

MINERAL PARK MINE
Aquifer Protection Permit No. P-100517
Place ID 2476, LTF No. 73999
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. Permittee & Facility Location:

Origin Mining Company, LLC. is the owner and operator of the Mineral Park Mine. The facility is located at 8725 N. Mineral Park Road in Golden Valley, Arizona 86413.

III. Facility Description:

Origin Mining Company, LLC, operates the Mineral Park Mine, an open pit copper mine, utilizing a leaching process with recovery of copper from the leach solution through a solvent extraction-electrowinning (SX-EW) process. The owner is authorized to conduct dump and in situ rubblized leaching, and operate process solution ponds, stormwater runoff ponds, and other facilities according to the design and operational plans approved by the Arizona Department of Environmental Quality (ADEQ), Groundwater Value Stream. The pregnant leach solution (PLS) is collected and pumped to the SX plant where an organic solvent is added to extract the copper. The copper-rich feed solution is then pumped to the EW plant for electrowinning. The resulting cathodes are physically stripped of copper and the copper is shipped off-site for further processing. The raffinate is refortified with sulfuric acid and circulated back to the active leach areas.

IV. Amendment Description:

Under this amendment: The tailings impoundment will be raised by 130 feet from its current elevation of approximately 3,910 feet to the permitted crest elevation of 4,040 feet. The embankment has been designed to stay within the maximum permitted elevation and the outline shown in the APP application submitted to ADEQ in 2007. This amendment includes modification of the current construction method that allows for raises in the upstream direction, to a method using cyclones in a "centerline hybrid" or "buttressed upstream" sequence.

The permit category for this amendment was determined to be an "Significant Amendment" as per A.A.C. R18-9-A211(B)(9).

V. Regulatory Status

- Origin Mining Company, LLC, received a Consent Order, Docket No. P-01-18 dated September 5, 2018, for Aquifer Protection Permit 100517 (LTF#63328) – Section 2.6.4 Aquifer Quality Limit Violation. As of the date of this amendment issuance, the Consent Order is still active and ongoing.

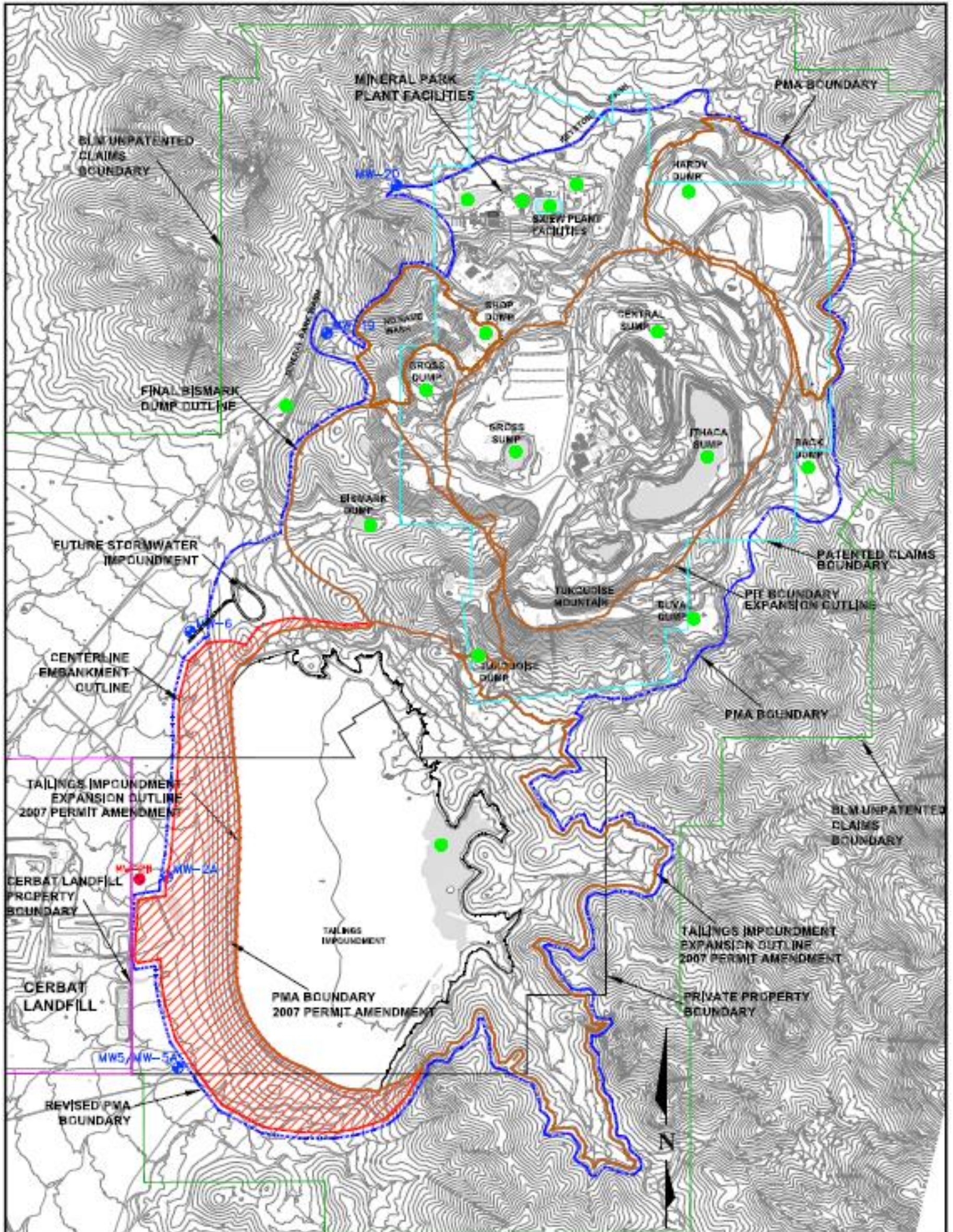
VI. Best Available Demonstrated Control Technology (BADCT):

- There are three double-lined impoundments,
 - The Raffinate Pond is in temporary cessation for repairs
- Two constructed and one unconstructed single-lined impoundments,
- One unlined impoundment with low-permeability bedrock controls,
- Five waste dumps with low-permeability bedrock controls,
- Two heap leach dumps with low-permeability bedrock controls,
- Three pit lakes, one of which acts as a hydrologic sink, with low-permeability bedrock controls,
- Numerous runoff conveyance channels with low permeability bedrock/material controls, and
- One tailings facility (Terminal Storage Facility).

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

There are five Point of Compliance (POC) wells located along the western edge of the mine's Pollutant Management Area (PMA) and downgradient of the discharging facilities. A number of these POC wells have been impacted by pollutants in concentrations above AWQS (See Section V – Regulatory Status above, and Consent Order, Docket No. P-01-18).

Pollutant Management Area



LEGEND

- CENTERLINE EMBANKMENT FOOTPRINT
- EXPANDED FACILITY BOUNDARY
- MW-19 POINT OF COMPLIANCE (POC) MONITORING WELL
- MW-23 REPLACEMENT POC MONITORING WELL (PROPOSED)
- PMA BOUNDARY
- EXISTING FACILITY
- EXISTING FACILITY FINAL OUTLINE, 2007 PERMIT AMENDMENT



PROJECT:
**MINERAL PARK MINE
APP AMENDMENT APPLICATION**

FILE:
MINE FACILITIES SITE PLAN

PREPARED BY:
AXELROD, INC.
PHOENIX, ARIZONA

SCALE: AS SHOWN	DATE: 3/26/13	BY: [Signature]
FIGURE No.:	2	

Discharge Impact Area

