

STATE OF ARIZONA
AQUIFER PROTECTION PERMIT NO. P-513324
PLACE ID 2833 LTF 86457

1.0 AUTHORIZATION

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2, and 3, 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, the Arizona Department of Environmental Quality (ADEQ) hereby authorizes Elim Mining (USA) Inc. to operate the Cactus Mine located in Casa Grande, Pinal County, Arizona, over the groundwater of the Pinal Active Management Area in the Eloy sub-basin, in Township 5 South, Range 5 East, Sections 26, 27, 28, 33, 34 and 35 of the Gila and Salt River Baseline and Meridian.

This permit becomes effective upon demonstration of financial capability as per Section 2.1.2. of this permit submitted along with an amendment application. Upon issuance of an amended permit, the permittee shall 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: Cactus Mine
Facility Address: 22580 W. Maricopa/Casa Grande Highway
Casa Grande, Arizona 85193
County: Pinal
Annual Registration Fee Flow Rate: 3,888,000 gallons per day (gpd)
Permittee: Elim Mining (USA) Inc.
Permittee Address: 850 W Elliot Road, Suite 106
Tempe, AZ 85284
Facility Contact: Travis Snider
Emergency Phone No.: 602-672-0598
Latitude/Longitude: 32° 56' 51" N/111° 49' 34" W
Legal Description: Township 5 South, Range 5 East, Sections 26, 27, 28, 33, 34 and 35
of the Gila and Salt River Baseline and Meridian

1.2. AUTHORIZING SIGNATURE

Randall R. Matas, Deputy Director
Water Quality Division
Arizona Department of Environmental Quality

Signed this _____ day of _____, 2021

THIS AMENDED PERMIT SUPERCEDES ALL PREVIOUS PERMITS

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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 proposed Cactus Mine is an existing mine site that was formerly operated by ASARCO. The site is located approximately 6 miles northwest Casa Grande in Pinal County, Arizona. The scope of the project is to transfer material from the existing waste rock dump on a double-lined heap leach pad measuring approximately 110 acres. The current waste rock dump (WRD) was created through dumping of waste material on bare ground consisting of alluvium. The waste material is comprised of rock that was excavated from the historical Sacaton open pit mine operated by ASARCO during the period 1974 to 1984. All oxide copper mineralization, and sulfide copper mineralization below the working grade control cutoff of 0.3% copper (Cu), as well as non-mineralized Gila Conglomerate from the west and east sides of the open pit, was deposited on the WRD. The material placed in the existing WRD is of low grade and oxidized copper resources that were not considered suitable for processing in their copper mill and concentrator operation. Elim plans to leach the WRD (stockpile) materials and process the pregnant leach solution in a solvent extraction/electrowinning (SX/EW) facility to be constructed as part of this project.

Approximately 35 million tons (MT) of material from the historical WRD will be placed on the lined leach pad at the rate of approximately 30,000 tons per day. The leach pad will be irrigated with a leach solution at the rate of 3,334 gallons per minute (gpm).

Leach solution from the Raffinate Pond will be pumped to the top of the Heap Leach Pad and dispersed by either drip lines, sprinkler heads (wobblers) or a combination of both. The solutions will percolate through the Heap Leach Pad and once it comes in contact with the liner at the bottom of the Leach Pad it will follow the contour of the liner and directed via a channel to the Pregnant Leach Solution (PLS) Pond. At this point the solution will either be sent back to the Heap Leach Pad, if the copper grade is not adequate, or the solutions will be pumped by HDPE pipeline to the Stripper Units at the Electrowinning Plant if the copper grade is adequate. Once the copper is stripped the solution will be pumped to the Raffinate Pond. From the Raffinate Pond the solution will be pumped to the top of the Heap Leach Pad to start the process again.

The site includes the following permitted discharging facilities:

Table 1: Discharging Facilities		
Facility	Latitude	Longitude
Heap Leach Pad	32° 57' 3.86" N	111° 49' 37.94" W
PLS Pond	32° 56' 52.36" N	111° 49' 36.95" W
Raffinate Pond	32° 56' 52.36" N	111° 49' 40.87" W
Event Pond	32° 56' 52.43" N	111° 49' 44.36" W

2.1.1. Annual Registration Fee

[A.R.S. § 49-242 and A.A.C. R18-14-104]

The annual registration fee for this permit is payable to ADEQ each year. The annual registration fee flow rate is established by the permitted flow rate identified in Section 1.1. If the facility is not constructed or is incapable of discharge, the permittee may be eligible for reduced fees pursuant to A.A.C. R18-14-104(A), Table 2. Send all correspondence requesting reduced fees to the Groundwater Protection Value Stream. Please reference the permit number, LTF number, and the reason for requesting reduced fees under this rule.

2.1.2. 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 maintain financial capability throughout the life of the facility. The estimated closure costs were \$544,010, and the post-closure costs were \$600,566 for total of \$1,144,576. Pursuant to A.A.C. R18-9-A203(C)(2), the financial assurance mechanism shall demonstrated through a Performance Surety Bond for \$1,144,576. This permit is contingent upon satisfaction of the aforementioned financial mechanism. The

permittee shall not conduct any construction for Heap Leach Pad and/or Ponds until ADEQ has approved a financial mechanism as per Compliance Schedule Item No. 1.

2.2. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)

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

Facilities regulated by this permit shall be designed, constructed, operated, and maintained to meet requirements specified by A.R.S. §49-243(B) and A.A.C. R18-9-A202(A)(5).

2.2.1. Engineering Design

BADCT description for the permitted facilities is presented in Section 4.1, Table 7: PERMITTED FACILITIES AND BADCT.

2.2.2. Site-Specific Characteristics

Not applicable.

2.2.3. Pre-Operational Requirements

Not applicable.

2.2.4. Operational Requirements

The discharging facilities shall be operated according to and inspected for compliance with the requirements in Section 4.1, Table 13: FACILITY INSPECTION AND OPERATIONAL MONITORING, and recorded in a log as required by Section 2.7.2. If damage is identified during an inspection that could cause or contribute to a discharge, proper repairs shall be promptly performed in accordance with Section 2.6 of this permit and recorded in a log.

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 to prevent unauthorized discharges pursuant to A.R.S. §§ 49-201(12) resulting from failure or bypassing of BADCT pollutant control technologies including liner failure, uncontrollable leakage, berm breaches that result in an unexpected loss of fluid, accidental spills, or other unauthorized discharges. The discharge limitations in this section are not applicable to any discharge caused by precipitation in excess of a single 100-year/24-hour storm event or process overflow during a power outage exceeding 24 hours in duration.

2.3.1. Discharge Limitations for the Heap Leach Pad and Diversion Structure

The drainage system for the Heap Leach Facility shall be constructed and operated in a manner to ensure adequate capacity to manage draindown solutions and stormwater runoff and direct it to the PLS Pond. Residual heap materials and fluids shall not leave the heap liner or overtop the berms.

2.3.2. Discharge Limitations for Process Solution Ponds

The PLS Pond and Raffinate Pond shall only receive process solution and stormwater.

2.3.3. Discharge Limitations for Non-stormwater Impoundment

The Event Pond shall only receive stormwater. The Event Pond will only receive process solutions as a result of storm events or process upset events.

2.4. POINT OF COMPLIANCE (POC)

[A.R.S. § 49-244]

The POCs are established by the following monitoring locations:

Table 2: POINT(S) OF COMPLIANCE			
POC #	POC Location	Latitude (North)	Longitude (West)
1 (MWLC-200)	Located 2,050 feet from the northwest corner of the Heap Leach Pad	32° 57' 34.34" N	111° 50' 13.80" W
2 (MWLC-300)	Located 3,800 feet west of the Heap Leach Pad	32° 57' 9.58" N	111° 50' 34.07" W
3 (MWLC-400)	Located 1,400 feet from the southwest corner of the Heap Leach Pad	32° 56' 46.08" N	111° 50' 3.92" W

Monitoring requirements for each POC are listed in Section 4.2, Table 11: QUARTERLY GROUNDWATER MONITORING and Table 12: SEMI-ANNUAL GROUNDWATER MONITORING.

The Director may amend this permit to designate additional POCs, 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. Unless otherwise provided, 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

2.5.1.1. Initial Discharge Characterization

Discharge monitoring shall be conducted on a one-time basis at the PLS Pond and Raffinate Pond following steady flow of PLS solutions from the Heap Leach Pad and SX/EW plant respectively in accordance with Section 4.2, Table 8: DISCHARGE MONITORING, and the Compliance Schedule in Section 3.0, in order to allow for accurate representation of process solutions. Results of the discharge monitoring shall be submitted to the Groundwater Protection Value Stream within 30 days from receipt of the laboratory analytical results.

2.5.2. Facility / Operational Monitoring

At a minimum, permitted facilities shall be inspected for performance levels listed in Section 4.2, Table 13: FACILITY INSPECTION AND OPERATIONAL MONITORING. If damage is identified during an inspection that could cause or contribute to an unauthorized discharge pursuant to A.R.S. § 49-201(12), proper repairs shall be promptly performed. Results of these inspections and monitoring activities shall be documented and maintained at the facility location for at least 10 years, and as required by Section 2.7.2 of this permit.

2.5.3. Groundwater Monitoring and Sampling Protocols

Compliance groundwater monitoring is required under the terms of this permit. For all sampling methods, static water levels shall be measured and recorded prior to sampling.

Wells 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 conduct the sampling using a low-flow purging method in accordance with accepted EPA, USGS, or DOD protocols. The well must be purged until indicator parameters stabilize. Indicator parameters shall include dissolved oxygen, turbidity, pH, temperature, and conductivity.

As a third alternative method for sampling within POC wells with very low recharge rates, the permittee may conduct the sampling using no-purge sampling techniques using HydraSleeve™ or similar type methodology. The use of HydraSleeve™ or similar type samplers shall follow accepted EPA, USGS, or DOD protocols. In addition, the HydraSleeve™ or similar type sampler shall be placed just below the water table.

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, 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 existing POC well shall apply to the replacement well. Otherwise, the ALs and/or AQLs shall be set following the provisions in Section 2.5.3.3 and Section 2.5.3.4 of this permit.

2.5.3.2. Ambient Groundwater Quality Monitoring for Point of Compliance Wells

In accordance with compliance schedule item (CSI) No. 11 in Section 3.0, the permittee shall complete 12 rounds of ambient groundwater monitoring for POC wells 1, 2, and 3 for all constituents listed as “reserved” in Section 4.2, Table 10: PARAMETERS FOR AMBIENT GROUNDWATER MONITORING.

2.5.3.3. Alert Levels for Point of Compliance Wells

ALs shall be calculated for all contaminants with an established numeric AWQS for each of the three POC wells listed in Section 4.2, Table 11: QUARTERLY GROUNDWATER MONITORING and Table 12: SEMI-ANNUAL GROUNDWATER MONITORING. For any new or replacement POC wells, ALs shall be calculated for all contaminants with an established numeric AWQS, as described below.

As per the CSI No. 12, following receipt of the laboratory analyses for the final month of the ambient groundwater monitoring period for each POC well referenced in Section 4.0, Table 4.1.3 the permittee shall submit the ambient groundwater data in tabulated form to the Groundwater Protection Value Stream for review. Following receipt of the laboratory analyses for the final month of the ambient groundwater monitoring period for each new or replaced POC well, the permittee shall submit the ambient groundwater data in tabulated form to the Groundwater Protection Value Stream for review. Copies of all laboratory analytical reports, field notes, and the Quality Assurance/Quality Control (QA/QC) procedures used in collection and analyses of the samples for all parameters listed in Section 4.2, Table 11: QUARTERLY GROUNDWATER MONITORING and Table 12: SEMI-ANNUAL GROUNDWATER MONITORING to be established for each POC well, shall be submitted to the Groundwater Protection Value Stream. The permittee may submit a report with the calculations for each AL and AQL included in the permit for review and approval by ADEQ, or the permittee may defer calculation of the ALs and AQLs by the Groundwater Protection Value Stream. The ALs shall be established and calculated by the following formula, or another valid statistical method submitted to Groundwater Protection Value Stream in writing and approved for this permit by the Groundwater Protection Value Stream:

$$AL = M + KS$$

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). 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:

1. The AL shall be calculated for a parameter using the analyses from a minimum of 12 sample events.
2. Any data where the laboratory Practical Quantitation 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.

2.5.3.4. Aquifer Quality Limits for POC Wells

For each of the monitored analytes for which a numeric AWQS has been adopted, the AQL shall be established as follows:

1. If the calculated AL is less than the AWQS, then the AQL shall be set equal to the AWQS.
2. 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

2.5.3.5. Compliance Groundwater Quality Monitoring for POC Wells

Quarterly compliance groundwater monitoring in each POC well shall commence within the first calendar quarter after completion of the ambient groundwater sampling period. For quarterly compliance monitoring, the permittee shall analyze groundwater samples for the parameters listed in Section 4.2, Table 11: QUARTERLY GROUNDWATER MONITORING. In addition to quarterly compliance groundwater monitoring, the permittee shall analyze samples from the POC wells for an expanded list of parameters on a semi-annual. For the semi-annual monitoring events in POC wells, the parameters listed in Section 4.2, Table 12: SEMI-ANNUAL GROUNDWATER MONITORING shall be analyzed. The first semi-annual sampling event shall commence with the second quarter after completion of the ambient monitoring permit as per CSI No. 12 and shall replace the regularly scheduled quarterly sampling event. Semi-annual sampling shall occur two times a year thereafter.

2.5.4. Surface Water Monitoring and Sampling Protocols

Routine surface water monitoring is not required under the terms of 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 applicable 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 Groundwater Protection Value Stream for approval prior to installation and the permit shall be amended to include any new monitoring 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 (Attachment 25G of the APP Application, dated March 4, 2021) 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 plans.

Any AL exceedance, or violation of an AQL, DL, or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3, unless more specific reporting requirements are set forth in Section 2.6.2 through 2.6.5.

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 an 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 or DL. 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 had 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. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit.

2.6.2. Exceeding of Alert Levels and Performance Levels

2.6.2.1. Exceeding of Performance Levels Set for Operational Conditions

2.6.2.1.1. Performance Levels Set for Freeboard

In the event that freeboard performance levels required by Section 4.2 Table 13: FACILITY INSPECTION AND OPERATIONAL MONITORING in a surface impoundment are not maintained, the permittee shall:

1. As soon as practicable, cease or reduce discharging to the impoundment to prevent overtopping. Remove and properly dispose or recycle to other operations the excess fluid in the reservoir until the water level is restored at or below the permitted freeboard limit.
2. Within 5 days of discovery, evaluate the cause of the incident and adjust operational conditions or identify design improvements to the affected system as necessary to avoid future occurrences.

3. Within 30 days of discovery, initiate repairs to the affected system, structure, or other component as necessary to return the system to compliance with this permit, or remove the affected system(s) from service as specified in Section 2.8 (Temporary Cessation) and Section 2.9 (Closure) of this permit. Record any repair procedures, methods, and materials used to restore the facility to operating condition in the facility log/recordkeeping file.
4. If design improvements are necessary, submit an amendment application within 90 days of discovery.
5. 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.

2.6.2.1.2. Performance Levels, other than Freeboard

1. If non-compliance with an operational performance level (PL) listed in Section 4.2, Table 13: FACILITY INSPECTION AND OPERATIONAL MONITORING 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:
 - a. 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.
 - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences.
2. The PL exceedance, results of the investigation, and any corrective action taken shall be reported to the Groundwater Protection Value Stream, within 30 days of the discovery of the condition. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.
3. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 2.6.1 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. Exceedance of Alert Level #1 for Normal Liner Leakage

If an Alert Level #1 (AL #1) as specified in Section 4.2, Table 9: LEAK COLLECTION AND REMOVAL SYSTEM MONITORING, has been exceeded, the permittee shall take the following actions:

1. Within 5 days of AL #1 exceedance, notify Groundwater Protection Value Stream in accordance with Section 2.7.3 Permit Violation and Alert Level Status Reporting. Continue monitoring to determine if the leakage rate is increasing.
2. If the leakage rate continues to exceed AL#1 for 15 days following notification of initial AL #1 exceedance, perform a visual inspection of the liner above the solution level, to determine the location of the leaks in the primary liner.
3. Within 45 days of AL #1 exceedance, if liner damage is evident, the permittee shall complete liner repairs.
4. Within 45 days of AL #1 exceedance, if the visual inspection does not identify the location of leaks, formulate a corrective action plan to determine their location and repair them.

5. Within 90 days of AL #1 exceedance and following formulation of a corrective action plan, the permittee shall complete liner repairs.
6. Within 75 days of AL #1 exceedance (if repairs were completed in Step 3), or 120 days of AL #1 exceedance (if corrective action plan was implemented per Steps 4 and 5), if no alert level exceedance is observed for 30 consecutive days, notify Groundwater Protection Value Stream and document assessment and/or repairs in the log book.
7. Within 120 days of AL #1 exceedance (if repairs were completed in Step 3), or 165 days of AL #1 exceedance (if corrective action plan was implemented per Steps 4 and 5), if 30 consecutive days without an AL #1 exceedance is not achieved, notify Groundwater Protection Value Stream and reassess the entire liner system and complete any necessary repairs as described in Steps 2 and 3 (and if necessary Steps 4 and 5 also). Repeat the assessment and liner repair cycle until requirements of Step No. 6 are attained.
8. A liner leakage assessment and repair report shall be included in the next annual report described in Section 2.7.4.1 (Annual Reporting) of this permit. The permittee may also submit the liner leakage assessment report to the ADEQ prior to the annual report due date. This liner leakage assessment and repair report shall be submitted to Groundwater Protection Value Stream. Upon review of the report, ADEQ may require that the permittee take additional corrective actions to address the problems identified from the assessment of the liner and perform other applicable repair procedures.

2.6.2.3. Exceedance of Alert Level #2 for Liner Failure or Rips

If the Liner Leakage Discharge Limit (AL #2) specified in Section 4.2, Table 9: LEAK COLLECTION AND REMOVAL SYSTEM MONITORING has been exceeded, the permittee shall:

1. As soon as practicable, cease all discharge to the impoundment, implement control measures to prevent new solution buildup that may subsequently report to the impoundment, and immediately notify Groundwater Protection Value Stream of the AL #2 exceedance.
2. Within 15 days of initial AL #2 exceedance, perform a visual inspection of the liner above the solution level to identify the location of the leak(s). The permittee shall complete liner repairs and discharge to the impoundment shall not be re-initiated until the leak(s) have been identified and repaired.
3. Within 60 days of initial AL #2 exceedance if leaks were found and fixed and if no AL #2 exceedance is observed for 30 consecutive days, submit a liner leakage assessment and repair report to ADEQ. The report shall include the results of the initial liner evaluation, methods used to locate the leak(s), repair procedures and quality assurance/quality control implemented to restore the liner to optimal operational status, and other information necessary to ensure the future occurrence of the incidence will be minimized.
4. Within 30 days of initial AL #2 exceedance if the visual inspection does not identify the location of leaks and AL #2 exceedance continues, formulate a corrective action plan to determine their location and repair them. The corrective action plan will take into account the schedule for a 3rd party contractor to perform electronic leak detection or other methods if required.
5. Within 75 days of initial AL #2 exceedance and following formulation of a corrective action plan, the permittee shall complete liner repairs
6. Within 105 days of AL #2 exceedance and implementation of the corrective action plan per Steps 4 and 5, if no AL #2 exceedance is observed for 30 consecutive days, notify Groundwater Protection Value Stream and document assessment and/or repairs in the log book.
7. Within 105 days of initial AL #2 exceedance, (if repairs were completed in Step 3), or 150 days of AL #2 exceedance (if corrective action plan was implemented per Steps 4, 5, and 6) if 30 consecutive days without an AL #2 exceedance is not achieved, repeat Steps 1 through 7 until

AL #2 is not exceeded for 30 consecutive days. When the Steps 1 through 7 are repeated, the notification date is reset. Discharge to the impoundment shall not be re-initiated until the leak(s) have been identified and repaired.

8. Liner leakage assessment and repair reports required by Section 2.6.2.2, shall be referenced in the next annual report described in Section 2.7.4.1 (Annual Reporting) of this permit.

2.6.2.4. Exceeding of Alert Levels in Groundwater Monitoring

2.6.2.4.1. Alert Levels for Indicator Parameters

Monitoring for Indicator Parameters is not required under the terms of this permit.

2.6.2.4.2. Alert Levels for Pollutants With Numeric Aquifer Water Quality Standards

1. If an AL for a pollutant set in Section 4.2, Table 11: QUARTERLY GROUNDWATER MONITORING and/or Table 12: SEMI-ANNUAL GROUNDWATER MONITORING has been exceeded, the permittee may conduct verification sampling of the pollutant(s) that exceed their respective AL(s) 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 for the pollutant(s) exceeding their respective AL(s) to the accelerated monitoring schedule in Table 3: ACCELERATED MONITORING - AQUIFER QUALITY LIMIT VIOLATION. 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 Groundwater Protection Value Stream, that although an AL is exceeded, the pollutant(s) that exceed their respective AL(s) are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency, for those pollutant(s) that exceed their respective AL(s), for approval in writing by the Groundwater Protection Value Stream.
4. Within 30 days after confirmation of an AL exceedance for those pollutant(s), the permittee shall submit the laboratory results to the Groundwater Protection Value Stream 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 for those pollutant(s) required as a result of an AL exceedance may be reduced to the frequency presented in Table 3: ACCELERATED MONITORING - AQUIFER QUALITY LIMIT VIOLATION, if the results of three sequential sampling events demonstrate that the parameter(s) does/do not exceed their respective AL(s), and upon ADEQ approval.

7. If the increased monitoring required as a result of an AL exceedance for those pollutant(s) 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.

2.6.3. Discharge Limit Violation

2.6.3.1. Liner Failure, Containment Structure Failure, or Unexpected Loss of Fluid

In the event of overtopping, liner failure, containment structure failure, or unexpected loss of fluid as described in Section 2.3, the permittee shall take the following actions:

1. As soon as practicable, cease all discharges as necessary to prevent any further releases to the environment, including removal of any fluid remaining in the impoundment as necessary, and capture and containment of all escaped fluids.
2. Within 24 hours of discovery, notify Groundwater Protection Value Stream.
3. Within 24 hours of discovery of a failure estimate the quantity released, collect representative samples of the fluid remaining in affected impoundments and drainage structures, analyze sample(s) according to Section 4.2, Table 8: DISCHARGE MONITORING and report in accordance with Section 2.7.3 (Permit Violation and AL Status Reporting). In the 30-day report required under Section 2.7.3, include a copy of the analytical results and forward the report to Groundwater Protection Value Stream.
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 discharging facility 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 discharging facility. The permittee shall not resume discharge to the facility 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. Record in the facility log/recordkeeping file the amount of fluid released, a description of any removal method and volume of any fluid removed from the impoundment and/or captured from the release area. The facility log/recordkeeping file shall be maintained according to Section 2.7.2 (Operation Inspection / Log/Recordkeeping File).

5. Within 30 days of discovery of the incident, submit a report to Groundwater Protection Value Stream as specified in Section 2.7.3. Include a description of the actions performed in Subsections 1 through 4 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
6. Within 60 days of discovery, conduct an assessment of the impacts to soil and/or groundwater resulting from the incident. If soil or groundwater is impacted such that it could or did 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 a schedule for completion of activities. At the approval of ADEQ, the permittee shall implement the approved plan.
7. Within 30 days of completion of corrective actions, submit to Groundwater Protection Value Stream, a written report as specified in Section 2.6.6 (Corrective Actions).

8. 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. Overtopping of a Surface Impoundment

If overtopping of fluid from a permitted surface impoundment occurs, and results in a discharge pursuant to A.R.S. § 49-201(12), the permittee shall:

1. As soon as practicable, cease all discharges to the surface impoundment to prevent any further releases to the environment.
2. Within 24 hours of discovery, notify Groundwater Protection Value Stream.
3. Within 24 hours, collect representative samples of the fluid contained in the surface impoundment. Samples shall be analyzed for the parameters specified in Section 4.2, Table 8: DISCHARGE MONITORING. Within 30 days of the incident, submit a copy of the analytical results to Groundwater Protection Value Stream.
4. As soon as practicable, remove and properly dispose of excess water in the impoundment until the water level is restored at or below the appropriate freeboard as described in Section 4.2, Table 13: FACILITY INSPECTION AND OPERATIONAL MONITORING. Record in the facility log/recordkeeping file the amount of fluid released, a description of the removal method and volume of any fluid removed from the impoundment and/or captured from the release area. The facility log/recordkeeping file shall be maintained according to Section 2.7.2 (Operation Inspection/LogBook/Recordkeeping File).
5. Within 30 days of discovery, evaluate the cause of the overtopping and identify the circumstances that resulted in the incident. Implement corrective actions and adjust operational conditions as necessary to resolve the problems identified in the evaluation. Repair any systems as necessary to prevent future occurrences of overtopping.
6. Within 30 days of discovery of overtopping, submit a report to ADEQ as specified in Section 2.7.3(2) (Permit Violation and Alert Level 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, and based on sampling in Item No. 3 above, conduct an assessment of the impacts to the subsoil and/or groundwater resulting from the incident.
8. 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.
9. 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.

2.6.3.3. 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 2.3 (Discharge Limitations). 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 Groundwater Protection Value Stream.
3. Within 5 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(2) (Permit Violation and Alert Level Status Reporting). Include a description of the actions performed in Subsections 1 through 3 listed above.
5. 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 including remediation.

2.6.3.4. Slope and Berm Failures

If a slope or berm failure involving the Heap Leach Pad occurs which affects the ability of the facility to operate in accordance with this permit or results in an unauthorized discharge, the permittee shall promptly close the active area in the vicinity of the failure, and conduct a field investigation of the failure to analyze its origin and extent, its impact on the facility operations, temporary and permanent repairs and changes in operational plans considered necessary. Within 30 days of a slope or berm failure, the permittee shall submit a written report, which includes the documentation specified in Section 2.7.3 of this permit. The permittee shall initiate the actions necessary to mitigate the impacts of the failure, consistent with Department approval.

2.6.4. Aquifer Quality Limit Exceedances

1. If an AQL set in Section 4.2, Table 11: QUARTERLY GROUNDWATER MONITORING and Table 12: SEMI-ANNUAL GROUNDWATER MONITORING has been exceeded, the permittee may conduct verification sampling for those pollutant(s) that were above their respective AQL(s) within 5 days of becoming aware of the exceedance. The permittee may use 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 does not confirm an AQL exceedance, no further action is needed under this Section.
3. If verification sampling confirms that an AQL was exceeded for any parameter or if the permittee opts not to perform verification sampling, then, the permittee shall increase the frequency of monitoring for those parameters as follows:

Table 3: ACCELERATED MONITORING - AQUIFER QUALITY LIMIT VIOLATION	
Specified Monitoring Frequency	Monitoring Frequency for AQL Violation
Daily	Daily
Weekly	Daily
Monthly	Weekly
Quarterly	Monthly
Semi-annually	Quarterly
Annually	Quarterly

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.

The permittee also shall submit a report according to Section 2.7.3, which includes 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 30 days 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.

Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

4. If the violation continues for 60 days, the permittee shall notify any downgradient users who may be directly affected by the discharge.

If the violation continues for 90 days, then the permittee shall prepare and submit for ADEQ approval a hydrogeologic investigation work plan within 30 days after receiving the laboratory results of the third sampling event. The work plan shall assess whether the violation is due to natural or anthropogenic causes and, if exceeded values are found to be related to APP-regulated facilities within the permitted facility or results are inconclusive, the nature and extent of the discharge. This hydrogeologic investigation shall become the basis of adjusting permit conditions and/or designing corrective action.

The increased monitoring for those pollutant(s) required as a result of an AQL exceedance may be reduced to the original sampling frequency for each respective pollutant, if the results of three sequential sampling events demonstrate that the parameter(s) does not exceed their respective AQL(s), and upon ADEQ approval

2.6.5. Emergency Response and Contingency Requirements for Unauthorized Discharges

[A.R.S. § 49-201(12) AND PURSUANT TO A.R.S. § 49-241]

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 Groundwater Protection Value Stream within 24 hours of discovering the discharge of hazardous material which (a) has the potential to cause an AWQS or AQL exceedance, 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 Groundwater Protection Value Stream within 24 hours of discovering the discharge of non-hazardous material which has the potential to cause an AQL exceedance, or 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 Groundwater Protection Value Stream 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. 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 the 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 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 Groundwater Protection Value Stream prior to implementing a corrective action to accomplish any of the following goals in response to exceedance of an AL, 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 operator shall submit to the Groundwater Protection Value Stream, 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

1. The permittee shall complete the Self-Monitoring Reporting Forms (SMRFs) provided by ADEQ, and submit the completed report through the myDEQ online reporting system. The permittee shall use the format devised by ADEQ.
2. 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 reporting period, the permittee shall enter “not required” on the form, include an explanation, and submit the form to the Groundwater Protection Value Stream.
3. The tables contained in Section 4.0 list the monitoring parameters and the frequencies for reporting results on the SMRF:
 - a. Table 11: QUARTERLY GROUNDWATER MONITORING
 - b. Table 12: SEMI-ANNUAL GROUNDWATER MONITORING

The parameters listed in the above-identified tables from Section 4.0 are the only parameters for which SMRF reporting is required.

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 shift 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 A.A.C. R18-9-A206(B)(2).

2.7.3. Permit Violation and Alert Level Status Reporting

1. The permittee shall notify the Groundwater Protection Value Stream within 5 days (except as provided in Section 2.6.5) of becoming aware of an AL exceedance, or violation of any permit condition, AQL, or DL for which notification requirements are not specified in Sections 2.6.2 through 2.6.5.
2. The permittee shall submit a written report to the Groundwater Protection Value Stream within 30 days of becoming aware of the violation of any permit condition, AQL, or DL. 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 the 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 AWQS;
 - e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring; and
 - f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

2.7.4. Operational, Other or Miscellaneous Reporting

The permittee shall record the information as required in Section 4.2, Table 13: FACILITY INSPECTION AND OPERATIONAL MONITORING in the facility log book as per Section 2.7.2, and report to the Groundwater Protection Value Stream any violations or exceedances as per Section 2.7.3.

2.7.4.1. Annual Report

If an Alert Level #1 has been exceeded discussed in Section 2.6.2.2, the permittee shall submit an

annual report that summarizes the results of the liner assessment. The Liner Leakage Assessment Report shall also include information including but not limited to the following: number and location of holes identified; and a table summarizing alert level exceedances including the frequency and quantity of fluid removed, and corrective actions taken.

2.7.5. Reporting Location

All Self-Monitoring Report Forms (SMRFs) shall be submitted through the myDEQ portal accessible on the ADEQ website at: <http://www.azdeq.gov/welcome-mydeq>

All other documents required by this permit shall be mailed to:

The Arizona Department of Environmental Quality
 Groundwater Protection Value Stream
 Mail Code 5415B-3
 1110 West Washington Street
 Phoenix, Arizona 85007
 Phone (602) 771-4571

2.7.6. Reporting Deadline

The following table lists the quarterly SMRF report due dates:

Table 4: QUARTERLY REPORTING DEADLINES	
Monitoring Conducted During Quarter:	Quarterly Report Due By:
January-March	April 30
April-June	July 30
July-September	October 30
October-December	January 30

The following table lists the semi-annual and annual SMRF report due dates (if applicable):

Table 5: SEMI-ANNUAL REPORTING DEADLINES	
Monitoring Conducted:	Report Due By:
Semi-annual: January-June	July 30
Semi-annual: July-December	January 30
Annual: January-December	January 30

2.7.7. Changes to Facility Information in Section 1.0

The Groundwater Protection Value Stream shall be notified within ten 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 Groundwater Protection Value Stream before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

1. If applicable, direct the wastewater flows from the facility to another state-approved wastewater treatment facility;
2. Correct the problem that caused the temporary cessation of the facility; and
3. Notify the Groundwater Protection Value Stream with a monthly facility status report describing the activities conducted on the treatment facility to correct the problem.

4. Submittal of Self-Monitoring Report Forms (SMRFs) is still required; report “temporary cessation” in the comment section.

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 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 Groundwater Protection Value Stream 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 Groundwater Protection Value Stream of the intent to cease operation without resuming activity for which the facility was designed or operated. Submittal of SMRFs is still required; report “closure in process” in the comment section.

2.9.1. Closure Plan

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Protection Value Stream, 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.

2.9.2. Closure Completion

Upon completion of closure activities, the permittee shall give written notice to the Groundwater Protection Value Stream 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. 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 the AWQS at the applicable POC or, for any pollutant for which the AWQS was exceeded at the time this permit was issued, further action is necessary to prevent the facility from further degrading the aquifer at the applicable POC with respect to that pollutant;
3. Remedial, mitigative or corrective actions or controls are necessary to comply with A.R.S. § 49-201(30) and Title 49, Chapter 2, Article 3;
4. Further action is necessary to meet property use restrictions.
5. SMRF submittals are still required until Clean Closure is issued.

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 Groundwater Protection Value Stream.

In the event clean-closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Protection Value Stream 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

A specific post-closure plan may be required upon the review of the closure plan.

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]

Unless otherwise indicated, for each compliance schedule item listed below, the permittee shall submit the required information to the Groundwater Protection Value Stream.

Table 6: COMPLIANCE SCHEDULE ITEMS			
No.	Description	Due By:	Permit Amendment Required?
1	The permittee shall submit an amendment application along with a financial assurance mechanism as per A.A.C. R18-9-A203(C) for the estimated closure and post-closure costs for the APP facilities as per Section 2.1.2 of this permit.	A minimum of 60 days prior to any construction of the Heap Leach Pad and/or Ponds.	Yes
2	The permittee shall submit a demonstration that the financial assurance mechanism listed in Section 2.1, Financial Capability, is being maintained as per A.R.S. 49-243.N.4 and A.A.C. R18-9-A203(H) for all estimated closure and post-closure costs including updated costs submitted under Section 3.0, No. 2 below. 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 in a manner that would affect the closure and post-closure costs, and discharging facilities have not been added. The demonstration shall also include information in support of a “performance surety bond” as required as per A.A.C. R18-9-A203(C)(2). NOTE: The financial assurance mechanism due on the date specified in CSI No. 3, may be provided following ADEQ’s approval of the closure and post-closure costs. When submitting the closure and post-closure costs, permittee may provide a statement for the type of mechanism intended to be provided.	Every 6 years from the date of permit signature, for the duration of the permit.	No
3	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. NOTE: When submitting the closure and post-closure costs the permittee may provide a statement for the type of mechanism they intended provide (see CSI No. 2). The financial assurance mechanism, may then be submitted following ADEQ’s approval of the closure and post-closure costs.	Every 6 years from the date of permit signature, for the duration of the permit.	Yes
4	The permittee shall submit a construction report along with as-built drawings and QA/QC documentation sealed by an Arizona registered professional engineer for the Heap Leach Pad to confirm that the facility was constructed in accordance with the design report, engineering plans and specifications submitted in the application.	Prior to discharging under this permit and within 90 days of completion of construction.	No

5	The permittee shall submit a construction report along with as-built drawings and QA/QC documentation sealed by an Arizona registered professional engineer for the PLS Pond to confirm that the facility was constructed in accordance with the design report, engineering plans and specifications submitted in the application.	Prior to discharging under this permit and within 90 days of completion of construction.	No
6	The permittee shall submit a construction report along with as-built drawings and QA/QC documentation sealed by an Arizona registered professional engineer for the Raffinate Pond to confirm that the facility was constructed in accordance with the design report, engineering plans and specifications submitted in the application.	Prior to discharging under this permit and within 90 days of completion of construction.	No
7	The permittee shall submit a construction report along with as-built drawings and QA/QC documentation sealed by an Arizona registered professional engineer for the Event Pond to confirm that the facility was constructed in accordance with the design report, engineering plans and specifications submitted in the application.	Prior to discharging under this permit and within 90 days of completion of construction.	No
8	The permittee shall conduct discharge monitoring on a one-time basis at the PLS Pond following steady flow of PLS solutions from the Heap Leach Pad. Notify ADEQ on the day the discharge monitoring is conducted.	Between 90 and 180 days after starting of leaching operations.	No
9	The permittee shall submit the results (including laboratory report) of the discharge monitoring conducted at the PLS Pond as per CSI No. 7.	Within 30 days of receipt of laboratory analytical results	No
10	The permittee shall conduct discharge monitoring on a one-time basis at the Raffinate Pond following steady flow of raffinate solutions from the stripper unit. Notify ADEQ on the day the discharge monitoring is conducted.	Between 90 and 180 days after starting of commencement of SX/EW operations.	No
11	The permittee shall submit the results (including laboratory report) of the discharge monitoring conducted at the Raffinate Pond as per CSI No. 9.	Within 30 days of receipt of laboratory analytical results	No
12	Begin ambient groundwater monitoring in POC wells 1, 2, and 3, per Section 2.5.3.2 and Section 4.2, Table 10: PARAMETERS FOR AMBIENT GROUNDWATER MONITORING.	Within 30 days of permit issuance	No
13	The permittee shall submit an APP amendment application and an ambient groundwater monitoring report to establish ALs and AQLs for POC wells 1, 2, and 3. At a minimum the report shall contain copies of all ADWR documents related to the wells, as-built diagrams of both wells, and latitude and longitude of each well. The report shall be sealed by an Arizona Registered Geologist or other qualified registrant.	Within 90 days of completion of ambient groundwater monitoring.	Yes

4.0 TABLES OF MONITORING REQUIREMENTS

4.1. PERMITTED FACILITIES AND BADCT

Table 7: PERMITTED FACILITIES AND BADCT
Facility Name and BADCT
Heap Leach Pad
<p><u>Heap Leach Pad – Individual BADCT:</u></p> <p>The Heap Leach Pad will be constructed over an area of approximately 4.9 million square feet (1,850 feet x 2,650 feet), and contain approximately 35 million tons of material from existing historic waste rock dump up to a maximum height of 200 feet. Drainage channels with a containment berm shall be constructed along the east, west and southern edges of the leach pad. The liner system shall be continuous extending from the leach pad, over the channel, and secured around the perimeter of the leach pad berms in an engineered anchor trench that is 2 feet wide and 2 feet deep. A 4-foot tall berm shall be constructed along the northern edge of the leach pad. Waste rock from the historical pile shall be placed in 20-foot lifts, with a 30-foot bench for each lift, up to a maximum elevation of 1,600 feet above mean sea level (AMSL). The overall footprint of the leach pad, including the channels measures 1,980 feet x 2725 feet (approximately 5.4 million square feet).</p> <p>The leach pad construction from bottom to top shall consist of a compacted sub-grade overlain by a minimum six inches of 3/8 inch minus native or natural materials compacted to achieve a saturated hydraulic conductivity no greater than 10^{-6} cm/sec, 60-mil high-density polyethylene (HDPE) secondary liner, 250- mil thick geonet, and 60-mil HDPE primary liner. The upper liner shall be covered by a protective layer of 16 oz/yd² nonwoven needle-punched geotextile. A drainage layers consisting of 18-inch layer of rounded river gravel and/or crushed rock shall be placed over the upper liner. The leach pad shall be designed with a 1% slope towards channels located along the east and west edges of the leach pad, and a southward slope of 1.20% towards a drainage channel which route leach solutions to the Pregnant Leach Solution (PLS) Pond. The side slopes shall be no steeper than 3.5 horizontal:1 vertical (3.5H:1V). The containment berm around the drainage channel shall be capable of containing run off from a 100-year, 24-hour storm and solution drain down from the leach pad. Liquid collected in the drainage channel shall flow by gravity over the double-lined liner system before cascading over into a channel inlet, located near the southern-central portion of the leach pad, that drain into the pregnant solution pond. The finish grade (maximum elevation) of the heap leach pile shall not exceed 1,600 feet above mean sea level (AMSL).</p>
Process Solution Ponds
<p><u>PLS Pond – Prescriptive BADCT:</u></p> <p>The PLS Pond shall measure 250 feet x 150 feet at the top with an overall depth of 30 feet including 2 feet freeboard with a total storage volume of approximately 4,106,805 gallons. At freeboard, the storage volume will be 3,569,384 gallons. The operating solution height of the pond will be 15 feet with a storage volume of approximately 1,110,857. The design consists of a double-lined system with a leak collection and removal system between the two liners. The pond construction from bottom to top shall consist of a foundation of six inches of native or natural materials compacted to 95% maximum dry density (standard Proctor; ASTM Method D-698) within 3% of the optimum moisture content, by a minimum six inches of 3/8 inch minus native or natural materials compacted to achieve a saturated hydraulic conductivity no greater than 10^{-6} cm/sec, 60-mil HDPE secondary liner, a leakage collection and recovery system (LCRS) composed of geonet layer composed of 250- mil thick geonet sloped to a 5 feet x 5 feet x 1.5 feet deep sand-filled sump embedded with a 6-inch perforated HDPE collection pipe, and a 60 mil HDPE primary liner. The side slopes shall be no steeper than 2H:1V. The HDPE liner shall be secured in an engineered anchor trench around the impoundment perimeter. The impoundment provides containment of leach solutions including any stormwater run-off from the Heap Leach Pad. If the pond reaches the freeboard level at 28 feet depth, the solution will overflow into the adjoining Raffinate Pond. The impoundment has sufficient capacity to contain</p>

stormwater run-on from a 100-year, 24-hour storm event with a minimum of 2 feet of freeboard. If solutions are detected in the LCRS sump, they shall be pumped out and recirculated into the PLS Pond. The pond shall be equipped with pumps that meet the pumping rate of 3,000 gpm. Diesel generators provide backup in case of a power failure.

Raffinate Pond – Prescriptive BADCT:

The Raffinate Pond shall measure 250 feet x 150 feet at the top with an overall depth of 30 feet including 2 feet freeboard with a total storage volume of approximately 4,106,805 gallons. At freeboard, the storage volume will be 3,569,384 gallons. The operating solution height of the pond will be 15 feet with a storage volume of approximately 1,110,857. The design consists of a double-lined system with a leak collection and removal system between the two liners. The pond construction from bottom to top shall consist of a foundation of six inches of native or natural materials compacted to 95% maximum dry density (standard Proctor; ASTM Method D-698) within 3% of the optimum moisture content, by a minimum six inches of 3/8 inch minus native or natural materials compacted to achieve a saturated hydraulic conductivity no greater than 10^{-6} cm/sec, 60-mil HDPE secondary liner, a leakage collection and recovery system (LCRS) composed of geonet layer composed of 250- mil thick geonet sloped to a 5 feet x 5 feet x 1.5 feet deep sand-filled sump embedded with a 6-inch perforated HDPE collection pipe, and a 60 mil HDPE primary liner. The side slopes shall be no steeper than 2H:1V. The HDPE liner shall be secured in an engineered anchor trench around the impoundment perimeter. The impoundment provides containment of solutions from the SX/EW plant and stormwater from direct precipitation. The Raffinate Pond may receive solutions from the PLS Pond via a spillway if the PLS Pond reaches the freeboard level. If the pond reaches the freeboard level at 28 feet depth, the solution will overflow into the adjoining Event Pond. The impoundment has sufficient capacity to contain stormwater run-on from a 100-year, 24-hour storm event with a minimum of 2 feet of freeboard. If solutions are detected in the LCRS sump, they shall be pumped out and recirculated into the PLS Pond. The pond shall be equipped with pumps that meet the pumping rate of 3,000 gpm. Diesel generators provide backup in case of a power failure.

Non-stormwater Ponds

Event Pond:

The Raffinate Pond shall measure 250 feet x 150 feet at the top with an overall depth of 30 feet including 2 feet freeboard with a total storage volume of approximately 4,106,805 gallons. At freeboard, the storage volume will be 3,569,384 gallons. The operating solution height of the pond will be 15 feet with a storage volume of approximately 1,110,857. The design consists of a double-lined system with a leak collection and removal system between the two liners. The pond construction from bottom to top shall consist of a foundation of six inches of native or natural materials compacted to 95% maximum dry density (standard Proctor; ASTM Method D-698) within 3% of the optimum moisture content, by a minimum six inches of 3/8 inch minus native or natural materials compacted to achieve a saturated hydraulic conductivity no greater than 10^{-6} cm/sec, 60-mil HDPE secondary liner, a leakage collection and recovery system (LCRS) composed of geonet layer composed of 250- mil thick geonet sloped to a 5 feet x 5 feet x 1.5 feet deep sand-filled sump embedded with a 6-inch perforated HDPE collection pipe, and a 60 mil HDPE primary liner. The side slopes shall be no steeper than 2H:1V. The HDPE liner shall be secured in an engineered anchor trench around the impoundment perimeter. The impoundment will be used to temporarily contain solutions from either the Heap Leach Pad, PLS Pond or Raffinate Pond. The Event Pond may receive solutions from the Raffinate Pond via a spillway if the solution reaches freeboard level. If the pond reaches the freeboard level at 28 feet depth, the solution will overflow into the adjoining Event Pond. The impoundment has sufficient capacity to contain stormwater run-on from a 100-year, 24-hour storm event with a minimum of 2 feet of freeboard. If solutions are detected in the LCRS sump, they shall be pumped out and recirculated into the PLS Pond. A portable sump pump operated by a portable generator will return any solutions to the Raffinate Pond.

4.2. COMPLIANCE OR OPERATIONAL MONITORING

Table 8: DISCHARGE MONITORING ¹		
Facility	Latitude	Longitude
PLS Pond	32° 56' 52.36" N	111° 49' 36.95" W
Raffinate Pond	32° 56' 52.36" N	111° 49' 40.87" W
Parameters for One-Time Discharge Monitoring (in mg/L unless otherwise noted) ²		
pH – field & lab (SU)	Magnesium	Mercury
Specific Conductance - field and lab (µmhos/cm)	Potassium	Cadmium
Total Dissolved Solids	Sodium	Cobalt
Total Alkalinity	Iron	Copper
Carbonate	Aluminum	Lead
Bicarbonate	Antimony	Nickel
Total Nitrogen	Arsenic	Selenium
Nitrate as N	Barium	Thallium
Nitrite as N	Cadmium	Zinc
Nitrate + Nitrite	Chromium	Total Uranium
Sulfate	Cobalt	Gross Alpha Particle Activity (pCi/L)
Chloride	Copper	Radium 226 + Radium 228 (pCi/L)
Fluoride	Lead	Uranium-Isotopes (pCi/L)
Calcium	Manganese	Radium 226 + Radium 228 (pCi/L)
Ammonia		

¹ Parameters in this table shall also be used for contingency monitoring.

² Metals shall be analyzed as dissolved metals.

Table 9: LEAK COLLECTION AND REMOVAL SYSTEM MONITORING ³				
Facility Name	Alert Level 1 (GPD) ⁴	Alert Level 2 (GPD)	Monitoring Method	Monitoring Frequency
Alert Levels for Operational Depth of 15 feet				
PLS Pond	1,115	7,454	Manual	Daily
Raffinate Pond	1,115	7,454	Manual	Daily
Event Pond	N/A	N/A	Manual	Daily
Alert Levels at Freeboard of 28 feet				
PLS Pond	1,524	10,184	Manual	Daily
Raffinate Pond	1,524	10,184	Manual	Daily
Event Pond	4,067	27,177	Manual	Daily

³ The volume of liquid pumped from the LCRS shall be entered in a facility log book on a daily basis. The Alert Level 1 (AL1) or Alert Level 2 (AL2) shall be exceeded when the amount of leakage pumped from the sump for the pond is greater than the applicable quantity below. Contingency requirements of Sections 2.6.2.2 and 2.6.2.3 shall be followed for AL1 and AL2 exceedances, respectively. An exceedance of AL 1 or AL2 is not a violation of the permit unless the permittee fails to perform actions as required under the Sections referenced above

⁴ GPD = gallons per day

Table 10: PARAMETERS FOR AMBIENT GROUNDWATER MONITORING (in mg/L unless otherwise noted)		
pH – field & lab (SU)	Cadmium	para-Dichlorobenzene
Specific Conductance - field and lab (µmhos/cm)	Chromium	1,2-Dichloroethane
Total Dissolved Solids	Cobalt	1,1-Dichloroethylene
Total Alkalinity	Copper	cis-1,2-Dichloroethylene
Carbonate	Lead	trans-1,2-Dichloroethylene
Bicarbonate	Manganese	Dichloromethane
Total Nitrogen	Mercury	1,2-Dichloropropane
Nitrate as N	Chromium	Ethylbenzene
Nitrite as N	Cobalt	Hexachlorobenzene
Nitrate + Nitrite	Copper	Hexachlorocyclopentadiene
Sulfate	Lead	Monochlorobenzene
Chloride	Nickel	Styrene
Fluoride	Selenium	Tetrachloroethylene
Calcium	Thallium	Toluene
Ammonia	Zinc	Trihalomethanes (total)
Magnesium	Total Uranium	1,1,1-Trichloroethane
Potassium	Gross Alpha Particle Activity (pCi/L)	1,2,4 - Trichlorobenzene
Sodium	Gross Beta (pCi/L)	1,1,2 - Trichloroethane
Iron	Radium 226 + Radium 228 (pCi/L)	Trichloroethylene
Aluminum	Uranium-Isotopes (pCi/L)	Vinyl Chloride
Antimony	Benzene	Xylenes (Total)
Arsenic	Carbon tetrachloride	
Barium	o-Dichlorobenzene	
Beryllium		

Note: Metals must be analyzed as dissolved metals.

Table 11: QUARTERLY GROUNDWATER MONITORING (in mg/L ⁵ unless otherwise noted)						
Parameter	POC Well # 1		POC Well # 2		POC Well # 3	
	AL (mg/l)	AL (mg/l)	AQL (mg/l)	AL (mg/l)	AQL (mg/l)	AL (mg/l)
Depth to Groundwater (ft. bgs)	Monitor ⁶	Monitor	Monitor	Monitor	Monitor	Monitor
Water Level Elevation (ft. amsl ⁷)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Temperature- field (°F)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
pH (lab)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Specific Conductance – lab (µmhos/cm)	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Total Dissolved Solids	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Cyanide, Total	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Total Alkalinity	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Bicarbonate	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Carbonate	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Chloride	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Fluoride	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Sulfate	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Total Nitrogen ⁸	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Nitrate as N	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Nitrite as N	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Nitrate + Nitrite	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Ammonia	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Metals (Dissolved mg/l)						
Aluminum	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Antimony	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Arsenic	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Barium	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Beryllium	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved

⁵ mg/L = milligrams per liter

⁶ Monitoring required, but no AQL or AL will be established in the permit.

⁷ Amsl = above mean sea level

⁸ Total Nitrogen is the sum of Nitrate as N, Nitrite as N, and Total Kjeldahl Nitrogen (TKN)

Table 11: QUARTERLY GROUNDWATER MONITORING (in mg/L ⁵ unless otherwise noted)						
Parameter	POC Well # 1		POC Well # 2		POC Well # 3	
	AL (mg/l)	AL (mg/l)	AQL (mg/l)	AL (mg/l)	AQL (mg/l)	AL (mg/l)
Cadmium	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Calcium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Chromium	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Copper	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Iron	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Lead	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Magnesium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Manganese	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Mercury	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Molybdenum	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Nickel	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Potassium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Selenium	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Sodium	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Thallium	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Zinc	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Uranium, Total	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Radionuclides (pCi/L)						
Adjusted Gross Alpha ⁹	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Gross Beta	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Radium 226 + 228	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Uranium-Isotopes ¹⁰	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor

⁹ 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 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).

¹⁰ Uranium Isotope activity results must be used for calculating Adjusted Gross Alpha. SMRF reporting is required after completion of ambient groundwater monitoring.

Table 12: SEMI-ANNUAL GROUNDWATER MONITORING
(in mg/L unless otherwise noted)

Parameter	POC Well # 1		POC Well # 2		POC Well # 3	
	AL (mg/l)	AL (mg/l)	AQL (mg/l)	AL (mg/l)	AQL (mg/l)	AL (mg/l)
Benzene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Carbon tetrachloride	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
o-Dichlorobenzene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
para-Dichlorobenzene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
1,2-Dichloroethane	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
1,1-Dichloroethylene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
cis-1,2-Dichloroethylene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
trans-1,2-Dichloroethylene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Dichloromethane	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
1,2-Dichloropropane	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Ethylbenzene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Hexachlorobenzene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Hexachlorocyclopentadiene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Monochlorobenzene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Styrene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Tetrachloroethylene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Toluene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Trihalomethanes (total) ¹¹	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
1,1,1-Trichloroethane	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
1,2,4 - Trichlorobenzene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
1,1,2 - Trichloroethane	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Trichloroethylene	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Vinyl Chloride	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Xylenes (Total)	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved

¹¹ Total Trihalomethanes (TTHMs) are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane

Table 13: FACILITY INSPECTION AND OPERATIONAL MONITORING			
The permittee shall record the inspection performance levels in a log book as per Section 2.7.2, and report any violations or exceedances as per Section 2.7.3. In the case of an exceedance, identify which facility exceeds the performance level in the log book.			
Facility Name / Pollution Control Structure / Parameter	Operational Requirement / Performance Alert Level	Inspection Frequency	Reporting Frequency
Heap Leach Pad	Weekly: Check for any evidence of equipment or structural damage.	Monthly	See Section 2.7.3
	Monthly and following precipitation events measuring at least 1-inch in a 24-hour period (as measured from the nearest rain gauge): Check for any evidence of: <ul style="list-style-type: none"> • Stockpile deformations, including surface cracks, slides, sloughs, or differential settlement affecting slope stability • At pump installations, inspect pumps and structures for pump operation and structural integrity, including inspection for preventative maintenance • Check liner at facility toe for perforated, cut, or damaged liner and impairment of anchor trench integrity 		
	Annually: Check facility height does not exceed 1,600 feet amsl. Record average elevation of the pad.		
PLS Pond & Raffinate Pond	Daily (if pond is operated at freeboard level of 28 feet): Visually inspect and maintain 2 feet freeboard.	Monthly	See Section 2.7.3
	Weekly: <ul style="list-style-type: none"> • Visually inspect and maintain 2 feet freeboard. • Perform measurement of fluids pumped from the LCRS and compare the values to the alert levels presented in Table 9: LEAK COLLECTION AND REMOVAL SYSTEM MONITORING. 		
	Monthly and following precipitation events measuring at least 1-inch in a 24-hour period (as measured from the nearest rain gauge): Check for any evidence of: <ul style="list-style-type: none"> • Perforated or cut or damaged liner and impairment of anchor trench integrity • impairment of embankment integrity • excessive erosion in conveyances and diversions • accumulation of debris in conveyances and diversions • impairment of access • inspect pumps and structures for pump operation and structural integrity • No vegetation present in the impoundment or within five feet of the impoundment 		
	Annually: Remove sediments/sludge as needed to maintain at least 90 percent of designed capacity.		

Event Pond	<p>Weekly:</p> <ul style="list-style-type: none"> • Visually inspect and maintain 2 feet freeboard. • Perform measurement of fluids pumped from the LCRS and compare the values to the alert levels presented in Table 9: LEAK COLLECTION AND REMOVAL SYSTEM MONITORING. 	Monthly	See Section 2.7.3
	<p>Monthly and following precipitation events measuring at least 1-inch in a 24-hour period (as measured from the nearest rain gauge) and after usage of impoundment above elevation 1,410 ft: Check for any evidence of:</p> <ul style="list-style-type: none"> • Perforated or cut or damaged liner and impairment of anchor trench integrity • impairment of embankment integrity • excessive erosion in conveyances and diversions • accumulation of debris in conveyances and diversions • impairment of access • inspect pumps and structures for pump operation and structural integrity • No vegetation present in the impoundment or within five feet of the impoundment 		
	<p>Annually: Remove excess sediments/sludge from the impoundment, conveyances as needed to maintain at least 90 percent of designed capacity.</p>		
POC Wells	Wells locked and secured. Well cap and seals are intact. No discernable corrosion or deterioration of the well(s). No discernable materials accumulating in the well. Any dedicated well equipment are functional and intact.	Monthly	See Section 2.7.3 and 2.5.3.1

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:

APP Application, dated: January 26, 2021

Contingency Plan, dated: March 4, 2021

Public Notice, dated: June 5, 2021

Public Hearing, dated: July 8, 2021

Responsiveness Summary, dated:

Document Reviewed

- Aquifer Protection Permit Application Supplemental Information, Cactus Mine, by Elim Mining Inc.

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 on the amount of daily influent or discharge of pollutants in gallons per day (gpd) as established by A.R.S. § 49-242.

6.2 Duty to Comply

[A.R.S. §§ 49-221 through 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 (AWQS) at the applicable point of compliance (POC) for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an AWQS 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(C), 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; or
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. §§ 49-1009, 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 authorized by this permit.

6.10. Permit Action: Amendment, Transfer, Suspension, and 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, suspended, or revoked for cause, under the rules of the Department. The permittee shall notify the Groundwater Protection Value Stream 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).