original condition.

8) A storm water management plan shall be developed to address all construction, reconstruction, maintenance, and operational activities and submitted to FS representative. Attachment 1 details the elements that should be included in the stormwater management plan. The operator will utilize storm water management actions to ensure disturbed areas are quickly stabilized to control surface water flow and to protect both the disturbed and adjacent areas from erosion and siltation. This may involve construction and maintenance of wattles, berms, ditches, mulching, rock rundowns, etc. If cut-and-fill slopes are built, they shall be protected against erosion with the use of contouring, swales, water bars, lateral furrows, pocking/pitting of the soil surface, or other measures approved by the authorized officer. Erosion shall be monitored by the operator and corrected when features such as gullying, head-cutting, slumping, and deep or excessive rills (greater than 3 inches) are observed. Any diversion ditches must incorporate appropriate energy dissipation treatments (e.g., wattles, cobble check-dams, etc.).
9) If roadside ditches are needed, the operator shall ensure that the ditches on sloping terrain have appropriately spaced lead-off ditches or water velocity dissipaters (e.g., cobble check-dams, etc.) to reduce erosion within ditches.
10) When soils are saturated, equipment operations will cease until the ground dries out or freezes. Soils are considered saturated when ruts created by equipment are 4 inches deep (beyond the lug tread of the tire) for 10 feet or longer. Repair any rutting deeper than 4 inches. In the event of potentially saturated soil conditions, mitigation measures such as "swamp mats" or additional drainage/run-on control measures may be considered in the approved disturbance corridor to prevent rutting in excess of the above performance standards and allow for continuity of operations.
11) As directed by the FS, the operator shall provide timely maintenance and cleanup of access roads used for the project. If needed, a regular schedule for maintenance shall include, but not be limited to dust abatement; reconstruction of the crown, slope, or water bars; resurfacing; cleaning out of ditches, culverts, and catchments. When rutting of the travel way becomes greater than 6 inches, maintenance such as blading, and/or gravelling shall be conducted.
12) The operator shall not impede the water flow in ephemeral or perennial drainages. If directed by the FS, low water crossings and/or culverts shall be installed where drainages cross the access road.
13) If a low water crossing is constructed, the low water crossing shall be accomplished by dipping the road surface down to the bed of the drainage. Material moved from the banks of the crossing shall be stockpiled near the road edge, contoured, and reclaimed. Coarse gravel or cobble shall be used as the primary material for the roadbed in the low water crossing. Where the bottom of the drainage is bedrock, the bedrock shall be used as the roadbed.
14) Where low water crossings are not appropriate, an appropriately sized culvert shall be installed to prevent water impoundment, as directed by the FS. The culvert shall be no less than 18 inches in diameter. The depth of material cover over the culvert shall be no less than 12 inches or one half the diameter of the culvert, whichever is greater. Culvert inlets and outlets shall be installed at the grade of the surface and incorporate energy

dissipation treatments. Culverts shall be installed and maintained to BLM/FS Gold Book standards.

15) All storm water management controls needed during the project must be installed before project activities can begin at each respective drilling location. Erosion control structures, like wattles and soil blankets, that are in place long term shall be made with biodegradable materials and must be maintained so as to effectively capture and contain sediment until no longer deemed necessary by the FS.
16) Project activities will be conducted in accordance with seasonal road closures on roads used to access the project area. Work activities will occur between June 1 and November 14 unless otherwise authorized by the FS in writing.
17) During project activities, if paleontological or cultural resource artifacts or materials are exposed, or raptor nests are discovered, operations in the vicinity shall be halted and the FS representative shall be notified.
18) All non-system or temporary roads will have access blocked or be reclaimed in coordination with the Dolores District recreation program.
19) Trees cut or damaged during duration of project should be processed on site, including piling of slash. Trees and brush cut for the project shall be used for reclaiming roadways or drill pads. Cut stump heights shall be less than 12".
20) After drilling activities are completed, the existing unauthorized two-track road along the ridgeline will be recontoured anywhere dirt work occurred during drilling access, and then ripped and seeded. Berms, rocks, slash and timber created by clearing trees for pads, and/or a gate will be placed as needed to prevent future access on this route. Operator will reclaim the access road so as to prevent future access to the two-track road via the above methods as guided by USFS during reclamation. Operator is responsible for stormwater and invasive species management until FS agrees that the area meets final reclamation requirements. Reclamation will be considered complete upon USFS approval of reclamation actions performed by the Operator.
21) Monitoring – Project activities will be monitored by the FS to assure compliance. This will begin upon receiving notice that the operator will commence work and will continue until the project is completed.
22) The Operator shall maintain an adequate quality control system and perform inspections as necessary to ensure that work on this project conforms to all applicable requirements, including implementation of all required mitigation measures.

II. FIRE PREVENTION

To the extent practical, the operator shall take measures to prevent uncontrolled fires on the area of operation and to suppress uncontrolled fires resulting from operations. All fires must be immediately reported to the FS representative and to the San Juan Public Lands Dispatch Center at 970 385 1324. Project activities must comply with the attached Fire Plan for Industrial Operations.

III. PROJECT WORK AREAS

The project work areas shall be kept to the minimum necessary for safe operation.

IV. OPERATIONS

A. Production
   1) During all operations, the operator shall maintain structures, equipment and other facilities in a safe, neat and workman like manner.

2) In the event of a spill or leak of measurable quantities of fuel, oil, etc., the FS representative must be immediately notified. Spills or leaks of greater than 25 gallons or discharges or any quantity to water must be reported to the State of Colorado Department of Public Health & Environment. Final cleanup operations for the spill or leak must be approved by the FS representative who will recommend additional action as necessary.
3) In the event of temporary cessation (3 weeks or more) stabilization must be initiated, including removal of all fuel, trash, and portable toilets from the site, unless alternative arrangements are approved by for Forest Service ahead of time. The operator will discuss timelines for resuming activities with the FS representative.
4) Operations are authorized for a one (1) year period that begins the day on-the-ground; earth disturbing activities are initiated in the project area.

B. Wildlife Resources
1) Nets, screens, covers, or other barriers will be installed over all unattended fluid pits, vents, tanks, and equipment openings to prevent wildlife mortality or wildlife contact with drilling products, fluids, or equipment openings. More information can be obtained at the U.S. Fish and Wildlife Service's wildlife contaminants website: (http://mountain-prairie.fws.gov/contaminants/contaminants1c.html).

C. Sanitation and Garbage
1) A portable toilet shall be made available during project activities. Sewage shall be contained and disposed of at a designated sanitary disposal facility.
2) The drilling locations and adjoining areas shall be kept in a neat and safe condition during all phases of the project. This includes removal of all flagging, wooden lath, signs and other identifying devices from public lands.
3) The operator shall dispose of refuse from the project, including waste materials and garbage of all kinds by removing it from public lands.
4) If trash is stored on site the trash must be stored in a bear-proof manner.
5) All waste must be disposed of at an appropriate, licensed, permitted commercial waste disposal facility.

V. RECLAMATION
A. Bonds – a reclamation bond is required for this project in an amount that would allow the USFS to reclaim project disturbance in the unlikely event that the Operator does not complete the reclamation. The bond shall be posted before the Plan of Operations is approved and project activities begin. The reclamation bond will be released by the USFS after the standards described below are met.
B. Reclamation, Revegetation, and Weeds:
(1) Certified weed-free straw mulch, hydromulch, or erosion control blankets are recommended following all seeding activities, particularly on sites with slopes greater than 20 percent.
(2) Reclamation Standards: The four components of successful reclamation are recontouring, revegetation, soil erosion, and noxious weeds. Monitoring of these standards by the federal agency should occur one year after reclamation efforts are initiated, and evaluation for compliance with these standards will occur two years after reclamation efforts are initiated.

(a) Recontouring Standard: The recontouring component will be considered successful when reclaimed sites are recontoured as close to original contour as can be achieved with readily available fill material adjacent to cuts, and blend in as naturally as possible with the topography of adjacent lands, unless otherwise described in the Plan or agreed to by the FS during field review. Cuttings must be buried at least 6" below ground level, underneath clean fill.

(b) Revegetation Standard: This standard does not apply to previously disturbed areas lacking vegetation. Revegetation will be considered successful when the percent canopy cover of desirable vegetation on the site is at least eighty percent of the canopy cover of the desirable vegetation on the site before the disturbance or at least eighty percent of the canopy cover of the desirable vegetation on a reference area for the site, as determined by a visual appraisal, exclusive of mature trees cut for the purposes of the drilling project. Definitions: 1. Desirable Vegetation: Native plant species, unless the vegetation on the reference area or the site before it was disturbed included acceptable non-native plant species, in which case those non-native plant species can be included in the 80 percent canopy cover requirement with FS approval. 2. Reference Area: A relatively undisturbed piece of land (preferably adjacent to or near the site needing revegetation) that has soils, topography, and a plant community similar to the site being revegetated. Reference areas will be approved by the FS. 3. Visual Appraisal: Ocular or transect methods are acceptable. The Ocular Plant Composition or the Cover-Frequency Transect methods, as described in the Forest Service Region 2 Rangeland Analysis and Management Training Guide, are recommended. 4. #PLS = pounds of pure live seed. 5. Seeding rates listed below are for drilled seed. Broadcast rates should be doubled.

(c) Revegetation Seed Mixes: Unless otherwise authorized, a minimum of two native grass and one wildflower seed species from the list below will be used at the recommended rates. One of the annual species listed below can also be used along with the native species.

Native Grass Seed Species	
Arizona fescue (*Festuca arizonica), variety Redondo*	4#PLS/acre
Western wheatgrass (*Pascopyrum smithii), varieties Barton/Rosanna*	10#PLS/acre
Mountain brome (*Bromus marginatus*)	10#PLS/acre
blue grama (*Bouteloua gracilis), varieties Alma/Hachita/Lovington*	*3*#PLS/acre
muttongrass (*Poa fendleriana)*	*3*# PLS/acre
junegrass (*Koeleria macrantha), varieties Prairie/Uncompahgre Plateau*	*4*#PLS/acre
Nelson's needlegrass (*Stipa nelsonii*)	6-8#PLS/acre
Tufted hairgrass (*Deschampsia caespitosa*)	1-2#PLS/acre
Blue wildrye (*Elymus glaucus*)	9#PLS/acre

Wildflower Seed Species	
4#PLS/acre	
Rocky Mtn Penstemon (Penstemon strictus)	
Firecracker Penstemon (Penstemon eatonii)	
Blue Flax (Linum perenne lewisii)	
Annual Sunflower (Helianthus annuus)	

Silver Lupine (Lupinus argenteus)
Golden Banner (Thermopsis divaricarpa)
Rocky Mountain Bee Plant (Cleome serrulata)

Annual Species

Barley *(Hordeum vulgare)*	80#PLS/acre
Wheat *(Triticum aestivumx Secale cereale)*	80#PLS/acre
Oats *(Avena sativa)*	80#PLS/acre

Only Colorado certified weed-free seed mixes and mulches may be used. The operator must provide certification tags or copies to the FS, preferably prior to application. Native trees, shrubs, or forbs may be used on some occasions if agreed to by the FS and the operator

(d) Soil Erosion Standard: In areas where project-related ground disturbance occurred, the soil erosion component will be considered successful when gully erosion is absent, and sheet and rill erosion is absent or minimal (less than 5% of the site shows evidence of sheet and rill erosion in the form of pedestalled plants, sediment accumulation, or rills). Bare soil may be present on the reclaimed sites if comparable, relatively undisturbed adjacent sites naturally display bare soil.

(e) Noxious Weed Standard: The noxious weed component will be considered successful when noxious weeds are absent on the reclaimed site. Noxious weeds are currently present in some areas along FS road 316 and system trails. Operator will be responsible for controlling invasive species within sites where they have initiated ground disturbance. Noxious weeds shall be treated on all areas disturbed by this project, as necessary to eradicate weeds during the course of operations and reclamation., as described below:

(i) The FS range personnel will conduct a project area pre-disturbance noxious weed inventory to establish baseline conditions and assist the development of appropriate noxious weed management strategies.

(ii) The operator shall employ any cleaning methods necessary to ensure that any equipment, including transportation, construction, and drilling equipment, is free of noxious weed material before project implementation.

(iii) The operator shall control, contain, and eradicate noxious weeds (as applicable) on all areas disturbed by this project during the course of construction, operation, and reclamation. This can be achieved via cost recovery agreement or by hiring a third party contractor. Additional noxious weed management guidance can be obtained from the FS representative.

(iv) Seed certification tags from the seed bags used for revegetation shall be submitted to the FS within 1 month following seed application. When straw, mulch or gravel is needed for construction, operation or reclamation activities, these materials must be certified to be weed-free, and a copy of the certification must be provided to the FS representative to be included in the project record.

Fire Plan for Industrial Operations

San Juan National Forest

This plan outlines the Operator's responsibilities for fire prevention and suppression activities within the Operator's project area. For the purposes of this provision, the project area is defined as the area within **one half mile (0.5 miles)** of the project boundary.

Fire Precautions

I. SMOKING AND LUNCH FIRE RESTRICTIONS

Smoking is prohibited except inside a building, developed recreation site, vehicle, or while seated in an area of at least three feet in diameter that is barren or cleared of all flammable materials. 36 CFR 261.52(d), 42 CFR 9212(a).

The building of camp, lunch, warming and other fires within the project area and vicinity is prohibited, except at established camps or at other safe places where all flammable material has been cleared away sufficiently to prevent the start and spread of wildfires. The FS representative may, upon written request, designate specific places where campfires may be built for purposes of heating lunches.

II. SPARK ARRESTERS AND MUFFLERS

Operating or using any internal combustion engine, on any timber, brush, or grass covered land, including trails and roads traversing such land, without a spark arrester, is prohibited. The spark arrester must be maintained in effective working order, meeting either (1) Department of Agriculture, Forest Service standard 5100, *Spark Arresters for Internal Combustion Engines* (current edition); or (2) the Society of Automotive Engineers (SAE) recommended Practices J335, *Multiposition Small Engine Exhaust System Fire Ignition Suppression* (current revision), and J350, 36 CFR 261.52(j), 43 CFR 9212.1(h).

Passenger vehicles, pickups, medium and large highway trucks (80,000 GVW) will be equipped with a factory designed muffler system which is specified for the make and model of the respective vehicle/truck or with a muffler system that is equivalent or that exceeds factory specifications.

Exhaust systems shall be properly installed and continually maintained in serviceable condition.

III. FIRE EXTINGUISHERS AND TOOLS ON EQUIPMENT

While in use, each piece of equipment with an internal combustion engine shall be provided with at least the following:

1. One fire extinguisher, at least 5# ABC with an Underwriters Laboratory (UL) rating of 3A – 40BC, or greater.
2. One shovel, sharp, size 0 or larger, round-pointed with an overall length of at least 48 inches.
3. One axe, sharp, double bit 3½#, or one sharp Pulaski.

Extinguishers, shovels, axes, and Pulaski's shall be mounted so they are readily available to the operator. All tools shall be maintained in a serviceable condition.

IV. POWER SAWS

Each gasoline engine power saw shall be provided with one chemical-pressurized fire extinguisher of not less than 8-ounce capacity by weight, and one size 0 or larger, round-pointed shovel with an overall length of at least 48 inches. The extinguisher and shovel shall be maintained in good working order. The extinguisher shall be with the power saw operator and immediately available for use at all times. The extinguisher shall not be affixed to the saw. The

shovel shall be readily available to the operator of the saw at all times. Having the shovel with the gas can used to refuel the saw may be considered "readily available" if not more than 200 feet from the saw. During periods of critical fire danger, the FS may prescribe other precautionary measures.
Any fueling or refueling of a power saw shall be done in an area which has first been cleared of material which will carry fire. The power saw shall be moved at least 10 feet from the place of fueling or refueling before starting.

V. BLASTING AND WELDING

Unless otherwise directed in writing by the FS, all flammable material shall be cleared for 10 feet around any piece of equipment being welded. In addition, the Operator shall provide a fire extinguisher of a size and type designed to extinguish a fire in the flammable materials surrounding the spot being welded. If unforeseen circumstances arise where blasting may be required, the operator shall contact the District Ranger to describe the circumstances and why blasting is required, and to develop safety procedures under which the blasting would be conducted which would require District Ranger approval.

VI. STORAGE OF FLAMMABLES

Gasoline, oil, grease and other highly flammable material shall be stored either in approved containers on board mobile vehicles, or in approved portable containers of 5 gallons or less at a site where all debris is cleared within a radius of 25 feet.

VII. CAMP FIRE PROTECTION

Campfires are not proposed for the project and are not allowed. Propane or gas powered heaters/camp stoves shall be used to satisfy cooking and personal heating needs of those involved in the project.

Fire Precautions and Control

I. PLANS

Prior to initiating the Operator's operations during the Fire Precautionary Period, which is from **May 15** thru **October 1**, the Operator shall file with the FS a Fire Prevention and Control Plan providing for the prevention and control of fires on the project area. The Plan shall include a detailed list of personnel and equipment at the Operator's disposal for implementing the Plan. This requirement may be met by preparing a single Plan for more than one project.

II. FIRE PRECAUTIONS

Specific Fire Precautionary measures listed shall be applicable during the Operator's operations during the High Fire Danger period or during FS Fire Restrictions (Stage I, II, or III). The Contracting Officer may change the dates of the High Fire Danger periodby advance written notice, if justified by unusual weather or other conditions. Required tools and equipment shall be kept in serviceable condition and immediately available to extinguish a fire at all times during the Operator's operations during the High Fire Danger period.

A. Substitute Precautions

The FS may authorize substitute measures or equipment, or waive specific requirements by written notice, if substitute measures or equipment will afford equal protection, or some of the required measures and equipment are unnecessary.

B. Emergency Precautions

The FS may require the necessary shutting down of equipment on portions of the Operator's operations when emergency fire precautions are necessary.

III. FIRE CONTROL

The Operator shall, both independently and in cooperation with the FS, take all reasonable and practicable action to prevent and suppress fires resulting from the Operator's operations. The Operator's independent initial fire suppression action on such fires shall be immediate and shall include the use of all necessary personnel and equipment at the Operator's disposal on the project area. Any fires caused by the Operator's operations should be immediately reported to the COR and Durango Dispatch regardless of successful or unsuccessful attempts to extinguish a fire.

A. Operator's Reinforcement Obligations

Whenever an Operations Fire or Negligent Fire, whether on or off the project area, has not been suppressed by initial action and appreciable reinforcement strength is required, the FS may require further actions by the Operator until such fire is controlled and mopped up to a point of safety. Operations may be suspended in this situation.

IV. FIRE SUPPRESSION COSTS

The Operator's obligations for cost of fire suppression vary according to three classifications of fires as follows:

A. Operations Fire

An Operations Fire is a fire caused by the Operator's operations other than a Negligent Fire.

The FS, except as provided in Section III, shall, under 16 USC 572, perform fire suppression activities on Operations Fires. The Operator agrees to reimburse the FS for such cost for each Operations Fire. The cost of the Operator's actions, supplies, and equipment on any such fire provided pursuant to Section III, or otherwise at the request of the FS, shall be credited toward such maximum. If the Operator's actual cost exceeds the Operator's obligation stated above, the FS shall reimburse the Operator for the excess.

B. Negligent Fire

A Negligent Fire is a fire caused by negligence or fault of the Operator's operations, including, but not limited to, one caused by smoking by persons engaged in the Operator's operations during the course of their employment, or during rest or lunch periods; or if the Operator's failure to comply with the requirements of Sections II and III results in a fire starting or permits a fire to spread. Damages and the cost of suppressing Negligent Fires shall be borne by the Operator.

C. Other Fires on Project Area

V. STATE LAW

The Operator should immediately report any fires in the project area to the COR and Durango Dispatch. The Operator shall not be relieved by the terms of this contract of any liability to the United States for fire suppression costs recoverable in an action based on State law, except for such costs resulting from Operations Fires. Amounts due the Operator for fire fighting expenditures in accordance with BT7.41 shall not be withheld pending settlement of any such claim or action based on State law.

VI. PERFORMANCE BY OPERATOR

Where the Operator's employees, agents, Operators, subcontractors, or their employees or agents perform the Operator's operations in connection with fire responsibilities, the Operator's obligations shall be the same as if performance was by the Operator.
Should Fire Restrictions become necessary, the following describes the stage levels.

VII. STAGE I AND STAGE II FIRE RESTRICTIONS

There will be two fire restriction stages: Stage I and Stage II. Stage III denotes area closure. Each agency within a fire restriction area must write its own agency document that authorizes the restrictions within its jurisdiction. Each agency is responsible for using its own format, citing the specific codes of Federal Regulation (CFR) and United Stated Code (U.S.C.) and having the appropriate legal counsel review the document to assure it is correct and enforceable. To establish consistency, reduce confusion and standardize restrictions, the following criteria will be used in all restriction documents, unless an exception is approved by the District Ranger on a case-by-case basis:

A. **STAGE I** The following acts are prohibited until further notice:
   1) Building, maintaining, attending, or using a fire, campfire, coal or wood burning stove, any type of charcoal fueled broiler or open fire of any type in undeveloped areas.
   2) Smoking, except within an enclosed vehicle or building, in a developed recreation site or while stopped in an area at least 3 feet in diameter that is barren or cleared of all flammable vegetation.
   3) Using explosive material: (i.e.: fireworks, blasting caps or any incendiary device which may result in the ignition of flammable material.}
   4) Welding, or operating acetylene or other similar torch with open flame.
   5) Operating or using any internal combustion engine without a spark arresting device properly installed, maintained and in effective working order meeting either:
      (a) Department of Agriculture, FS Standard 5100-1a; or
      (b) Appropriate Society of Automotive Engineers (SAE) recommended practice J335 (b) and J350 (a).
   6) Possible Exemptions
      (a) Persons with a written permit specifically authorizing the otherwise prohibited act or omission.
      (b) Fires in constructed, permanent fire pits or fire grates within developed recreation sites.
      (c) Any Federal, State, or local officer or member of an organized rescue or firefighting force in the performance of an official duty.
      (d) Mechanical stoves and appliances fueled by bottled or liquid gas which allow the operator to control or extinguish the flame with a valve are permitted provided that such devices are approved by Underwriters laboratory Inc.
      (e) Owners or lessees of land in the restricted area.
      (f) Residents in the restricted area.

B. **STAGE II** The following acts are prohibited until further notice:
   1) Building, maintaining, attending, or using a fire, campfire, coal or wood burning stove, any type of charcoal fueled broiler or open fire of any type.
   2) Smoking, except within an enclosed vehicle or building.
   3) Using explosive material: (i.e.: fireworks, blasting caps or any incendiary device which may result in the ignition of flammable material.)
   4) Welding, or operating acetylene or other similar torch with open flame.

5) Operating or using any internal combustion engine without a spark arresting device properly installed, maintained and in effective working order meeting either:
   (a) Department of Agriculture, FS Standard 5100-1a: or
   (b) Society of Automotive Engineers (SAE) recommended practice J335 (b) and J350 (a).
6) Operating a chainsaw without a chemical pressurized fire extinguisher of not less than 8 ounces capacity by weight, and one size 0 or larger round pointed shovel with an overall length of at least 36 it was 48" above inches. The extinguisher shall be with the chainsaw operator. The shovel may be kept with the fueling supplies but readily available.
7) Other possible restricted acts under Stage II
   (a) Operating a motorized vehicle off designated roads and trails.
   (b) Operating a chainsaw outside the hours of 5 a.m. and 11 p.m.
   (c) Overnight camping limited to listed campgrounds and recreation sites.
8) Possible Exemptions
   (a) Persons with a written permit specifically authorizing the otherwise prohibited act or omission.
   (b) Any Federal, State or local officer or member of an organized rescue or firefighting force in the performance of an official duty.
   (c) Mechanical stoves and appliances fueled by bottled or liquid gas which allow the operator to control and extinguish the flame with a valve are permitted provided that such devices are approved by Underwriters Laboratory Inc.
   (d) Owners or lessees of land in the restricted area.
   (e) Residents in the restricted area.

C. Stage III Fire Restrictions

1) Before the fire season, the "Council" will review the evaluation guidelines and determine threshold levels that substantiate the need for closures.
2) Examples include:
   (a) Potential loss of life due to explosive fire conditions.
   (b) Potential for extreme or blowup fire behavior.
   (c) Stage I or Stage II restrictions are not effective in reducing the number of human-caused fires.
   (d) Resources across the geographic area are at a critical shortage level.
   (e) Proximity to substantial population centers.
   (f) The extent of wildland-urban interface.

VII. Operating Plan Acceptance

I have reviewed and agreed to comply with all conditions in this plan of operations including the required changes, modifications, special mitigation, and reclamation requirements.

I understand that the bond will not be released until the Authorized Officer in charge gives written approval.

Signature Date

Jason Weber
President & CEO
Tarsis Resources

Categorical Exclusion Review
Alianza Minerals Limited Twin Canyon Exploration Drilling Project

Internal Project Management Information

PALS Tracking #: 60254

Project File: Box\Dolores RD NEPA\Current NEPA Projects\Alianza's Proposed Locatable Minerals Exploration Project

GIS Info: NA – spatial data provided by Alianza

USFS Project Contact: James Blair

Project Proponent: Tarsis Resources US Inc., a wholly owned subsidiary of Alianza Minerals Ltd. ("Alianza")

ROW/Easement Needed: No

Timber Products Produced? No

Is cost recovery anticipated? No

Special Authorities: None

Resource Participation in Environmental Analysis Review

The responsible official has requested the following resource areas to review the proposal to determine compliance with the regulatory considerations. Resource areas in grey text are not required to review proposal or provide input.

Table 1. Documentation of review completion

Resource	Review Complete	Specialist's Initial Input on Proposal
Botany	10/13/2021 Corey Ertl	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: <2 Is consultation with a regulatory agency anticipated? YES☐ NO☒ Unsure☐
Cultural/Heritage	2/1/2022 John Chmelir	Field Visit: Field visit completed Estimated Total # of Days to Complete Work: Choose an item Consultation anticipated for: SHPO☒ Tribal☒ None☐
Engineering	10/14/2021 Cody Jones	Field Visit: Field visit completed Estimated Total # of Days to Complete Work: 0
Fisheries	8/25/2022 Clay Kampf	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: <2 Is consultation with a regulatory agency anticipated? YES☒ NO☐ Unsure☐
Fuels	2/24/2021 Patrick Seekins	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: 0
Hydro	10/27/21 Beth Anderson	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: <2
Lands/Special Uses	10/13/2021 M. Denise Kusnir	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: <2

Categorical Exclusion Review

Alianza Minerals Limited Twin Canyon Exploration Drilling Project

Resource	Review Complete	Specialist's Initial Input on Proposal
Minerals	10/12/2021 Walt Brown	See project map and design elements below. Field Visit: Field visit needed post-decision but pre-implementation and environmental review can be completed. Estimated Total # of Days to Complete Work: 2-5
Range	10/13/2021 Corey Ertl	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: <2
Recreation	Date 3/16/22 Specialist Name Tom Rice	Field Visit: Choose an item Estimated Total # of Days to Complete Work: Choose an item Are the following needed: Wilderness Minimum Required Decision Guide☐ None☒
Roadless	9/28/2021 Emma Reinemann	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: 0 Are the following needed: Roadless Briefing☐ None☒
Scenic Resources	9/28/2021 Emma Reinemann	Field Visit: Choose an item Estimated Total # of Days to Complete Work: 0
Soils	10/27/21 Beth Anderson	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: <2
Special Management Areas	9/28/2021 Emma Reinemann	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: 0
Silviculture	Date 10/13/2021 David J Casey	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: Choose an item
Wildlife	Date: 01/15/2022 Ivan Messinger	Field Visit: Field visit completed Estimated Total # of Days to Complete Work: 2-5 Is consultation with a regulatory agency anticipated? Yes☐ No☒ Unsure☐
NEPA Coordinator	9/28/2021 Emma Reinemann	Field Visit: No field visit needed. Estimated Total # of Days to Complete Work: 2-5
Project Leader	01/19/2022 James Blair	Field Visit: Field visit completed Estimated Total # of Days to Complete Work: 2-5

Categorical Exclusion Review
Alianza Minerals Limited Twin Canyon Exploration Drilling Project

Project Information

Proposal Name: Tarsis Resources US Inc., a wholly owned United States subsidiary of Alianza Minerals Limited Twin Canyon Exploration Drilling Project

Proposal Date: June 15, 2021

USFS Project Contact: James Blair

Project Proponent: Tarsis Resources US Inc., a wholly owned United States subsidiary of Alianza Minerals Limited (Alianza)

Responsible Official: Derek Padilla, District Ranger

Unit: San Juan National Forest

Ranger District: Dolores

Counties: Montezuma and La Plata

State: CO

Anticipated Implementation: Summer 2022

Signing Authority: District Ranger

Public web link: https://www.fs.usda.gov/project/?project=60254

General Location: The project area is along the summit ridge and Twin Canyon area of Caviness Mountain. The project area is accessed by NFS Road 316 from Mancos Hill.

Applicable Management Areas: Management Area 3

Legal Description: T36N, R12W, Sections 13, 14, 23

Elevation Range: 9,500' to 10,200' above sea level

Watersheds: Upper Mancos Valley-Mancos River (140801070108) and Headwaters Cherry Creek (140801050107)

Applicable Categories

This proposal is categorically excluded from documentation in an environmental assessment or environmental impact statement because it fits the following category or categories, considering extraordinary circumstance determinations:

Applicable Category or Categories:

36 CFR 220.6(e)(8) (DM Required) 1 yr mineral investigation

This category is applicable for this project because it allows for short-term (1 year or less) mineral, energy, or geophysical investigations and their incidental support activities that may require cross-country travel by vehicles and equipment, construction of less than 1 mile of low standard road or use and minor repair of existing roads, as is proposed for this project.

Proposed Action

The purpose of the proposed action is for the San Juan National Forest (SJNF) to decide whether to allow Tarsis Resources US Inc., a wholly owned United States subsidiary of Alianza Minerals Limited ("Alianza") to conduct an exploratory drilling program on its Twin Canyon property in the SJNF. The Twin Canyon property consists of a series of unpatented federal lode mining claims within the SJNF held by Alianza and its partners. The project involves the construction and use of up to 9 drill pads, 1 laydown area, and the establishment of approximately 1,150 linear feet of temporary minimum maintenance access. All remaining project infrastructure will utilize existing road networks within the SJNF. The proposed project will take less than one year from initiation of activities to their completion.

The proposed drill project layout and design has been developed to minimize new surface impacts. Existing roads and trails are utilized wherever practicable, and new overland route development is kept to a minimum. Areas of prior disturbance are utilized where overland travel is proposed. Drill pad and laydown locations favor areas clear of trees with level ground. This specificity will serve to minimize dirt work and the clearing of mature trees and will simplify project reclamation. Further, flexible drilling equipment layouts on individual drill pads will minimize surface disturbance wherever possible. Table 2 shows proposed project surface activities.

Table 2. Twin Canyon Project proposed surface activities.

Surface Activity	Number / Linear Feet	Total Acres/Miles	Comments
Drill pads	9	0.51 acres	2500 sq ft max footprint
Laydown	1	0.25 acres	8000 sq ft max footprint
Maintenance of Existing FS SystemRoute(s)	6900	NA	Pothole filling, repair of road surface
Maintenance of Non-FS System Route	410	NA	Regrading, repair, local re-alignment
Temporary overland route	1160	0.22 miles (.32 acres)	12 ft nominal width
Total Proposed Acres		**1.08 acres total**	All new disturbance would be reclaimed at end of project.

Mechanized activities being conducted for this project include diamond core or reverse circulation drilling, access maintenance and development, pad clearing, and reclamation activities.

Access and Transportation

Primary access to the project area will be via NFSR 316, originating from CO Hwy. 160. An existing non-FS system road leading southwest from the northern terminus of NFSR 316 (herein termed the Caviness Mountain Ridge Road) will be utilized to access the drill pads along the Twin Canyon ridge (TC-D, TC-E, TC-F, TC-G, TC-J, TC-K). An existing non-FS system road leading down the Charlene mine will be utilized to access the remaining drill pads in Twin Canyon (TC-A, TC-B, TC-C).

Multiple sections of existing SJNF system roads may require minor maintenance prior to drill equipment mobilization, which will require coordination with FS engineering personnel. Sections of SJNF system road that will require maintenance are displayed in the project map. Maintenance will include the filling of potholes and evening of surfaces to provide safe access to the project site for all project personnel, vehicles, and equipment. Water control features will be maintained and/or re-enforced per FS requirements.

New, temporary overland access routes are proposed for this project in order to safely access drill pads (TC-F and TC-G) on the southernmost extension of the Caviness Mountain Ridge Road. Where proposed, overland travel routes coincide with previously-established roadbeds (presumably from legacy drill programs in the area) and will be constructed to a minimum standard.

There is no proposed construction of permanent roads or structures associated with this project.

Use of non-SJNF system roads for the Twin Canyon project will require maintenance to provide safe and practicable access to drill pads. These road sections are identified in the attached map. Minor vegetation trimming will be performed on an as needed basis. The existing non-system user-established route along the crest of Caviness Mountain that would be used for access to drill sites TC-D, TC-E, TC-F, TC-G, TC-J, and TC-K would be reclaimed after drilling is completed.

Drill Pads

Drill pads and the laydown area will be located in areas of prior disturbance and/or clearings wherever possible. All drill pads will be constructed with a footprint of approximately 2,500 square feet (e.g., 50ft by 50ft), the shape and layout of which will be dictated by minimization of required tree clearing and leveling/dirt work. Drill site locations may vary slightly for a “field fit” without increasing the proposed pad size. There are 2 potential laydown yard options that have been identified, the final location will be determined prior to project implementation. The two potential laydown areas are next to an existing road and do not require any dirtwork/blading. Minor brushing may be required. The final laydown area will be utilized as a secure location to store drilling equipment, muds, and materials.

As is best practice for the mineral exploration industry, drill pads will contain a sump. Sumps will retain drill cuttings and water during drilling operations. Sump size can vary, but may typically be dug approximately 15 feet wide, 10 feet long and 5 feet deep. This standard system of water management allows for the percolation and infiltration of water back into the ground while retaining drill cuttings and mud in the sump. Depending on drilling conditions, a two-tiered sump may be constructed to facilitate settling of drilling fines. Fresh water, with only non-hazardous additives, if necessary, will be used for drilling operations.

Project Operations

Project startup will likely involve at least 1 week of dirt work and maintenance prior to drill rig mobilization. Following access and drill pad preparation, the following equipment will be used to perform and support the exploratory drilling at Twin Canyon:

A. One (1) track mounted reverse circulation (RC) drill rig, OR one (1) diamond drill rig
B. Drill rod and casing tray (track or pickup mounted)
C. One (1) to two (2) compressors (track or trailer mounted), OR recirculation system
D. One (1) water truck

E. One (1) excavator

F. One (1) dozer

G. Two (2) 4x4 pickup trucks

H. Up to two (2) ATVs or UTVs as necessary to shuttle crews and supplies

I. Water line/hose, mud pump and mixing tanks for grouting/cementing of drill holes

The drill rig, rods, casing, rod tray, and compressor(s)/recirculation system will be used to conduct the exploratory drilling. This equipment will be used continuously throughout the project until the project is completed.

The water truck will be used to haul water as needed for drilling (anticipated once per 12-hour shift). Pickup trucks and/or ATVs/UTVs will be used by both Alianza and its contractors to access the drill sites. The excavator, dozer, and skid-steer/backhoe will be utilized on an as-needed basis for clearing drill sites, maintenance, and reclamation. This equipment will be stored at the laydown site when not in use.

Similar to the drilling of a water well, the proposed exploratory borings require the leveling and/or grading of a pad area (approximately 50x50 feet) for a drill rig and support equipment. A small diameter (approx. 6 inches) bore hole will be drilled into the ground from the drill pad to depths of approximately 300 to 1,500 feet. Rock chips or drill core will be removed for analysis. The drilling process will not entail the use of pressurized fluids or environmentally hazardous materials. The hole will be filled and sealed in accordance with state and federal guidelines and requirements immediately following completion of the drill hole.

If the program is approved, drilling from each drill pad is anticipated to average approximately 5 days. During occupancy of a drill pad, vehicle traffic will include drill crews at shift change, geologists to monitor the drilling, and a water truck 1-2 times per day. Drilling operations will be conducted in 12 hour shifts and may be continuous (24 hours a day) during the project.

Abandonment and Reclamation

Drill hole abandonment and reporting will be performed in accordance with required Colorado State and federal rules and statutes.

Reclamation of project infrastructure will occur concurrently with the drill program and following drill program completion. Reclamation will be comprised of regrading and revegetation of drill pads, scarifying and/or recontouring of temporary overland access routes, and revegetating as needed. Reclamation-specific parameters, locations, and requirements will be developed and agreed upon prior to project initiation with the SJNF and the Colorado Division of Reclamation and Mining and will be reflected in bonding.

After drilling activities are completed, the existing unauthorized two-track road along the ridgeline will be recontoured anywhere there has been dirtwork to provide for drilling access, and then ripped and seeded. Alianza is responsible for stormwater and invasive species management until USFS deems the area meet final reclamation requirements.

Design Elements

The following design elements are required, and are incorporated into the proposed action to ensure land management plan compliance:

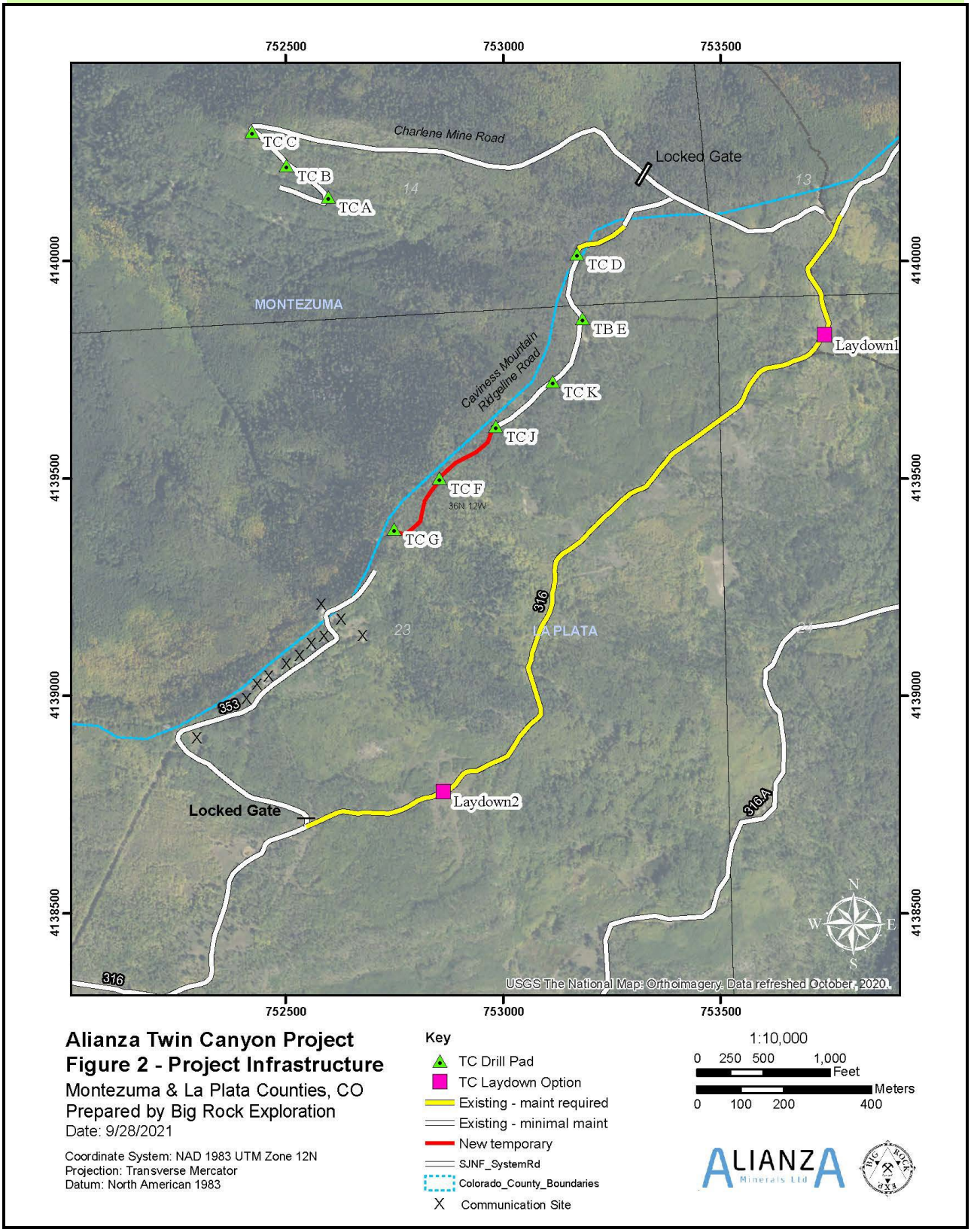
Table3. Design elements

Design Element Label	Design Element Description	Plan Components
Hydrology/Soils - 1	The well pad shall be constructed with a 12-inch-high berm along the top of the fill slopes of the proposed well pad.	Water Resources 2.6.31
Hydrology/Soils - 2	When soils are saturated, equipment operations will cease until the ground dries out or freezes. Soils are considered saturated when ruts created by equipment are 4 inches deep (beyond the lug tread of the tire) for 10 feet or longer. Repair any rutting deeper than 4 inches.	Water Resources 2.6.21
Hydrology/Soils – 3	The operator shall provide timely maintenance and cleanup of access roads. A regular schedule for maintenance shall include, but not be limited to dust abatement; reconstruction of the crown, slope, or water bars; resurfacing; cleaning out of ditches, culverts, and catchments. When rutting of the travel way becomes greater than 6 inches, maintenance such as blading, and/or gravelling shall be conducted.	Water Resources 2.6.32
Hydrology/Soils – 4	The operator shall ensure roadside ditches on sloping terrain have appropriately spaced lead-off ditches or water velocity dissipaters (e.g., cobble check-dams, etc.) to reduce erosion within ditches.	Water Resources 2.6.34
Hydrology/Soils – 5	The operator shall not impede the water flow in ephemeral or perennial drainages. Low water crossings and/or culverts shall be installed where drainages cross the access road. 1. If a low water crossing is constructed, the low water crossing shall be accomplished by dipping the road surface down to the bed of the drainage. Material moved from the banks of the crossing shall be stockpiled near the road edge, contoured, and reclaimed. Coarse gravel or cobble shall be used as the primary material for the roadbed in the low water crossing. Where the bottom of the drainage is bedrock, the bedrock shall be used as the roadbed. 2. Where low water crossings are not appropriate, an appropriately sized culvert shall be installed to prevent water impoundment. The culvert shall be no less than 18 inches in diameter. The depth of material cover over the culvert shall be no less than 12 inches or one half the diameter of the culvert, whichever is greater. Culvert inlets and outlets shall be installed at the grade of the surface and incorporate energy dissipation treatments. Culverts shall be installed and maintained to BLM Gold Book standards.	Water Resources 2.6.29

Design Element Label	Design Element Description	Plan Components
Hydrology/Soils - 6	The operator will utilize storm water management actions to ensure disturbed areas are quickly stabilized to control surface water flow and to protect both the disturbed and adjacent areas from erosion and siltation. This may involve construction and maintenance of wattles, berms, ditches, mulching, rock rundowns, etc. Cut-and-fill slopes shall be protected against erosion with the use of contouring, swales, water bars, lateral furrows, pocking/pitting of the soil surface, or other measures approved by the authorized officer. Erosion shall be monitored by the operator and corrected when features such as gullying, head-cutting, slumping, and deep or excessive rills (greater than 3 inches) are observed. Diversion ditches must incorporate appropriate energy dissipation treatments (e.g., wattles, cobble check-dams, etc.). A stormwater management checklist can be found in Attachment 1.	Water Resources 2.6.21
Recreation	All non-system or temporary roads will be gated/bermed or reclaimed in coordination with the district recreation program.	2.14.48
Silviculture	Trees cut or damaged during duration of project should be processed on site, including piling of slash. Slash is considered tops of trees and bole pieces up to a 6" diameter. Bole pieces that are larger than 6" diameter shall be removed from USFS lands at the cost of the permittee, although it is not anticipated that this will be necessary. Cut stump heights shall be less than 12". Removed volume will need to be accounted for, if applicable. Prior to start of cutting trees permittee should contact the district fuels specialist for further guidance on slash placement.	NA
Engineering and Wildlife	Activities will be conducted in accordance with seasonal road closures on roads used to access the project area. Work activities will occur between June 1 and November 14.	Access and Travel Management 2.13; Terrestrial Wildlife 2.3
Engineering	Before project activities begin, Alianza must prepare a traffic control plan for USFS review and acceptance.	NA
Range	Before project activities begin, Alianza must prepare a grazing permittee communication plan for USFS review and acceptance. Utilization of any water resources must be authorized in writing by the authorizing official. Any damage to range infrastructure, such as cattle guards, fences, and gates must be timely repaired to original condition.	NA
Botany	Invasive Species: Equipment entering the forest must be free of debris and mud to avoid introducing invasive species seed. Following completion of the project, areas of disturbance must be monitored for establishment of invasive species and treated as necessary.	Terrestrial Ecosystems and Plant Species 2.2.84

Design Element Label	Design Element Description	Plan Components
Engineering/Minerals	The FS representative and Operator representative shall schedule and attend a pre-work meeting before any on the ground project activities begin. The meeting should also be attended by any subcontractors that will be working on the project. The purpose of the meeting is to: • Review and finalize laydown/equipment storage areas, and • To agree on areas and extent of NFS roads maintenance and, • Review and finalize pad construction/reclamation activities (sump location, vegetation removal, storm water controls, sump ramp design for wildlife/cattle egress, sump fencing, etc., and • Review and agree on final reclamation of unauthorized two-track along ridgeline.	NA
Multi-Resource (Engineering, Soils, Hydrology, Recreation, Wildlife, Vegetation)	After drilling activities are completed, the existing unauthorized two-track road along the ridgeline will be recontoured anywhere dirt work occurred during drilling access, and then ripped and seeded. Berms, rocks, slash, and timber created by clearing trees for pads, and/or a gate will be placed as needed to prevent future access on this route. Alianza is responsible for stormwater and invasive species management until FS agrees that the area meets final reclamation requirements.	Access and Travel Management 2.13.8
Minerals	Alianza's Plan of Operations can be signed and approved by the District Ranger for project implementation after: • This CE has been finalized, and • All design elements/BMPs/resource protection requirements from the CE process have been attached to the Plan as permit conditions, and • Alianza has posted a financial guarantee reviewed and accepted by both the USFS and the State of Colorado, Division of Mine Reclamation and Safety.	NA

Project Map



Alianza Twin Canyon Project
Figure 2 - Project Infrastructure
Montezuma & La Plata Counties, CO
Prepared by Big Rock Exploration
Date: 9/28/2021

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

Key
- TC Drill Pad
- TC Laydown Option
- Existing - maint required
- Existing - minimal maint
- New temporary
- SJNF_SystemRd
- Colorado_County_Boundaries
- X Communication Site

1:10,000
0 250 500 1,000 Feet
0 100 200 400 Meters

ALIANZA Minerals Ltd

Environmental Analysis

National Forest Management Act (NFMA) - Land Management Plan Consistency

The pertinent specialists have reviewed the proposal, incorporating specific Design Elements listed above to ensure consistency with applicable land management plan direction. The following summarizes the analysis and conclusions supporting plan consistency.

Botany: The project would have no effect on threatened and endangered plant species and no impact on sensitive plant species.

Cultural/Heritage: No adverse effect to historic properties - 36 CFR 800.4(d)(1). Tribal consultation pursuant to Section 106 of the NHPA was initiated on 6/28/2021.Section 106 Review is complete and SHPO concurrence was received on 1/26/2022.

Engineering: Design controls would be implemented to ensure the project is in compliance with SJNF engineering standards.

Fisheries: This project will result in a one-time depletion of 1.8 acre-feet to the San Juan River. A Biological Opinion (Project code: 2022-0063888) was received from Fish and Wildlife Service on August 23, 2022, which determined that the project is not likely to jeopardize Colorado pikeminnow and razorback sucker.

Fuels: This proposal will not affect fire or fuels resources and will meet all forest plan standards and guidelines related to fire and fuels.

Hydrology: Impacts to water resources are not expected with the application of design elements described above. Therefore, this project is consistent with Forest Plan direction as well as the Clean Water Act.

Lands and Special Uses: The proposed activity will not affect lands and special uses.

Minerals: The proposed project does not interfere with the development of any other mineral resources, and the proposed drill hole locations and travel routes are not located in places where they are likely to be subject to or to cause any landslides or any other geologic hazards. The plan is consistent with the SJNF LRMP, and its implementation would not result in any negative impacts to mineral or geologic resources.

Range: The project will have no effect on rangeland management or activities and is consistent with Forest Plan direction.

Recreation: The Recreation Opportunity Spectrum (ROS) for the area is defined in the Forest Plan as semi-primitive motorized. This project will have no impact on this ROS and is therefore consistent with Forest Plan direction related to recreation.

Roadless: This proposal will not conflict with existing land use planning designations, including Colorado Roadless Area designation. The project is not located within a designated Colorado Roadless Area.

Scenic Resources: This proposal will not affect scenic resources.

Soils: Design features to minimize impacts to soils have been incorporated into the project plan.

Silviculture: A field visit to the site with agency personnel revealed that most likely all timber needing to be cut for implementation of the exploratory activities described in the proposal would fall underneath incidental use. As a result, there is no need for compensation to the agency as long as all cut trees are left onsite and used for the reclamation process. The timber specialist feels that a consultant may not be needed and tree cutting activities could be overseen solely by the mining company.

Special Management Areas: The project is not within any Special Management Areas.

Wildlife: This project is not likely to adversely affect Canada lynx. The project may impact individuals or habitat but will not likely contribute to a trend towards federal listing or loss of viability to the population or species of northern goshawk, American Pine Marten, and boreal owl. No other endangered or forest service sensitive species would be impacted by the project.

Other Resources: NA

Other Law, Regulation and Policy Consistency

The following laws, regulations, or policies pertinent to this project include:

Clean Air Act

This project will not create any air impacts.

Clean Water Act

The Watershed Conservation Practices Handbook for the Rocky Mountain Region (FSH 2509.25) states that, "*Watershed conservation practices will meet applicable Federal and State laws and regulations, including State Best Management Practices*." The activities proposed will incorporate the requirements outlined in this document in addition to general and site-specific design criteria to protect soil, aquatic, and riparian systems found within this analysis area.

Federally Listed Species and Critical Habitat

Table 4. Federally Listed Species and Critical Habitat Effect Determinations

Species/Habitat	Status	Proposed or Designated Critical Habitat Present?	Determination	Brief Rationale
Canada lynx	Threatened	No	NLAA	The Southern Rockies Lynx Amendment to the San Juan National Forest Plan states that mineral exploration activities under 2 acres of disturbance are considered to NLAA Canada Lynx. USFW letter of concurrence in project file.
Colorado Pikeminnow	Endangered	No	LAA	USFW letter of concurrence in project file.
Razorback sucker	Endangered	No	LAA	USFW letter of concurrence in project file.

NE – no effect; **NLAA** – may affect, not likely to adversely affect; **LAA** – may affect, likely to adversely affect; **No Jeopardy** - not likely to jeopardize the continued existence or adversely modify critical habitat

Sensitive Species (FSM 2670)

Table 5. Sensitive species impact determinations

Species	Determination*	Brief Rationale
Northern Goshawk	MIIH	This species may be present within the project area or adjacent to the project area. The primary the use of the habitat present in the project area would be foraging. No nests have been identified in the project area. If nests are discovered during project activities timing restrictions and nest area restrictions as directed in the forest plan would be applied.
American Pine Marten	MIIH	Marten are generally associated with habitats within the project area. The project may displace individuals, but would not affect the overall habitat of the area since the disturbance is only 1.14 acres and the duration of the project will be short-term.
Boreal Owl	MIIH	The boreal owl is associated with mature dense spruce-fir forests. There are areas of habitat, primarily related to steep slopes which have been removed from the project area. Therefore, it is expected that the only potential impact to this species would be from operations near adjacent habitat that may cause individuals to disperse during operation hours. It is not anticipated that the potential for dispersal would lead to cavity abandonment. No surveys will be required within the project units.

NI – no impact; **MIIH**- may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species; **WIFV** - will impact individuals or habitat with a consequence that the action may contribute to a trend towards federal listing or cause a loss of viability to the population or species

Special Management Areas

The project area is not located within a Special Management Area.

National Historic Preservation Act – Section 106 Review

No adverse effect to historic properties - 36 CFR 800.4(d)(1). Section 106 Review is complete and SHPO concurrence was received on 1/26/2022.

Government to Government Consultation (EO 13175)

Tribal consultation has been completed.

Tribal consultation pursuant to Section 106 of the NHPA was initiated on 6/28/2021.

Summary of Supporting Project Documentation

Table 6. Applicable project file documentation to support Land Management Compliance and Law, Regulation, and Policy Consistency

Supporting Documentation	On file Mancos/Dolores Ranger District Restricted Heritage Files
Cultural Resource Inventory for Alianza Minerals Limited's Proposed Twin Canyon Exploratory Drilling Project on San Juan National Forest Lands in LaPlata and Montezuma Counties, Colorado (SJNF# 2021-05006; OAHP# MC.FS.R638)	On file Dolores Ranger District Restricted Heritage Files
Wildlife and Fisheries BE	Project file

Supporting Documentation	On file Mancos/Dolores Ranger District Restricted Heritage Files
FWS Project code: 2022-0063888 Letter of concurrence	Project file
Plant BE	Project file
FSH 2509.25 Watershed Conservation Practices Handbook	https://www.fs.fed.us/im/directives/field/r2/fsh/2509.25/2509.25_10.doc
National Best Management Practices for Water Quality Management on National Forest System Lands, pages 48-50	http://cusp.ws/wp-content/uploads/2014/05/FS_National_Core_BMPs_April2012.pdf
Alianza Twin Canyon Plan of Operations	Project file

Relevant Executive Orders

The responsible official determined the proposal complies with the following Executive Orders:

Table7. Executive Orders

EO #	EO Description	How project complies with EO
EO 11988	**Floodplain Management** – requires determination of action occurring in a floodplain, using HUD floodplain map or more detailed map if available.	The proposed site is not in a floodplain
EO 11990	**Protection of Wetlands** – avoid actions within wetlands unless there are no practical alternatives, and the action includes all practicable means to minimize harm to wetlands.	No wetlands will be impacted from the proposed action
EO 12898	**Environmental Justice** – identify and address disproportionately high and adverse effects on minority and low-income populations.	No EJ populations will be disproportionately affected
EO 13007	**Indian Sacred Sites** – avoid adversely affecting the physical integrity of these sites.	No known Sacred Sites are located within the project area
EO 13175	**Consultation and Coordination with Indian Tribal Governments** - agencies consult with Indian tribes and respect tribal sovereignty as they develop policy on issues that impact Indian communities.	Tribal consultation was conducted for this project, no concerns were expressed
EO 13112	**Invasive Species** – prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.	Design Element addresses weed control
EO 13186	**Migratory Birds** – identify actions that may have a measurable negative effect on migratory bird populations.	Project will not affect migratory birds

EO 13443	**Facilitation of Hunting Heritage and Wildlife Conservation** – expand and enhance hunting opportunities	Project will not affect hunting heritage and wildlife conservation

FEDERAL PLAN OF OPERATIONS

TWIN CANYON PROJECT

PREPARED FOR: TARSIS RESOURCES US INC
(TARSIS MINERALS LTD)

PREPARED BY: BIG ROCK EXPLORATION, LLC

SUBMITTED: SEPTEMBER 2021
AMENDED: MARCH 2022

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USDA, Forest Service

PLAN OF OPERATIONS FOR MINING ACTIVITIES ON NATIONAL FOREST SYSTEM LANDS

FS-2800-5 (Rev. 12/11)
OMB NO. 0596-0022

USE OF THIS FORM IS OPTIONAL! **1st TIME USERS SHOULD DIRECT QUESTIONS REGARDING THIS FORM OR REGULATIONS (36 CFR 228A) TO THE FOREST SERVICE DISTRICT OFFICE NEAREST YOUR AREA OF INTEREST.**

Submitted by:	Signature		Senior Geologist, Representative (Title)	9/28/2021 (Date *(mm/dd/yy)*)
	Signature		Title	Date *(mm/dd/yy)*
Plan Received by:	Signature		District Ranger (Title)	12/19/2022 (Date *(mm/dd/yy)*)

I. GENERAL INFORMATION

A. Name of Mine/Project: Twin Canyon Drill Program

B. Type of Operation: Limited exploratory drilling
(lode, placer, mill, exploration, development, production, other)

C. Is this a (☑new/☐continuing) operation? *(check one).*
If continuing a previous operation, this plan (☐replaces/☐modifies/☐supplements) a previous plan of operations. *(check one)*

D. Proposed start-up date *(mm/dd/yy)* of operation: approx: July 2022 or May 2023

E. Expected total duration of this operation: 1 year

F. If seasonal, expected date *(mm/dd/yy)* of annual reclamation/stabilization close out:

G Expected date *(mm/dd/yy)* for completion of all required reclamation: October 2022 or October 2023

II. PRINCIPALS

A. Name, address and phone number of operator:

See attached

B. Name, address, and phone number of authorized field representative (if other than the operator). Attach authorization to act on behalf of operator.

See attached

C. Name, address and phone number of owners of the claims (if different than the operator):

Potts - see attached

(If more space is needed to fill out a block of information, use additional sheets and attach form)

I. Introduction and Context

Tarsis Resources US Inc ("Tarsis"), a wholly owned US subsidiary of Tarsis Minerals Ltd, proposes to conduct an exploratory drilling program (the "Project") on its Twin Canyon property in the San Juan National Forest (SJNF), Montezuma and La Plata counties, CO. All proposed actions will take place on federal lode mining claims in good standing with the Bureau of Land Management ("BLM") and Montezuma and La Plata counties.

Tarsis proposes an exploratory drill program under this Plan of Operations on Tarsis's federal land holdings at Twin Canyon. The Project involves the construction and use of up to 8 drill pads, 1 laydown area (laydown), and the establishment of approximately 1150 linear feet of temporary minimum maintenance access. All remaining project infrastructure will utilize existing road networks within the San Juan National Forest.

Tarsis emphasizes the importance of regular communication with all regulatory agencies throughout the life of the project, and strives to maintain clarity and transparency during project planning, permitting and execution. A Tarsis representative or agent designated by Tarsis, will be either present at the project location or available by phone and/or email during project activity.

Tarsis and its representatives have made every effort to coordinate with Federal and State regulatory authorities in the planning and design of the proposed drill program. Required State (e.g., the Colorado Division of Reclamatoin, Mining and Safety - DRMS) permits will be retained prior to project initiation.

II. Operator Information

Name: Tarsis Resources US Inc

Mailing address:
241 Ridge St.
Suite 210
Reno, NV 89501, USA

Phone number: 1-604-687-3520

Point of Contact: Rob Duncan

Third Party Designee:
Gabriel Sweet
Big Rock Exploration LLC
1620 Central Ave NE, Ste 104, Minneapolis, MN, 55413
(781) 715-5016

III. Property Information

The Project will be located on the following active BLM Lode Mining Claims:

Claim Serial Number (Range)	
CO101826623-CO101826624	CO101957801-CO101957822

CO101840741-CO101840749	CMC130465-CMC130467
CO101957401-CO101957424	CMC130469-CMC130473

Mr. James Potts has given Tarsis permission to conduct exploration on and access his claims ("CMC" serial number claims, see table above). This agreement is attached to this Plan of Operations for reference.

The legal description of the location of the Project operations includes the following in the New Mexico Prime Meridian, CO:

County	Township	Range	Section
La Plata	36N	12W	13, 14, 23, 24
Montezuma	36N	12W	13, 14, 23

IV. Description of the Operation

Project Description

Tarsis proposes to explore its Twin Canyon property through a limited drilling program to explore for locatable minerals. The Twin Canyon property constitutes a series of unpatented federal lode mining claims within the SJNF held by Tarsis and its partners. The drill program will involve the location of up to 8 drill pads, 1 laydown, and the use of existing SJNF, state, and other existing roads for access. Limited development of temporary access routes will be required.

The Project is anticipated to take less than one year from program initiation to completion and require the creation of less than 1/3 of a mile of minimum standard temporary access routes.

Figures 1 and 2 identify the project area and primary access, and the location of proposed drill pads, laydown options and access.

Table 1 (below) identifies total anticipated surface impact for the Project. Drill pads are anticipated to be maximum of approximately 2500 square feet (0.057acres) per pad. The proposed laydown may be up to 0.25 acres in total surface footprint. Temporary minimum standard access will be established at a nominal width of 12 feet, surface impacts of which are calculated based on this assumption.

Infrastructure Component	Number (number, linear feet)	Total Anticipated Surface Use (Acres)
Drill pads	8	0.45
Laydown	1	0.25
Maintenance of existing FS System Routes	6900	NA
Maintenance of Non-FS System Routes	410	NA
Temporary Minimum Standard Access	1150	0.32
Total Program Impact		**1.02**

Table 1 –Maximum area of surface use for the Project.

Discussion and details of each component of the Project identified in the above table is presented below.

There is no mining, milling, or processing for this proposed operation. The only mechanized activities being conducted for this project include diamond core or reverse circulation drilling, access maintenance and development, pad clearing, and reclamation activities.

There is no proposed construction of permanent roads or structures associated with this Plan of Operations.

No dredging of material or surface material removal is proposed. Soils moved for pad clearing and leveling will be stockpiled for use in reclamation (see Reclamation, below).

Drill holes are planned as vertical and/or angled holes from the proposed drill pads. Total number of holes, drilling order and depths will be dependent upon the results of each hole and may be adjusted accordingly. A given drill site may host multiple holes that would be drilled at variable directions (azimuth) and inclinations (dip) from the drill pad. Drill program progression is predicated on drill results; it is possible that some drill sites may not be constructed or utilized for the program. The actual number of holes drilled is dependent upon initial drill results and the confines of the drill pad sites.

Access

This project has been designed to minimize new surface impact within the SJNF via the use of existing trails and National Forest Service system roads wherever practicable. Multiple sections of existing roads will require maintenance prior to drill equipment mobilization.

The attached maps (Figs. 1 & 2) show the primary access routes proposed for the Project, which include the usage of existing roads and trails, as well as proposed new temporary access routes. Existing roads that will be utilized are summarized in Table 2, below:

Route ID	Intended Usage	Management
County Highway 160	Primary access	State
NFSR 316	Primary access	USFS
Existing road to Charlene Mine	Secondary access	USFS
Existing Caviness Mtn Ridgeline Road	Secondary access	USFS

Table 2 – Proposed existing access route usage for the Project.

Rutting, wash boarding and/or damage to infrastructure due to increased vehicle traffic will be repaired by Tarsis and its contractors during the course of the drill program. Per SJNF permit conditions, in the event that water saturated soils are present, additional drainage considerations and/or engineered solutions (e.g., swamp mats) may be utilized to prevent rutting and damage to existing FS system roads.

Vehicles that will be utilizing these access routes are identified below in “Equipment and Vehicles”, and include: track- or tire-mounted drilling rig, a water truck, 4x4 Utility Terrain Vehicles, and 4x4 pickup trucks for shuttling drill core, boxes, materials, and fuel to the active drill pad as well as associated equipment such as dozer, excavator, backhoe, or similar utilized during the construction, maintenance, and reclamation of the proposed operations.

Existing FS System Roads

Access to for the Project area will utilized NFSR 316 leading north of Highway 160 (Fig. 2). Recent maintenance and repair of NFSR 316 by the Forest Service ended at the junction with NFSR 353. Tarsis proposes to continue repair of NFSR 316 to its northern terminus (Fig. 2, Table 1).

Modification and/or maintenance of the northernmost section of NFSR 316 may include the following actions, coordinated directly with SJNF engineering to provide safe access to the project site for all project personnel, vehicles, and equipment:

- Grading/leveling
- Filling potholes
- Maintenance and/or re-enforcement of water control features (e.g., water bars)
- Minor brushing

Reclamation of this section of NSFR 316 following Project completion is discussed below, in Reclamation and Abandonment.

Existing Non-FS System Roads

Use of existing non-SJNF system roads for the Project will require maintenance to provide safe access to drill pads. These road sections are identified in Figure 2 and are tabulated in Table 1, and include:

- The existing road down to the Charlene Mine from the northern terminus of NSFR 316
- The existing Caviness Mountain Ridgeline Road from the northern terminus of NSFR 316

Both existing routes may require minor pothole repair, grading and water control/drainage maintenance, as well as brushing and downed tree clearing on an as needed basis. A steep section of the Caviness Mountain Ridgeline Road leading southwest to drill pad TC-D (Fig. 2) will require improvement, including hillside cutting, grading and berming to establish safe access and adequate drainage over approximately 416 linear feet. Installation of water control features for this steep section will be defined with input from SJNF engineering.

Reclamation of existing and improved Non-FS System Roads is discussed below, in Reclamation and Abandonment.

New Temporary Minimum Standard Access Route

New temporary minimum standard access is proposed for this project to safely access drill pads TC-F and TC-G beyond the terminus of the existing Caviness Mountain Ridgeline Road (Fig. 2). Where proposed, this temporary access entails approximately 1150 linear feet of road, and will require localized brush clearing, cutting and leveling. This alignment coincides with a previously-established roadbed, presumably from legacy drill programs in the area, the use of which will reduce new project impacts.

Reclamation of the temporary access to TC-F and TC-G is discussed below, in Reclamation and Abandonment.

Drill Pads and Laydowns

Drill Pads

Up to eight (8) drill pads and one (1) laydown are proposed for the Project. Drill site locations may vary slightly for a “field fit” without increasing the proposed pad size (approximately 2500 square feet). This allows flexibility to limit the removal of foliage or infringement on other features encountered in the field (e.g., topography), while allowing appropriate drill hole alignment to test Tarsis’s exploration concepts.

Each drill site will have a maximum surface occupancy footprint of approximately 2500 square feet (0.057 acres), reflecting maximum dimensions ranging from approximately 50 feet x 50 feet to 70 feet x

35 feet. This range is predicated on drill rig orientation requirements, surface conditions (e.g., topography) and drill contractor requirements. Included within this footprint is a space for the drill rig, rod tray, support vehicle(s), sump or portable cuttings tank(s), compressor(s), and/or water truck. Figure 3 illustrates a typical drill pad layout on a moderate slope, with the installation of storm water management best management practices in place. As displayed, "field fitting" of drill pad equipment will aid in impact minimization during the project.

Per best practices for the mineral exploration industry, drill pads may contain a sump. Sumps will retain drill cuttings and water during drilling operations. Sump size can vary, but may typically be dug approximately 15 feet wide, 10 feet long and 5 feet deep. This standard system of water management allows for the percolation and infiltration of water back into the ground while retaining drill cuttings in the sump. Sump design will favor a ramped egress wherever ground conditions allow. In addition to this safety feature, snow fencing and berms will be used to prevent wildlife from entering sump areas. Where sumps cannot be safely utilized (e.g., shallow bedrock), a cuttings tank will be used to collect drill cuttings and transport them to a different drill pad sump.

Depending on drilling conditions, a two-tiered sump may be constructed to facilitate settling of drilling fines and reuse of drill water. Non-hazardous additives may be used for drilling operations as needed, such as bentonite clays and muds. In the presence of shallow bedrock, portable cuttings tanks may be used to manage drilling water.

Laydown

One laydown is proposed for the Project, the location of which will be selected from the three options identified in Figure 2 (Laydown 1 or Laydown 2). The laydown will be utilized to store equipment and tools during operations. The proposed disturbance for the laydown is a maximum of 0.25 acres (approximately 100ft x 100ft footprint). Equipment stored at the laydown will be secured, locked, and signed to limit public access.

Equipment and Vehicles

Equipment on site for this drill program may include:

1. One (1) track mounted reverse circulation (RC) drill rig, OR one (1) diamond drill rig
2. Drill rod and casing tray (track, truck or skid mounted)
3. One (1) to two (2) compressors (track or trailer mounted), OR recirculation system
4. Cuttings tank(s)
5. One (1) water truck
6. One (1) excavator
7. One (1) dozer or equivalent
8. Two (2) 4x4 pickup trucks
9. Up to two (2) ATVs or UTVs as necessary to shuttle crews and supplies
10. Water lines/hose, Mud pump and mixing tanks for grouting/cementing of drill holes
11. Water tank(s) as needed
12. Equipment trailer

The drill rig, drill rods, casing, cuttings tank(s), and rod rack storage will be used to conduct the exploratory drilling. This equipment will be used continuously throughout the project until the project is completed.

The water truck will be used to haul water as needed directly to the drill site(s), or to an area where water may be transferred to drill pads via a water line.

4x4 Trucks and UTVs will be used to access the drill sites.

The excavator, dozer, backhoe, etc., will be utilized on an as-needed basis for clearing drill sites, maintenance, and reclamation. This equipment will be stored at the laydown when not in use.

Hazardous Substances

Hazardous materials and toxic substances will not be utilized for this program. Refueling the drill rig and lubricating the mechanical parts will utilize the following materials that could pose a hazard:

- Petroleum products, oils, lubricants and fuels including diesel and gasoline.

Refueling and relubrication of the drill rig and its components will occur on an as-needed basis. Transportation of fuel and materials to an active drill rig will occur using DOT-compliant fuel tanks mounted on 4x4 pickup truck support vehicles. All storage of fuel and lubricant materials at the proposed laydown will be in DOT-compliant containers that are properly labeled and signed. Adequately sized secondary containment will be utilized for all petroleum storage. Petroleum product-specific spill kits will be available at all sites where petroleum products are stored or utilized.

Drill fluid additives will be restricted to natural bentonite clay products.

Structures

No structures are planned for this project.

A port-a-potty (porta-john) will be at the laydown.

V. Environmental Considerations & Management Plans

Water Management Plan

Water will be used for the drilling operations. All water will be sourced from an off-site location from municipal, public or private owners. Water source options are under evaluation by Tarsis at this time.

Anticipated water consumption will be 2,000-5,000 gallons per 12-hour period on average during operations. Water will be transported to drill sites by the water truck on an as needed basis, with the aid of pumps and hoses.

Drilling will utilize a sump or portable cuttings tank to retain drill cuttings and water. Where feasible, sumps will be constructed as a temporary pit by an excavator. In the absence of adequate soil cover, a portable cuttings tank will be utilized to efficiently recycle water during the drilling process. No hazardous materials will be used for drilling.

Stormwater Considerations

Careful considerations of topography and slope for surface water runoff and erosion control has been assessed for all proposed drill pad locations and anticipated surface disturbance. The general small nature of the Project footprint should not impact surface water runoff from average rainfall or other normal weather events.

Where necessary, Best Management Practices (BMPs) will be used to manage drainage and sedimentation during precipitation and snow melt (e.g., berm installation, sediment logs, use of swales

and water bars). Installation of BMPs will aid in the avoidance of water flow onto and off drill pads. As noted, all sumps will be bermed to prevent inflow/outflow during operations.

A Storm Water Management Plan (SWMP) checklist will be developed for this program in accordance with SJNF Permit Condition requirements (see Attachment 2).

Ground and Surface Waters

Tarsis does not anticipate the disturbance of either surface or groundwater during the proposed Project based on available public data from the Colorado Department of Water Resources DWR Well Permit Research interface. The project area does not contain any known wells or other points of ground or surface water documentation. The nearest known water wells are along the Highway 160 corridor between 2.5 and 3.5 miles to the south and west, and in Parrott Creek approximately 3.5 miles to the east of the project area. The nearest known surface water is the East Mancos River, approximately 1 mile to the northwest and approximately 1200-1400 feet below the project area.

Water Monitoring

Ongoing visual inspection of water used during the drilling operations will be conducted regularly to ensure proper capture and flow into the sump and/or cuttings tanks.

Each exploratory boring drill hole will be grouted/cemented and plugged after the completion of drilling in accordance with State regulations.

Temporary Operations Cessation

There is currently no seasonal closure planned. In the event of a temporary cessation of operations, the drill pads and laydown will be stabilized and waterlines, hoses, and tanks will be stored in such a way as to minimize all potential water quality impacts.

Air Quality Plan

No impacts to air quality are expected for this Project. No burn permit or burning will be required for this Plan of Operations, and all vehicles will comply with exhaust regulations.

Vehicle traffic on roads will be intermittent, and dirt work operations will be limited in footprint and duration. In the event of dusty conditions, operators will distribute water over the ground as needed.

Solid Waste Plan

All refuse, solid waste, garbage, or trash associated with this Plan of Operations will be removed from site on a regular basis and disposed of in proper disposal containers or sites. Human waste will be contained in the Porta-Potty/Porta-John located at the staging area and subsequently transported and disposed of at the proper sites.

Scenic Values Considerations

Tarsis has taken precautions during Project planning to limit disturbance to scenic values. The drill pads and laydown are relatively small and located along current roadways and/or remote areas to limit disturbance of scenic values. Impacts will be reclaimed with the guidance and approval of the SJNF and DRMS following project completion.

Fish and Wildlife Considerations

There are no known threatened or endangered species that would be affected by the proposed Project.

Cultural Resource Considerations

Per SJNF requirements, cultural resource inventories and surveys were conducted during the planning and permitting of the Project. Project infrastructure and activities will maintain a setback from known cultural resources where required by SJNF. Operating recommendations and changes defined by SJNF and cultural resource surveys were compiled in an SJNF internal Site Management Recommendation Summary table, and include (summarized):

- Alternative location of drill pad TC-J
- Alternative location of proposed laydown
- Flagging/marking of existing access route boundaries within "Eligible" cultural resource sites where work on access routes is required

Solutions required for project operations not covered in the Site Recommendation Summary will be developed with SJNF and/or third-party contractors on a case-by-case basis.

Rock Characterization and Handling Plan

No mining is proposed for this Project, and no bulk material extraction is anticipated. Drill core or RC chips will be boxed or bagged at the drill site and transported to an off-site facility for processing. Drill cuttings and RC chips will be buried in sumps or collected for offsite disposal.

Site Communications Plan

Tarsis and its representatives will distribute a general weekly project plan notice to SJNF, DRMS, grazing permittees and Caviness Mountain Communications sites operators to notify of project plans, traffic expectations, and other relevant information. Tarsis will provide direct project coordinator contact information for questions and/or coordination purposes.

Traffic Control Plan

Tarsis will post signage along FR316 indicating project traffic notices and presence. Safety, caution and controlled area signs will be posted at intersections, as well as entrances to occupied drill pads.

Quality Assurance Plan

The Project actions and tasks are designed to minimize surface, ecological, cultural and visual impact to the proposed project area. Operators, operator agents and contractors will implement regular monitoring of project parameters, from water usage and road conditions, to concurrent and post project reclamation. Implementation of Tarsis's, contractors' and agents' best management practices for active drill programs includes regular monitoring of drill sites and access routes for safety and cleanliness, and documentation and reporting of any deviations.

Spill Contingency Plan

Equipment will be inspected before and during use to monitor wear and tear of hoses, valves, etc. to prevent spills and leaks. Spill kits will be at all drill sites and laydowns during equipment operation at all times and will be checked for adequacy regularly. Spill kits may consist of oil/petroleum specific absorbent pads and/or containment booms, absorbent granular material (e.g., kitty litter), contractor bags, tarping and handling materials. Used spill kit materials will be disposed of offsite. In the event of a spill, active containment and cleanup will be initiated and coordinated immediately, and the event communicated with regulatory authorities (SJNF, DRMS).

VI. Reclamation & Abandonment Plan

The goal of the reclamation process will be to restore surface impacts of the proposed exploratory drilling program to pre-project conditions, or as near as possible. Reclamation actions will include abandoning drill holes; recontouring drill pads and temporary access to conform with surrounding topography; spreading stockpiled topsoils and brushed vegetation to encourage flora regrowth and habitat rehabilitation; seeding with local native species as guided by the SJNF.

Drill Hole Abandonment

Drill holes will be permanently sealed immediately following completion and prior to starting the next hole. Abandonment will be in accordance with State of Colorado requirements, per Rule 5 of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations.

Drill Pad Reclamation

Drill pads and the laydown will be reclaimed following the completion of Project. Where present, sumps will be backfilled once water has drained. Cuttings may be buried or removed offsite where burial is not possible. Stockpiled excavated soils and materials will be used to recontour all disturbed areas using a dozer (D6 or similar) and/or an excavator. SJNF-approved seed mixes will be distributed over the disturbed area, and felled trees, slash and other flora will be spread across the pad area to encourage native vegetation regrowth.

Access Reclamation

Existing FS System Roads

Per communication with the SJNF engineering department, the proposed repair and maintenance of the northernmost section of NFSR 316 will be retained at the termination of the Project (Fig. 2). No reclamation is planned to re-establish pre-existing road conditions.

Existing Non-FS System Roads

Improvements and repair of the existing access route down to the Charlene Mine (Fig. 2) will not be reclaimed at this time. The access route will be left in similar or better condition than its current state, including existing gated access at its origin.

Following the completion of the project, Tarsis will reclaim the Caviness Mountain Ridgeline Road as follows:

- Rip the existing roadbed
- Close and recontour the ~410 foot steep section of existing road that will require realignment and improvement for safe access (per discussion with SJNF engineering)
- Reseed following ripping/recontouring with SJNF approved seed mix
- Spread brushed/cleared/downed materials across road where available
- Installation of earthen berm(s) and/or gate at the entrance to Caviness Mountain Ridgeline Road at the northern terminus of NFSR316 (to be decided by SJNF)

New Temporary Minimum Standard Access Routes

The proposed temporary minimum standard access to drill pads TC-F and TC-G beyond the terminus of the Caviness Mountain Ridgeline Road (Fig. 2) will be reclaimed as follows:

- Rip the established roadbed
- Recontour as needed

- Reseed following ripping/recontouring with SJNF approved seed mix
- Spread brushed/cleared materials across road

Weed Management Plan

All efforts will be made to avoid the spread of non-native and/or noxious flora. Actions related to noxious weed abatement will be guided and directed by the SJNF and DRMS. These actions may include:

- An initial cleaning of all project vehicles and equipment prior to entering the project area
- Cleaning of project vehicles and equipment prior to leaving the project area

Removal or stabilization of buildings, structures, and support facilities

No buildings, structures, or support facilities will be constructed for this Project. No project personnel will be camping or staying on site. A porta-potty (porta-john) will be used, and will remain at the laydown for the duration of the project. Temporary safety and traffic signage will be removed following completion of the drill program.

Post-closure management

Upon completion of project and reclamation activities proposed herein, SJNF and DRMS may inspect and approve reclamation actions. Changes to reclamation results will be evaluated on a case-by-case basis until satisfactorily resolved between the operator and regulatory authorities.

VII. Figures & Attachments

Figure 1 – Location of proposed Twin Canyon Project

Figure 2 – Utilized infrastructure and layout of proposed Twin Canyon Project

Figure 3 – Typical drill pad layout and configuration, and storm water BMP considerations.

Attachment 1 – Letter of consent from Mr. James Potts to Alianza Minerals Ltd, assigned Exploration Lease Agreement to Alianza via subsidiary Tarsis Resources US Inc.

Attachment 2 – San Juan National Forest Permit Conditions for Twin Canyon Project

VI. FOREST SERVICE EVALUATION OF PLAN OF OPERATIONS

A. Required changes/modifications/special mitigation for plan of operations:

B. Bond. Reclamation of all disturbances connected with this plan of operations is covered by Reclamation Performance Bond No. _____, dated (mm/dd/yy) _____, signed by _____ (Principal) and _____ (Surety), for the penal sum of _____. This Reclamation Performance Bond is a guarantee of faithful performance with the terms and conditions listed below, and with the reclamation requirements agreed upon in the plan of operations. This Reclamation Performance Bond also extends to and includes any unauthorized activities conducted in connection with this operation.

The bond amount for this Reclamation Performance Bond was based on a bond calculation worksheet. The bond amount may be adjusted during the term of this proposed plan of operations in response to changes in the operations or to changes in the economy. Both the Reclamation Performance Bond and the bond calculation worksheet are attached to and made part of this plan of operations. Acceptable bond securities (subject to change) include:

1. *Negotiable Treasury bills and notes which are unconditionally guaranteed as to both principle and interest in an amount equal at their par value to the penal sum of the bond; or*
2. *Certified or cashier's check, bank draft, Post Office money order, cash, assigned certificate of deposit, assigned savings account, blanket bond, or an irrevocable letter of credit equal to the penal sum of the bond.*

Bond value to be determined by Colorado Department of Reclamation, Mines and Safety, and concurred with by United States Forest Service San Juan National Forest prior to final project approval. Project execution is contingent on successful bond placement with the State of Colorado.

(If more space is needed to fill out a block of information, use additional sheets and attach form)

VII. TERMS AND CONDITIONS

A. If a bond is required, it must be furnished before approval of the plan of operations.

B. Information provided with this plan marked confidential will be treated in accordance with the agency's laws, rules, and regulations.

C. Approval of this plan does not constitute certification of ownership to any person named herein and/or recognition of the validity of any mining claim named herein.

D. Approval of this plan does not relieve me of my responsibility to comply with other applicable state or federal laws, rules, or regulations.

E. If previously undiscovered cultural resources (historic or prehistoric objects, artifacts, or sites) are exposed as a result of operations, those operations will not proceed until notification is received from the Authorized Officer that provisions for mitigating unforeseen impacts as required by 36 CFR 228.4(e) and 36 CFR 800 have been complied with.

F. This plan of operations has been approved for a period of _____ or until *(mm/dd/yy)* _____. A new or revised plan must be submitted in accordance with 36 CFR part 228, subpart A, if operations are to be continued after that time period.

VIII. OPERATING PLAN ACCEPTANCE

☒I/☐We have reviewed and agreed to comply with all conditions in this plan of operations including the required changes, modifications, special mitigation, and reclamation requirements.

☒I/☐We understand that the bond will not be released until the Authorized Officer in charge gives written approval.

Signature of ☐Operator (or ☒Authorized Representative)	03/25/2022 (Date) *(mm/dd/yy)*

IX. OPERATING PLAN APPROVAL

(Name)	(Title)
Signature of (Authorized Officer)	(Date) *(mm/dd/yy)*

Burden and Non-Discrimination Statement

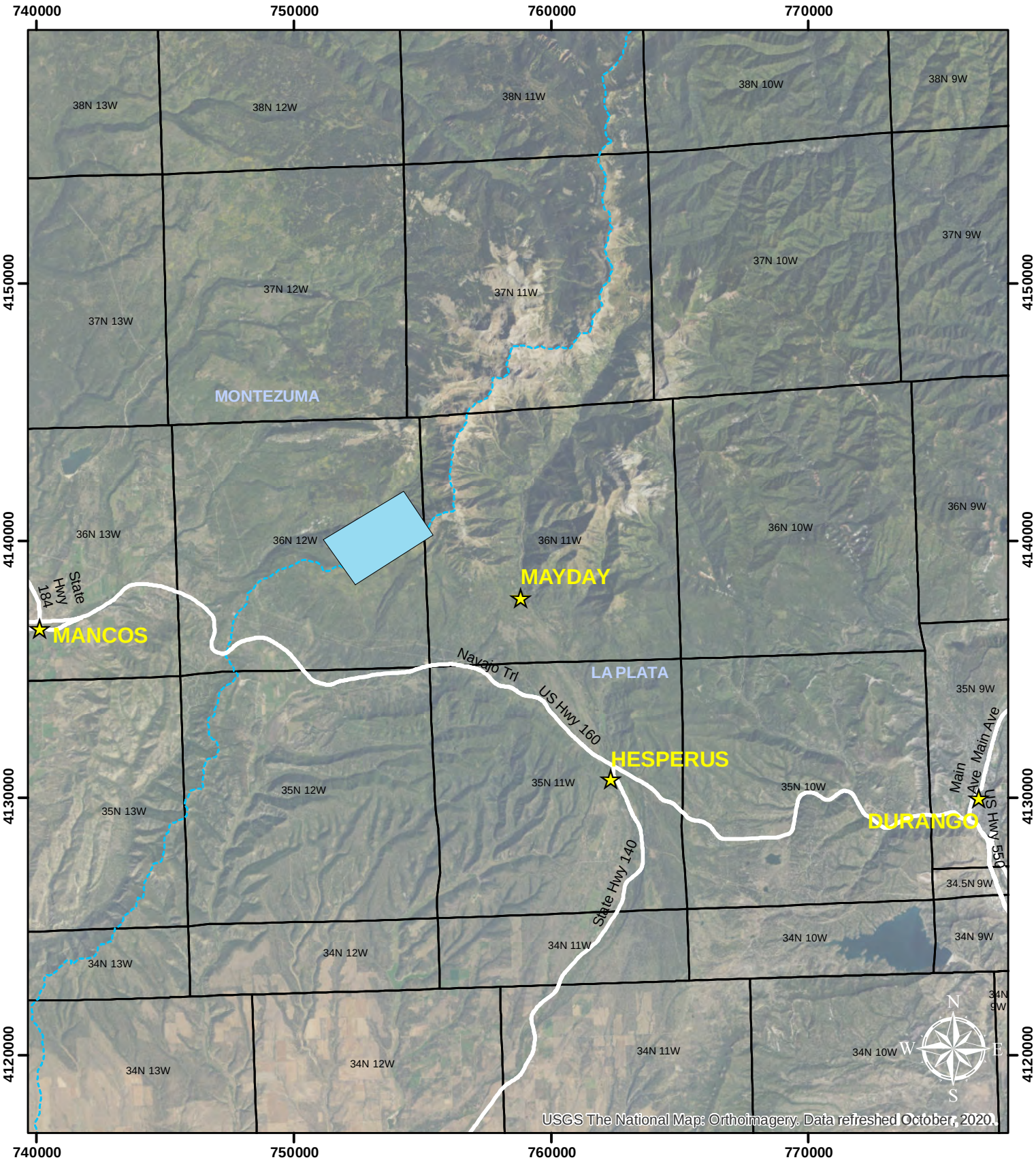
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0022. The time required to complete this information collection is estimated to average 12 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

(If more space is needed to fill out a block of information, use additional sheets and attach form)

Figures



Alianza Twin Canyon Project
Figure 1 - Project Area

Montezuma & La Plata Counties, CO
Prepared by Big Rock Exploration
Date: 9/28/2021

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

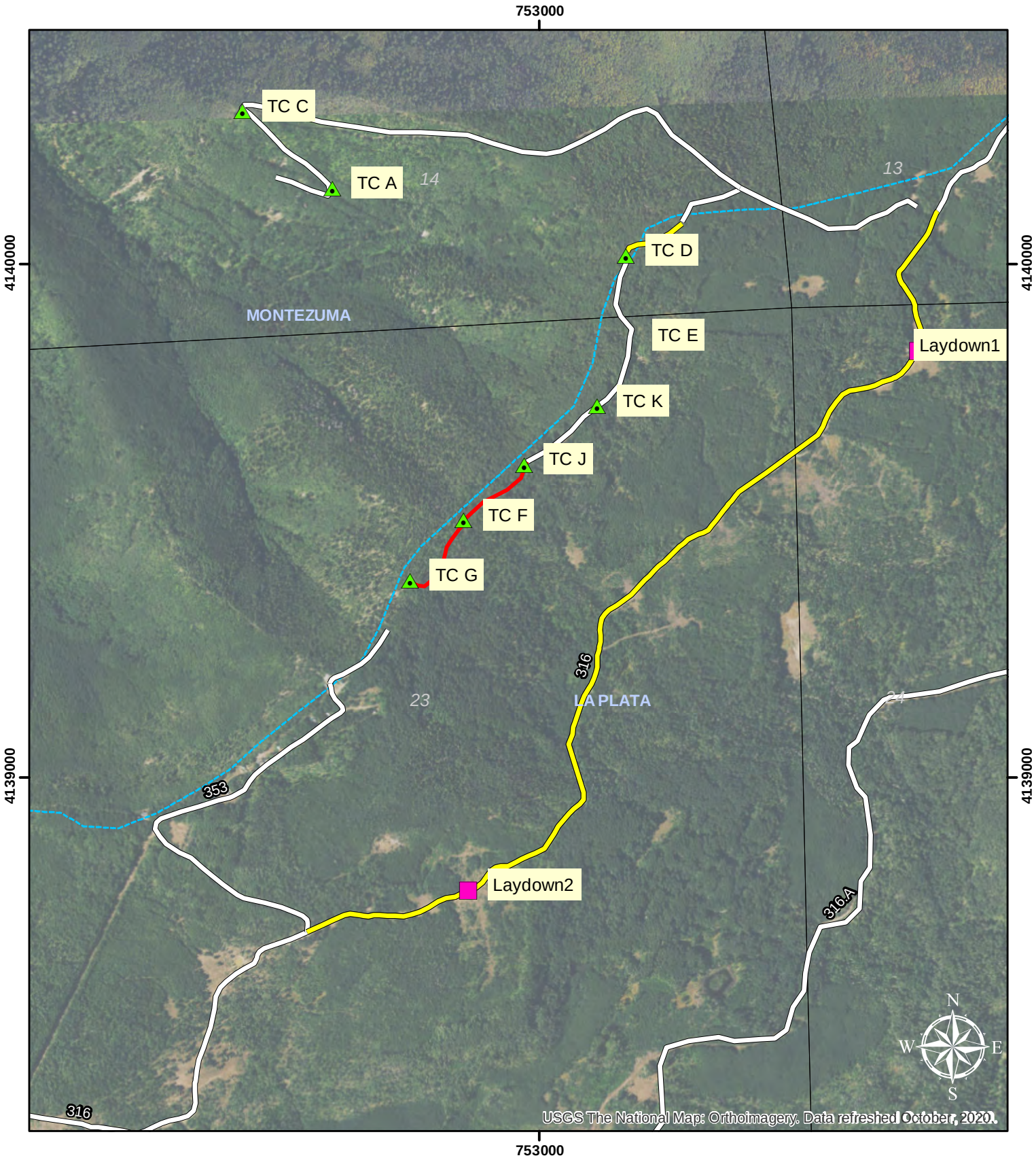
Key

- ANZ_TC_projectarea
- Colorado_County_Boundaries

1:200,000

0 5,000 10,000 20,000 Feet

0 2,050 4,100 8,200 Meters



Alianza Twin Canyon Project
Figure 2 - Project Layout

Montezuma & La Plata Counties, CO
Prepared by Big Rock Exploration
Date: 3/25/2022

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

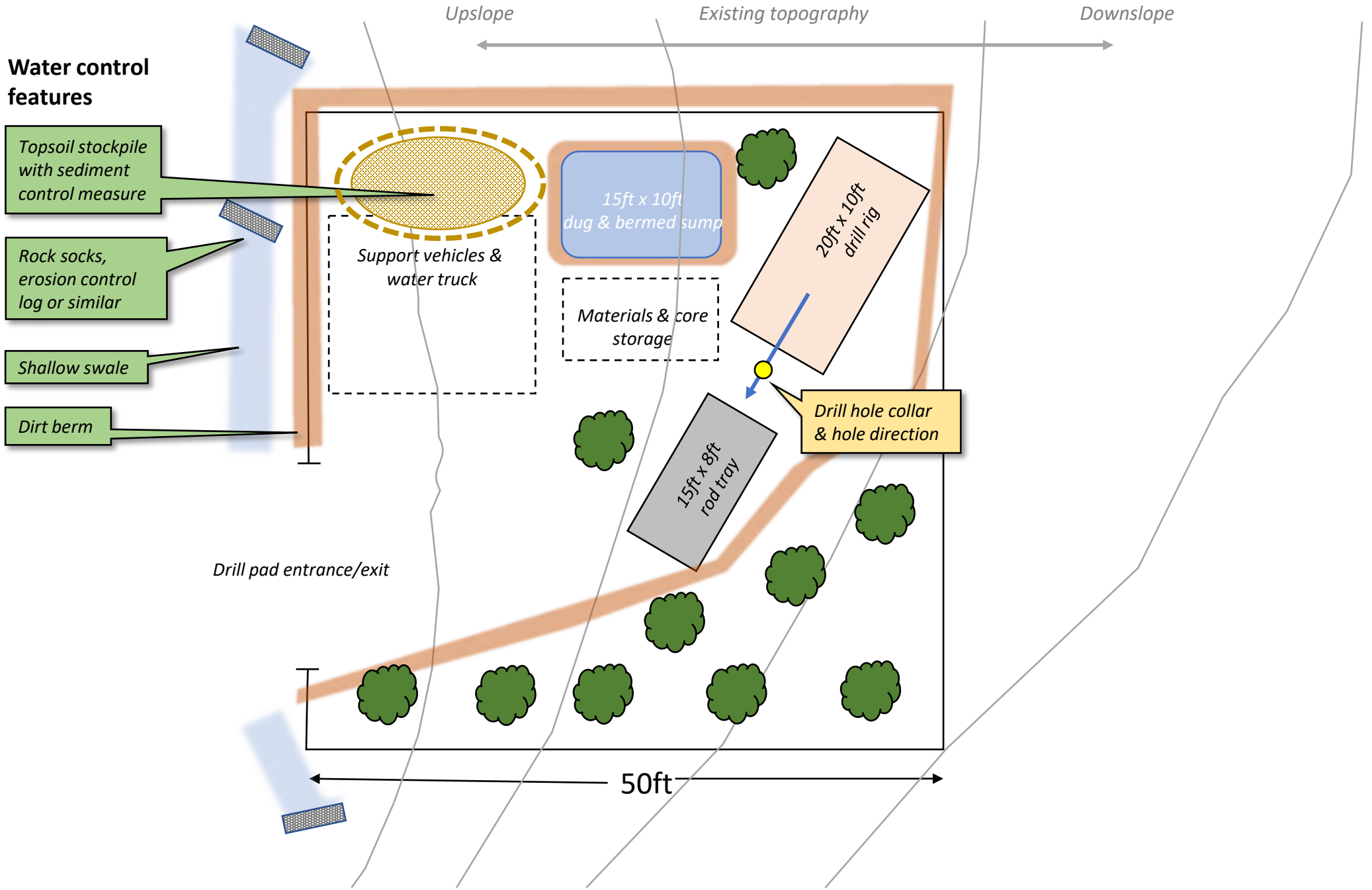
Key

- TC Drill Pad
- TC Laydown Option
- Existing - maint required
- Existing - minimal maint
- New temporary
- SJNF_SystemRd
- Colorado_County_Boundaries

1:10,000

0 250 500 1,000 Feet

0 100 200 400 Meters


Upslope
Existing topography
Downslope
Water control features
Topsoil stockpile with sediment control measure
Rock socks, erosion control log or similar
Shallow swale
Dirt berm
Support vehicles & water truck
15ft x 10ft dug & bermed sump
Materials & core storage
20ft x 10ft drill rig
Drill hole collar & hole direction
15ft x 8ft rod tray
Drill pad entrance/exit
50ft

Attachments

Attachment 1 – Letter of consent from Mr. James Potts to Alianza Minerals Ltd, assigned Exploration Lease Agreement to Alianza via subsidiary Tarsis Resources US Inc.

Attachment 2 – San Juan National Forest Permit Conditions for Twin Canyon Project

Jon P. Thorson, PhD
Consulting Geologist
CPG #10994
(303) 805-2502
jonpthorson@gmail.com

3611 South Xenia Street
Denver, Colorado, USA
80237

May 20, 2020

Mr. James Potts
41375 Road H
Mancos, Colorado
81328

James,

Myron and I have proposed to assign our Exploration Lease Agreement to Alianza Minerals, Ltd., a Canadian minerals exploration company listed on the Toronto Venture Exchange (ANZ, TSX-V) and their U.S. subsidiary Tarsis Resources U.S., Inc.

Please indicate below with your signature that we have your approval to assign the Exploration Lease Agreement to Alianza.

Sincerely,

Jon P. Thorson

I consent to the assignment of the Exploration Lease Agreement on the Twin Canyon project to Alianza Minerals, Ltd. and Tarsis Resources U.S., Inc.

James M Potts

James Potts

cc. Myron A. Goldstein

ATTACHMENT 1

United States Forest Service, San Juan National Forest

Locatable Minerals Exploration Plan Of Operations (Plan)

PERMIT CONDITIONS

For
Tarsis Resources US Inc., a wholly owned United States subsidiary of Alianza Minerals LTD's (Operator) Twin Canyon Project
Generally located in the Caviness Mountain Area, Dolores Ranger District
3/3/2022

I. PROJECT REQUIREMENTS

1) The FS representative for this project is XXX phone (office)(cell), (email). An Operator representative shall be designated for on the ground activities.
2) In an emergency, appropriate action shall be taken and the FS representative shall be promptly notified. Emergencies should also be reported to the San Juan Public Lands Dispatch Center at 970-385-1324. Any resource damage resulting from, or in response to, the emergency shall be rehabilitated as soon as practicable in a manner approved by the FS representative.
3) The FS representative and Operator representative shall schedule and attend a pre-work meeting before any on the ground project activities begin. The meeting should also be attended by any subcontractors that will be working on the project. The purpose of the meeting is to:
   - Review and finalize the laydown/equipment storage area, and
   - To review areas and extent of NFS roads maintenance and,
   - Review and finalize pad construction/reclamation activities (sump location, vegetation removal, storm water controls, sump ramp design for wildlife/cattle egress, sump fencing, etc., and
   - Review final reclamation plan of unauthorized two-track along ridgeline.
4) The Operator will notify the FS representative at least 48 hours before project activities begin on the ground. The Operator will notify the NF lands & realty specialist (M. Denise Kusnir; mary.kusnir@usda.gov; 970-394-4792) and Caviness Mountain Communications at least 14 days before project activities begin on the ground.
5) A transportation plan, including design for the roads to be improved and decommissioned, must be submitted to the Forest Service.
6) A traffic control safety plan shall be submitted by the Operator and accepted by the FS before project activities begin. The plan shall address all aspects of traffic control, including how roads will be used, what type of control measures will be put in place based on actions to be conducted, a map detailing where control measures will be located. All necessary signs must be installed before construction activities begin. Signs must not be nailed to trees.
7) From June 1st to October 15th, the Operator or its representatives utilizing a gate to access the project site must close the gate immediately upon passing through. Unless instructed

by the FS or grazing permittee, gates are to remain shut during this time period. Utilization of any water resources must be authorized in writing by the authorizing official. Any damage to range infrastructure, such as cattle guards, fences, and gates must be timely repaired to original condition.

8) A storm water management plan shall be developed to address all construction, reconstruction, maintenance, and operational activities and submitted to FS representative. Attachment 1 details the elements that should be included in the stormwater management plan. The operator will utilize storm water management actions to ensure disturbed areas are quickly stabilized to control surface water flow and to protect both the disturbed and adjacent areas from erosion and siltation. This may involve construction and maintenance of wattles, berms, ditches, mulching, rock rundowns, etc. If cut-and-fill slopes are built, they shall be protected against erosion with the use of contouring, swales, water bars, lateral furrows, pocking/pitting of the soil surface, or other measures approved by the authorized officer. Erosion shall be monitored by the operator and corrected when features such as gullying, head-cutting, slumping, and deep or excessive rills (greater than 3 inches) are observed. Any diversion ditches must incorporate appropriate energy dissipation treatments (e.g., wattles, cobble check-dams, etc.).
9) If roadside ditches are needed, the operator shall ensure that the ditches on sloping terrain have appropriately spaced lead-off ditches or water velocity dissipaters (e.g., cobble check-dams, etc.) to reduce erosion within ditches.
10) When soils are saturated, equipment operations will cease until the ground dries out or freezes. Soils are considered saturated when ruts created by equipment are 4 inches deep (beyond the lug tread of the tire) for 10 feet or longer. Repair any rutting deeper than 4 inches. In the event of potentially saturated soil conditions, mitigation measures such as “swamp mats” or additional drainage/run-on control measures may be considered in the approved disturbance corridor to prevent rutting in excess of the above performance standards and allow for continuity of operations.
11) As directed by the FS, the operator shall provide timely maintenance and cleanup of access roads used for the project. If needed, a regular schedule for maintenance shall include, but not be limited to dust abatement; reconstruction of the crown, slope, or water bars; resurfacing; cleaning out of ditches, culverts, and catchments. When rutting of the travel way becomes greater than 6 inches, maintenance such as blading, and/or gravelling shall be conducted.
12) The operator shall not impede the water flow in ephemeral or perennial drainages. If directed by the FS, low water crossings and/or culverts shall be installed where drainages cross the access road.
13) If a low water crossing is constructed, the low water crossing shall be accomplished by dipping the road surface down to the bed of the drainage. Material moved from the banks of the crossing shall be stockpiled near the road edge, contoured, and reclaimed. Coarse gravel or cobble shall be used as the primary material for the roadbed in the low water crossing. Where the bottom of the drainage is bedrock, the bedrock shall be used as the roadbed.
14) Where low water crossings are not appropriate, an appropriately sized culvert shall be installed to prevent water impoundment, as directed by the FS. The culvert shall be no less than 18 inches in diameter. The depth of material cover over the culvert shall be no less than 12 inches or one half the diameter of the culvert, whichever is greater. Culvert inlets

and outlets shall be installed at the grade of the surface and incorporate energy dissipation treatments. Culverts shall be installed and maintained to BLM/FS Gold Book standards.

15) All storm water management controls needed during the project must be installed before project activities can begin at each respective drilling location. Erosion control structures, like wattles and soil blankets, that are in place long term shall be made with biodegradable materials, and must be maintained so as to effectively capture and contain sediment until no longer deemed necessary by the FS.
16) Project activities will be conducted in accordance with seasonal road closures on roads used to access the project area. Work activities will occur between June 1 and November 14 unless otherwise authorized by the FS in writing.
17) During project activities, if paleontological or cultural resource artifacts or materials are exposed, or raptor nests are discovered, operations in the vicinity shall be halted and the FS representative shall be notified.
18) All non-system or temporary roads will have access blocked or be reclaimed in coordination with the Dolores District recreation program.
19) Trees cut or damaged during duration of project should be processed on site, including piling of slash. Trees and brush cut for the project shall be used for reclaiming roadways or drill pads. Cut stump heights shall be less than 12".
20) After drilling activities are completed, the existing unauthorized two-track road along the ridgeline will be recontoured anywhere dirt work occurred during drilling access, and then ripped and seeded. Berms, rocks, slash and timber created by clearing trees for pads, and/or a gate will be placed as needed to prevent future access on this route. Operator will reclaim the access road so as to prevent future access to the two-track road via the above methods as guided by USFS during reclamation. Operator is responsible for stormwater and invasive species management until FS agrees that the area meets final reclamation requirements. Reclamation will be considered complete upon USFS approval of reclamation actions performed by the Operator.
21) Monitoring – Project activities will be monitored by the FS to assure compliance. This will begin upon receiving notice that the operator will commence work and will continue until the project is completed.
22) The Operator shall maintain an adequate quality control system and perform inspections as necessary to ensure that work on this project conforms to all applicable requirements, including implementation of all required mitigation measures.

II. FIRE PREVENTION

To the extent practical, the operator shall take measures to prevent uncontrolled fires on the area of operation and to suppress uncontrolled fires resulting from operations. All fires must be immediately reported to the FS representative and to the San Juan Public Lands Dispatch Center at 970 385 1324. Project activities must comply with the attached Fire Plan for Industrial Operations.

III. PROJECT WORK AREAS

The project work areas shall be kept to the minimum necessary for safe operation.

IV. OPERATIONS

A. Production

1) During all operations, the operator shall maintain structures, equipment and other facilities in a safe, neat and workman like manner.
2) In the event of a spill or leak of measurable quantities of fuel, oil, etc., the FS representative must be immediately notified. Spills or leaks of greater than 25 gallons or discharges or any quantity to water must be reported to the State of Colorado Department of Public Health & Environment. Final cleanup operations for the spill or leak must be approved by the FS representative who will recommend additional action as necessary.

B. Wildlife Resources
1) Nets, screens, covers, or other barriers will be installed over all unattended fluid pits, vents, tanks, and equipment openings to prevent wildlife mortality or wildlife contact with drilling products, fluids, or equipment openings. More information can be obtained at the U.S. Fish and Wildlife Service's wildlife contaminants website: (http://mountain-prairie.fws.gov/contaminants/contaminants1c.html).

C. Sanitation and Garbage
1) A portable toilet shall be made available during project activities. Sewage shall be contained and disposed of at a designated sanitary disposal facility.
2) The drilling locations and adjoining areas shall be kept in a neat and safe condition during all phases of the project. This includes removal of all flagging, wooden lath, signs and other identifying devices from public lands.
3) The operator shall dispose of refuse from the project, including waste materials and garbage of all kinds by removing it from public lands.
4) If trash is stored on site the trash must be stored in a bear-proof manner.

V. <u>RECLAMATION</u>
A. Bonds – a reclamation bond is required for this project in an amount that would allow the USFS to reclaim project disturbance in the unlikely event that the Operator does not complete the reclamation. The bond shall be posted before the Plan of Operations is approved and project activities begin. The reclamation bond will be released by the USFS after the standards described below are met.
B. Reclamation, Revegetation, and Weeds:
(1) Certified weed-free straw mulch, hydromulch, or erosion control blankets are recommended following all seeding activities, particularly on sites with slopes greater than 20 percent.
(2) Reclamation Standards: The four components of successful reclamation are recontouring, revegetation, soil erosion, and noxious weeds. Monitoring of these standards by the federal agency should occur one year after reclamation efforts are initiated, and evaluation for compliance with these standards will occur two years after reclamation efforts are initiated.
(a) Recontouring Standard: The recontouring component will be considered successful when reclaimed sites are recontoured as close to original contour as can be achieved with readily available fill material adjacent to cuts, and blend in as naturally as possible with the topography of adjacent lands, unless otherwise described in the Plan or agreed to by the FS during field review.

(b) Revegetation Standard: This standard does not apply to previously disturbed areas lacking vegetation. Revegetation will be considered successful when the percent canopy cover of desirable vegetation on the site is at least eighty percent of the canopy cover of the desirable vegetation on the site before the disturbance or at least eighty percent of the canopy cover of the desirable vegetation on a reference area for the site, as determined by a visual appraisal, exclusive of mature trees cut for the purposes of the drilling project. Definitions: 1. Desirable Vegetation: Native plant species, unless the vegetation on the reference area or the site before it was disturbed included acceptable non-native plant species, in which case those non-native plant species can be included in the 80 percent canopy cover requirement with FS approval. 2. Reference Area: A relatively undisturbed piece of land (preferably adjacent to or near the site needing revegetation) that has soils, topography, and a plant community similar to the site being revegetated. Reference areas will be approved by the FS. 3. Visual Appraisal: Ocular or transect methods are acceptable. The Ocular Plant Composition or the Cover-Frequency Transect methods, as described in the Forest Service Region 2 Rangeland Analysis and Management Training Guide, are recommended. 4. #PLS = pounds of pure live seed. 5. Seeding rates listed below are for drilled seed. Broadcast rates should be doubled.

(c) Revegetation Seed Mixes: Unless otherwise authorized, a minimum of two native grass and one wildflower seed species from the list below will be used at the recommended rates. One of the annual species listed below can also be used along with the native species.

Native Grass Seed Species	
Arizona fescue (*Festuca arizonica), variety Redondo*	4#PLS/acre
Western wheatgrass (*Pascopyrum smithii), varieties Barton/Rosanna*	10#PLS/acre
Mountain brome (*Bromus marginatus*)	10#PLS/acre
blue grama (*Bouteloua gracilis), varieties Alma/Hachita/Lovington*	*3#*PLS/acre
muttongrass (*Poa fendleriana)*	*3#* PLS/acre
junegrass (*Koeleria macrantha), varieties Prairie/Uncompahgre Plateau*	*4#*PLS/acre
Nelson's needlegrass (*Stipa nelsonii*)	6-8#PLS/acre
Tufted hairgrass (*Deschampsia caespitosa*)	1-2#PLS/acre
Blue wildrye (*Elymus glaucus*)	9#PLS/acre

Wildflower Seed Species	4#PLS/acre
Rocky Mtn Penstemon (Penstemon strictus)	
Firecracker Penstemon (Penstemon eatonii)	
Blue Flax (Linum perenne lewisii)	
Annual Sunflower (Helianthus annuus)	
Silver Lupine (Lupinus argenteus)	
Golden Banner (Thermopsis divaricarpa)	
Rocky Mountain Bee Plant (Cleome serrulata)	

Annual Species	
Barley *(Hordeum vulgare)*	80#PLS/acre

Wheat *(Triticum aestivumx Secale cereale)*	80#PLS/acre
Oats *(Avena sativa)*	80#PLS/acre

Only Colorado certified weed-free seed mixes and mulches may be used. The operator must provide certification tags or copies to the FS, preferably prior to application. Native trees, shrubs, or forbs may be used on some occasions if agreed to by the FS and the operator

(d) Soil Erosion Standard: In areas where project-related ground disturbance occurred, the soil erosion component will be considered successful when gully erosion is absent, and sheet and rill erosion is absent or minimal (less than 5% of the site shows evidence of sheet and rill erosion in the form of pedestalled plants, sediment accumulation, or rills). Bare soil may be present on the reclaimed sites if comparable, relatively undisturbed adjacent sites naturally display bare soil.

(e) Noxious Weed Standard: The noxious weed component will be considered successful when noxious weeds are absent on the reclaimed site. Noxious weeds are currently present in some areas along FS road 316 and system trails. Operator will be responsible for controlling invasive species within sites where they have initiated ground disturbance. Noxious weeds shall be treated on all areas disturbed by this project, as necessary to eradicate weeds during the course of operations and reclamation., as described below:

(i) The FS range personnel will conduct a project area pre-disturbance noxious weed inventory to establish baseline conditions and assist the development of appropriate noxious weed management strategies.

(ii) The operator shall employ any cleaning methods necessary to ensure that any equipment, including transportation, construction, and drilling equipment, is free of noxious weed material before project implementation.

(iii) The operator shall control, contain, and eradicate noxious weeds (as applicable) on all areas disturbed by this project during the course of construction, operation, and reclamation. This can be achieved via cost recovery agreement or by hiring a third party contractor. Additional noxious weed management guidance can be obtained from the FS representative.

(iv) Seed certification tags from the seed bags used for revegetation shall be submitted to the FS within 1 month following seed application. When straw, mulch or gravel is needed for construction, operation or reclamation activities, these materials must be certified to be weed-free, and a copy of the certification must be provided to the FS representative to be included in the project record.

Fire Plan for Industrial Operations
San Juan National Forest

This plan outlines the Operator's responsibilities for fire prevention and suppression activities within the Operator's project area. For the purposes of this provision, the project area is defined as the area within **one half mile (0.5 miles)** of the project boundary.

Fire Precautions

I. SMOKING AND LUNCH FIRE RESTRICTIONS

Smoking is prohibited except inside a building, developed recreation site, vehicle, or while seated in an area of at least three feet in diameter that is barren or cleared of all flammable materials. 36 CFR 261.52(d), 42 CFR 9212(a).

The building of camp, lunch, warming and other fires within the project area and vicinity is prohibited, except at established camps or at other safe places where all flammable material has been cleared away sufficiently to prevent the start and spread of wildfires. The FS representative may, upon written request, designate specific places where campfires may be built for purposes of heating lunches.

II. SPARK ARRESTERS AND MUFFLERS

Operating or using any internal combustion engine, on any timber, brush, or grass covered land, including trails and roads traversing such land, without a spark arrester, is prohibited. The spark arrester must be maintained in effective working order, meeting either (1) Department of Agriculture, Forest Service standard 5100, *Spark Arresters for Internal Combustion Engines* (current edition); or (2) the Society of Automotive Engineers (SAE) recommended Practices J335, *Multiposition Small Engine Exhaust System Fire Ignition Suppression* (current revision), and J350, 36 CFR 261.52(j), 43 CFR 9212.1(h).

Passenger vehicles, pickups, medium and large highway trucks (80,000 GVW) will be equipped with a factory designed muffler system which is specified for the make and model of the respective vehicle/truck or with a muffler system that is equivalent or that exceeds factory specifications.

Exhaust systems shall be properly installed and continually maintained in serviceable condition.

III. FIRE EXTINGUISHERS AND TOOLS ON EQUIPMENT

While in use, each piece of equipment with an internal combustion engine shall be provided with at least the following:

1. One fire extinguisher, at least 5# ABC with an Underwriters Laboratory (UL) rating of 3A – 40BC, or greater.
2. One shovel, sharp, size 0 or larger, round-pointed with an overall length of at least 48 inches.
3. One axe, sharp, double bit 3½#, or one sharp Pulaski.

Extinguishers, shovels, axes, and Pulaski's shall be mounted so they are readily available to the operator. All tools shall be maintained in a serviceable condition.

IV. POWER SAWS

Each gasoline engine power saw shall be provided with one chemical-pressurized fire extinguisher of not less than 8-ounce capacity by weight, and one size 0 or larger, round-pointed shovel with an overall length of at least 48 inches. The extinguisher and shovel shall be maintained in good working order. The extinguisher shall be with the power saw operator and immediately available for use at all times. The extinguisher shall not be affixed to the saw. The shovel shall be readily available to the operator of the saw at all times. Having the shovel with the gas can used to refuel

the saw may be considered "readily available" if not more than 200 feet from the saw. During periods of critical fire danger, the FS may prescribe other precautionary measures.
Any fueling or refueling of a power saw shall be done in an area which has first been cleared of material which will carry fire. The power saw shall be moved at least 10 feet from the place of fueling or refueling before starting.

V. BLASTING AND WELDING

Unless otherwise directed in writing by the FS, all flammable material shall be cleared for 10 feet around any piece of equipment being welded. In addition, the Operator shall provide a fire extinguisher of a size and type designed to extinguish a fire in the flammable materials surrounding the spot being welded. If unforeseen circumstances arise where blasting may be required, the operator shall contact the District Ranger to describe the circumstances and why blasting is required, and to develop safety procedures under which the blasting would be conducted which would require District Ranger approval.

VI. STORAGE OF FLAMMABLES

Gasoline, oil, grease and other highly flammable material shall be stored either in approved containers on board mobile vehicles, or in approved portable containers of 5 gallons or less at a site where all debris is cleared within a radius of 25 feet.

VII. CAMP FIRE PROTECTION

Campfires are not proposed for the project and are not allowed. Propane or gas powered heaters/camp stoves shall be used to satisfy cooking and personal heating needs of those involved in the project.

Fire Precautions and Control

I. PLANS

Prior to initiating the Operator's operations during the Fire Precautionary Period, which is from **May 15** thru **October 1**, the Operator shall file with the FS a Fire Prevention and Control Plan providing for the prevention and control of fires on the project area. The Plan shall include a detailed list of personnel and equipment at the Operator's disposal for implementing the Plan. This requirement may be met by preparing a single Plan for more than one project.

II. FIRE PRECAUTIONS

Specific Fire Precautionary measures listed shall be applicable during the Operator's operations during the High Fire Danger period or during FS Fire Restrictions (Stage I, II, or III). The Contracting Officer may change the dates of the High Fire Danger periodby advance written notice, if justified by unusual weather or other conditions. Required tools and equipment shall be kept in serviceable condition and immediately available to extinguish a fire at all times during the Operator's operations during the High Fire Danger period.

A. Substitute Precautions

The FS may authorize substitute measures or equipment, or waive specific requirements by written notice, if substitute measures or equipment will afford equal protection, or some of the required measures and equipment are unnecessary.

B. Emergency Precautions

The FS may require the necessary shutting down of equipment on portions of the Operator's operations when emergency fire precautions are necessary.

III. FIRE CONTROL

The Operator shall, both independently and in cooperation with the FS, take all reasonable and practicable action to prevent and suppress fires resulting from the Operator's operations. The Operator's independent initial fire suppression action on such fires shall be immediate and shall

include the use of all necessary personnel and equipment at the Operator's disposal on the project area. Any fires caused by the Operator's operations should be immediately reported to the COR and Durango Dispatch regardless of successful or unsuccessful attempts to extinguish a fire.

A. Operator's Reinforcement Obligations

Whenever an Operations Fire or Negligent Fire, whether on or off the project area, has not been suppressed by initial action and appreciable reinforcement strength is required, the FS may require further actions by the Operator until such fire is controlled and mopped up to a point of safety. Operations may be suspended in this situation.

IV. FIRE SUPPRESSION COSTS

The Operator's obligations for cost of fire suppression vary according to three classifications of fires as follows:

A. Operations Fire

An Operations Fire is a fire caused by the Operator's operations other than a Negligent Fire.

The FS, except as provided in Section III, shall, under 16 USC 572, perform fire suppression activities on Operations Fires. The Operator agrees to reimburse the FS for such cost for each Operations Fire. The cost of the Operator's actions, supplies, and equipment on any such fire provided pursuant to Section III, or otherwise at the request of the FS, shall be credited toward such maximum. If the Operator's actual cost exceeds the Operator's obligation stated above, the FS shall reimburse the Operator for the excess.

B. Negligent Fire

A Negligent Fire is a fire caused by negligence or fault of the Operator's operations, including, but not limited to, one caused by smoking by persons engaged in the Operator's operations during the course of their employment, or during rest or lunch periods; or if the Operator's failure to comply with the requirements of Sections II and III results in a fire starting or permits a fire to spread. Damages and the cost of suppressing Negligent Fires shall be borne by the Operator.

C. Other Fires on Project Area

V. The Operator should immediately report any fires in the project area to the COR and Durango Dispatch. **STATE LAW**

The Operator shall not be relieved by the terms of this contract of any liability to the United States for fire suppression costs recoverable in an action based on State law, except for such costs resulting from Operations Fires. Amounts due the Operator for fire fighting expenditures in accordance with BT7.41 shall not be withheld pending settlement of any such claim or action based on State law.

VI. PERFORMANCE BY OPERATOR

Where the Operator's employees, agents, Operators, subcontractors, or their employees or agents perform the Operator's operations in connection with fire responsibilities, the Operator's obligations shall be the same as if performance was by the Operator.

Should Fire Restrictions become necessary, the following describes the stage levels.

I. STAGE I AND STAGE II FIRE RESTRICTIONS

There will be two fire restriction stages: Stage I and Stage II. Stage III denotes area closure. Each agency within a fire restriction area must write its own agency document that authorizes the restrictions within its jurisdiction. Each agency is responsible for using its own format, citing the specific codes of Federal Regulation (CFR) and United Stated Code (U.S.C.) and having the appropriate legal counsel review the document to assure it is correct and enforceable. To establish

consistency, reduce confusion and standardize restrictions, the following criteria will be used in all restriction documents, unless an exception is approved by the District Ranger on a case-by-case basis:

A. **STAGE I** The following acts are prohibited until further notice:
   1) Building, maintaining, attending, or using a fire, campfire, coal or wood burning stove, any type of charcoal fueled broiler or open fire of any type in undeveloped areas.
   2) Smoking, except within an enclosed vehicle or building, in a developed recreation site or while stopped in an area at least 3 feet in diameter that is barren or cleared of all flammable vegetation.
   3) Using explosive material: (i.e.: fireworks, blasting caps or any incendiary device which may result in the ignition of flammable material.}
   4) Welding, or operating acetylene or other similar torch with open flame.
   5) Operating or using any internal combustion engine without a spark arresting device properly installed, maintained and in effective working order meeting either:
      (a) Department of Agriculture, FS Standard 5100-1a; or
      (b) Appropriate Society of Automotive Engineers (SAE) recommended practice J335 (b) and J350 (a).
   6) Possible Exemptions
      (a) Persons with a written permit specifically authorizing the otherwise prohibited act or omission.
      (b) Fires in constructed, permanent fire pits or fire grates within developed recreation sites.
      (c) Any Federal, State, or local officer or member of an organized rescue or firefighting force in the performance of an official duty.
      (d) Mechanical stoves and appliances fueled by bottled or liquid gas which allow the operator to control or extinguish the flame with a valve are permitted provided that such devices are approved by Underwriters laboratory Inc.
      (e) Owners or lessees of land in the restricted area.
      (f) Residents in the restricted area.

B. **STAGE II** The following acts are prohibited until further notice:
   1) Building, maintaining, attending, or using a fire, campfire, coal or wood burning stove, any type of charcoal fueled broiler or open fire of any type.
   2) Smoking, except within an enclosed vehicle or building.
   3) Using explosive material: (i.e.: fireworks, blasting caps or any incendiary device which may result in the ignition of flammable material.)
   4) Welding, or operating acetylene or other similar torch with open flame.
   5) Operating or using any internal combustion engine without a spark arresting device properly installed, maintained and in effective working order meeting either:
      (a) Department of Agriculture, FS Standard 5100-1a: or
      (b) Society of Automotive Engineers (SAE) recommended practice J335 (b) and J350 (a).
   6) Operating a chainsaw without a chemical pressurized fire extinguisher of not less than 8 ounces capacity by weight, and one size 0 or larger round pointed shovel with an overall length of at least 36 it was 48” above inches. The extinguisher shall be with the chainsaw operator. The shovel may be kept with the fueling supplies but readily available.

7) Other possible restricted acts under Stage II
   (a) Operating a motorized vehicle off designated roads and trails.
   (b) Operating a chainsaw outside the hours of 5 a.m. and 11 p.m.
   (c) Overnight camping limited to listed campgrounds and recreation sites.
8) Possible Exemptions
   (a) Persons with a written permit specifically authorizing the otherwise prohibited act or omission.
   (b) Any Federal, State or local officer or member of an organized rescue or firefighting force in the performance of an official duty.
   (c) Mechanical stoves and appliances fueled by bottled or liquid gas which allow the operator to control and extinguish the flame with a valve are permitted provided that such devices are approved by Underwriters Laboratory Inc.
   (d) Owners or lessees of land in the restricted area.
   (e) Residents in the restricted area.

C. Stage III Fire Restrictions

1) Before the fire season, the "Council" will review the evaluation guidelines and determine threshold levels that substantiate the need for closures.
2) Examples include:
   (a) Potential loss of life due to explosive fire conditions.
   (b) Potential for extreme or blowup fire behavior.
   (c) Stage I or Stage II restrictions are not effective in reducing the number of human-caused fires.
   (d) Resources across the geographic area are at a critical shortage level.
   (e) Proximity to substantial population centers.
   (f) The extent of wildland-urban interface.