

Johnson Camp Mine
Aquifer Protection Permit P-100514
Place ID # 5683, LTF # 72989
Significant Amendment

I. Introduction:

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an Aquifer Protection Permit (APP) for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards (AWQS) at the Point of Compliance (POC); and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). BADCT's purpose is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., the local subsurface geology), to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer or to prevent pollutants from reaching the aquifer.

II. Facility Location:

3048 N. Seven Dash Road
Dragoon, AZ 85609

III. Facility Description:

Johnson Camp Mine (JCM) is an open pit base metal mining/extraction operation located near the town of Dragoon in Cochise County, Arizona, approximately 60 miles east of Tucson. The mine property includes approximately 3,092 acres (about 4.8 square miles), and the mine is located in the southern half of the property.

Mine facilities include two inactive open pits (the Burro Pit and the Copper Chief Pit); a waste rock stockpile; three heap leach pads; four process solution impoundments; several stormwater ponds; a solvent extraction / electrowinning (SX/EW) plant; former crushing, agglomeration, and conveying systems; and supporting infrastructure.

Current activities consist of site maintenance and security, and circulating process solution through the heap leach pads to maintain freeboard in the pregnant leach solution (PLS) and raffinate ponds, and to allow process solution to evaporate. Planned activities consist of use of the ponds to contain process solution from the Gunnison Copper Project (APP No. 511633).

During the Stage 1 operations of the Gunnison Copper Project (APP P-511633), PLS will be pumped to the JCM impoundments (APP No. P-100514) for processing at the SX/EW plant. Raffinate will be stored, re-acidified, and pumped back to the Gunnison Copper Project wellfield.

IV. Amendment Description:

The purpose of this amendment is to approve and incorporate modifications to the ponds discussed below:

- **Raffinate Pond #1:** Modifications include removal of the existing pump station and underground pipes, and installation of a pipeline connecting the Raffinate and ILS Ponds.
- **ILS Pond:** Modifications include installation of a new primary liner, installation of a pipeline connecting the Raffinate and ILS Ponds, accepting solutions from only Raffinate Pond #1, removal of the existing pump station and underground pipes, and installation of a new pump station and underground pipes.
- **Solution Ponds #1 and Solution Pond #3:** Modifications include relocation of the divider berm closer to the heap so that the upgradient toe is at the cutoff trench, and installation of a sub-surface drain and pump within the Draindown Cell on the heap side of the cutoff trench. Modifications also include installation of a pipeline from Solution Cell #3 to the SX/EW Plant.
- **SWCP #57 and SWCP #58:** Modifications include installation of a small sump in each SWCP basin to keep pumps submerged when emptying the ponds.

V. Regulatory Status

Currently, there are no open enforcement actions for this facility.

VI. Best Available Demonstrated Control Technology (BADCT):

APP facilities at this facility include three leach pads, four process solution ponds and a sump (Intercept Sump) that is buried by Leach Pads #1 and #2, a waste rock stockpile, 10 non-stormwater ponds (two of which are buried beneath Leach Pad #3), and two inactive secondary containment ponds formerly associated with Solution Pond #1 that will be closed at mine closure.

VII. Compliance with Aquifer Water Quality Standards (AWQS):

The facility has three monitoring wells identified as Data Continuity Wells located south of the heap leach pads, upgradient of the regional groundwater flow direction. There are currently four POC wells yet to be installed in the downgradient direction of groundwater flow, generally east of the mine facility.