

Project Proposal Description

Proposed Action Title/Type: Sevier Playa Potash Project - Modification

Lease/Serial/Case File No (if any): Lead casefile UTU-088387 (MLRS Number UTUT105907805),
Lead casefile UTU-090095 (MLRS Number UTUT106050293)

Location of Proposed Action: Sevier Playa, Millard County, Utah

Applicant: Peak Minerals Inc.

Background: Peak Minerals Inc.'s (Peak Minerals) Sevier Playa Potash Project (Project) is a potash mine authorized on 124,223 acres of mineral leases on BLM and Utah state land and includes on-lease mining facilities as well as off-lease mining components and infrastructure facilities. The off-lease mining components and infrastructure facilities are authorized under Bureau of Land Management (BLM) right-of-way (ROW) grants and/or Utah School and Institutional Trust Lands Administration easements.

This submittal constitutes a modification to the Proposed Action originally analyzed in the 2019 Sevier Playa Potash Project Final Environmental Impact Statement (FEIS), DOI-BLM-UT-W020-2014-0001-EIS and authorized in a Record of Decision (ROD) dated August 27, 2019.

Description of Proposed Action:

The Project modified Mining Plan, as submitted, constitutes a *partial plan*, in which only the initial phase of development (referred to as Phase 1) is described in detail. The initial phase of development is consistent with solid mineral regulations located at 43 CFR 3592.1(d)(1). As the development of future phases (Phase 2, *et. al.*) is dependent on factors which would be determined through the process of mining, any operations under those subsequent phases would require additional plan modification(s) and approval prior to implementation.

The Phase 1 modified mining layout and design features have been optimized to improve overall recovery and provide a higher grade of brine to the processing facility, reducing operating costs. As a result, the scale of mining activities, specifically extraction, preconcentration, and production features, has been reduced under the Phase 1. The features considered Off-lease are consistent with the 2019 FEIS Proposed Action however the 25-kV Power Line and Substation are proposed to change locations to the Access Road Segment B.

Mining

Peak Minerals proposes to construct and operate the Sevier Playa Potash Project (Sevier Playa Project, or the Project) that would be designed to produce average annual production of approximately 215,000 short United States (U.S) tons per year (tons/yr) of potash in the form of sulfate of potash (SOP, or potassium sulfate), as well as other associated mineral products. Current plan focus on resources within the south half of the Sevier Playa. The Project's Phase 1 life would be approximately 25 years. This does not include the time required to complete decommissioning and final reclamation. The first five years would include construction and a ramp-up period to full production.

Project brines extracted from the Sevier Playa sediments would be concentrated by solar evaporation. The potassium-rich salts, precipitated in Production Ponds, would be harvested and processed in a modern crystallization plant, referred to as the Processing Facility, to produce a saleable SOP product, as well as other associated minerals. SOP is a soluble mineral containing potassium that is used primarily as fertilizer.

The Project would feature recharge and extraction trenches at the surface of the mineral extraction area as a method of recovery of the potassium-rich brines. Recharge waters would be collected from natural precipitation and from the Sevier River. Evaporation ponds would be used for recovery of the crude salts. The salts would be harvested using mobile equipment and sent to the Processing Facility for beneficiation producing SOP. The Processing Facility will produce commercial grade SOP after the Production Ponds have matured.

Plan Updates

As described below since the publishing of the Final Environmental Impact Statement (FEIS) (BLM 2019a) and Record of Decision (BLM 2019b), Peak Minerals has undergone several additional studies to optimize the Project. Under this *Amended Mining Plan for the Sevier Playa Potash Project* (Amended Mining Plan), the key changes and optimization opportunities include:

Project Scale:

- Phase 1 (215,000 short tons per annum [stpa])—southern marl clay-based resource only.

Mine Plan:

- Recharge water system simplified;
- Mine plan modified to optimize phasing of earthworks and brine delivery to Preconcentration Ponds;
- Updated extraction and recharge trench alignment, and brine conveyance to accommodate improved brine flow to Preconcentration Ponds;
- Redesign of perimeter road and renamed to the Playa Access Road.

Evaporation Ponds:

- Preconcentration and Production Pond design optimization;
- Bitterns back-mix system added to the Production Ponds system;
- Halite (NaCl) wet harvesting of the Preconcentration Ponds via a dredge and solid NaCl storage areas added for additional K recovery;
- Overall smaller pond footprint—increase in slope of both interior and exterior berms;
- Update of pond layouts—relocation of Preconcentration Ponds to minimize brine conveyance distance, and Production Ponds placement optimized
- Filter cake storage within the tailings management area (TMA) relocated, previously referred to as the Tailings Storage Area;
- Purge Brine within the Bittern Waste Ponds relocated, previously referred to as the Purge Brine Storage Pond;
- Wet harvesting of NaCl and entrained brine captured in design—eliminates costly and logistically challenging berm raises over the life of mine (LoM);
- Back-mix pond added to design.

Processing Facility:

- Plant design optimized for simpler piping and more access;
- Improved overall recovery;
- Back-mix process results in increase in harvested K-grade, reduction in crude salt harvest operation;
- Increased the Muriate of Potash (MOP) addition to playa ratio from 50 percent to 100 percent;
- Reduced flotation losses due to colder conversion temperature;
- Plant size reduction from 372,000 stpa to 215,000 stpa results in reduced quantities in all areas;
- Optimization of the plant operating temperatures to increase recovery and improve operations;

Reclamation Plan

The objective of the Reclamation Plan is to allow for an orderly transition from mining land use to a reclamation condition that provides a safe and stable environment that does not endanger public health, safety, and welfare and that allows for future development compatible with surrounding land use. This Reclamation Plan updates and provides additional information to the Reclamation Plan that was prepared and submitted to the BLM and Utah Division of Oil, Gas and Mining (UDOGM) in 2019 to support the Project's NEPA process. This Reclamation Plan has been updated to conform with the EIS, dated July 2019 and the ROD, dated August 2019, and updates to Peak Minerals' Mining Plan, Plan of Development, Gravel Pit Mining Plan and the associated Large Mining Operation (LMO) application provided to UDOGM.

At the earliest feasible time, either concurrent with operations, or upon final suspension of mining activities and prior to final site closure, reclamation would be performed on all surface disturbance within the project area that would not be disturbed further, including the access road, connector road, operations area, mining area, and stockpiles.

Post-reclamation monitoring would be performed at least annually by the Applicant and FFO. Remedial earthwork and seeding would be performed as necessary during this time to address erosion or instances where previous seeding failed to take. Per UAC 647-3-109.13.11, reclamation would be accomplished when revegetation has achieved 70 percent of pre-mining vegetative ground cover.