GRAND CANYON RIVER GUIDES
PO Box 1934
Flagstaff, AZ 86002
(928) 773-1075 phone
(928) 773-8523 fax
gcrg@infomagic.net
www.gcrg.org

January 12, 2011

Mr. Trevor Baggiore
Deputy Director, Air Quality Division
1110 West Washington Street
Phoenix, AZ 85007

Re: the Draft Air Quality Permits Nos. 52522, 52790 and 51803 for the Pinenut, EZ, and Canyon Mines; and Aquifer Protection Permit No. 52718 for the EZ Mine

Dear Mr. Baggiore,

Grand Canyon River Guides, Inc., (GCRG) founded in 1988, is unique in that it provides a unified voice for river guides and river runners in defense of the Colorado River corridor through Grand Canyon. Our non-profit educational and environmental 501(c)(3) organization is comprised of over 1,600 individuals who are passionately dedicated to the continuing preservation of this national icon. Consequently, Grand Canyon River Guides' goals are to:

Protect the Grand Canyon
Provide the best possible river experience
Set the highest standards for the guiding profession
Celebrate the unique spirit of the river community

With those goals in mind, Grand Canyon River Guides would like to take this opportunity to comment on the pending decision by the Arizona Department of Environmental Quality (AZDEQ) regarding issuance of Air Quality Control Permits for the operation of three underground uranium mines - the Pinenut Mine, Canyon Mine and EZ Mine, applied for by Denison Mines (USA) Corp and the General Aquifer Protection Permit for the EZ Mine. We have reviewed the history of uranium mining in the area, the opinions and findings of scientists, and the statements of the local and regional experts and stakeholders including Native American tribes who have spoken about this issue in

past years. Based on recent studies and our own intimate experience, understanding, and respect of the Canyon and surrounding region, we strongly encourage you deny Denison Mines the aforementioned permits necessary for the operation of these three mines.

Denison Mines cannot ensure that there will be no irretrievable harm done to the regional aquifers, and herein lies a primary concern. The potential exists for uranium to become mobile in the flow of subsurface water, subsequent to disturbance of the breccia pipes where it is mined. This leads to contamination of aquifers which feed seeps and springs within Grand Canyon National Park. These springs are critical to the health of biotic systems which support plants, animals, insects, and birds in this arid region, while providing water for backcountry hikers and Native American tribes. Ultimately, these springs flow into the Colorado River, a water source for millions of people downstream.

Particularly disturbing is the fact that Denison Mines will not be required to post any bonds for cleanup of any contamination and, under the considered AZDEQ general Aquifer Protection Permit (APP), Denison Mines will not be required to have either baseline data relating to aquifer water quality, nor will they be required to monitor aquifer water quality during or after the life of these mines. How will any potential contamination be detected? Hydro-geologist David Kreamer, from the University of Nevada Las Vegas, has noted that **any rigorous uranium monitoring program should involve "the emplacement of monitoring wells, regular sampling and chemical analysis of water, and hydrologic and hydrochemical mathematical modeling."** He also notes that there is no such industry program in the Canyon and that the effects of uranium pollution on groundwater may take years, decades or even centuries to be fully manifest. ("Uranium Mining in the Grand Canyon, Biting my Tongue in Front of Congress", *Boatman's Quarterly Review*, Volume 22, #4, winter 2009-2010)

Furthermore, **it seems entirely inappropriate that Denison Mines itself would be responsible for the minimal monitoring and environmental testing stipulated in the APP**. We find that the lack of oversight, the insufficient environmental safeguards, and the absence of a scientifically credible and comprehensive monitoring program to be unacceptable, placing the burden of risk from any potential contamination on the public and on Grand Canyon itself.

In his compelling testimony before Congress regarding House Resolution 644, as excerpted from the citation listed above, expert witness David Kreamer stated that,

"The science has shown that it is unreasonable to assume that the groundwater below the rim of the Grand Canyon and in its breccia pipes does not have hydrologic connection with the Canyon's springs. It's unreasonable to assume that water supply to mines is trivial, particularly if more than one mine begins operation in the Grand Canyon region. It's unreasonable to assume that the surface mining structures, the dams, berms, dikes, won't reduce recharge to the Redwall-Muav aquifer, and that's if they don't fail and flood the subsurface with contaminated water. It's unreasonable to assume that mining in the Hermit Shale aquitard won't pierce the perched aquifer system in the Grand Canyon. It's unreasonable to assume that potential pollution to springs and drainages in

the canyon won't occur – we've already found it. And it's unreasonable to assume that no potential huge cleanup costs will be associated with any pollution that does occur."

Grand Canyon, one of the "Seven Wonders of the World", has been in the making for 5 million years, and was designated as a National Park almost 100 years ago. It currently draws millions of people to Arizona every year. These visitors come to marvel at a landscape that has been protected for its unique qualities and for the benefit and enjoyment of people worldwide. Tourism has been and always will be a significant part of Northern Arizona's economy, but is dependent on our abilities to make wise decisions that honor and protect our beautiful, fragile landscapes. **Denison admits that these mines all have short lifespans of two to five years, yet the potential impact from these uranium mines could negatively affect Grand Canyon tributaries and the Colorado River for generations to come.**

Additionally, please consider the human cost of uranium mining pollution on the eleven Native American tribes who hold Grand Canyon sacred. These include the Hualapai, Havasuapi, Kaibab-Paiute, Hopi, and Navajo whose lands are directly adjacent to the canyon and river and who use the watersheds for drinking water and to sustain livestock and crops. As a Diné Nation member, river guide, and vice president of Grand Canyon River Guides, Nikki Cooley says:

"Uranium mining near Grand Canyon has a deadly history for many Native and non-native Americans. My late grandfather mined uranium for a short part of his life yet he died from cancer that is linked to his time working in the mines without necessary protective gear or training. The Navajo Nation, once known to be virtually immune to cancer, now has doubled the rate of cancer cases since the 1970s. There are many Navajos who have unknowingly built homes using contaminated rock, sand and wood, consumed water and meat from livestock that grazed near or on former uranium mines, who are now suffering from various forms of cancer. With such a tainted history, why are we continuing to expose and risk the health of our natural resources and people? As a river guide, I tell my passengers to respect and honor a place that is like no other and to treat it as you would treat your children."

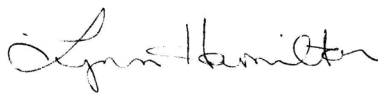
And, mirroring some of those sentiments, GCRG board member Robert Jenkins, who is a commercial river guide and member of the Hopi Tribe, states:

"People may not know what has happened on Indian lands, but there are two sites that I know of that were contaminated by uranium mining out on the reservation decades ago. This caused our people to abandon their homes, almost like our own "Chernobyl" right in our back yard. Those settlements are gone now – buried, but they should not be forgotten. Hopis and Navajos were displaced and who knows how it has affected the lives of those residents over time. One of those settlements north of Tuba City was in a drainage close to the Little Colorado River that is sacred to the Hopi tribe. Could it still be affecting the LCR? Uranium mining has already had a devastating affect on our tribal lands."

Again, Grand Canyon River Guides strongly urges you to deny Denison Mines the permits they need to operate these uranium mines near Grand Canyon in Northern Arizona. We believe any consideration of uranium mining in the Grand Canyon area to be inconsistent with AZDEQ's mission to protect and enhance public health, welfare and the environment in Arizona.

Thank you for consideration of our comments.

Sincerely,



Lynn Hamilton
Executive Director

On behalf of the:

The Officers and Board of Directors of Grand Canyon River Guides, Inc.

Erika Andersson	President
Nikki Cooley	Vice President
Fred Thevenin	Secretary/Treasurer
Laura Fallon	Director
Robert Jenkins	Director
Jed Koller	Director
Ariel Neill	Director
Jared Weaver	Director
Greg Woodall	Director