

**STATE OF ARIZONA
OTHER AMENDMENT TO
AQUIFER PROTECTION PERMIT NO. P- 102008
PLACE ID 128345, LTF 50281**

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, Denison Mines (USA) Corp. is hereby authorized to operate the Arizona 1 Mine, located in Mohave County, Arizona, over groundwater of the Kaibab Plateau groundwater basin, in the northwest quarter of the southwest quarter of Section 21, Township 36 North, Range 4, West of the Gila and Salt River Base Line and Meridian.

This amendment replaces the original permit and all previous amendments listed in Section 5.0 and becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

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

1.1 PERMITTEE INFORMATION

Facility Name: Arizona 1 Mine

Permittee:	Mailing Address:	Facility's Street Address:
Denison Mines (USA) Corp.	1050 17 th St., Suite 950, Denver, CO 80265	35 miles SW of Fredonia, AZ


Facility Contact:	Area Manager	(928)643-6185
John Stubblefield		

Emergency Telephone Number: (303)389-4136 Christy Woodward

Latitude: 36° 30' 32.01" North **Longitude:** 112° 48' 19.88" West

Legal Description: Northwest quarter of the southwest quarter of Section 21, Township 36 North, Range 4 West

1.2 AUTHORIZING SIGNATURE



Michael A. Fulton, Director
Water Quality Division
Arizona Department of Environmental Quality
Signed this 26th day of July, 2011

THIS AMENDMENT SUPERSEDES ALL PREVIOUS AMENDMENTS

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 Arizona 1 Mine is an underground uranium mine. The uranium deposit is contained within a breccia pipe, a structural feature which developed as a result of dissolution of underlying carbonate rocks and collapse of the overlying strata into the solution cavities. The mine was initially developed in 1990, with mining commencing in 1993. Surface facilities consist of a head frame, fuel storage area, office, warehouse, electrical substation, topsoil storage piles, water storage tank, ore stockpile and pad, waste rock stockpile, lined non-stormwater pond, and two underground mine sumps. The underground mine and all surface facilities collectively are the mine site.

2.1.1 Non-stormwater Pond

This facility has been built as a double-lined pond with a leachate collection and recovery system (LCRS). The non-stormwater pond (NSP) accepts all surface water from the drainage area within the perimeter of the mine site, which totals 19.4 acres, and was designed to be capable of handling the 100-year, 24-hour stormwater event while maintaining a minimum of 2-foot freeboard. The NSP is also designed to accept water from the mine shaft sumps when necessary.

2.1.2 Ore stockpile and Pad

All ore and mineralized waste rock shall be stacked on an approximately 0.58-acre ore pad located south of the NSP. The ore pad shall maintain positive drainage to the NSP. The north end of the ore pad is constructed with a plywood bulkhead to prevent ore material from being washed down into the NSP.

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

The Annual Registration Fee for this permit is established by A.R.S. § 49-242 and is payable to ADEQ each year. The design flow is 2,006,206 gallons per day.

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 and closure and post-closure cost is \$208,865 and \$46,865 respectively. The financial assurance mechanism was demonstrated through a performance surety bond under R18-9-A203(C)(2).

2.2 Best Available Demonstrated Control Technology [A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]**2.2.1 Engineering Design**

The NSP has a total capacity of approximately 8.9 acre-feet. The NSP shall be constructed with a double-lined liner system. The liner system consists of an upper 36 mil chlorosulfonated polyethylene (CSPE) liner, underlain by Polyfelt TS-700 geotextile fabric, and a lower 20 mil polyvinyl chloride (PVC) liner. The LCRS shall be installed to monitor leakage through the upper CSPE liner. The LCRS is constructed of a 4-inch diameter slotted PVC leak detection pipe located within a collection sump containing of 3/8-inch to 3/4-inch washed rounded aggregate located between the two liners. The collection sump has a holding capacity of approximately 1,700 gallons and measuring approximately 6 feet wide by approximately 110 feet long by 1.5-foot high. The PVC pipe penetrates the upper liner at the base of the NSP. Total storage in the NSP shall not exceed 2,006,206 gallons and a minimum freeboard of 2 feet shall be maintained at all times.

A 6-inch PVC standpipe is located near the southwestern corner of the NSP. The standpipe is connected to a pump chamber located south of the NSP. A pipeline leads from the bottom of the NSP to the pump chamber. The standpipe and pump chamber are present for use in the event that the NSP fills completely and the NSP contents are required to be pumped out into a tank or other permitted facility.

A 6-inch PVC pipe from the wash bays of the on-site workshop penetrates the NSP near the southwestern corner. Since the discharge from the wash bays was not originally permitted, the PVC pipe shall be disconnected from the wash bays to the NSP and the disposal of the waste water from the wash bays shall be managed via other methods that meet the federal, state and local regulations..

2.2.2 Ore stockpile and Pad

All ore and mineralized waste rock shall be stacked on an ore pad located south of the NSP. The ore pad is approximately 0.58 acres and lined with a 30 mil PVC liner underlain by at least 12 inches thick of limestone. The subgrade consisting of red mudstone of the Moenkopi Formation, shall be scarified, moisture conditioned and recompacted for a depth of at least six inches. The permeability, as determined by ASTM Test Method D-5084, shall be no greater than 1.0×10^{-7} cm/sec.

The ore pad shall maintain positive drainage to the NSP. The north end of the ore pad shall be constructed with a plywood bulkhead that measures approximately 2 feet tall and 24 feet wide to prevent ore material from being washed down into the NSP. The plywood bulkhead houses five 6-inch diameter PVC pipes to drain the stormwater from the ore pad to the NSP. The plywood is anchored to the PVC pipes by eight 2-inch screws into the end of each pipe.

2.2.3 Operational Requirements

If damage is identified during an inspection that could cause or contribute to a discharge, proper repairs shall be promptly performed.

The permittee shall comply with all operational and monitoring requirements in Section 2.5 for the NSP, Mine Water Control, Ore and Waste Rock Storage, and Surface Water.

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

The permittee is authorized to operate an underground uranium mine, ore and waste rock stockpile and storage pads and a lined NSP and two underground mine sumps, according to the approved plans and diagrams in the original Aquifer Protection Permit (APP) application.

The maximum depth of the mine or shaft will be no more than 1,650 feet below ground surface.

2.3.1 Non-stormwater Pond

The permittee is authorized to operate a double-lined NSP that is limited to the receipt of precipitation and runoff from the Mine Site and groundwater encountered during construction and operation of the mine. The liner system consists of an upper 36 mil CSPE liner, underlain by Polyfelt TS-700 geotextile fabric, and a lower 20 mil PVC liner. The system shall be installed to monitor leakage through the CSPE liner per Table 1B. Total storage in the NSP shall not exceed 2,006,206 gallons and a minimum freeboard of two feet shall be maintained at all times.

2.3.2 Mine Water Control

The working shaft sumps and final shaft and vent sumps shall be continuously dewatered to allow the minimum practicable water accumulation.

Denison Mines obtained three core samples on October 1, 2010 to conduct Klinkenberg permeability testing on rock samples taken from the bottom of the final shaft and the vent sumps and survey the sumps to identify any features (i.e., fractures, joints, faults, or bedding planes) which may convey fluids out of sumps, prior to use. The permeability tests indicated that the permeability of the rock mass was less than 1.0×10^{-7} cm/sec, however, Denison Mines proceeded with completion of lining the sump with a geosynthetic clay liner on December 6, 2010.

2.3.3 Ore and Waste Rock Stockpile

All ore and mineralized waste rock shall be stacked on constructed limestone pads at least 12 inches thick with positive drainage to the NSP. The subgrade, consisting of red mudstone of the Moenkopi Formation, shall be scarified, moisture conditioned and recompactd for a depth of at least six inches. The permeability, as determined by ASTM Test Method D-5084, shall not be greater than 1.0 x 10⁻⁷ cm/sec.

2.3.4 Surface Water

Surface water diversions shall prevent stormwater runoff from the 100-year, 24-hour storm event from entering the Mine Site.

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

The point of compliance is established by the following monitoring location:

POC Locations	Latitude	Longitude
POC 1 (Conceptual)	36° 30' 32.01" N	112° 48' 19.88" W

Groundwater sampling at this point is not required except as a contingency action.

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)]

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. 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. The permittee shall consult the most recent version of the ADEQ Quality Assurance Project Plan (QAPP) and EPA 40 CFR PART 136 for guidance in this regard. 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 Mine Shaft Sump Monitoring

Mine shaft sump monitoring shall be conducted according to Section 4.0, Table 1A of this permit. Sampling location shall be the central mine sump.

2.5.1.2. Non-stormwater Pond - Leak Detection System Monitoring

Leak Detection System Monitoring shall be conducted according to Section 4.0, Tables 1B and 1C of this permit.

2.5.2 Facility / Operational Monitoring

2.5.2.1 Pre-operational Monitoring

Prior to installation of NSP liners, the lining contractor or designated quality control engineering firm shall inspect the subgrade to ensure that proper preparation has been achieved and that testing has been performed according to the approved criteria.

Non-destructive testing shall be conducted on 100% of all liner seams in accordance with ASTM D4437 (for field seams) or ASTM D4545 (for factory seams). Destructive tests for

shear and peel strength shall be performed at least every 300 lineal feet in accordance with ASTM D413, Method A or ASTM D816, Method C (peel testing); and ASTM D816, Method B (shear testing). The results of this testing will be provided as part of the liner condition compliance schedule item.

2.5.2.2 Operational Monitoring

The NSP, and two underground mine sumps shall be inspected as specified in Section 4.2, Table 1C.

A minimum of 2 feet of freeboard shall be maintained at all times. All freeboard measurements shall consist of the vertical distance between the fluid surface and the lowest point on the berm of the pond.

2.5.2.3 Facility Maintenance Inspection

The pollution control structures shall be inspected for the items listed in Section 4.2, Table 1C. A log of these inspections shall be kept at the facility for 10 years from the date of each inspection, or until the facility is reclaimed according to an ADEQ approved closure plan at which time they may be moved to an approved Denison Mines Corporation facility for storage for 10 years from the date of inspection. Inspection logs will be made available for review by ADEQ personnel on request.

If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and material(s) used shall be documented on the Self Monitoring Report Form as described in 2.7.1 of this permit and a summary of facility monitoring activities, inspection results, facility repairs or any other corrective actions shall be submitted quarterly to the ADEQ in accordance to Section 2.7.4 of this permit.

2.5.3 Groundwater Monitoring and Sampling Protocols

Routine groundwater monitoring is not required under the terms of this permit. If groundwater monitoring is required in the future, a monitoring well shall be installed and located at the designated point(s) of compliance in Section 2.4 (Point(s) of Compliance (P.O.C.)).

In the event that mine groundwater inflow does not show a decreasing trend during the first 3 years of mining activity, the Permittee shall install a monitoring well into the Redwall-Muav aquifer at the point of compliance in Section 2.4. The groundwater inflow rates shall be provided in the annual report under Section 2.7.4.

2.5.4 Surface Water Monitoring and Sampling Protocols

Not required

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. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. 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 groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Groundwater Section for approval prior to installation and the permit shall be amended to include any new points.

2.6 Contingency Plan Requirements

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

2.6.1 General Contingency Plan Requirements

At least one copy of the approved contingency and emergency response plan(s) 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 alert level (AL) that is exceeded or any violation of an aquifer quality limit (AQL), discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

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

2.6.2 Exceeding of Alert Levels

2.6.2.1 Exceeding of Alert Levels (AL) Set for Operational Conditions

1. Performance Levels Set for Freeboard

In the event that the freeboard performance level in the NSP is not maintained, the permittee shall:

- a. As soon as practicable, cease or reduce discharging to the NSP to prevent overtopping. Remove and properly dispose or recycle to other operations the excess fluid in the NSP until the water level is restored at or below the permitted freeboard limit.
- b. Within 5 days of discovery, evaluate the cause of the incident and adjust operational conditions as necessary to avoid future occurrences.
- c. Record in the facility log, the amount of fluid removed, a description of the removal method, and the disposal arrangements and methods. The facility log shall be maintained according to Section 2.7.2 (Operational Inspection/Log Book Recordkeeping). Records documenting each freeboard incident and actions taken to correct the problem shall be included in the current report, as required in Section

2.7.4 (Annual Report).

- d. The facility is no longer on alert status once the operational indicator no longer indicates that the freeboard performance level is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

2. Performance Levels, Other Than Freeboard

- a. If a performance level listed in Section 4.2, Table 1C has been observed or noted during required inspection and operational monitoring, such that the result could cause or contribute to an unauthorized discharge, the permittee shall immediately investigate to determine the cause of the condition. The investigation shall include the following:
 - i. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the operational performance condition.
 - ii. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences.
- b. The AL exceedance, results of the investigation, and any corrective action taken shall be reported to the Water Quality Compliance Section 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.
- c. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 3.0 and any specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL being exceeded. To implement any other corrective action the permittee shall obtain prior approval from the ADEQ according to Section 2.6.6.

2.6.2.2 Exceeding of Alert Levels Set for Discharge Monitoring

ALs have not been set at time of permit issuance

2.6.2.3 Exceedance of Action Leakage Rate for the NSP

At a minimum, the permittee shall initiate the following actions within 3 days of becoming aware of an exceedance of the action leakage rate (ALR) set in Section 4.2, Table 1B. All information shall be recorded in a log book as described in Section 2.7.2. The permittee shall:

1. Drain and/or pump out all fluid collected in the leak collection and recovery system (LCRS) to reduce head on the liner system;
2. Quantify and record the amount of fluid pumped from the leak collection and recovery system on a weekly basis until the leakage rate is no longer exceeded;
3. Assess the potential for migration of liquids out of the containment system; and,
4. Assess the current condition of the liner system.
5. Submit the results of the assessment, the cause of the exceedance and actions taken to resolve the problem in the report under Section 2.7.3.

Alternative Response Actions shall be submitted for ADEQ approval prior to implementation.

2.6.2.4 Exceedance of Rapid and Large Leakage Rates

Additional response actions based on rapid and large leakage rate (RLL) limits set in Section 4.2, Table 1B shall include the following:

1. Notify the ADEQ Water Quality Compliance Section, within 24 hours of becoming aware of the exceedance,

2. Reduce the hydraulic head on the liner including emptying of the portion of the the over the affected liner,
3. Conduct visual inspection to identify areas of leakage,
4. Repair all identified areas of leakage within 90 days of discovery,
5. Initiate closure or partial closure of the NSP if identified areas of leakage cannot be repaired within 90 days of discovery,
6. After repairs have been made, monitor the leakage rate on a weekly basis while the NSP is being filled, and for a period of 3 months after filling.

Within 30 days of a confirmed RLL exceedance, the permittee shall submit a written report to the Compliance Section. The written report shall include a description of the exceedance and its potential causes, the period of exceedance and the anticipated time period during which the exceedance is expected to continue, and a description of any actions taken or planned to be taken to eliminate or prevent recurrence of the exceedance and to mitigate the impacts of the exceedance. Upon approval of the ADEQ, GWS the permittee shall initiate the actions necessary to mitigate the impacts of the exceedance.

2.6.2.5 Exceeding of Alert Levels in Groundwater Monitoring

Routine groundwater monitoring is not required at time of permit issuance.

2.6.3 Discharge Limitations Violations

2.6.3.1 Overtopping of the NSP

If overtopping of fluid from the NSP occurs, the permittee shall:

1. Immediately cease non-gravity inflows to the NSP to prevent any further releases to the environment.
2. Within 24 hours of discovery, notify the ADEQ Water Quality Compliance Section (WQCS).
3. Within 5 days, collect representative samples of the fluid contained in the NSP. Samples shall be analyzed for the parameters specified in Section 4.2, Tables 1A. Within 30 days of the incident, submit a copy of the analytical results to the ADEQ WQCS.
4. Within 5 days of discovery, remove and dispose of or recycle excess fluid in the NSP until the water level is restored at or below the required freeboard. Record in the facility log, the amount of fluid removed, a description of the removal method, and any disposal arrangements. 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, 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 (Permit Violation and AL Status Reporting). Include a description of the actions performed in subsections 1 through 5 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
7. Within 60 days of discovery, and based on sampling in subsection 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 POC, submit to ADEQ for approval, a corrective action plan to address problems identified in the assessment, including identification of releases to the environment, 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).

2.6.3.2 Inflows of Unauthorized Materials to the NSP

If any unauthorized materials flow to the permitted NSP, the permittee shall:

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

2.6.3.3 Waste Rock Pile Failures

Mitigating actions for the waste rock piles shall be initiated if there is evidence of any of the following conditions: measurable slips at the toe of a waste rock pile, evidence of a crest failure, evidence of breaching of stormwater run on/runoff control features and berms, evidence of visible erosion or other damage that may impact berm integrity or stability.

Mitigating actions shall include repairing the affected facility, removing discharged material that has the potential to affect the aquifer, and other actions necessary to meet permit requirements.

2.6.3.4 Slope and Berm Failures

If a slope or berm failure in the NSP occurs which affects the ability of the facility to operate safely 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 (AQL) Violation

Not applicable to this permit at the time of issuance.

2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. §49-201(12) and pursuant to A.R.S. § 49-241

2.6.5.1 Duty to Respond

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

2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(19)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Compliance Section at (602) 771-4497 within 24-hours upon discovering the discharge of hazardous material which: a) has the potential to cause an AWQS or AQL to be exceeded; 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 ADEQ Water Quality Compliance Section at (602) 771-4497 within 24-hours upon discovering the discharge of non-hazardous material which: a) has the potential to cause an AQL to be exceeded; or b) could pose an endangerment to public health or the environment.

2.6.5.4 Reporting Requirements

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the ADEQ Water Quality Compliance Section within thirty 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 that notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

2.6.6 Corrective Actions

Specific contingency measures identified in Section 2.6 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 Section prior to implementing a corrective action to accomplish any of the following goals in response to exceeding an AL or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer;
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

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

2.7 Reporting and Recordkeeping Requirements**[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]****2.7.1 Self Monitoring Report Forms (SMRF)**

1. The permittee shall complete the SMRF provided by ADEQ, and submit them to the Water Quality Compliance Section, Data Unit.
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 quarter, the permittee shall enter "not required" on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.
3. The tables contained in Sections 4.0 list the parameters to be monitored and the frequency for reporting results for groundwater compliance monitoring. Analytical methods shall be recorded on the SMRF.
4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) shall be included for exceeding an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

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 R18-9 A206(B)(2).

2.7.3 Permit Violation and Alert Level Status Reporting

1. The permittee shall notify the Water Quality Compliance Section in writing within five days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition, discharge limitation or of an Alert Level being exceeded.
2. The permittee shall submit a written report to the Water Quality Compliance Section within 30 days of becoming aware of the violation of any permit condition or discharge limitation. The report shall document all of the following:
 - a. Identification and description of the permit condition for which there has been a violation and a description of its cause.
 - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue.
 - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation.
 - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard.
 - e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring.
 - f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

2.7.4 Operational, Other or Miscellaneous Reporting

The permittee shall submit an annual report in narrative and/or tabular form to the ADEQ Water Quality Compliance Section that briefly summarizes the status of compliance under this permit. The report shall identify any contingency actions taken, violations of this permit, or any alert levels or discharge limitations that have been exceeded, and shall include any other information specifically requested by permit condition to be submitted in the annual report. The annual report is to be submitted by January 30 of each year to cover activities from January 1 through December 31st of the previous year.

2.7.5 Reporting Location

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality
 Water Quality Compliance Section, Data Unit
 Mail Code: 5415B-1
 1110 W. Washington Street
 Phoenix, AZ 85007
 Phone (602) 771-4513

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

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

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

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

2.7.6 Reporting Deadline

The following table lists the quarterly report due dates:

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 annual report due date:

Monitoring conducted during the year	Annual Report due by
January-December	January 30

2.7.7 Changes to Facility Information in Section 1.0

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

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

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

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

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

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

2.9.1 Closure Plan

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

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

2.9.2 Closure Completion

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

1. Clean closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with aquifer water quality standards at the applicable point of compliance;

3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
5. Further action is necessary to meet property use restrictions.

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

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

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

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

For each compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Groundwater Section. A copy of the cover letter must also be submitted to the Water Quality Compliance Section, Data Unit. All items may result in action to amend this permit.

Table 3.0.1 General Compliance Schedule Items		
DESCRIPTION	PERMITTEE (COMMITTEE) (Days from permit issuance)	REQUIREMENTS
Financial Assurance		
Liner Condition	90 Submitted June 16, 2009 with additional information submitted on April 20, 2010, September 30, 2010 and January 26, 2011	Provide all liner inspection records and liner certification sealed by an Arizona Registered Engineer that the liner meets the requirements of Section 2.2.1, is competent and is free of defects to ADEQ. If the permittee is not able provide a liner certification within 90 days from permit issuance, a proposal for proper repairs to the liner must be submitted.
Liner Leakage Alert Levels with details on leakage monitoring.	90 Submitted June 16, 2009 with additional information submitted on December 14, 2009, April 20, 2010 and September 30, 2010	Submit an application for an other amendment with proposed liner leakage Alert Levels for the Action Liner Leakage Rate and Rapid and Large Leakage Rate to ADEQ as well as details on how leakage monitoring will be performed and where it will be performed.
Solid Waste Disposal Area Details	90 Submitted June 16, 2009	Provide details for the Solid Waste Disposal area that includes a BADCT demonstration that complies with A.R.S. § 49-243 and A.A.C. R18-9-A202 with the other amendment for the Liner Leakage Alert Levels.
Liner Repair (if necessary)	180 Submitted June 16, 2009 with additional information submitted on April 20, 2010 and September 30, 2010	If repairs to the liner must be made prior to liner certification (see Liner Condition item above), complete the repairs and provide a liner certification sealed by an Arizona Registered Engineer that the liner meets the requirements of Section 2.2.1, is competent and is free of defects to ADEQ.

4.0 TABLES OF MONITORING REQUIREMENTS

4.1 PRE-OPERATIONAL MONITORING (or CONSTRUCTION REQUIREMENTS)

Not-applicable

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

Table 1A – Discharge Monitoring Mine Shaft Sump Monitoring

Table 1B – NSP Leakage Monitoring

Table 1C – Facility Inspection

4.3 CONTINGENCY MONITORING

Not-applicable

4.2 TABLE 1A
DISCHARGE MONITORING MINE SHAFT SUMP MONITORING

Parameter	Discharge Limit	Alert Level	Monitoring Frequency	Reporting Frequency
			* See Notes 1 & 2	Quarterly for the first year; Annually thereafter if sampled.
Antimony	N/A	Reserved	2	"
Arsenic	N/A	Reserved	1	"
Barium	N/A	Reserved	2	"
Beryllium	N/A	Reserved	2	"
Cadmium	N/A	Reserved	2	"
Calcium	N/A	Reserved	2	"
Chromium	N/A	Reserved	2	"
Chloride	N/A	Reserved	2	"
Copper	N/A	Reserved	2	"
Fluoride	N/A	Reserved	2	"
Iron	N/A	Reserved	2	"
Lead	N/A	Reserved	2	"
Magnesium	N/A	Reserved	2	"
Manganese	N/A	Reserved	2	"
Mercury	N/A	Reserved	2	"
Nickel	N/A	Reserved	2	"
Nitrate as N	N/A	Reserved	1	"
Phosphate	N/A	Reserved	2	"
Potassium	N/A	Reserved	2	"
Selenium	N/A	Reserved	2	"
Silver	N/A	Reserved	2	"
Silica	N/A	Reserved	2	"
Sodium	N/A	Reserved	2	"
Sulfate	N/A	Reserved	2	"
Sulfur	N/A	Reserved	1	"
Thallium	N/A	Reserved	2	"
Zinc	N/A	Reserved	2	"
Radon	N/A	Reserved	2	"
Thorium-230 + 232	N/A	Reserved	2	"
Uranium - total	N/A	Reserved	2	"
Uranium - dissolved	N/A	Reserved	2	"
Uranium ²³⁴⁺²³⁸	N/A	Reserved	1	"
Uranium ²³⁵	N/A	Reserved	2	"
Radium ²²⁶	N/A	Reserved	2	"
Radium ²²⁸	N/A	Reserved	2	"
Gross Alpha	N/A	Reserved	2	"
Gross Beta	N/A	Reserved	2	"

**4.2 TABLE 1A (cont.)
MINE SHAFT SUMP MONITORING**

Parameter	Discharge Limit	Alert Level	Monitoring Frequency	Reporting Frequency
			* See Notes 1 & 2	Quarterly for the first year; Annually thereafter
TDS	N/A	Reserved	2	"
Alkalinity – total	N/A	Reserved	2	"
Alkalinity – phenolphthalein	N/A	Reserved	2	"
pH	N/A	Reserved	1	"
Eh	N/A	Reserved	1	"
Specific Conductance	N/A	Reserved	2	"
Volume Pumped	N/A	Volume pumped must decrease over first 3 years of mining	Monthly	"

Notes: N/A - Not Applicable, ADEQ reserves the right to set levels should future information warrant changes;
Reserved - Alert levels for water quality parameters may be set if contingency actions are required as a result of the exceedance of other alert levels, discharge limits, or permit conditions as set in this permit;

- 1 - Monthly for first year; Annually thereafter
- 2 - Monthly for first year only

**4.2 TABLE 1B
NSP LEAKAGE MONITORING**

Parameter	Discharge Limit	Alert Level	Analytic Method	Monitoring Frequency	Reporting Frequency
Operating Fluid Levels					
Fluid levels present	N/A	Less than 2 feet of freeboard	Measurement	Weekly	Quarterly
LCRS					
Volume Pumped	N/A	N/A	Meter/Calculate	As pumped	Quarterly
Rate Pumped	N/A	N/A	Meter/Calculate	As pumped	Quarterly
pH	N/A	Reserved	Meter	As pumped	Quarterly
Specific Conductance	N/A	Reserved	Meter	Quarterly (if detected during the quarter)	Quarterly
Action Leakage Rate	N/A	480 gpd ³	Calculation	Bi-weekly	Quarterly
Rapid and Large Leakage Rate	N/A	720 gpd ³	Calculation	Bi-weekly	Quarterly

Notes: N/A - Not Applicable, ADEQ reserves the right to set levels should future information warrant changes;
Reserved - Alert levels for water quality parameters may be set if contingency actions are required as a results of the exceedance of other Alert Levels, Discharge Limits, or permit conditions as set in this permit;
 3 - gpd - gallons per day

**4.2 TABLE 1C
FACILITY INSPECTION**

Parameter	Performance Levels	Inspection Frequency	Reporting Frequency
Non-stormwater Pond	No visible cracks, holes, or leaks in liner;	Weekly	Quarterly
	Minimum two-feet freeboard;	Daily during operation	Quarterly
	No evidence of seepage	Daily during operation	Quarterly
Berm Integrity	No substantial erosion; No evidence of seepage	Weekly	Quarterly
Mine Sumps	Pump in good working order	Weekly	Quarterly
NSP LCRS	No impairment of access; Pump in good working order;	Weekly	Quarterly

5.0 REFERENCES AND PERTINENT INFORMATION

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

1. Individual APP Application received August 23, 1991
2. Individual APP issued October 14, 1994
3. APP Other Amendment Application received June 14, 2007
4. APP Other Amendment issued December 11, 2007
5. APP Other Amendment Application received January 7, 2009
6. APP Other Amendment issued March 20, 2009
7. APP Other Amendment Application received June 17, 2009

6.0 NOTIFICATION PROVISIONS**6.1 Annual Registration Fees**

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

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

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

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

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

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

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

6.5 Technical and Financial Capability

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

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

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

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

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

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

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

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

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

6.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]
The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices specified by this permit.

6.10 Permit Action: Amendment, Transfer, Suspension & Revocation [A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]
This permit may be amended, transferred, renewed, or revoked for cause, under the rules of the Department.

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

7.0 ADDITIONAL PERMIT CONDITIONS

7.1 Other Information [A.R.S. § 49-243(K)(8)]
Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

7.2 Severability [A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]
The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

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