

ASARCO LLC –Mission Complex Mine Wastewater Treatment Plant
Aquifer Protection Permit No. P-512406
PLACE ID 932, LTF 81713
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:

4201 West Pima Mine Road
Sahuarita, Arizona 85629

III. Facility Description:

The ASARCO, LLC - Mission Complex Mine is authorized to operate the ASARCO, LLC - Mission Complex Wastewater Treatment Plant (WWTP), a 13,000 gallons per day (gpd) facility. The WWTP consists of an influent pump station, a package treatment plant, a UV disinfection unit and an effluent pump station. The package treatment plant is a prefabricated steel extended aeration treatment system which includes a bar screen, a flow equalization chamber, an anoxic chamber, an aerobic chamber, a clarifier and a sludge holding tank. Sludge shall be hauled off-site to a permitted facility for treatment and/or management in accordance with state and federal regulations.

The effluent will be directed through an enclosed system, comingled with approximately 64,000 tons per day (16.9 million gpd) of liquid from mining activities to the on-site Tailings Pond No. 4, which is a part of the mine site's area-wide permit (APP: P-100508). Water reclaimed from the tailings pond shall be recycled for onsite re-use in the milling process.

The WWTP shall eliminate the three existing septic tanks and adjacent leach field and is designed to pump and treat domestic wastewater generated from the ASARCO administration buildings, change houses, north mill laboratories, warehouse, weld shop, electric shop, and grey water shower system.

IV. Amendment Description:

The purpose of this amendment is to increase the flows from 9,525 gpd to 13,000 gpd.

-The facility has provided the design calculations to demonstrate that the existing WWTP can handle the flow of 13,000 gpd. The existing UV disinfection unit can handle the flow up to 25,000 gpd. All other units of the treatment train can handle the flow increase of 13,000 gpd.

V. Regulatory Status:

An application for this Significant Permit Amendment was received on March 16, 2020. The latest inspection report dated August 13, 2019, indicated that the facility was found to be in compliance with the APP and Arizona rules and statutes. At the time of permit issuance, there are no open cases.

The permit category for this amendment was determined to be a “Significant Amendment” in accordance with A.A.C. R18-9-A211(B)(2)(b), due to an increase in design flow greater than 10 percent for facilities with a permitted design flow of 500,000 mgd or less.

VI. Best Available Demonstrated Control Technology (BADCT):

The mechanical WWTP is designed to meet the treatment performance criteria for new facilities as specified in A.A.C. R-18-9-B204.

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

To ensure that site operations do not result in violation of Aquifer Water Quality Standards representative samples of the effluent will be collected at the point of discharge from the wastewater treatment plant. The permittee will monitor the effluent every day for flow rate, fecal coliform no less than four samples in each week and for total nitrogen , monthly calculation (see Section 4.2, Table IA, in the permit).

Facility inspection and operational monitoring will be performed on a routine basis (see Section 4.2, Table III, in the permit).