



**NAVAJO NATION DEPARTMENT OF JUSTICE**  
*OFFICE OF THE ATTORNEY GENERAL*

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September 24, 2015

Mr. David Mayerson  
New Mexico Environment Department  
Ground Water Quality Bureau  
1190 St. Francis Drive  
PO Box 5469  
Santa Fe, New Mexico 87502-5469

**Re: Navajo Nation's Comments on Draft Discharge Permit No. 558 for Characterization of Baseline Groundwater Quality and Demonstration of Restoration of Groundwater Quality Following Proposed In Situ Leach Uranium Mine**

Dear Mr. Mayerson:

The Navajo Nation is providing these comments on draft discharge permit ("DP") No. 558, which would require Uranium Resources, Inc. ("URI") to fulfill certain conditions before proceeding with any underground injections in connection with URI's proposed in situ leach ("ISL") uranium mining on Township 16 North, Range 16 West, Section 8 in McKinley County, New Mexico. Specifically, the New Mexico Environment Department ("NMED") has proposed to require URI to submit work plans to NMED for approval that (1) characterize baseline groundwater quality, and (2) demonstrate URI's ability to restore groundwater quality to required standards or baseline after mining.

As an initial matter, the Navajo Nation notes that NMED characterizes draft DP-558 as a renewal of a discharge permit that was issued to URI's predecessor, Hydro Resources Inc. ("HRI"), in 1989. (Draft DP-558, § I at 1.) The Nation disagrees with this characterization because HRI and URI failed to timely renew the permit as required by 20.6.2.3106.F & .3109.H.4 and NMSA 1978, § 74-6-5-(I), meaning there was no permit in place that could be renewed. Draft DP-558 is therefore invalid, and the Nation concurs with and adopts by reference the comments on this point made by ENDAUM in its comment letter dated August 17, 2015.

In the rest of this letter, the Navajo Nation comments on the conditions in the draft discharge permit without conceding the validity of the permit. With that understanding, the Nation fully supports the proposed requirements in draft DP-558 that HRI must properly characterize baseline groundwater quality and demonstrate that it can restore the groundwater to required standards or baseline before any operational discharges will be authorized. *See* 20.6.2.5101(C)(2) NMAC; 20.6.2.3103 NMAC. Both of these requirements are essential, for the following reasons: (1) the drinking water needs of the Eastern Navajo Agency, in which Section 8 is located, are projected to at least triple within the near future; (2) drinking water is scarce in the area; (3) the region relies on the aquifer underlying Section 8 for drinking water; (4) the aquifer

is seen as a promising source of drinking water in the future due to its high quality and, in many instances, artesian flow; (5) the proposed ISL discharges on Section 8 may contaminate the aquifer and adversely impact drinking water wells, particularly in light of the old mine-workings underlying neighboring Section 17 and possibly extending into Section 8 as well as the numerous exploratory wells (many not properly decommissioned) in the area of review, both of which may result in excursions of pollutants; and (6) to date no complete restoration of groundwater quality following ISL uranium mining has been demonstrated anywhere in the country.

In light of the connectivity concerns and the overriding importance of protecting the Westwater Canyon Member, described above, NMED should reject the proposed plans if they include any activities that would pose a threat to that groundwater or the environment, public health or welfare generally, such as if the proposed demonstration of restoration of groundwater quality would involve injecting contaminants into the aquifer. In addition, in determining baseline, consideration must be given to the fact that the potentiometric surface of the Westwater Canyon Member at Section 8 indicates a groundwater flow direction to the northwest. Conceivably, groundwater in the Westwater Canyon Member at the old Section 17 mine workings is migrating to Section 8. The 1997 U.S. NRC Final EIS for the site states that “HRI anticipates that the restored value for radium at the Church Rock, Crownpoint, and Unit 1 sites would be baseline values... because HRI believes that average pre-mining well field radium concentrations would exceed the U.S. EPA and State of New Mexico drinking water standards for radium.” However, in establishing baseline groundwater quality, URI should not confine itself to wells located on Section 8 that are in the orebody zone and are downgradient from a conventional uranium mine that operated from the 1960s to the 1980s. Instead, URI should incorporate groundwater quality data from an area not impacted by past uranium exploration and mining in the determination of baseline.

Furthermore, NMED should reject any demonstration of groundwater restoration unless it clearly shows that restoration can be achieved, something that neither URI nor any other entity has yet been able to do. For example, in June 2011 URI/HRI submitted an analysis of background versus restoration data for the pilot Section 9 in situ leach uranium recovery facility operated by Mobil Oil Company in Crownpoint, New Mexico in the late 1970s-early 1980s, also in the Westwater Canyon Member of the middle Jurassic Morrison Formation. The Mobil Section 9 ISL pilot site was on five acres of a single Navajo allotted lease, comprised of a well pattern consisting of nine injection wells and four recovery wells and operated under U.S. NRC Source Material License SUA-1479. Chemical injection at Section 9 lasted not quite a year (November 6, 1979 - October 1, 1980), and even after this limited period restoration could not be achieved. Restoration work lasted six years, from October 1980 to October 1986. In 1981 it became apparent that molybdenum would be a restoration problem (molybdenum is not expected to be present in the Section 8 ore body). In 1988, NRC opted to terminate Mobil’s Source Material License due, among other factors, to the cost and limited success of additional restoration. The 1997 Final EIS for the Crownpoint Uranium Solution Mining Project also states that radium was not restored to the EPA drinking water standard.

Compared to the Mobil pilot project, URI’s currently proposed ISL operation at Section 8 appears to pose even greater obstacles for restoration:

- The Mobil pilot project was only five acres in size. The proposed URI operation will encompass 100 acres. Instead of only one well pattern as at the Mobil pilot site, the proposed Section 8 URI site will incorporate as many as thirteen well patterns. The larger scale means the likelihood of more contaminants and so the need for more restoration.
- The Mobil pilot project was at a location where no prior mining activity had ever occurred. URI's proposed Section 8 operation is immediately downgradient from a location extensively impacted by past underground uranium exploration and mining.
- The NRC believed there was limited potential for human use of the groundwater at the Mobil pilot site. The Navajo Nation believes there is substantial potential for human use of the aquifer in the immediate area of URI's Section 8 site.
- At the Mobil pilot site, the depth to the Westwater Canyon Member was about 2,000 feet and even so it could not be properly restored. At the proposed Section 8 URI site, the depth to the Westwater Canyon Member is only about 460-760 feet.

The Navajo Nation also objects to the proposed schedule of 60 days for NMED's review of the work plan for characterizing baseline groundwater quality and 90 days for NMED's review of the work plan to demonstrate URI's ability to properly restore groundwater quality after ISL mining. (Draft DP-558, § IV.A.) The proposed schedule is unlikely to provide enough time for NMED to properly consider the plans and clearly does not provide enough time for interested parties, such as the Navajo Nation, to review the plans, submit comments on them, and have NMED meaningfully consider those comments prior to taking action on the proposed plans.

The Navajo Nation hereby requests that, if draft DP-558 is finalized, the Nation be provided copies of the proposed plans when URI submits them to NMED. Copies of the proposed plans and other documents requested in this comment letter may be provided directly to:

Ronnie Ben, Department Manager  
Surface and Groundwater Protection Department  
Navajo Nation EPA  
P.O. Box 339  
Window Rock, AZ 86515  
ronnieben@navajo-nsn.gov

The Navajo Nation also hereby requests a government-to-government consultation on the proposed plans if they are submitted.<sup>1</sup>

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<sup>1</sup> Based on the Navajo Nation EPA's review of other documents, it appears that in 2013, URI provided NMED with a reactive transport model and associated conclusions drawn from the model. URI also submitted an undated "DP558 background and restoration protocol analysis and report" and a January 17, 2013 "Geochemical-reactive transport modeling of the Mobil Section 9 pilot in-situ recovery uranium facility, Crownpoint, and proposed Section

Finally, URI must cross over Navajo trust land to access the Section 8 site, which requires the consent of the Navajo Nation and, depending on the circumstances, a grant by the United States. In acknowledgment of this requirement, on July 19, 2012 URI entered into a Temporary Access Agreement with the Nation in order to obtain access to the site for meetings with the NRC. That agreement provided for access to satisfy administrative permit or license requirements, but only for one day at a time and subject to advance notice (§ 6). The agreement did not authorize any construction activities or earth disturbance (*id.*). It also required URI to fully remediate Sections 8 and 17 prior to commencing any ISL operations on Section 8 (§ 2). URI will need to comply with these requirements prior to performing any on-site components of the baseline characterization or restoration demonstration required by the draft NMED discharge permit. (*See* draft DP-558, § IV.F, ¶ 18.)

Very truly yours,

NAVAJO NATION DEPARTMENT OF JUSTICE  
ETHEL B. BRANCH, ATTORNEY GENERAL

A handwritten signature in cursive script that reads "David A. Taylor".

David A. Taylor, Attorney  
NATURAL RESOURCES UNIT

- c. Dr. Donald Benn, Executive Director Navajo EPA

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8 in-situ recovery uranium facility, Churchrock, New Mexico.” The Navajo Nation would like copies of these documents, in addition to all documents that URI submits in connection with the work plans required under draft DP-558.