

MINERAL PARK MINE
Aquifer Protection Permit No. P-100517
Place ID 2476, LTF No. 93500
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

Origin Mining Company, LLC.

III. Facility Name & Location:

Mineral Park Mine
8275 N. Mineral Park Road
Golden Valley, Arizona 86413

IV. Facility Description:

Origin Mining Company, LLC (Origin), 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.

V. Amendment Description:

The purpose of this amendment is for the following:

- To satisfy the requirements of the compliance schedule item (CSI) #4 of the previous permit related to a Revised Tailings Storage Facility (TSF) Stability Analysis Report.
- Closure of the Bismark LCP Pond to accommodate the proposed expansion of the Bismark Dump.

- Construction of the Bismark Seepage Collection Management System (SCMS) as a corrective action in response to the Consent Order No. P-01-18.
- Construction of the Hardy Dump Wellfield as a corrective action. The proposed corrective action is focused on source control through the capture of groundwater flow immediately downgradient of the Hardy Dump through the installation and operation of a wellfield.
- Updated closure and post-closure costs.

VI. 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.

VII. Best Available Demonstrated Control Technology (BADCT):

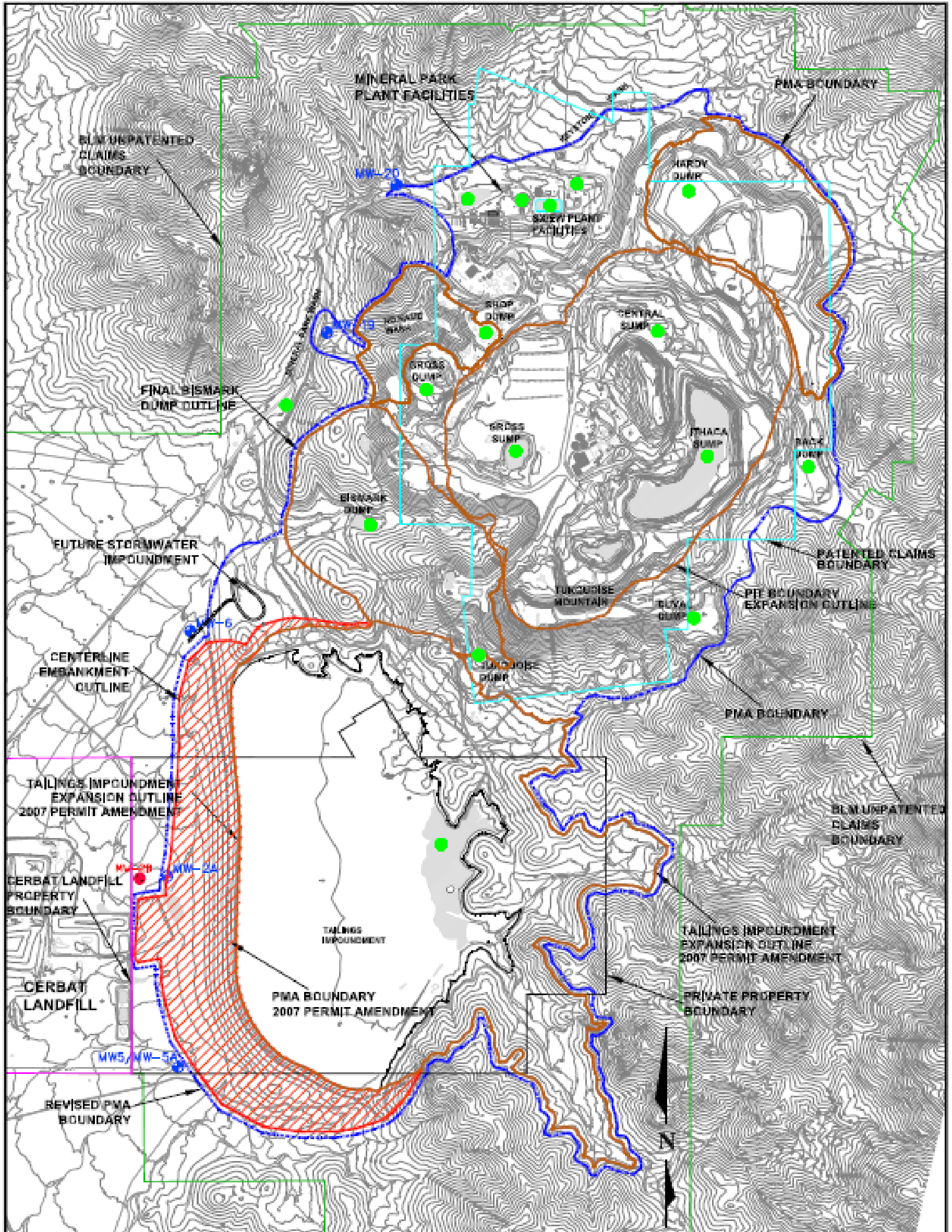
- There are three double-lined impoundments,
- Two constructed and one unconstructed single-lined impoundments,
- One unlined impoundment with low-permeability bedrock controls,
- Five waste dumps with low-permeability bedrock controls,
- Two heap leach dumps with low-permeability bedrock controls,
- 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).

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

There are five POC wells (MW-2B, MW-5B, MW-6, MW-19, and MW-20) 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).

A map of the PMA and the discharge impact area (DIA) are included.

Pollutant Management Area




LEGEND

-  CENTERLINE EMBANKMENT FOOTPRINT
-  EXPANDED FACILITY BOUNDARY
-  POINT OF COMPLIANCE (POC) MONITORING WELL
-  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 FOR	MINERAL PARK, INC.		
PREPARED BY	AXELROD, INC. PHOENIX, ARIZONA		
SCALE	AS SHOWN	CIVIL	ENGINEER
DATE	10/20/11	2	

Discharge Impact Area

