

**Sheep Creek Exploration Project Deficiencies –
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Summary

USCM proposes rare earth element exploration on National Forest System lands in the West Fork Ranger District of the Bitterroot National Forest. The plan describes bulk sampling and surface drilling to explore for several minerals including gallium and rare earths. The proposed operating window runs from July 1, 2026, through June 30, 2027, including reclamation (p2-4, table 1). The revised Plan of Operations describes a smaller surface footprint than earlier mining proposals. It still proposes industrial exploration in the headwaters of the West Fork Bitterroot, including blasting, drilling, fuel storage, explosives, drilling products, sumps, helicopter flights, truck hauling, and trucking 6 million pounds of radioactive material down the West Fork Road to Conner.

The plan will use blasting or drilling to explore 4 locations. At Adit 1 the plan proposes bulk sampling in the existing adit. Activities would include entrance enlargement; ground support; ventilation; underground sump; controlled blasting along a carbonatite vein; mineralized rock placed in sacks. (p7.) This is the core industrial activity. It involves blasting, muck handling, waste rock, mineralized rock, and water recirculation. Most of the bulk of the material would be taken from adit 1. The proposed volume is 1,500 tons in 2026 and 1,500 tons in 2027, for 3,000 tons total (6 million pounds). Bulk sampling would occur for 60-90 days in each season.

For the other locations, the plan proposes drilling cores. The plan estimates 45 bore holes, 3.8 inches in diameter, with about 16 per location, average depth 400 feet, and up to 18,000 feet total drilling (p9). The plan proposes to build drill pads, laydown areas, 10 x 10 x 6 foot sumps, helicopter platforms (p8).

Drilling will require 8,500 gallons of water per day. Some water is expected to be recycled. Bulk sampling will use 300 gallons per day. Water would be trucked in from outside the project area and be slung to sites by helicopter. The plan addresses products brought to the site more than hazards inherent in ore, waste rock, cuttings, and dust.

Extracted materials will be hauled from the mine to Conner. Up to 35,000 pounds of bulk sample per day will be hauled by pickup and gooseneck trailer, in up to two loaded outbound trips per day (Appendix G). Where the materials go from there is not specified. In season 1 the company expects 300 roundtrip transit helicopter flights from Conner to Sheep Creek along a route that will follow the river. There will also be 1,900 internal hops from the staging area to the drill pads. In season 2 there would be 240 roundtrip transit flights and 1,680 internal hops (Appendix G). The small surface footprint comes with thousands of aircraft movements.

The plan is vague or silent regarding water handling, mine-waste handling, aircraft loads, truck loads, geochemistry, radioactive materials and asbestos. The Forest Service should require baseline data, independent monitoring, corrected technical calculations, and enforceable safeguards before approving this work. The agency should also make clear that exploration approval gives no approval for a future mine.

Priority Requests

- Require baseline, active-operation, post-operation, and post-runoff water monitoring, with results posted publicly.
- Require geochemical and mineralogical characterization of ore, waste rock, drill cuttings, dust, and bulk samples, including screening for radioactive materials and asbestos-form minerals.
- Require a complete mass balance, water balance, helicopter load table, truck-trip table, and road-use analysis before approval.
- Require a clear waste rock versus mineralized rock classification protocol before any blasting or muck handling.
- Correct the drill-hole specifications and provide a drill-hole table, sample protocol, and core handling plan.
- Revise reclamation to cover every sump, including Location 3, and set inspection requirements after spring runoff.
- Set enforceable conditions for helicopter flights, hazardous-material storage, refueling, spill response, wildlife protection, and weather shutdowns.
- Set a reclamation bond that covers worst-case cleanup, monitoring, road repair, and agency oversight.
- State that approval of exploration would authorize only this exploration work and would grant no approval for a future mine.

Deficiency descriptions

1. The plan relies on a small acreage number to frame the project.

USCM estimates 11,873 square feet of surface disturbance, or 0.3 acre, and states that the project would disturb less than one acre. That number does not capture the full operational footprint: blasting, drilling, water movement, truck hauling, helicopter flights, fuel storage, explosives, off-site sample handling, noise, wildlife disturbance, road use, and monitoring needs.

- Ask the Forest Service to analyze the complete operational footprint, not just acres of disturbed ground.

2. The plan leaves water-quality monitoring to other permits.

The plan proposes drilling, blasting, sumps, fuel storage, drilling additives, drill cuttings, and bulk-sample handling in a headwaters drainage. It then states that surface-water or groundwater monitoring will occur only if a permit or authorization requires it, and that no monitoring is needed otherwise. That approach asks the public to put a lot of trust in USCM without baseline data or independent checks.

- The forest service should require baseline, during-operation, post-operation, and post-runoff monitoring upstream and downstream of the work areas. The most important

monitoring items should be turbidity, suspended sediment, temperature, pH, conductivity, hydrocarbons, nitrate/ammonia from blasting products and metals, arsenic, and fluoride.

3. The water source and logistics are vague.

The plan says water will come from a source outside the project area and will be slung to sites by helicopter. The access section says fuel, water, equipment, and materials will be trucked to the interim staging area off West Fork Road and flown to the sites. Appendix G says no long-line loads are scheduled from Conner airfield. Read together, the plan suggests water would be hauled by road to the staging area and then flown by helicopter to the drill sites. The plan never names the water source, the truck capacity, the tank capacity, the helicopter payload, the make-up water rate, or the number of water flights.

- The plan needs a water logistics table that identifies source, route, legal supply, truck capacity, tank capacity, helicopter sling capacity, number of flights, initial fill, daily make-up water, expected losses, and water loss contingencies.

4. The sump capacity and water balance need engineering support.

The plan says drilling at Locations 2-4 may require up to 8,500 gallons per day, with most water recycled through lined 10 x 10 x 6 foot sumps. A 10 x 10 x 6 foot sump holds 4,488 gallons before subtracting liner folds, sloped sides, sediment, drill cuttings, and freeboard (gap between the top of the water and the top of the sump that helps prevent overflow). With one foot of freeboard, capacity falls to 3,740 gallons. The daily water-use number may represent a recirculating flow rather than storage volume, but the plan does not show the water balance needed to confirm that.

- The plan should include design drawings and calculations for sump volume, freeboard, storm capacity, liner specifications, cuttings volume, drill-fluid volume, expected water losses, recycling rate, and emergency overflow prevention.

5. The bulk-sample haul math only works under favorable assumptions.

The plan proposes 3,000 tons of bulk material, or 6,000,000 pounds. At 35,000 pounds per day, that requires 171 active hauling days. The plan also says bulk sampling would occur 60-90 days in each of two seasons, or 120-180 total days. The 35,000-pound-per-day figure works only near the 180-day end of that range. If USCM uses two 60-day seasons, the project would need to move 50,000 pounds per day.

USCM says up to 35,000 pounds per day may leave the site in up to two loaded outbound pickup and gooseneck trips per day. That means 17,500 pounds of rock per loaded trip, plus sacks and rigging as applicable. Across the project, the plan implies roughly 343 loaded outbound trips and roughly 343 return trips for bulk sample movement alone, before crew, fuel, water, supplies, equipment, explosives, portable toilets, and extra trips. The plan also says Forest Service road use will be minimal.

- Information needed: Truck model, trailer model, GVWR, empty weight, legal payload, axle loads, tire ratings, brake capacity, trip count, trip timing, and road-condition measures for West Fork Road and other access routes.
- We need to know the loads will be covered while hauling them to Conner.

6. The helicopter load math lacks detail.

Appendix G estimates 300 roundtrip transit flights and 1,900 internal hops in Season 1, with a similar number of flights in Season 2. The plan says many internal hops will move bulk sample from Adit 1 to the staging area, while the same hops also support fuel, water, equipment, and materials. If 1,500 tons are moved over 90 days, bulk sample movement averages 33,333 pounds per day. At 16 internal hops per day, that equals 2,083 pounds per hop if every hop carries bulk sample. If bulk sampling runs 60 days, the average rises to 3,125 pounds per hop.

- The plan gives no helicopter model, long-line rating, elevation/temperature load adjustment, sack weight, turn time, or daily load table.
- USFS should require a flight-load table for each season and phase, with separate counts for bulk sample, water, fuel, equipment, personnel, portable toilets, and supplies. Set enforceable flight caps and reporting requirements.

7. The plan does not explain how waste rock will be separated from mineralized rock.

The Adit 1 section says blasting will generate waste rock and mineralized rock. It then says waste rock will be placed in an existing void or used as road base inside the adit, while mineralized rock will be hauled out in sacks. The plan gives no cutoff grade, visual criteria, field-screening method, face mapping protocol, muck-pile sampling plan, geologist sign-off, or assay requirement. After blasting, the muck pile will be mixed. A rough visual separation may work for some vein material, but the plan gives no method that protects against mineralized rock containing high levels of arsenic, lead, radioactive materials or asbestos being left as waste or being shipped as sample.

- Require a waste/mineralized rock classification protocol, including geologist marking before blasting, muck-pile control, field screening, representative assays, chain of custody for sacks, and testing before any waste rock is left underground or used as road base.

8. The plan leaves ore, waste rock, drill cuttings, and dust under-characterized.

The hazardous-materials section focuses on the chemicals that will be brought to the site. It gives no attention to hazards inherent in the rock itself. The plan should characterize mineralized material, waste rock, drill cuttings, adit material, and dust for arsenic, lead, uranium, thorium,

nitrate residues, leaching potential, and other contaminants before material is left underground, moved off site, dried in sumps, or used as road base.

- Testing and public disclosure should be required before approval of blasting, drilling, waste placement, and off-site transport.

9. The plan omits asbestos and radiological screening.

The plan contains no discussion of asbestos, asbestos-form minerals, uranium, thorium, radium, radon, or radioactivity. The absence of these topics creates a public-safety concern.

- USCM should disclose existing assays or mineralogical data, conduct screening for uranium, thorium, radium, radon potential, gross alpha/beta activity, and asbestos-form minerals.

10. The drill-hole description needs clarification.

The plan image describes 45 NQ-sized drill holes with a 96 mm outside diameter, an average depth of 400 feet, and up to 18,000 feet total drilling. The plan also describes a goal of 45 core samples, which makes core handling sound much simpler than a 400-foot core program usually requires.

- The plan should include drill specification, drill-hole table, drilling angle and azimuth plan, core interval protocol, core logging plan, sample splitting plan, sample storage plan, and chain-of-custody procedure.

11. The off-site destination and handling plan remain vague.

The main plan says bulk samples will go to a lab for testing. Appendix G says bulk sample material will go to a private location in the Conner/Darby area. The plan does not say whether the private location is a temporary storage yard, a transfer point, a sample preparation site, a crushing/splitting location, or a lab staging area. It does not describe stormwater controls, dust controls, traffic, waste handling, or permits for the private site.

- The USFS should disclose of the off-site destination, handling steps, storage time, processing methods, stormwater controls, dust controls, waste controls, and permits.

12. The hazardous-materials and spill plan needs site-specific detail.

The plan lists a 1,000-gallon diesel tank at the interim staging area, a 200-gallon diesel fly tank, gasoline, oils, oily solids, explosives, detonators, lime, polymer additive, bentonite, and cement. It commits to drip pans, visual contact during fueling, a 300-foot setback from waterways, and cleanup within 24 hours. Those commitments need site-specific maps and enforceable procedures because the staging area, helicopter refueling, and exploration sites sit in a steep headwaters setting.

- The USFS should require secondary containment drawings, inspection logs, fueling procedures, spill kits at every active site, weather shutdown triggers, spill reporting within one hour, public incident reporting, and a stop-work requirement for releases.

13. The road-use claim needs support.

The plan says Forest Service road use will be minimal and will not cause surface disturbance beyond existing conditions. That claim conflicts with the proposed haul program unless USCM provides a complete traffic table. Bulk sample transport alone could involve hundreds of loaded and return trips, before fuel, water, equipment, materials, explosives, crew, portable toilets, and waste removal.

- The USFS should require a traffic analysis that covers trip number, vehicle type, load, timing, dust, road drainage, sediment delivery, road maintenance, public access, emergency access, and effects on the West Fork corridor.

14. Helicopter disturbance deserves its own analysis.

The plan minimizes ground disturbance by shifting work into the air. Appendix G estimates thousands of internal helicopter hops and hundreds of transit flights across two seasons. That flight will affect wildlife, recreation, residents, safety, fire response, stock use, hunting, fishing, and public access. General statements about minimizing disturbance do not provide enforceable limits.

- The plan should include flight caps, flight logs, public reporting, wildlife buffers, seasonal restrictions, goshawk nesting review, limits near residences and recreation areas, and authority for the Forest Service to suspend flights during high-risk conditions.

15. The wildlife measures rely on crew observation rather than enforceable buffers.

The plan says workers will notify the Forest Service if species such as Canada lynx, grizzly bear, or wolverine are seen near work areas. It also says pilots will approach cautiously if wildlife is observed. These measures depend on chance observation by crews and pilots. They do not provide pre-work surveys, seasonal restrictions, species-specific buffers, or stop-work triggers.

- The plan should include wildlife surveys, species-specific avoidance distances, raptor and denning-season review, flight buffers, and stop-work rules for sensitive wildlife encounters.

16. The plan needs stronger underground safety detail.

Location 1 work includes enlargement of an existing adit, ground support, ventilation, jack-leg drilling, blasting, muck handling, and an underground sump. Location 4 includes enlargement

and gating of the Adit 3 entrance. The plan lists potential MSHA and OSHA approvals, yet the public version gives limited detail on ground-control procedures, gas monitoring, blast plans, ventilation calculations, emergency rescue, or worker access in an old adit.

- USFS should review or obtain the ground-control plan, ventilation plan, blast plan, gas-monitoring protocol, emergency response plan, rescue access plan, and MSHA-related approvals before work begins.

17. The reclamation bond and inspection program need detail.

USCM states that it will be responsible for reclamation performance and bonding. The plan gives no bond amount in the reviewed text. The work involves helicopter platforms, adit gates, drill holes, sumps, waste rock, cuttings, pads, laydown areas, and revegetation. A small surface area can still require expensive cleanup if a sump fails, a spill occurs, waste rock requires removal, or revegetation fails.

- USCM should post full-cost financial assurance, acceptable to both the Forest Service and Montana DEQ, before any ground disturbance. The bond should cover the agency's cost to complete reclamation, remove waste and materials, repair road or staging-area damage, clean up reasonably foreseeable spills, conduct required water monitoring, correct revegetation failure, and oversee the work if USCM defaults, becomes insolvent, or abandons the site. The Forest Service and DEQ should disclose the bond amount, bond calculations, bond holder, release criteria, inspection schedule, and whether the bond will be a joint state-federal bond.