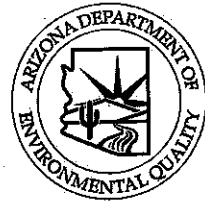




Janice K. Brewer  
Governor

# ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007  
(602) 771-2300 • www.azdeq.gov



Benjamin H. Grumbles  
Director

August 31, 2009

Denison Mines (USA) Corp.  
Attn: Harold Roberts  
1050 17<sup>th</sup> St., Suite 950  
Denver, CO 80265


**RE: Pinenut Mine Non-Stormwater Impoundment  
3.04 General Aquifer Protection Permit (APP) No. P-100300**

Inventory Number:	100300	LTF ID:	49735
USAS Number:	500160-00	Place ID:	128345

Dear Mr. Roberts:

Enclosed is a signed copy of the Discharge Authorization for the 3.04 General Aquifer Protection Permit (APP) for the above referenced facility. This authorization to discharge was developed pursuant to A.A.C. Title 18, Chapter 11, Article 4, Aquifer Water Quality Standards, and A.A.C. Title 18, Chapter 9, Article 3, Aquifer Protection Permit (APP) rules. If you have any questions regarding this permit or the facility, please feel free to contact Richard Mendolia at 771-4374.

Sincerely,

  
Michele Robertson, R.G.  
Groundwater Section Manager  
Water Quality Division

Enclosures (2)

cc: Carrolette Winstead, Manager, APP & Drywell Unit, GWS, WQD, ADEQ (w/encl.)  
Matthew Hodge, Manager, WQCDU, WQCS, WQD, ADEQ (w/encl.)  
Cynthia Campbell, Section Manager, WQCS, WQD, ADEQ (w/encl.)  
Robert Olberding, NRO Field Services Unit  
Lynne Dekarske, EPS/Billing, GWS, WQD, ADEQ (w/encl.)

IDU09:0257

Northern Regional Office  
1801 W. Route 66 • Suite 117 • Flagstaff, AZ 86001  
(928) 779-0313

Southern Regional Office  
400 West Congress Street • Suite 433 • Tucson, AZ 85701  
(520) 628-6733



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 mine workings, 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  $1.0 \times 10^{-7}$  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 \$20,000 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 <sup>1</sup> (mg/L)	Potassium <sup>1</sup> (mg/L)	Sodium <sup>1</sup> (mg/L)
Iron <sup>1</sup> (mg/L)	Antimony <sup>1</sup> (mg/L)	Arsenic <sup>1</sup> (mg/L)	Barium <sup>1</sup> (mg/L)	Beryllium <sup>1</sup> (mg/L)
Cadmium <sup>1</sup> (mg/L)	Chromium <sup>1</sup> (mg/L)	Copper <sup>1</sup> (mg/L)	Lead <sup>1</sup> (mg/L)	Manganese <sup>1</sup> (mg/L)
Mercury <sup>1</sup> (mg/L)	Nickel <sup>1</sup> (mg/L)	Selenium <sup>1</sup> (mg/L)	Thallium <sup>1</sup> (mg/L)	Zinc <sup>1</sup> (mg/L)
Gross Alpha Particle Activity (pCi/L)	Vanadium <sup>1</sup> (mg/L)	Radium 228 (pCi/L)	Uranium-Isotopes (pCi/L)	Uranium (mg/L)
	Radium 226 (pCi/L)			

<sup>1</sup> Metals shall be analyzed as total recoverable metals.