Asarco Mission Complex
FACT SHEET
EPA PERMIT NO. AZ0024635

This document gives pertinent information concerning the issuance of the NPDES permit listed below. The effluent limitations contained in this permit will maintain the Water Quality Standards listed in Arizona Administrative Code (AAC.) R18-11-101 et. seq. This permit, for a Minor facility as specified in 40 CFR 122.2, is proposed to be issued for a period of 5 years.

Permittee's Name:	ASARCO LLC - Mission Complex
Mailing Address:	4201 West Pima Mine Road Sahuarita, AZ 85629
Plant Location:	4201 West Pima Mine Road Sahuarita, AZ 85629
Contact Person:	Thomas Klempel, (520) 648-4588 Environmental Manager
NPDES Permit No.	AZ0024635

I. STATUS OF PERMIT(s)

The NPDES permit for the ASARCO Mission Complex was issued on September 26, 2008 with an effective date of October 1, 2008 and an expiry date of September 30, 2013.

ASARCO timely submitted a re-application (Forms 1 and 2F) for its NPDES permit (dated April 22, 2013). All the terms and conditions of the 2008 permit are in effect until the reissuance of a new permit. This fact sheet is based on information provided by the applicant through its application and discharge data submittal, along with the appropriate laws and regulations.

The ASARCO Mission Complex is located on both private and tribal lands, and therefore the Mission Complex is subject to the jurisdiction of both the U.S. Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ). Therefore, EPA is issuing a NPDES permit for the discharges located on Tribal Lands, and ADEQ is issuing a AZPDES permit for discharges not located on Tribal Lands. The existing AZPDES permit issued by ADEQ is AZ0024597 and was most recently reissued on July 2, 2014. ASARCO also has an Aquifer Protection Permit (APP) No. P100508 issued by ADEQ for discharges from the tailings impoundments and other discharging facilities at the Mission Complex. The APP regulates discharges to the local aquifer.

Asarco had filed a Notice of Intent (NOI) for coverage under the Multi-Sector Stormwater General Permit (AZRO5A72F) dated January 25, 2001. Discharges of stormwater from the facility were covered under a multi-sector general stormwater permit ID Number AZRO5A72F. Previous NOIs were dated January 26, 1999 (ID number AZRO5A51F) and February 3, 1993 (ID number AZR00A14F). As the result of an inspection report (dated May 3, 2002 prepared by EPA), Asarco was issued a Finding of Violation and Order for Compliance on June 20, 2002. Due to potential for exceeding water quality standards and due to non-compliance with components of the MSGP, EPA determined that Asarco Mission Complex was no longer eligible for coverage under the MSGP. As part of the order, EPA required that the Asarco Mission Complex apply for an individual NDPES permit by August 5, 2002.

The potential discharges consist of stormwater associated with industrial activity. The existing permit required that additional stormwater improvements be employed to ensure segregation of run-off and run-on stormwater. Following the completion of run-off channel repairs that were required in Appendix B to the permit, ASARCO submitted a request to modify the permit to eliminate discharge Outfalls 001A and 006L. EPA issued a minor modification to NPDES Permit No. AZ0024635 on October 6, 2010 to eliminate Outfalls 001A and 006L.

The remaining improvements require a Section 404 permit from the U.S. Army Corps of Engineers (COE). The recently issued AZPDES permit anticipates that ASARCO will install and maintain temporary stormwater controls to minimize pollutant contributions to the discharge from Outfall 007H and move forward with implementation of the final controls expeditiously and modify or reconstruct the interim control structures as necessary to accommodate the overall comprehensive stormwater control plan. It is anticipated that the remaining improvements related to the proposed NPDES permit will also be completed in this time period.

Permit conditions in the two permits are largely identical, with limited exceptions such as the discharge points authorized by each permit; the inclusion in the AZPDES permit of several conditions related to activities occurring solely on non-Tribal land; the requirement in the AZPDES permit to submit discharge flow records; and the requirements to comply with the federal Endangered Species Act contained in the EPA NPDES permit.

II. GENERAL FACILITY INFORMATION

The Mission Complex is a commercial open pit copper mine. The facility is located near Sahuarita, Arizona (18 miles south of Tucson). The mine site is spread out over an area of approximately 19,000 acres (29.7 square miles) and includes an open pit (measuring approximately 2.5 miles long by 1.5 miles across), associated crushing, grinding and flotation facilities, tailings facilities, waste rock dumps, and warehouse, maintenance and administrative areas. The area of the Mission Complex north of Pima Mine Road is located on Tribal land of the San Xavier District of the Tohono O'Odham Nation while the area south of the Pima Mine Road is primarily owned by ASARCO.

Copper mining has been conducted on the site beginning with prospectors in the 1900s. Mining continued with vertical and decline shafts in the 1920s, 1930s and 1940s. During WWII, the mine area also produced tungsten due to the high demand and price for tungsten. Open pit stripping began in 1959.

The facility has a production capacity of 400,000 tons per year of copper concentrate. The facility is currently processing approximately 53,000 tons of ore per day. Future production rates are likely to depend on copper prices. Ore is crushed via the primary gyrotory crusher, rod mill and ball mill. The ground ore is pumped as a slurry to froth flotation cells, where chalcopyrite is separated from non-copper bearing minerals. Lime, xanthates (a biodegradable additive that serves as a collecting agent), pine oil (a frothing agent), and methyl isobutyl carbonal are added to the mixture to facilitate separation of the copper mineral. In the flotation stage, the chalcopyrite attaches to the air bubbles and is skimmed off. The first stage, "roughing," removes approximately 88% of chalcopyrite. The skimmed materials from the roughing stages are re-ground and sent to secondary froth flotation cells (two stages). Tailings are collected from the roughing and secondary flotation cells and gravity-fed to the tailings ponds. For final processing, the copper concentrate (containing approximately 27% copper) is sent off-site for smelting.

From 1973 to 1978, a leaching plant was operated at the facility to acid leach copper from the oxide ore. However, the very high carbonate content of the orebody, and consequently the acid requirements for leaching, made recovery from this orebody via leaching uneconomic, and leaching ceased. A typical copper porphyry deposit, such as that found at the Mission Complex, can contain other minerals including silver, molybdenum, lead, zinc and manganese, and other elements such as traces of arsenic and tungsten. The Mission Complex currently operates a molybdenum recovery circuit.

The Mission Complex currently consists of an open pit copper/molybdenum mine that involves drilling, blasting, loading, and haulage activities to both waste rock dumps and crushers. The waste rock is not processed further. Ore is first crushed, then ground in a wet process to produce copper and molybdenum concentrates in a flotation process (as described above). The concentrates are dewatered and filtered and sent off-site for further processing. The residual material that does not float off is known as tailings. The tailings are dewatered and then delivered in a slurry form to tailings storage facilities. Water from these facilities is further decanted and returned to the process.

The Mission North Complex which is addressed by this NPDES permit renewal consists of the San Xavier North (SXN) Pit, a portion of the Mission Integrated Pit, the SXN Waste Rock Dump, the SXN Oxide Dump, the Mission North Waste Dump, 19 Dump (overburden), and Tailings impoundment 1, 2, and 3. The tailings impoundments, SXN Pit, waste rock dumps, and oxide dumps are currently inactive. No crushing or milling activities are conducted within the SXN District of the Tohono O'Odham Nation property.

In 2009 ASARCO ceased operating the tailings facilities and the waste rock disposal areas on the tribal property. In 2012 ASARCO and the Tohono O'odham Nation (TON) completed an extensive multi-year reclamation project on tailings facilities #1 ,#2 and #3, and waste rock disposal areas on the North Dump and #3 Dump. Reclamation is also planned for the SXN area but work activities have not yet been scheduled.

Stormwater controls for the un-reclaimed SXN rock deposition areas consists of storm water control channels and catchment basins to maintain segregation of stormwater run-off and run-on. The stormwater controls are maintained and functioning as designed for the waste rock deposition

areas except for the western side of the SXN Dump and Oxide Dump. Improvements and repairs to the run-on channel along the western edge of the Dump areas are pending the COE 404 permit approval.

Stormwater that enters the inactive SXN pit and the active South pit is contained within the pit and doesn't discharge to the stormwater control system or outfall. Fertilizers, herbicides, soil conditioners and pesticides are not applied in the active mine or tribal lease areas.

III. RECEIVING WATER

The State of Arizona has adopted water quality standards to protect the designated uses of its surface waters. Streams have been divided into segments and designated uses assigned to these segments. The water quality standards vary by the designated use depending on the level of protection required to maintain that use.

The current permit was modified in October 2010 as indicated above, and currently the only Outfall from the Mission Complex under the proposed NPDES permit discharges to an unnamed tributary of the Santa Cruz River from Outfall 002D, which is located at the northeast corner of Tailing Storage Facility No. 3 and receives run-off from the Mission North Dump and the side slopes of Tailing Storage Facility Nos. 1, 2 and 3 (the tailings facilities have been reclaimed). All tributaries in the vicinity of the Mission Complex are ephemeral washes that only flow during a storm event. These tributaries eventually reach the Santa Cruz River in an ephemeral segment located between the Tubac Bridge and the Roger Road WWTP. Pursuant to Arizona's water quality standards, unlisted ephemeral tributaries (such as those that would receive any discharge from the outfalls at the Mission Complex) are protected by the Aquatic and Wildlife ephemeral (A&We) and Partial Body Contact (PBC) designated uses. See A.A.C. R18-11-105.

The Status of Water Quality in Arizona - 2004 (Integrated 305(b) Assessment and 303(d)Listing) does not list as impaired the ephemeral washes near Mission or the portion of the Santa Cruz River into which these washes could flow. Nor are the receiving washes (or the downstream Santa Cruz River) listed as outstanding Arizona Waters pursuant to A.A.C. R18-11-112. Thus, the receiving ephemeral waters are considered "Tier 1" water bodies for antidegradation purposes, pursuant to Arizona Administrative Code (A.A.C.) R18-11-107.01(A)(1)(c).

The numeric effluent limitations in the EPA permit apply only to the discharges from the following NPDES discharge point:

Outfall No.	**Description of discharge**	**Location of discharge**
Outfall 002D	runoff from North Dump	Latitude: 32° 1' 45" N Longitude: 111° 1' 0" W

The numeric effluent limitations in the ADEQ permit apply only to the discharges from the following AZPDES discharge points:

Outfall No.	Description of discharge	Location of discharge
Outfall 003G	runoff from Tailings No. 6 and 7	Latitude: 31° 58' 18" N Longitude: 111° 0 ' 0 " W
Outfall 004I	runoff from Tailings No. 8	Latitude: 31° 57' 30" N Longitude: 110° 59' 45" W
Outfall 007H	runoff from Tailings No. 6 and No. 7, access road, South Pima and Mineral Hill Dump and downstream catchment basins	Latitude: 31° 57' 33" N Longitude: 110° 59' 57" W

IV. DESCRIPTION OF DISCHARGE

Potential pollutants at the Mission Complex are found in the following: process solutions, tailings reclaim water, tailings, waste rock and stormwater contaminated by contact with tailings and acid generating waste rock. However, reclaim water and process solutions are not present in the area covered by the NPDES permit and the tailings themselves have been reclaimed and are no longer exposed to storm water. Based on data provided for the aquifer protection permit, the majority of waste rock generated at the Mission Complex is not acid-generating.

Data from DMR sampling over the past permit term demonstrates that, due to retention pond containment of stormwater, no discharge was observed at outfall 002D. Outfall 001 and 006L previously permitted, have been eliminated as per the modification on October 6, 2010. Analytical data for 002D were presented in Section VII of the ASARCO application submitted on or about April 22, 2013. The data was collected in July 2008. No new discharge data was collected due to the fact that no discharge was recorded during the permit term for Outfall 002D.

V. STATUS OF COMPLIANCE

As the result of an inspection report (dated May 3, 2002 prepared by EPA), ASARCO was issued a Finding of Violation and Order for Compliance on June 20, 2002. Part of the order required that Asarco apply for an individual NPDES permit. The activities to comply with the Order were incorporated into the new NPDES permit, issued April 1, 2003. Attachment 2 to the permit included a list of specific construction and maintenance activities to be performed, and included a compliance schedule to perform these activities.

The 2003 permit incorporated a compliance schedule to allow up to 6 months to comply with effluent limitations for Outfalls 001A and 002D, and 3 years to comply with effluent limitations for Outfall 006L.

The permit incorporated a compliance schedule to allow up to 24 months to perform maintenance and construction activities that included construction/maintenance of berms, run-off controls, runon diversion controls, sediment removal, monitoring devices, and other activities to protect surface water. The permit incorporated a compliance schedule to allow up to 36 months to perform maintenance and construction activities specific to the San Xavier North Dump that included construction/maintenance of berms, run-off controls, run-on diversion controls, sediment removal, monitoring devices, and other activities to protect surface water.

In the reissued NPDES Permit in 2008 EPA included a revised compliance schedule that required the permittee to apply for a Section 404 Permit within 60 days of permit issuance. The activities detailed in Appendix B to the permit were to be completed within 9 months of receipt of the Section 404 Permit. Appendix B of the NPDES permit issued in 2008 contained essentially the same provisions that were in the previous permit. Additionally, EPA approved an alternative approach in the 2008 NPDES permit where ASARCO would construct BMPs, including diversion channels, regrading haul roads, and containment cells that would eliminate the discharge from Outfalls 006L and 001A from the San Xavier North dump areas. These outfall locations would instead be diverted to containment structures. When construction had been completed, EPA would issue a minor modification to eliminate these outfall locations from the permit. ASARCO completed construction as described above and on October 6, 2010 EPA modified the permit and Outfalls 001A and 006L were eliminated. During the previous permit cycle no discharge was recorded for Outfall 002D. Outfall 002D is the only outfall being considered under this proposed permit.

VI. DETERMINATION OF EFFLUENT LIMITATIONS

When determining what parameters need monitoring and or limits included in the draft ASARCO Mission Complex permit, both technology-based and water quality-based criteria were compared and the more stringent criteria applied.

Technology-based Limitations:

The Mission Complex operates a copper concentrator that utilizes the froth flotation process. Process wastewater discharged from the froth flotation process and mine drainage is subject to the effluent limitations at 40 CFR Part 440 Ore Mining and Dressing Point Source Category. Subpart J, the Copper, Lead, Zinc, Gold, Silver, and Molybdenum Ores Subcategory, applies to mines that produce copper, lead, zinc, gold, silver or molybdenum ores, singly or in combination, from open-pit, or underground operations.

Any discharge of mine drainage subject to Part 440 Subpart J may qualify for the *Storm exemption for facilities permitted to discharge* as permitted in 40 CFR Part 440.131 (b). This storm exemption allows a source with an allowable discharge under 40 CFR Part 440 to have an overflow as a result of a storm event that does not meet the limitations established in 40 CFR Part 440 if that facility (1) is designed, constructed and maintained to contain the maximum volume of wastewater which would be generated by the 10-year, 24 hour storm event and (2) has taken all reasonable steps to maintain treatment and minimize overflow and (3) provides notification of such discharges.

The Mission Complex will control all areas of mine drainage and areas of potential mine drainage within containment designed to contain the 24 hour, 100-year storm event. Therefore, discharges from the Mission Complex qualify for the stormwater exemption. The requirements for containment, maintenance, and sampling of runoff are detailed in Part III of the permit requiring that ASARCO establish Best Management Practices and submit a Stormwater Pollution Prevention Plan (SWPPP) for approval of the permitting authority.

Numeric Water Quality Standards: As outlined in A.A.C. R18-11-109 and Appendix A:

Per 40 CFR 122.44(d)(1)(ii), (iii) and (iv), limits have been included in the permit for parameters with reasonable potential, that is, those known to be or expected to be present in the effluent at a level that could potentially cause any applicable numeric water quality standard to be exceeded. The procedures used to determine reasonable potential are outlined in the *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001).

Permit Limitations:

Guidance for the determination of reasonable potential to discharge toxic pollutants is included in both the *Technical Support Document for Water Quality Based Toxics Control (TSD)* - Office of Water Enforcement and Permits, U.S. EPA, dated March 1991 and the *U.S.EPA NPDES Permit Writers Manual* - Office of Water, U.S. EPA, dated December 1996.

EPA's technical support document contains guidance for determining the need for permit limits. In doing so, the regulatory authority must satisfy all the requirements of 40 CFR 122.44(d)(1)(ii). In determining whether the discharge causes, has the reasonable potential to cause or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants, the regulatory authority must consider a variety of factors. These factors include the following:

- Dilution in the receiving water,
- Type of industry,
- Existing data on toxic pollutants,
- History of compliance problems and toxic impacts,
- Type of receiving water and designated use.

A. Dilution in the receiving water

All discharges from outfalls in the Mission Complex are to ephemeral washes that are tributaries to the Santa Cruz River, itself an ephemeral waterbody in this area. Discharges from the mine site through the NPDES permitted outfalls will only occur during major storm events or during very wet seasons. Discharges during these conditions would be subject to an unknown amount of dilution in the receiving water. Reasonable potential to exceed surface water quality standards in the receiving water would exist if discharges occurred from the facility during dry weather when dilution is not available, but such dry weather discharges should not occur. However, determining reasonable potential to exceed standards during wet weather cannot be accomplished unless the in-stream flow rate is known and the dilution factor can be determined.

B. Type of Industry

The Mission Complex is a copper mine employing the froth flotation process to extract copper. Effluent limitations under Part 440 Subpart J have been developed for copper mines to regulate the following metals: copper, zinc, cadmium, lead and mercury. Copper mines are assigned the highest total toxicity number for discharges under the 1987 Standard Industrial Classification (SIC) code. Reasonable potential exists for discharges from an open-pit copper mine and associated stormwater runoff to exceed surface water quality standards by nature of the type of industry.

C. Determination of Reasonable Potential

Effluent monitoring data for the Mission Complex demonstrated hardness levels up to 1140 mg/l. Arizona water quality standards allow a maximum hardness of 400 mg/l to be used in developing water quality standards.

Water quality standards for ephemeral washes are meant to be protective of acute effects, since stormwater is only present for short periods of time. If effluent meets the daily maximum standard, it will be protective of the acute toxic effect on organisms. Therefore, only Daily Maximum Discharge Limits (MDLs) were determined for this permit and were set at the lowest applicable Arizona standard. (Note: The statistical TSD procedures for setting Maximum Daily Discharge Limits and Average Monthly Limits were not used for this permit. The TSD method would only apply when both monthly and daily limits are set.)

As there was no sampling data available for discharge from Outfall 002D from the previous permit cycle, the proposed limits will maintain the limits that were in place in the previous permit.

D. Establishing Daily Maximum Permit Effluent Limitations Based on Hardness

The permit includes daily maximum permit effluent limitations for metals based on the aquatic and wildlife (ephemeral) acute toxicity criteria for copper and zinc.

The March 31, 2002, revisions to the Arizona Surface Water Quality Standards incorporated footnotes *k.1 and k.2* to Appendix A, Table 2 establishing a hardness 'cap' of 400 mg/l as calcium carbonate. The 400 mg/l 'cap' is applicable to all designated cold-water and warm-water fisheries, effluent dominated water bodies and ephemeral water bodies in Arizona. Footnotes *k.1 and k.2* require that hardness be based on the hardness of the effluent from a sample taken at the same time as the metal sample.

The average hardness values measured in effluent from the Mission Complex was 259 mg/L. Therefore, EPA used 259 mg/L for the calculation of effluent limitations. The permit includes single value effluent limitations for copper and zinc that have been calculated using the equations in the footnotes to Appendix A, Table 2 of the Arizona Surface Water Quality Standards and an upper limit hardness value of 259 mg/l.

The lead limit is based on the PBC standard rather than the A&We standard because the PBC standard, also applicable to ephemeral washes, is more stringent than the A&We standard for lead. The PBC standard is not hardness dependent.

E. Establishing Total Recoverable Metals Effluent Limitations from Water Quality Criteria

Arizona's NPDES Permit Writer' s Process Guidance Workbook (Appendix L, Water Quality based Effluent Limitations for Metals and Translator Studies) states that when developing total recoverable effluent limitations for metals, the permit writer should assume that the relationship between total recoverable and dissolved is 1:1 (i.e., translator = 1). Therefore, limitations for copper, lead and zinc have been incorporated into the permit as total recoverable limitations.

F. Final Limitations Summary

For pollutants with demonstrated reasonable potential to exceed surface water quality standards, this permit retains effluent limitations based on the most stringent state water quality standards. Permit effluent limitations based on the aquatic and wildlife, ephemeral beneficial use, were calculated using the foot-noted equations to Table 2 of the Arizona surface water quality standards and a single value hardness of 259 mg/l.

TABLE 4 - Basis For Final Permit Limitations

Parameter	Basis Daily Max.
pH	6.5 to 9 - A&We (1), PBC (2)
Copper (3)	AZ WQS - A&We (1), acute
Lead (3)	PBC (2)
Zinc (3)	AZ WQS - A&We (1) , acute

Footnotes:
(1) AZ WQS - A&We = Arizona Surface Water Quality Standard - Aquatic and Wildlife, ephemeral
(2) AZ WQS PBC = Arizona Surface Water Quality Standard - Partial Body Contact
(3) These standards are written for total dissolved metals so a translator of one to one dissolved to total recoverable is assumed. The final permit effluent limitations for these metals are listed as total recoverable metals.

G. Narrative Water Quality Standards

All applicable narrative limitations in A.A.C. R-11-108 are included in the permit**.**

VII. ANTI-BACKSLIDING

"Anti-backsliding" refers to Statutory (CWA Section 402) and regulatory (40 CFR 122.44(l)) requirements that prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the previous permit. No limits have been removed from the permit.

VIII. MONITORING REQUIREMENTS

Additional monitoring at discharge outfalls

The Mission complex had been regulated by the Multi Sector General Permit for stormwater associated with mining activities. Tables G-1, G-2 and G-3 establish benchmark monitoring parameters for active and inactive stormwater runoff.

Based on data submitted in the permit application, this permit identifies several pollutants with the reasonable potential to cause or contribute to a water quality violation. This permit establishes effluent limitations for all discharge points for pH, copper, lead, and zinc.

The previous permit required monitoring at all outfalls for those parameters listed in Tables G-1, G2, and G-3 where EPA requires more data to determine reasonable potential. These are the same monitoring requirements that were required in the Findings of Violation and Order for Compliance and that were addressed in ASARCO's sampling plan submitted to EPA on August 2, 2002. The Order required monitoring for these parameters through June 2006. Monitoring requirements included the following parameters:

Flow Rate
Total Suspended Solids
Chemical Oxygen Demand
Nitrogen as Nitrate plus Nitrite
Hardness
Turbidity
pH

Metals
Arsenic (Total recoverable and Dissolved)
Cadmium (Total recoverable and Dissolved)
Copper (Total recoverable and Dissolved)
Iron (Total recoverable)
Lead (Total recoverable)
Manganese (Total recoverable and Dissolved)
Mercury (Total recoverable and Dissolved)
Selenium (Total recoverable and Dissolved)
Silver (Total recoverable)
Zinc (Total recoverable and Dissolved)

Based on the data submitted in the permit application previously and the reasonable potential analysis conducted previously, EPA concluded that many pollutants do not have the reasonable potential to cause or contribute to a violation of water quality standards. Therefore monitoring has been discontinued for those parameters. The current permit requires continued monitoring of Total Suspended Solids (TSS), Chemical Oxygen Demand (COD), Nitrate/Nitrite (as Total N), Hardness (CaCO3), Arsenic (Total Recoverable), Cadmium (Total Recoverable), Chromium (Total Recoverable), Chromium VI (Dissolved), Mercury (Total Recoverable), and Selenium (Total Recoverable) to characterize the discharge.

IX. SPECIAL CONDITIONS

Conditions for development of Best Management Practices (BMPs) and a Stormwater Pollution Prevention Plan (SWPPP) are retained from the previous permit due to additional work that remains. The permittee shall review and make any changes as necessary to the BMPs and SWPPP to reflect exiting and ongoing operations.

Development of Best Management Practices

The ASARCO Mission Complex filed its Notice of Intent (NOI) for coverage under the Multi-Sector Stormwater General Permit dated January 25, 2001. The MSGP requires the preparation and maintenance of a SWPPP as indicated in Part 4 and Part 6.G.6.1 of the MSGP.

As the result of an inspection report (dated May 3, 2002 prepared by EPA), ASARCO was issued a Finding of Violation and Order for Compliance on June 20, 2002. As part of this order, EPA found that the Mission Complex SWPPP was inadequate and required that the ASARCO Mission Complex submit a revised SWPPP for approval by EPA. The Order for compliance included the following specific requirements for compliance with the SWPPP:

a. Conduct a drainage basin assessment to determine the outline of each basin, and its BMP(s) and designated outfall, or termination (if controlled by evapotranspiration or infiltration. Describe assumptions and methods used to determine the position of drainage divides. The method must include field verification. Present this data on the site map.

b. Assess all facilities according to Table G-4 of the MSGP and categorize which facilities and discharges are eligible for coverage under the MSGP, and which facilities and discharges-include process fluids, mine drainage or other pollutants that may cause or contribute to violations of water quality standards are ineligible for coverage under the MSGP. Process fluid facilities must be designated as such, and represented on the site map. Facilities with a potential to discharge process solution are subject to effluent limitation guidelines under 40 CFR 440. Containment or control must be demonstrated for all disturbed areas of the mine.

c. Determine stormwater capacities for all MSGP and non-MSGP retention basins and conveyance structures around the site. Diversion and conveyance structures must be able to contain expected monsoon-type flows. Calculations must be provided.

d. Describe structures that will prevent commingling of MSGP stormwater runoff and process fluids.

e. Describe appropriate BMPs that you will use to control pollutants in stormwater discharges for areas where BMPs are not currently in place or for ones that need modification. Include performance standards. Design all MSGP appropriate facilities to be as close to the source of pollutants as possible.

f. Revise the site map and show all features required in Part 6.G.6.1.2. and Part 4.2.2.3. of the MSGP. Include the mine feature (such as topographic lines representing tailings facility 4) to which the BMPs are applied. Include process water controls, and storage facilities, drainage area boundary lines and outfall or termination points.

g. Describe a method to implement repairs to facility deficiencies found during regular maintenance inspections at all stormwater facilities. Implement monthly inspections and monitoring to insure that inspection maintenance related repairs are being done in accordance with the MSGP.

To date, ASARCO has complied with the requirements of the order and the activities are ongoing at the Mission Complex. ASARCO submitted a revised SWPPP (dated August 2, 2002) to EPA for approval. A modified version of this SWPPP was approved by EPA on July 16, 2003.

Permit SWPPP requirements

As noted in Section V, EPA determined in the Compliance Order that the Mission Complex is no longer eligible for coverage under the MSGP. Therefore, the draft permit identifies specific BMP requirements to be included in the SWPPP. The SWPPP includes requirements (such as inspections, maintenance and employee training) that will remain in place throughout the life of the permit.

The permit contains specific requirements for the SWPPP based on the required components of the

MSGP and on ASARCO' s proposed SWPPP. Specific components to be included in the SWPPP are a site description, evaluation of potential pollution sources, methods for the control of mine drainage, construction of stormwater diversions, stormwater containment controls, stormwater source controls, corrective measures, site inspection and maintenance, employee training, and requirements for a site map.

Due to the potential for runoff generated from the mine site to cause or contribute to a violation of water quality standards, the SWPPP will include provisions for stormwater management.

All stormwater at the Mission Complex will be controlled through one or a combination of the following four methods:

1. Stormwater run-off will be diverted through berms, channels, or dikes designed to convey the 100 year, 6 hour storm event to containment areas where no discharge of water occurs;

2. Stormwater run-off will be diverted through berms, channels, or dikes designed to convey the 100 year, 6 hour storm event to containment areas designed to hold the 100 year 24 hour storm event;

3. Stormwater run-on (generated from off-site) will be diverted around mining activities to prevent contact with areas disturbed by mining; or

4. Potential stormwater contaminants will be controlled at the source by capping, removing all exposed mineralized materials, or other reclamation and by stabilizing and protecting surface areas to effectively control erosion or leaching of contaminants.

When the permittee completes the work required by the permit and the compliance order, the Mission Complex will provide 100-year, 24-hour containment for virtually all stormwater at the facility. At that point, the single outfall identified in this permit would not discharge except during storm events exceeding the 100-year, 24-hour event. In some cases, EPA and ADEQ have considered facilities providing physical containment (not including pumping) sufficient to contain the 100-year, 24-hour storm event as zero discharge facilities. However, the enhanced containment at Mission has not been completed at the time of drafting this permit, so the existing discharge point is identified as an outfall in the permit. At the time of permit renewal, the permittee may raise with the permitting authority the necessity of permitting outfalls that are capable of containing runoff associated with the 100-year, 24-hour storm event.

Regulatory Basis for Best Management Practices Program

The regulations at 40 CFR 122.44(k)(4) state that:

"In addition to the conditions established under ï 122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable.

(k) Best management practices (BMPs) to control or abate the discharge of pollutants when: (4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA."

The development of BMP plans and individual best management practices for mining operations is supported by the nature of mining operations in general. Disturbance of the overburden due to surface mining causes significant changes in the physical and chemical nature of the mined area, and BMPs are designed to avoid or control discharges which may cause or contribute to violations of water quality standards.

Compliance Schedule

The requirements for schedules of compliance are stated in the Arizona surface water quality standards at A.A.C. R18-11-121. The requirements of A.A.C. R18-11-121 allow a compliance schedule to be established to bring a point source discharge of stormwater into compliance with a water quality standard.

Pursuant to Compliance Order No. CWA 402-9-02-31, the Permittee has developed a work plan for compliance with the Order and the existing NPDES permit. The work plan established a schedule to implement the construction and maintenance activities necessary to provide the stormwater containment and control mandated by the Order and the permit. This schedule was incorporated into a compliance schedule in the existing permit, and most of the work has been

completed. However, as described above, some of these activities likely require a federal Section 404 permit prior to construction. In addition, as discussed above, there were uncertainties regarding reclamation standards in some areas, and Asarco was denied legal access to the San Xavier North area for several years as a result of a lease termination, which prevented it from seeking a Section 404 permit for all remaining compliance schedule work. Therefore, some of the required control work (i.e., that which would involve disturbance of washes that have been delineated as waters of the United States) has not yet been completed. Therefore, EPA included in the existing permit a revised compliance schedule that required the permittee to apply for a Section 404 Permit within 60 days of permit issuance. The Mission Complex applied for a Section 404 permit within the 60-day timeframe and then prepared a subsequent revised application in May 2013. The permit has not yet been issued.

X. ENDANGERED AND THREATENED SPECIES

A. Biological Evaluation

Biological surveys were conducted in 1995 and 1997 in connection with a proposed expansion of the Mission Complex. The 1995 and 1997 surveys indicated the presence of the Pima pineapple cactus (PPC) in and around the Mission Complex.

The SWPPP submitted to EPA as part of the Order for Compliance requires Asarco to construct additional stormwater containment facilities for the control of runoff. Due to the known presence of endangered species, Asarco conducted a biological survey to evaluate the potential effects of construction on endangered species.

A new biological survey was conducted in 2002 for the Pygmy Owl and the PPC. No pygmy owl was found on private lands. The construction of stormwater controls will affect the PPC. Construction of the stormwater controls is expected to disturb approximately 165 acres, and a survey for PPC was completed for 150' around the perimeter. The biological assessment assumed a 100' disturbance (although actual disturbance may be down to 50' in some areas). The survey found 70 PPC, of which 17 PPC will be directly affected by constructing the stormwater controls.

A formal endangered species consultation with the U.S. Fish and Wildlife service was conducted regarding the PPC. EPA, ASARCO, and the Tohono O'Odham propose the following measures to minimize potential adverse effects to the PPC and its habitat:

1. Stormwater controls will be designed in such a way as to avoid individual PPC and areas of PPC concentration insofar as practicable while complying with the SWPPP.

2. The release of channelized run-on stormwater at the SWPPP-designated outfall will be directed into existing ephemeral drainages rather than as sheetflow dispersed over the general area. No PPC or suitable PPC on the Mission complex, or adjoining areas beyond the footprint of the Mission complex, will be adversely affected by discharge of stormwater or invasion of exotic plants as a result of excess water, erosion, or deposition of excessive amounts of silt or other materials.

3. The Tohono O'Odham Nation has jurisdiction over PPC on their lands and the disposition of the 13 PPC located on Tohono O'Odham lands will be determined by Tohono O'Odham, San XavierDistrict natural resources staff, and Asarco before removal.

4. The proposed action on Tribal and Asarco private property will result in the permanent removal of 58.5 acres of PPC habitat. Asarco is going to expand its existing 877-acre conservation area by 58.5 acres to compensate for the loss of PPC habitat. The location of this additional acreage will be within the Mission Complex, but not necessarily adjacent to the existing conservation area. The location will be coordinated with the FWS.

5. The four PPC that are on private lands within the Mission complex will be transplanted to Asarco's existing PPC conservation area.

The consultation was concluded and the following are the recommendations from the Biological Opinion:

1) EPA would work with Asarco and FWS to expand the size of the PPC conservation area at the Mission complex.

2) EPA would work with Asarco and FWS to transplant affected PPC to the newly expanded segments of the conservation area.

3) EPA would participate on the stakeholder participation team developing the Pima pineapple cactus recovery plan and consider contributing to on-going survey efforts in Pima and Santa Cruz counties to determine the status of PPC on State lands.

4) EPA, in cooperation with FWS, would develop long-term conservation strategies for PPC and incorporate those strategies into the NPDES program

The current renewal permit proposed by EPA eliminates discharge from two out of three Outfalls. The one Outfall that is permitted, i.e. Outfall 002D had no discharge during the period from July 2008 to date.

A review of a list of threatened or endangered species found in the area, as provided by USFWS indicates that several new species as were listed or proposed in the interim as follows: The California Least tern (*Sterna antillarum browni*), Sonora chub (*Gila ditaenia*), Acuna Cactus (*Echinomastus erectocentrus var. acunensis*), Canelo Hills ladies'-tresses (*Spiranthes delitiescens*), and Northern Mexican gartersnake (*Thamnophis eques megalops*). Based on a review of the distribution and habitat requirements of listed as well as proposed species EPA believes that any discharge in compliance with this permit will have no effect on any federally listed threatened or endangered species. EPA may decide that changes to the permit may be warranted based on receipt of new information and EPA will initiate consultation should new information reveal impacts not previously considered, or should the activities affect a newly-

listed species. Re-opener clauses have been included in the permit should new information become available to indicate that the requirements of the permit need to be changed.

XI. PERMIT REOPENER

The draft permit contains a reopener clause to allow for modification of the permit if reasonable potential is demonstrated during the life of the permit.

XII. STANDARD CONDITIONS

Conditions applicable to all NPDES permits are included in accordance with 40 CFR Part 122.

XIII. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-A907)
The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application. 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. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

Public Comment Period (A.A.C. R18-9-A908)
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 EPA. After the closing of the public comment period, EPA 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-A908(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.

XIV. Additional Information

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

U.S. Environmental Protection Agency, Region IX
CWA Standards & Permits Office Mail Code: WTR-5
75 Hawthorne Street
San Francisco, California 94105-3901
Telephone: (415) 972-3516
Attn: Gary Sheth

ADEQ
Water Quality Division - Surface Water Permits Unit Mail Code: 5415B-3
Attn: Marnie Greenbie
1110 W. Washington Street
Phoenix, Arizona 85007
Telephone: (602) 771-4675