

**STATE OF ARIZONA
AQUIFER PROTECTION PERMIT NO. P- 103998
PLACE ID 145513, LTF 47916**

1.0 AUTHORIZATION

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3 and Chapter 4 Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A. A. C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, Silver King Mining Company, LLC is hereby authorized to operate the Silver King Mine located in the Pioneer (Superior) Mining District Pinal County, approximately three miles north of the Town of Superior, Arizona in Township 1 South, Range 12 East in the northwest ¼ of the southeast ¼ of the south ½ of Section 24, of the Gila and Salt River Base Line and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The Permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below, or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant, and as determined at the applicable POC, occurs as a result of the discharge from the facility.

1.1 PERMITTEE INFORMATION

Facility Name: Silver King Mine

Facility Address: Silver King Mine Road (Forest Service Road FS229)
Superior, Arizona
Pinal County

Permittee: Silver King Mining Company, LLC
Permittee Address: 56389 E. Simmons Way
Kearny, AZ 85237

Permitted Flow Rate: Approximately 1,000 gallons per day (gpd)

Facility Contact: Ron Deen Jr.
Emergency Phone No.: 520-840-0753

Latitude/Longitude: 33° 19'48" N / 111° 05' 13" W
Legal Description: Township 1 South, Range 12 East in the northwest ¼ of the southeast ¼ of the south ½ of Section 24 of the Gila and Salt River Base Line and Meridian.

1.2 Authorizing Signature

Trevor Baggio, Director
Water Quality Division
Arizona Department of Environmental Quality

Signed this ____ day of _____, 2016

2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]**2.1 Facility / Site Description [A.R.S. § 49-243(K)(8)]**

The Silver King Mining Company LLC. (SKMC), is authorized to operate the Silver King Mine (SKM), located within the 20-acre unpatented El Medico mining claim, on an approximately five-acre parcel, three miles north of the Town of Superior, Arizona. The land occupied by the SKM is owned and managed by United States Forest Service (USFS).

The SKM is an underground mining operation discovered in 1875 and operated between 1875 through 1891, and intermittent operations through the 1920's. The SKM's underground operations extend to a total depth of 750 feet below ground surface (ft bgs) with seven main levels. In the 1980's there was a short period of time when a cyanide leaching operation occurred using existing low-grade waste dump materials. After the cyanide leaching operation occurred, the property was inactive from the 1980's through 1997, when SKM was purchased by the applicant, SKMC. In the late 1990s, SKM was operated by the SKMC and tailings were generated for a period of time. The tailings were placed in the tailings impoundment and the secondary pond was used to contain stormwater and overflow water from the tailings impoundment. Cessation of operations by the applicant in the late 1990s.

SKM is reactivating the underground mine to recover silver ore from a standard square set drift development with open stoping mining operation. SKM will mill the ore on-site using grinding and crushing with a jaw crusher, double-deck screen, cone crusher and ball mill. From the ball mill, the crushed and ground ore will go to the flotation facilities using a conditioning tank, flotation cells, a thickener, filter plant, dryer holding tank and concentrating table. The tailings slurry will then be placed within the tailings impoundment.

SMK has five existing discharging facilities and two future discharging facilities. The two existing ore stockpiles, tailings impoundment, secondary pond and tertiary pond are the current discharging facilities. Of the five current discharging facilities, the tertiary pond is covered under SKM's Multi-Sector General Permit (MSGP) and is therefore covered under Arizona Revised Statutes (A.R.S.) § 49-245.01 Storm Water General Permit. The future discharging facilities are the new Ore Stockpile and the SKM shaft and related underground workings since tailings mixed with cement will be placed back into the mine.

The site includes the following permitted discharging facilities:

Facility No.	Facility Name	Latitude (North)	Longitude (West)
1	Tailings Impoundment	33° 19' 47.0"	111° 05' 18.0"
2	Secondary Pond	33° 19' 47.2"	111° 05' 19.8"
3	Mine Shaft	33° 19' 48.1"	111° 05' 14.3"
4	Existing Ore Stockpile 1	33° 19' 48.2"	111° 05' 16.9"
5	Existing Ore Stockpile 2	33° 19' 49.0"	111° 05' 15.7"
6	(Future) New Ore Stockpile	33° 19' 47.7"	111° 05' 16.6"

2.1.1 Tailings Impoundment

The 0.63 acre tailings impoundment was developed in the late 1870's for tailings deposition. The tailings impoundment will be separated into two areas; the lower portion and the upper portion. The tailings will be discharged to lower area of the tailings impoundment and every six to 12 months the tailings in the lower area will be moved to the upper area for drying. Once the tailings are dry they will be mixed with cement for use as underground fill material through the mine workings.

2.1.2 Secondary Pond

The 0.10 acre Secondary Pond was constructed in the early 1980's. The pond has a capacity of approximately 112,000 gallons and is approximated 0.1 acres (100 feet by 45 feet) with a maximum depth of 5 feet. The pond was used for stormwater containment and overflow water from the tailings. The pond was constructed with a synthetic geomembrane liner that is anchored

on one side with concrete. The secondary pond shall not be used for operation and shall be closed in accordance with Sections 2.9.1.1 and 3.0, item no. 3.7.

2.1.3 Mine Shaft

The underground mine was developed in 1875 and will continue to be mined. In addition dried tailings from the upper portion of the tailings impoundment will be mixed with cement for use as underground fill material throughout the mine workings.

2.1.4 Existing Ore Stockpiles

The two existing ore stockpiles (Stockpile 1 and Stockpile 2) were developed prior to 1986. The stockpiles contain approximately 8,000 tons of ore and will be removed and processed once operations begin. The stockpiles shall be protected from stormwater run-on and any stormwater run-off from the stockpiles shall be diverted to the Tailings Impoundment.

2.1.5 (Future) New Ore Stockpile

The excess ore from the underground mining operation that exceeds the mill capacity will be temporarily stored in the new ore stockpile. The ore stockpile shall be protected from stormwater run-on and any stormwater run-off from the stockpile shall be diverted to the Tailings Impoundment. The ore stockpile shall be constructed per ADEQ approved plans as per the Compliance Schedule, Section 3.0, item no. 3.9.

Annual Registration Fee [A.R.S. § 49-242]

The Annual Registration Fee for this permit is established by A.R.S. § 49-242 and is payable to ADEQ each year. The permitted flow for fee calculation is approximately 1,000 gallons per day. If the facility is not yet constructed or is incapable of discharge at this time, the permittee may be eligible for reduced fees under the rule. Send all correspondence requesting reduced fees to the Water Quality Division of ADEQ. Please reference the permit number, LTF number and why reduced fees are requested under the rule.

Financial Capability [A.R.S. § 49-243(N) and A.A.C. R18-9-A203]

The Permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The Permittee shall be required to maintain financial capability throughout the life of the facility. The closure and post-closure costs have been estimated at \$22,635.00. The financial assurance mechanism shall be demonstrated through A.A.C. R18-9-A203(C)(7). Updated closure costs, post-closure costs and the associated financial assurance mechanism shall be provided per the Compliance Schedule, Section 3.0 items 3.10 and 3.11.

2.2 Best Available Demonstrated Control Technology

[A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]

The Construction Quality Assurance and Quality Control Plan for Silver King Mine Tailings Impoundment and upgrades as approved by ADEQ shall be followed:

2.2.1 Engineering design for SKM Tailings Storage Impoundment BADCT

The SKM tailings impoundment shall be constructed in accordance with ADEQ approved plans. The tailings impoundment was designed and signed (sealed) by Paul Axelrod, P.E. (Professional Engineer), Axelrod Inc. dated April 14, 2016.

2.2.1.1 Sub-grade Preparation

The native soil sub-grade shall be a minimum of 6 inches, compacted to a minimum of 95 percent standard Proctor dry density (ASTM Method D698). The sub-grade shall be free of debris or angular material that could damage the clay liner.

2.2.1.2 Clay Liner Design

The clay liner shall be constructed of six inches of compacted clay with a permeability of less than 1×10^{-6} cm/sec installed over 6-inch engineered native soil sub-grade. The clay liner's permeability shall be tested in a laboratory. The QA/QC during construction shall be consistent with the specific limits determined from the laboratory test results.

2.2.1.3 Liner protection

To protect the clay liner one foot of fine grained material covered with a 6mm anchored visqueen black polyethylene sheeting.

2.2.1.4 Stormwater Containment and Diversion

The calculated holding capacity of the tailings impoundment includes containment of the 100-year, 24-hour storm event. Run-on from the 100-year, 24-hour storm event shall be diverted around the tailings impoundment.

2.2.2 Site-specific Characteristics

Site specific characteristics were not considered as part of the BADCT demonstration.

2.2.3 Pre-operational Requirements

The permittee shall submit Engineer's Certificates of Completion signed, dated, and sealed by an Arizona-registered Professional Engineer for the construction of the tailings impoundment liner system. The reports shall include the results of compaction testing and shall verify that the impoundment and subgrade were constructed in accordance with ADEQ-approved plans and this permit have passed required testing. The reports shall document liner installation QA/QC procedures and final as-built plans and inspection results for all pollution control components relating to the permitted facilities per the Compliance Schedule in Section 3.0 item 3.1.

2.2.4 Operational Requirements

At a minimum, permitted facilities shall be inspected for performance levels listed in Section 4.2, Table 4.2.1. Results of these inspections shall be documented and maintained on location for at least 10 years from the date of each inspection, as required by Section 2.7.2 of this permit.

If damage is identified during an inspection that could cause or contribute to a discharge, proper repairs shall be promptly performed and documented as described in Section 2.5.2 and Section 2.7.2.

2.3 Discharge Limitations [A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]

The Permittee shall operate and maintain all permitted facilities listed below to prevent unauthorized discharges as defined in A.R.S. § 49-201(12) that result from failure or bypassing of BADCT discharge control technologies including liner failure, uncontrollable leakage, overtopping (e.g., exceeding the maximum storage capacity, defined as a fluid level exceeding the crest elevation of a permitted impoundment), berm breaches that result in an unexpected loss of fluid, accidental spills, or other causes. The discharge limitations in this section are not applicable to any discharge caused by precipitation in excess of a single design storm event (a 100-year, 24-hour event) or process overflow during a power outage exceeding 24 hours in duration.

2.4 Point(s) of Compliance [A.R.S. § 49-244]

The Point of Compliance (POC) is designated at the following location.

Well Number	POC Locations	Latitude (North)	Longitude (West)	ADWR Number
POC well	Approximately 750 feet southwest of the edge of the PMA	33° 19.740'	111° 05.464'	TBD

Groundwater monitoring is required at the POC well. SKM will submit a work plan within three months of permit issuance per the Compliance Schedule. The screen interval must cross the water table. The POC well would then be installed within six months after ADEQ's POC well work plan approval per the Compliance Schedule, Section 3.0, items 3.2, 3.3, and 3.4.

The Director may amend this permit to require installation of wells and initiation of groundwater monitoring at the POCs or to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

2.5 Monitoring Requirements [A.R.S. § 49-243(K)(1), A.A.C. R18-9-A206(A)]

Unless otherwise specified in this permit, all monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. Monitoring shall commence the first full monitoring period following permit issuance. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and Chain-of-Custody procedures shall be followed, in accordance with currently accepted standards of professional practice. Copies of laboratory analyses and Chain-of-Custody forms shall be maintained at the permitted facility. Upon request, these documents shall be made immediately available for review by ADEQ personnel.

2.5.1 Discharge Monitoring

None required by this permit.

2.5.2 Facility / Operational Monitoring

Operational monitoring inspections shall be conducted according to Section 4.2, Table 4.2.1. If any damage of the pollution control structures is identified during inspection that could cause or contribute to a discharge, proper repair procedures shall be performed. All repair procedures and materials used shall be documented in the facility log book as per Section 2.7.2.

2.5.3 Groundwater Monitoring and Sampling Protocols

The permittee shall monitor the groundwater according to Section 4.2, Tables 4.2.2 and 4.2.3.

Static water levels shall be measured and recorded prior to sampling. The well shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, and conductivity) are stable, whichever represents the greater volume. If evacuation results in the well going dry, the well shall be allowed to recover to 80 percent of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as "dry" for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the Self-monitoring Report Form (SMRF).

As an alternative method for sampling, the permittee may also conduct sampling using the low-flow purging method. Static water levels shall be measured and recorded prior to sampling. The permittee conducting low-flow purging method as described in the Arizona Water Resources Research Center, March 1995 *Field Manual for Water Quality Sampling*. The well must be purged until indicator parameters stabilize. Indicator parameters shall include dissolved oxygen, turbidity, pH, temperature, and conductivity.

2.5.3.1 Point of Compliance Well Replacement

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, exceedance of alert level (AL) for water level as required by Section 2.6.2.3.4(3), or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is 50 feet or less from the original well, the ALs and/or aquifer quality limits (AQLs) calculated for the designated POC well shall apply to the replacement well. Otherwise, the ALs and/or AQLs shall be set following the provisions in Section 2.7.4.3 of this permit.

2.5.3.2 Ambient Groundwater Quality Monitoring for Point of Compliance Wells

The permittee shall conduct ambient groundwater monitoring at the POC well as specified in the Compliance Schedule, Section 3.0, items 3.5 and 3.6 and Section 4.2, Table 4.2.2.

Based on the ambient groundwater monitoring results for the POC well, the permittee shall submit an Ambient Groundwater Monitoring Report and a request for a permit amendment to incorporate proposed aquifer quality limits (AQLs) and ALs in Section

4.2, in accordance with Section 2.7.4.3 and the Compliance Schedule, Section 3.0, item 3.6.

2.5.4 Surface Water Monitoring and Sampling Protocols

None required by this permit.

2.5.5 Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state-approved methods. If no state-approved method exists, then any appropriate EPA-approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. If all methods have detection limits higher than the applicable limit, the Permittee shall follow the contingency requirements of Section 2.6 and may propose "other actions" including amending the permit to set higher limits. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification unless exempted under A.R.S. § 36-495.02. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state-certified laboratories can be obtained at the address below:

Arizona Department of Health Services
Office of Laboratory Licensure and Certification
250 North 17th Avenue
Phoenix, AZ 85007
Phone: (602) 364-0720

2.5.6 Installation and Maintenance of Monitoring Equipment

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the Water Permits Section for approval prior to installation and the permit shall be amended to include any new points.

2.6 Contingency Plan Requirements

[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

2.6.1 General Contingency Plan Requirements

At least one copy of this permit and the approved contingency and emergency response plan submitted in the application on August 30, 2014, shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plan.

Any AL that is exceeded or any violation of an AQL, discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of a groundwater AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

2.6.2 Exceeding of Alert Levels**2.6.2.1 Exceeding of Alert Levels Set for Operational Conditions****1. Performance Levels Set for Freeboard**

In the event that freeboard performance levels in a surface impoundment listed in Section 4.2, Table 4.2.1 are not maintained, the permittee shall:

- a) Immediately cease or reduce discharging to the impoundment to prevent overtopping. Remove and properly dispose or recycle to other plant processes the excess water in the impoundment until the water level is restored at or below the permitted freeboard limit.
- b) Within 5 days of discovery, evaluate the cause of the incident and adjust operational condition as necessary to avoid future occurrences.
- c) Record in the facility log, the amount of water removed and a description of the removal method and the disposal arrangements. The facility log shall be maintained according to Section 2.7.2 (Operation Inspection/Log Book/Recordkeeping). Records documenting each freeboard incident and actions taken to correct the problem shall be included in the Annual Report as Required in Section 2.7.4.5.
- d) The facility is no longer on alert status once the operational indicator no longer indicates that the freeboard performance level is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

2. Performance Levels, Other Than Freeboard

- a. If an operational performance level (PL) listed in Section 4.2, Table 4.2.1 has been observed or noted during required inspection and operational monitoring, such that the result could cause or contribute to an unauthorized discharge, the permittee shall immediately investigate to determine the cause of the condition. The investigation shall include the following:
 - i. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the operational performance condition.
 - ii. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences.
- b. The PL exceedance, results of the investigation, and any corrective action taken shall be reported in the logbook.
- c. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5 and any necessary contingency measures to resolve problems identified by the investigation which may have led to a PL being exceeded. To implement any other corrective action the permittee may choose to obtain prior approval from ADEQ according to Section 2.6.6.

2.6.2.2 Exceeding of Alert Levels Set for Discharge Monitoring

Not applicable

2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring**2.6.2.3.1 Alert Levels for Indicator Parameters**

None required by this permit.

2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards

1. If an AL for a pollutant set in Section 4, Table 4.2.3 has been exceeded, the permittee may conduct verification sampling within 5 days of becoming aware of an AL exceedance. The permittee may

use the results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.

2. If verification sampling confirms the AL exceedance or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring to monthly. In addition, the permittee shall immediately initiate an investigation of the cause of the AL exceedance, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.
3. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Water Permits Section, that although an AL is exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency for approval in writing by the Water Permits Section.
4. Within 30 days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Water Quality Compliance Section along with a summary of the findings of the investigation, the cause of the AL exceedance, and actions taken to resolve the problem.
5. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.
6. The increased monitoring required as a result of an AL exceedance may be reduced to quarterly, if the results of eight sequential sampling events demonstrate that no parameters exceed the AL.
7. If the increased monitoring required as a result of an AL exceedance continues for more than six sequential sampling events, the permittee shall submit a second report documenting an investigation of the continued AL exceedance within 30 days of the receipt of laboratory results of the sixth sampling event.

2.6.2.3.3 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards

Not applicable

2.6.2.3.4 Alert Level for Groundwater Level

1. If the groundwater level is not within the allowable range established by the Alert Level in Section 4, Table 4.2.3, the permittee shall submit a written report within 30 days after becoming aware of the exceedance.

The report shall document the following:

- a. the as-built configuration of the well including the screened interval;
- b. all groundwater level measurements available for the well;

- c. a discussion and analysis of any trends or seasonal variations in the groundwater level measurements;
 - d. information on groundwater recharge, withdrawal or other hydrologic conditions in the vicinity of the well; and
 - e. and any other pertinent information obtained by the permittee.
2. If the groundwater level is not within the allowable range established by the Alert Level in Section 4, Table 4.2.3 for more than four sequential sampling events, the permittee shall submit a second report that evaluates the cause(s) of the exceedance and recommends whether the well should be replaced pursuant to Section 2.5.3.1. The report shall discuss and demonstrate whether samples representative of the water quality of the relevant aquifer can be practicably obtained from the well.
 3. Upon review of the submitted report, the Department may amend the permit to require replacement of the well, require additional permit conditions or other actions.

2.6.3 Discharge Limitations Violations

2.6.3.1 Tailings Impoundments: Liner Failure, Containment Structure Failure, or Unexpected Loss of Fluid for a Reason other than Overtopping

In the event of liner failure, containment structure failure, or unexpected loss of fluid resulting in an unauthorized discharge pursuant to A.R.S. § 49-201(12) as described in Section 2.3, the permittee shall take the following actions:

1. As soon as practicable, cease or minimize all discharges to the surface impoundment as necessary to prevent any further releases to the environment.
2. Within 24-hours of discovery, notify the Water Quality Compliance Section.
3. Within five days of discovery of a failure that resulted in a discharge to the subsurface, collect a representative sample of the fluid remaining in the surface impoundment. Samples shall be analyzed for the parameters specified in Section 4.3, Table 4.3.1. Within 30 days of the incident, submit a copy of the analytical results to the Water Quality Compliance Section.
4. Within 15 days of discovery, initiate an evaluation to determine the cause for the incident. Identify the circumstances that resulted in the failure and assess the condition of the surface impoundment and liner system. Implement corrective actions as necessary to resolve the problems identified in the evaluation. Initiate repairs to any failed liner, system, structure, or other component as needed to restore proper functioning of the surface impoundment. The permittee shall not resume discharging to the surface impoundment to normal operating volumes until repairs of any failed liner or structure are performed. Repair procedures, methods, and materials used to restore the system(s) to proper operating condition shall be described in the facility log/recordkeeping file and available for ADEQ review.
5. As soon as practicable, remove fluid remaining in the surface impoundment as necessary to prevent further releases to the subsurface and/or to perform repairs. Record in the facility log/recordkeeping file the amount of fluid removed a description of the removal method, and other disposal arrangements. The facility log/recordkeeping file shall be maintained according to Section 2.7.2 (Operation Inspection / Log/Recordkeeping File).
6. Within 30 days of discovery of the incident, submit a report to ADEQ as specified in Section 2.7.3.2 (Permit Violation and AL Status Reporting). Include a description of the actions performed in Subsections 1 through 5 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
7. Within 60 days of discovery, conduct an assessment of the impacts to the subsoil and/or groundwater resulting from the incident. If soil or groundwater is impacted such that it could cause or contribute to an exceedance of an AQL at the applicable

point of compliance, submit to ADEQ, for approval, a corrective action plan to address such impacts, including identification of remedial actions and/or monitoring, and a schedule for completion of activities. At the direction of ADEQ, the permittee shall implement the approved plan.

8. Within 30 days of completion of corrective actions, submit to ADEQ, a written report as specified in section 2.6.6 (Corrective Actions). Upon review of the report, ADEQ may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

2.6.3.2 Inflows of Unexpected Materials to a Surface Impoundment

The types of materials that are expected to be placed in the permitted surface impoundments are specified in Section 2.1.1 (Tailings Impoundment). If any unexpected materials flow to a permitted surface impoundment, the Permittee shall:

1. As soon as practicable, cease all unexpected inflows to the surface impoundment(s).
2. Within 24-hours of discovery, notify the ADEQ Water Quality Compliance Section.
3. Within five days of the incident, identify the source of the material and determine the cause for the inflow. Characterize the unexpected material and contents of the affected impoundment, and evaluate the volume and concentration of the material to determine if it is compatible with the surface impoundment liner. Based on the evaluation of the incident, repair any systems or equipment and/or adjust operations, as necessary to prevent future occurrences of inflows of unexpected materials.
4. Within 30 days of an inflow of unexpected materials, submit a report to ADEQ as specified in Section 2.7.3 (Permit Violation and AL Status Reporting). Include a description of the actions performed in Subsections 1 through 3 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
5. Upon review of the report, ADEQ may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, mitigation, or other actions.

2.6.4 Aquifer Quality Limit Violation

1. If an AQL set in Section 4.2 Tables 4.2.3 has been exceeded, the Permittee may conduct verification sampling within 5 days of becoming aware of an AQL exceedance. The permittee may use the results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms that the AQL is violated for any parameter or if the Permittee opts not to perform verification sampling, then the Permittee shall increase the frequency of monitoring to monthly. In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

If the AQL exceedance is verified, or if the Permittee elects not to conduct verification sampling, then the permittee also shall submit written reports as required by Section 2.7.3. The report required by Section 2.7.3(2) shall include a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the Permittee demonstrates within 90 days or a longer time period if agreed to by ADEQ that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the Permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

3. Upon review of the final submitted report, the Department may amend the permit to require

additional monitoring, increased frequency of monitoring or other actions.

4. The Permittee shall notify any downstream or downgradient users who may be directly affected by the discharge.
5. The increased monitoring required as a result of an AQL exceedance may be reduced to the regular frequency, if the results of three (3) sequential sampling events demonstrate that no parameters exceed the AL.

2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. §49-201(12) and pursuant to A.R.S. § 49-241 That Are Not Addressed Elsewhere in Section 2.6

2.6.5.1 Duty to Respond

The Permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(19)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Compliance Section within 24 hours upon discovering the discharge of hazardous material which (a) has the potential to cause an AWQS or AQL to be exceeded at a POC, or (b) could pose an endangerment to public health or the environment.

2.6.5.3 Discharge of Non-hazardous Materials

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the Water Quality Compliance Section and the Southern Regional Office within 24 hours upon discovering the discharge of non-hazardous material which (a) has the potential to cause an AQL to be exceeded, or (b) could pose an endangerment to public health or the environment.

2.6.5.4 Reporting Requirements

The Permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the Water Quality Compliance Section within 30 days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3(2). If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in that notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

2.6.6 Corrective Actions

Specific contingency measures identified in Section 2.6 and actions identified in the approved contingency plan included in the permit application referenced in Section 5.0 of this permit have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the Permittee shall obtain written approval from the Water Permits Section prior to implementing a corrective action to accomplish any of the following goals in response to exceeding an AL or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;

3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer;
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the Permittee shall submit to the ADEQ Water Quality Compliance Section, a written report describing the causes, impacts, and actions taken to resolve the problem.

2.7 Reporting and Recordkeeping Requirements

[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

2.7.1 Self –monitoring Report Form (SMRF)

1. The Permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the Permittee shall enter “not required” on the SMRF and submit the report to the Water Quality Compliance Section, Data Unit. The Permittee shall use the format devised by ADEQ.
2. The following tables contained in Section 4.2 list the parameters to be monitored and the frequency for reporting results on the SMRFs.
 - Table 4.2.3, Groundwater Compliance Monitoring
3. In addition to the SMRFs, the following information shall be included on any other permit condition being reported in the current reporting period in the Log Book:
 - Table 4.2.1, Facility Inspection Monitoring
 - Table 4.2.2, Ambient Groundwater Monitoring
 - Table 4.3.1, Compliance Discharge Characterization for BADCT Failures
 - Table 4.4.1, Clean Closure Soil Sampling

2.7.2 Operation Inspection / Log Book Recordkeeping

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector;
2. Date and time inspection was conducted;
3. Condition of applicable facility components;
4. Any damage or malfunction, and the date and time any repairs were performed;
5. Documentation of sampling date and time;
6. Any other information required by this permit to be entered in the log book, and
7. Monitoring records for each measurement shall comply with R18-9-A206(B)(2).

2.7.3 Permit Violation and Alert Level Status Reporting

1. The Permittee shall notify the Water Quality Compliance Section Unit in writing within five days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition or discharge limitation, an AQL violation, or of a groundwater Alert Level exceedance.
2. The Permittee shall submit a written report to the Water Quality Compliance Section within 30 days of becoming aware of the violation of any permit condition or discharge limitation, an AQL violation, or groundwater AL exceedance. The report shall document all of the following:
 - a. Identification and description of the permit condition for which there has been a violation and a description of its cause.
 - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue.

- c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation.
- d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard or an AQL at a POC.
- e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring.
- f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

2.7.4 Operational, Other or Miscellaneous Reporting

2.7.4.1 Well Installation Work Plan

The permittee shall submit a work plan, in accordance with the Compliance Schedule in Section 3.0, item no. 3.2 for the proposed location and well construction details for the new POC well. The work plan shall include, at a minimum, well locations, drilling methods, well construction details (screen across the water table), well development, type of geophysical logging (if proposed), etc.

2.7.4.2 Well Installation Report

A well installation report(s) shall be submitted to ADEQ within three months after the completion of new well installations in accordance with Sections 2.4 and the Compliance Schedule in Section 3.0, item no. 3.4. The well installation report shall be completed in accordance with A.A.C. R12-15-801 et seq. and consist of the following:

- Copies of ADWR Notice of Intent (NOI) and all related submittals to ADWR;
- Boring log and well as-built diagram;
- Total depth of well measured after installation;
- Top of well casing or sounding tube (whichever is used as the fixed reference measuring point) and ground surface elevation;
- Depth to groundwater;
- Geophysical logging reports and subsurface sampling results, if any;
- Description of well drilling method;
- Description of well development method;
- If dedicated sampling equipment installed, details on the equipment and at what depth the equipment was installed;
- Summary of analytical results per Section 4, Ambient Groundwater Monitoring POC Well Table for the initial groundwater sample collected after installation;
- Corresponding analytical data sheets; and
- GPS coordinates for the new well.

2.7.4.3 Ambient Groundwater Monitoring Report

The permittee shall submit a report of the ambient groundwater monitoring required under Sections 2.5.3.2 and in accordance with the Compliance Schedule in Section 3.0, item no. 3.6. The Ambient Groundwater Monitoring Report shall include summary tables of all groundwater quality data collected during the ambient groundwater monitoring period.

The Ambient Groundwater Monitoring Report shall include: depth to groundwater measurements, groundwater elevation measurements, certified laboratory reports, and field data sheets.

The permittee shall submit a report with the calculations for each AQL and AL included in the permit for review and approval by ADEQ, or the permittee may defer calculation of the AQLs and ALs to the Water Permits Section (WPS). The AQLs and ALs shall be

established and calculated by the following formula or another valid statistical method submitted to WPS in writing and approved for this permit by the WPS:

$$AL = M + KS$$

Where M = mean, S= standard deviation, and K = one-sided normal tolerance interval with a 95% confidence level (Lieberman, G.J. (1958) Tables for One-sided Statistical Tolerance Limits: Industrial Quality Control, Vol. XIV, No. 10) using a K value of 3.188 for eight samples from Table 1 of the Lieberman 1958 report. Obvious outliers should be excluded from the data used in the AL calculation.

The following criteria shall be met in establishing ALs in the permit for constituents with an AWQS:

1. The AL shall be calculated for a parameter using the analyses from a minimum of eight (8) consecutive sample rounds. The permittee shall not use more than eight (8) sample rounds in the calculation.
2. Any data where the practical quantification limit (PQL) exceeds 80% of the AWQS shall not be included in the AL calculation.
3. If a parameter is below the detection limit, the permittee must report the value as "less than" the numeric value for the PQL or detection limit for the parameter, not just as "non-detect". For those parameters, the permittee shall use a value of one-half the reported detection limit for the AL calculation.
4. If the analytical results from more than 50% of the samples for a specific parameter are non-detect, then the AL shall be set at 80% of the AWQS.
5. If the calculated AL for a specific constituent and well is less than 80% of the AWQS, the AL shall be set at 80% of the AWQS for that constituent in that well.

The following criteria shall be met in establishing ALs in the permit for constituents without an AWQS:

1. The AL shall be calculated for a parameter using the analyses from a minimum of eight (8) consecutive sample rounds. The permittee shall not use more than eight (8) sample rounds in the calculation.
2. If a parameter is below the detection limit, the permittee must report the value as "less than" the numeric value for the PQL or detection limit for the parameter, not just as "non-detect". For those parameters, the permittee shall use a value of one-half the reported detection limit for the AL calculation.

AQLs for the POC well will be calculated for each of the analytes for which a numeric AWQS has been adopted within 30 days of receipt of the laboratory analyses for the final sampling round of the ambient groundwater monitoring period for the POC well. For each of the monitored analytes for which a numeric AWQS has been adopted, the AQL shall be established as follows:

1. If the concentration of a pollutant in the aquifer does not exceed the AWQS, then the AQL shall be set equal to the AWQS.
2. If the calculated AL is less than the AWQS, then the AQL shall be set equal to the AWQS.
3. If the calculated AL is greater than the AWQS, then the AQL shall be set equal to the calculated AL value, and no AL shall be set for that constituent at that monitoring point.

2.7.4.4 Clean Closure Report

The purpose of the clean closure report is to certify that the closure was conducted according to ADEQ approved application, workplans, plans, and specifications, as applicable.

The clean closure report shall contain the information specified in A.A.C. R18-9-A209(B)(3)(b) and (c), including: (1) written verification of proper fill, grade preparation,

quality control, and inspection; proper liner integrity for ditches, installation procedures, quality control and inspection (if required); and proper channel construction, quality control and inspection (if required); (2) copies of all as-built reports, including QA/QC procedures (if required); (3) the results of soil sampling; (4) the results of any additional sampling performed during closure that were not previously submitted to ADEQ; and (5) final as-built plans and post-construction verification inspection results for all BADCT components related to the closure (if required). The closure report shall be signed and sealed by an Arizona registered Professional Engineer.

2.7.4.5 Annual Report

The permittee shall submit an annual report in narrative and/or tabular form to the Water Quality Compliance Section, Enforcement Unit that briefly summarizes the status of compliance under this permit. The report shall identify any contingency actions taken, violations of this permit, any Alert Levels or Discharge Limitations, or Aquifer Quality Limits that have been exceeded; shall summarize the findings of the monitoring required by Section 2.5, Section 2.6, and Section 4.2, Table 4.3.1 and shall include any information specifically required by permit condition to be submitted in the annual report. The annual report is to be submitted by January 30 of each year to cover activities from January 1 through December 31st of the previous year, consistent with Section 2.7.6.

2.7.5 Reporting Location

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality
 Water Quality Compliance Data and Enforcement Unit
 Mail Code: 5415B-1
 1110 W. Washington Street
 Phoenix, AZ 85007
 Phone (602) 771-4681

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to:

Arizona Department of Environmental Quality
 Water Quality Inspections and Compliance Unit
 Mail Code: 5415B-1
 1110 W. Washington Street
 Phoenix, AZ 85007
 Phone (602) 771-4497

All documents required by this permit to be submitted to the Water Permits Section shall be directed to:

Arizona Department of Environmental Quality
 Water Permits Section
 Mail Code: 5415B-3
 1110 W. Washington Street
 Phoenix, AZ 85007
 Phone (602) 771-4428

2.7.6 Reporting Deadline

The following table lists the report due dates:

Monitoring conducted during quarter:	Quarterly Report due by:
January-March	April 30
April-June	July 30
July-September	October 30

Monitoring conducted during quarter:	Quarterly Report due by:
October-December	January 30

Monitoring conducted:	Report due by:
Annual: January-December	January 30

2.7.7 Changes to Facility Information in Section 1.0

The Water Permits Section and Water Quality Compliance Section shall be notified within 10 days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person or Emergency Telephone Number.

2.8 Temporary Cessation [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]

The Permittee shall give written notice to the Water Quality Compliance Section before ceasing operation of the facility for a period of 60 days or greater.

At the time of notification the Permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ's approval, the Permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the Permittee shall provide written notice to the Water Quality Compliance Section of the operational status of the facility every three years. If the Permittee intends to permanently cease operation of any facility, the Permittee shall submit closure notification, as set forth in Section 2.9 below.

2.9 Closure [A.R.S. §§ 49-243(K) (6), 49-252 and A.A.C. R18-9-A209(B)]

For a facility addressed under this permit, the Permittee shall give written notice of closure to the Water Quality Compliance Section of the Permittee's intent to cease operation without resuming activity for which the facility was designed or operated.

2.9.1 Closure Plan

Within 90 days following notification of closure, the Permittee shall submit for approval to the Water Permits Section, a Closure Plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(3).

If the closure plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the Permittee. If the closure plan contains a schedule for bringing the facility to a clean closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

2.9.1.1 Secondary Pond Clean Closure

For the Secondary Pond clean closure, the existing tailings and plastic liner currently within the pond will be removed. Any tailings removed from the Secondary Pond shall be placed within the tailings impoundment and the remaining plastic liner will be properly disposed of. Two soil samples shall be collected following tailings and liner removal and shall be sampled for total metals, acid/base accounting, weak acid dissociable cyanide and Synthetic Precipitation Leaching Procedure (SPLP). The analysis shall include the following:

The analytes must be less than minimum Groundwater Protection Levels (GPLs) and must be non-acid generating to obtain clean closure per per Section 4.4. Table 4.4.1 and the Compliance Schedule Section 3.0, item 3.7.

2.9.1.2 Tailings Impoundment Closure

Once operations cease, the remaining tailings from the tailings impoundment shall be removed, mixed with concrete and placed within the underground workings. The clay liner shall be removed. Once the tailings and clay liner is removed, the Permittee shall

collect three soil samples using the analyte list as in Section 4.4. Table 4.4.1 for closure of the tailings impoundment.

2.9.2 Closure Completion

Upon completion of closure activities, the Permittee shall give written notice to the Water Permits Section indicating that the approved Closure Plan has been implemented fully and providing supporting documentation to demonstrate that clean closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean closure has been achieved, ADEQ shall issue a letter of approval to the Permittee at that time and shall terminate the permit. If any of the following conditions apply, the Permittee shall follow the terms of post-closure stated in this permit:

1. Clean closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with aquifer water quality standards at the applicable point of compliance;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
5. Further action is necessary to meet property use restrictions.

2.10 Post-closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Water Permits Section.

In the event clean closure cannot be achieved pursuant to A.R.S. § 49-252, the Permittee shall submit for approval to the Water Permits Section a Post-closure Plan that addresses post-closure maintenance and monitoring actions at the facility. The Post-closure Plan shall meet all requirements of A.R.S. §§ 49-201(30) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the Post-closure Plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the Post-closure Plan.

2.10.1 Post-closure Plan

Post-Closure groundwater monitoring in the POC Well shall occur annually for 10 years after closure of mining operations.

2.10.2 Post-Closure Completion

Not required at the time of permit issuance.

3.0 COMPLIANCE SCHEDULE [A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]

For each compliance schedule item listed below, the Permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Water Permits Section. A copy of the cover letter must also be submitted to the Water Quality Compliance Section.

No.	Description	Due by:	Permit Amendment
3.1	The permittee shall submit a signed, dated and sealed Engineer's Certificate of completion of the SKM Tailings Impoundment BADCT components per Section 2.2.1. The certification shall indicate that the impoundment was constructed in accordance with plans approved by ADEQ and QA/QC documentation completed for liner and subgrade preparation.	Within 90 days of completion of construction.	No
3.2	The permittee shall submit the POC well installation plan in accordance with Section 2.7.4.1.	Within 3 months of permit issuance	No
3.3	The permittee shall install the POC well.	Within 6 months of ADEQ approval of Well Installation Work Plan	No
3.4	The permittee shall submit the POC well installation report in accordance with Section 2.7.4.2.	Within 3 months of installation of the POC well	No
3.5	The permittee shall begin Ambient Groundwater Monitoring in the POC well per Section 4.2, Table 4.2.2.	Within 1 month of POC well installation	No
3.6	The permittee shall submit the Ambient Groundwater Monitoring Report in accordance with Section 2.7.4.3. Upon submittal of the Ambient Groundwater Monitoring Report to ADEQ the permittee shall request the begin monitoring per Section 4.2 Table 4.2.3.	Within 3 months of the receipt of final analytical reports	Yes
3.7	The permittee shall begin Clean Closure of the Secondary Pond per Section 2.9.1.1. The permittee shall sample for the parameters listed in Section 4.4, Table 4.4.1.	Within 3 months of receipt of soil final analytical results	No
3.8	The permittee shall submit the Secondary Pond Clean Closure Report.	Within 3 months of receipt of soil final analytical results	Yes
3.9	The permittee shall submit plans for ADEQ's approval to construction the new Ore Stockpile. The plan shall include BADCT and drainage plans.	Within 30 days of construction.	No
3.10	The permittee shall submit a demonstration that the Cash financial assurance mechanism listed in Section 2.1, Financial Capability, remains viable. The demonstration shall include a statement that the closure and post-closure strategy has not changed, the discharging facilities listed in the permit have not been altered and discharging facilities have not been added. The demonstration shall also include information in support of the cash demonstration as required in A.A.C. R18-9-A203(C)(7).	6 years from the date of permit signature, and every 6 years thereafter, for the duration of the permit.	No
3.11	The permittee shall submit updated cost estimates for facility closure and post-closure, as per A.A.C. R18-9-A201(B)(5) and A.R.S. 49-243.N.2.a, and an updated financial assurance demonstration for the updated cost estimate as per A.A.C. R18-9-A203.	6 years from the date of permit signature, and every 6 years thereafter, for the duration of the permit.	Yes

TABLES OF MONITORING REQUIREMENTS

4.1 PRE-OPERATIONAL MONITORING (or CONSTRUCTION REQUIREMENTS)

Not Required

4.2 COMPLIANCE AND OPERATIONAL MONITORING

Table 4.2.1 Facility Inspection Monitoring (Log Book)

Table 4.2.2 Ambient Compliance Monitoring

Table 4.2.3 Groundwater Compliance Monitoring

4.3 Contingency Monitoring

Table 4.3.1 Compliance Discharge Characterization for BADCT Failures

4.4 Clean Closure Soil Sampling

Table 4.4.1 Soil final analytical parameters

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE 4.2.1
FACILITY INSPECTION (OPERATIONAL MONITORING) - LOG BOOK¹

Parameter	Performance Standard	Monitoring Frequency	Reporting ² Frequency
Freeboard	2 feet	Monthly	Annually
Embankment integrity	No visible structural weakness, seepage, erosion, or other hazardous conditions	Monthly	Annually
Liner Integrity	No visible structural weakness, seepage, erosion, or other hazardous conditions	Monthly	Annually

¹ The permittee shall record the inspection performance levels in a log book as per Section 2.7.2. In the case of an exceedance, identify which structure exceeds the performance level in the log book.

² Inspection reporting shall be annually as per Section 2.7.4.2.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE 4.2.2
AMBIENT GROUNDWATER MONITORING ³

Sampling Point Number	Sampling Point Identification	Latitude	Longitude
1	Approximately 750 feet southwest of the edge of the PMA	33° 19.740' North	111° 05.464' West
Parameter	Units	Monitoring Frequency	Reporting Frequency
Depth to Water Level	Feet	Monthly	AGMR ⁴
Water Level Elevation	amsl	Monthly	AGMR
Temperature	Degrees	Monitor	AGMR
pH	S.U.	Monthly	AGMR
Specific Conductance	µmhos/cm	Monthly	AGMR
Antimony	mg/L	Monthly	AGMR
Arsenic	mg/L	Monthly	AGMR
Barium	mg/L	Monthly	AGMR
Beryllium	mg/L	Monthly	AGMR
Cadmium	mg/L	Monthly	AGMR
Total Chromium	mg/L	Monthly	AGMR
Cyanide, as Free Cyanide	mg/L	Monthly	AGMR
Fluoride	mg/L	Monthly	AGMR
Lead	mg/L	Monthly	AGMR
Mercury	mg/L	Monthly	AGMR
Nickel	mg/L	Monthly	AGMR
Nitrate as N	mg/L	Monthly	AGMR
Nitrite as N	mg/L	Monthly	AGMR
Nitrate and Nitrite as N	mg/L	Monthly	AGMR
Selenium	mg/L	Monthly	AGMR
Thallium	mg/L	Monthly	AGMR
Gross Alpha (including Radium 226) ^{5,6}	pCi/L	Monthly	AGMR
Radium 226 + Radium 228 ⁷	pCi/L	Monthly	AGMR

³ Monitoring per the Compliance Schedule 3.0, item 3.5. Monitoring may be discontinued after the ambient groundwater monitoring report has been submitted as per Section 2.5.4 and in accordance with the Compliance Schedule 3.0, item 3.6.

⁴AGMR= Ambient Groundwater Monitoring Report submitted in accordance with Section 2.7.4.3 and the Compliance Schedule 3.0, item 3.6.

⁵ The permittee shall perform ambient monitoring for radionuclides for a minimum of four months. If radionuclide concentrations are below the established numeric AWQS during those four months, no additional monitoring shall be required and the AQL shall be set at the AWQS and the AL at 80% of the AWQS. If the AWQS is exceeded during any of the four monthly rounds, then the permittee shall perform a full eight months of sampling and propose AQLs and ALs based on statistical assessment of collected data.

⁶ If the gross alpha particle activity is greater than 15 pCi/L, then calculate adjusted gross alpha particle activity. The adjusted gross alpha particle activity is the gross alpha particle activity, including radium 226, and any other alpha emitters, if present in the water sample, minus radon and total uranium (the sum of the uranium 238, uranium 235 and uranium 234 isotopes). The gross alpha analytical procedure (evaporation technique: EPA Method 900.0) drives off radon gas in the water samples. Therefore, the Adjusted Gross Alpha should be calculated using the following formula: (Laboratory Reported Gross Alpha MINUS Sum of the Uranium Isotopes).

⁷ The permittee shall perform ambient monitoring for radionuclides for a minimum of four months. If radionuclide concentrations are below the established numeric AWQS during those four months, no additional monitoring shall be required and the AQL shall be set at the AWQS and the AL at 80% of the AWQS. If the AWQS is exceeded during any of the four monthly rounds, then the permittee shall perform a full eight months of sampling and propose AQLs and ALs based on statistical assessment of collected data.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE 4.2.3
GROUNDWATER COMPLIANCE MONITORING ⁸

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
1	Approximately 750 feet southwest of the edge of the PMA			33° 19.740' North	111° 05.464' West
Parameter	AL ⁹	AQL ¹⁰	Units	Monitoring Frequency	Reporting Frequency
Depth to Water Level	Reserved ¹¹	Reserved	Feet	Quarterly	Quarterly
Water Level Elevation	Reserved	Reserved	amsl	Quarterly	Quarterly
Temperature	Not Established ¹²	Not Established	Degrees	Quarterly	Quarterly
pH	Not Established	Not Established	S.U.	Quarterly	Quarterly
Specific Conductance	Not Established	Not Established	µmhos/cm	Quarterly	Quarterly
Antimony	Reserved	Reserved	mg/L	Quarterly	Quarterly
Arsenic	Reserved	Reserved	mg/L	Quarterly	Quarterly
Barium	Reserved	Reserved	mg/L	Quarterly	Quarterly
Beryllium	Reserved	Reserved	mg/L	Quarterly	Quarterly
Cadmium	Reserved	Reserved	mg/L	Quarterly	Quarterly
Total Chromium	Reserved	Reserved	mg/L	Quarterly	Quarterly
Cyanide, as Free Cyanide	Reserved	Reserved	mg/L	Quarterly	Quarterly
Fluoride	Reserved	Reserved	mg/L	Quarterly	Quarterly
Lead	Reserved	Reserved	mg/L	Quarterly	Quarterly
Mercury	Reserved	Reserved	mg/L	Quarterly	Quarterly
Nickel	Reserved	Reserved	mg/L	Quarterly	Quarterly
Nitrate as N	Reserved	Reserved	mg/L	Quarterly	Quarterly
Nitrite as N	Reserved	Reserved	mg/L	Quarterly	Quarterly
Nitrate and Nitrite as N	Reserved	Reserved	mg/L	Quarterly	Quarterly
Selenium	Reserved	Reserved	mg/L	Quarterly	Quarterly
Thallium	Reserved	Reserved	mg/L	Quarterly	Quarterly
Gross Alpha (including Radium 226) ¹³	Reserved	Reserved	pCi/L	Quarterly	Quarterly
Radium 226 + Radium 228	Reserved	Reserved	pCi/L	Quarterly	Quarterly

⁸ Begin monitoring under this table the first quarter after ambient groundwater monitoring has been completed as per Section 2.5.3 and in accordance with the Compliance Schedule 3.0, item 3.6.

⁹ AL = Alert Levels

¹⁰ AQL = Aquifer Quality Limits

¹¹ Reserved = Monitoring is required but an AQL and/or AL is not established.

¹² NE = Not Established. A numeric AWQS has not been established through rulemaking to date.

¹³ If the gross alpha particle activity is greater than 15 pCi/L, then calculate adjusted gross alpha particle activity. The adjusted gross alpha particle activity is the gross alpha particle activity, including radium 226, and any other alpha emitters, if present in the water sample, minus radon and total uranium (the sum of the uranium 238, uranium 235 and uranium 234 isotopes). The gross alpha analytical procedure (evaporation technique: EPA Method 900.0) drives off radon gas in the water samples. Therefore, the Adjusted Gross Alpha should be calculated using the following formula: (Laboratory Reported Gross Alpha MINUS Sum of the Uranium Isotopes).

4.3 CONTINGENCY MONITORING

**TABLE 4.3.1
CONTINGENCY DISCHARGE CHARACTERIZATION FOR BADCT FAILURES AND
OVERTOPPING¹⁴**

Parameter	Units	Monitoring Frequency¹⁵
pH (field)	Standard Units	One sample
Alkalinity	mg/L	One sample
Specific Conductance (field)	umhos/cm	One sample
Nitrate + Nitrite	mg/L	One sample
Fluoride	mg/L	One sample
Antimony	mg/L	One sample
Arsenic	mg/L	One sample
Barium	mg/L	One sample
Beryllium	mg/L	One sample
Cadmium	mg/L	One sample
Total Chromium	mg/L	One sample
Lead	mg/L	One sample
Mercury	mg/L	One sample
Nickel	mg/L	One sample
Selenium	mg/L	One sample
Thallium	mg/L	One sample

¹⁴ Monitor under this table per Section 2.6.3.1, Surface Impoundments, Liner Failure, Containment Structure Failure, Unexpected Loss of Fluid, or Section 2.6.3.2, Overtopping of an Impoundment.

¹⁵ One sample shall be taken within 5 days of an event.

4.4 CLEAN CLOSURE SOIL SAMPLING

TABLE 4.4.1

SOIL SAMPLING FINAL ANALYTICAL PARAMETERS¹⁶

Parameter Analyte List	Units
Aluminum	mg/L
Antimony	mg/L
Arsenic	mg/L
Barium	mg/L
Beryllium	mg/L
Cadmium	mg/L
Total Chromium	mg/L
Copper	mg/L
Iron	mg/L
Lead	mg/L
Mercury	mg/L
Magnesium	mg/L
Nickel	mg/L
Selenium	mg/L
Silver	mg/L
Thallium	mg/L
Zinc	mg/L
Acid Base Analysis	mg/L
Acid Generating Potential	mg/L
Acid Neutralization Potential	mg/L
Non-Extractable Sulfur	mg/L
Non-Sulfate Sulfur	mg/L
Pyritic Sulfur	mg/L
Sulfate Sulfur	mg/L
Total Sulfur	mg/L
Cyanide – Weak Acid Dissociable	mg/L

¹⁶The analytes must be less than minimum Groundwater Protection Levels (GPLs) and must be non-acid generating to obtain clean closure of the Secondary Pond per Section 2.9.1.1 and the Compliance Section 3.0, items 3.7 and 3.8 and closure for the tailings impoundment per Section 2.9.1.2.

5.0 REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

1. APP Application, dated: September 3, 2014 and subsequent correspondence and technical memoranda submitted by the applicant during the permitting process.
2. Final ADEQ Hydrologist memo, dated: May 13, 2016
3. Final ADEQ Engineering memo, dated: May 13, 2016
4. Public Notice, dated: TBD , 2016
5. Responsive Summary, dated: TBD

6.0 NOTIFICATION PROVISIONS

6.1 Annual Registration Fees

The Permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by A.R.S. § 49-242.

6.2 Duty to Comply [A.R.S. §§ 49-221 through 49-263]

The Permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

6.3 Duty to Provide Information [A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]

The Permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

6.4 Compliance with Aquifer Water Quality Standards [A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]

The Permittee shall not cause or contribute to a violation of an aquifer water quality standard at the applicable point of compliance for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an aquifer water quality standard for a pollutant, the Permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

6.5 Technical and Financial Capability

[A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]

The Permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]

The Permittee shall notify the Director within five days after the occurrence of any one of the following:

1. The filing of bankruptcy by the Permittee.
2. The entry of any order or judgment not issued by the Director against the Permittee for the enforcement of any environmental protection statute or rule.

6.7 Monitoring and Records [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A206]

The Permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223 and §§ 49-241 through 49-252.

6.8 Inspection and Entry [A.R.S. §§ 41-1009, 49-203(B) and 49-243(K)(8)]

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

6.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]

The Permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices specified by this permit.

6.10 Permit Action: Amendment, Transfer, Suspension & Revocation

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

This permit may be amended, transferred, renewed, or revoked for cause, under the rules of the Department.

The Permittee shall notify the Water Permits Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

7.0 ADDITIONAL PERMIT CONDITIONS

7.1 Other Information [A.R.S. § 49-243(K)(8)]

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit the correct facts or information.

7.2 Severability

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the Permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

7.3 Permit Transfer

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).