

Aquifer Protection Permit 511619  
 Place ID 9676, LTF 61225  
 ASARCO Ray 7E/7F Impoundment Area

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an aquifer protection permit 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. This document gives pertinent information concerning the issuance of the permit. 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 at the Point of Compliance; 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.

## I. FACILITY INFORMATION

### Name and Location

Permittee's Name:	ASARCO LLC – Ray Operations
Mailing Address:	ASARCO LLC - Ray Operations Box 640 Kearny Arizona 85137
Facility name and location:	ASARCO Ray 7E/7F Impoundment Area 27809 North Mineral Creek Rd. Kearny Arizona 85137

### Regulatory Status

The Asarco Ray 7E/7F Impoundment Area was not authorized to operate under an Aquifer Protection Permit. An application for an Individual Aquifer Protection Permit for clean closure was submitted on September 19, 2014 to close the twenty two (22) detention ponds.

### Facility Description

The ASARCO LLC Ray Mine Operations are located in eastern Pinal County, along State Highway 177, approximately ten miles to the north of Kearny. The site consists of an open-pit mine and associated leach and barren rock deposition areas (RDAs), a

mill that produces concentrate, and a solvent extraction-electrowinning (SX-EW) plant that produces electrowinned copper cathodes from the leaching operations.

This application was submitted to demonstrate clean closure for 22 detention ponds used to contain post-treatment sediments from the Goat Ranch Waste Water Plant. The treatment facility built in 1977 and operated until 1997, treated stormwater from the Big Dome Pond and Goat Ranch Pond. Nineteen of the detention ponds contained calcium sulfite silt and sediment from the treatment process. Three of the detention ponds which were never used did not contain sediments and clean closure was achieved. Closure activities completed to date for the remaining 19 impoundments include the removal of the impounded sediments to the 7-Series Rock Deposition Area (RDA), an active leach facility permitted under the ASARCO Ray Mine Operations area wide APP Inventory Number 100525. Removal of the sediments did not achieve clean closure for the 19 impoundments because soil verification sampling beneath the ponds indicated that arsenic concentrations are above applicable standards. Therefore, the detention ponds will be closed in-place.

The 22 detention ponds are located within the future footprints of the 7E and 7F sections of the 7-Series RDA. The 7-Series RDA is within the area previously determined to be within the subflow capture area of the Mineral Creek Retention Basin and associated pumpback system, as defined in the original permit application for area wide permit 100525. Closure in-place of the detention ponds will be achieved through covering of the ponds during operation of the 7E and 7F sections of the 7-Series RDA and subsequent closure activities for the RDA as required by APP 100525.

## **II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)**

Closure of detention ponds DP-14, DP-21 and DP-22 has achieved discharge reduction through clean closure since the ponds were not used for effluent disposal and did not contain accumulated sediments.

Discharge reduction in the remaining 19 detention ponds has been partially achieved through removal of the accumulated sediments. Final closure will be achieved when the detention ponds are covered by the 7-Series RDA and closure of the 7-Series RDA is achieved as required by area-wide permit 100525.

## **III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS**

### **Monitoring and Reporting Requirements**

Groundwater monitoring is not required at the POC wells. Monitoring of the POC wells is performed as required by the area wide APP 100525.

**Point(s) of Compliance (P.O.C)**

<b>POC Locations</b>	<b>ADWR Registration Number</b>	<b>Latitude (North)</b>	<b>Longitude (West)</b>
R-18	55-534853	33° 07' 34"	110° 58' 35"
R-19	55-534852	33° 07' 34"	110° 58' 35"
R-22	55-543974	33° 07' 33"	110° 58' 36"

**IV. STORM WATER and SURFACE WATER CONSIDERATIONS**

The project area is contained within the Mineral Creek hydrologic basin. There are no nearby surface water bodies. Facilities are designed to contain the 100-year, 24-hour storm event, and still maintain appropriate freeboard. Stormwater falling in Sub-area A, upstream of the Diversion Structure, will be diverted by the Mineral Creek Diversion Tunnel, and discharged into the Retention Basin downstream of Sub-area B. Stormwater falling in Sub-area A, downstream of the Diversion Structure, will report to the Ray Mine Open Pit, along with stormwater runoff from Sub-area B. Stormwater collected in the Ray Mine Open Pit will be recycled for use at the mine. Stormwater commingled with PLS in the Ray Mine Open Pit will be processed in the SX-EW Plant prior to recycling. Stormwater falling outside the impoundments, but within Sub-area C is routed into the Retention Basin. The facility does not have MSGP coverage and all stormwater related to the facility is managed under the AZ0000035 Individual AZPDES permit.

There are no stormwater considerations relating to the current closure configuration. The former pond footprints will ultimately be overlain by the 7-Series RDA. The ponds are within the Sub-area C as designated in the area wide permit 100525.

**V. COMPLIANCE SCHEDULE**

Two items are required to be submitted pursuant to Section 3.0 of the permit. The permittee is required to submit notification that the closure activities have been completed, and to submit a post-closure plan for review as a permit amendment.

**VI. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT**

**Technical Capability**

ASARCO LLC has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202(B). Consultants and contractors hired to design and/or build facility upgrades have also demonstrated the appropriate technical competence.

ADEQ requires that appropriate documents be sealed by an Arizona registered geologist or professional engineer. This requirement is a part of an on-going demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

### **Financial Capability**

The closure and post-closure costs are covered by the closure of the 7-Series RDA in the area-wide APP 100525, and by the financial demonstration in the area wide APP.

### **Zoning Requirements**

Mining activity of greater than five contiguous acres is exempt from zoning requirements pursuant to A.R.S. § 11-812.

## **VII. ADMINISTRATIVE INFORMATION**

### **Public Notice (A.A.C. R18-9-108(A))**

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

### **Public Comment Period (A.A.C. R18-9-109(A))**

The Department shall accept written comments from the public prior to granting the significant amendment. The written public comment period begins on the publication date of the public notice and extends for 30 calendar days. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

### **Public Hearing (A.A.C R18-9-109(B))**

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

**ADDITIONAL INFORMATION**

Additional information relating to this proposed permit may be obtained from:

Arizona Department of Environmental Quality  
Water Quality Division – Water Permits Section  
Attn: Maribeth Greenslade  
1110 W. Washington St., Mail Code 5415B-3  
Phoenix, Arizona 85007  
Phone: (602) 771- 4578

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