ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

DISCHARGE AUTHORIZATION
TYPE 3.04 GENERAL AQUIFER PROTECTION PERMIT

Inventory No. 100333
LTF No.: 49736
USAS No. 030032-04

Permittee Information:

Name: Denison Mines (USA) Corp.
Address: 1050 17th St. Suite 950
Denver, CO 80265

Permitted Facility Information(if different from above):

Name: Canyon Mine Non-Stormwater Impoundment
Address: Tusayan, AZ

Latitude: 35º52' 58.8" North Longitude: 112º05'45.6" West

Determination is based on the Notice of Intent (NOI) dated 3/12/09 and technical specifications received 3/20/09.

Discharge Authorization. Your submittal satisfies the requirements in Arizona Administrative Code (A.A.C.) R18-9-A301(A)(3) and R18-9-A301(B). This Discharge Authorization is No. **P-100333**. Effective on the date of signature, the permittee is authorized to discharge from the facility at the location specified in the NOI under the terms of A.A.C. R18-9-D304. The permittee shall comply with all design, installation, operation, monitoring, recordkeeping, reporting and closure requirements specified in this general permit and the attachments to this discharge authorization. The permittee shall also comply with all other applicable requirements of 49 A.R.S. 2, and 18 A.A.C. 9, including the General Provisions of Article 3. This Authorization is effective on the date of signature and expires **FIVE (5) YEARS** from that date. If you wish to renew this Discharge Authorization and no changes have been made to the discharging facility, an NOI must be submitted no later than 30 days before _____ otherwise, the authorization to discharge will expire (see R18-9-A303(B) and (C)).

This authorization can be revoked and an individual permit required in the event the permittee fails to comply with the terms of the general permit described in the rules or if the discharge activity causes or contributes to the violation of an Aquifer Water Quality Standard at the applicable point of compliance.

_____ _____

Michele Robertson, Manager Date
Groundwater Section
Water Quality Division

cc: Lynne Dekarske, EPS, GWS

In addition to the requirements of the 3.04 General Permit in A.A.C. R18-9-D304, the permittee has agreed to the following voluntary conditions:

1. **Mine Water Control**
   i. The working shaft sumps and final shaft and vent sumps shall be continuously dewatered to allow the minimum practicable water accumulation.

   ii. The permittee shall conduct a Klinkenberg permeability test 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. If permeability tests indicate that the permeability of the rock mass is greater than 1.0×10^{-7} cm/sec the permittee shall provide notice to ADEQ Groundwater Section and initiate within 30 days, line the sumps with bentonite clay or seal any identified feature that may convey fluids out of the sumps.

2. **Mine Shaft Sump Monitoring**
   i. Denison agrees to measure the daily volume of water pumped from the underground mining areas, and conduct periodic sampling of water pumped from the underground mining areas as follows:

   Denison will sample water pumped from the underground mining areas at the point the water discharges to the non-stormwater impoundment on a quarterly basis for the parameters set forth in Table 1 below. If there is no water pumped during a particular quarter, then no sample will be required. Denison will report to ADEQ the results of the daily volume of water pumped and quarterly sampling within 30 days of the end of each of the first two quarters of operation, and on an annual basis thereafter.

   ii. If the sampling results suggest that aquifer water quality standards could be exceeded in groundwater beneath the mine given the depth to groundwater at the mine, Denison will increase the frequency of pumping to mitigate any risk to groundwater.

3. **Financial Capability**
   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 and post-closure cost is $30,000 and was demonstrated pursuant to A.A.C. R18-9-A203(C)(2). The closure and post-closure costs shall be evaluated and financial capability updated, if necessary, with each 5-year renewal.

TABLE 1
DISCHARGE MONITORING/MINE SHAFT SUMP MONITORING

pH (S.U.)	Total Dissolved Solids (mg/L)	Alkalinity – Total (mg/L)	Specific Conductance (umhos/cm)	Sulfate (mg/L)
Fluoride (mg/L)	Calcium (mg/L)	Magnesium[1] (mg/L)	Potassium[1] (mg/L)	Sodium[1] (mg/L)
Iron[1] (mg/L)	Antimony[1] (mg/L)	Arsenic[1] (mg/L)	Barium[1] (mg/L)	Beryllium[1] (mg/L)
Cadmium[1] (mg/L)	Chromium[1] (mg/L)	Copper[1] (mg/L)	Lead[1] (mg/L)	Manganese[1] (mg/L)
Mercury[1] (mg/L)	Nickel[1] (mg/L)	Selenium[1] (mg/L)	Thallium[1] (mg/L)	Zinc[1] (mg/L)
Gross Alpha Particle Activity (pCi/L)	Radium 226 (pCi/L)	Radium 228 (pCi/L)	Uranium-Isotopes (pCi/L)	Uranium (mg/L)

[1] Metals shall be analyzed as total recoverable metals.