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NEW MEXICO  
ENVIRONMENT DEPARTMENT

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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

February 26, 2013

Mr. Neil Blandford  
Daniel B. Stephens and Associates  
6020 Academy Road NE, Suite 100  
Albuquerque, New Mexico 87109

RE: **Hydro Resources Inc. D-558**—modeling review scope of work

Dear Mr. Blandford:

Hydro Resources Inc. ("HRI"), a subsidiary of Uranium Resources Inc. ("URI"), has agreed to fund your review of a reactive transport model and associated conclusions drawn from that model as detailed below, on behalf of the New Mexico Environment Department ("NMED"). As we have discussed previously by telephone, NMED first requests a prequalifying statement, which details any previous work that Daniel B. Stephens and Associates has performed on behalf of URI or its affiliated companies. Following NMED's determination that such work, if any, would not constitute a potential conflict of interest, Mr. Mark Pelizza (HRI Vice President) will contact you to discuss contractual terms for this work; note that NMED has requested to receive a copy of any final contract that is agreed upon. Thereafter, you are requested *not* to contact personnel from URI or its affiliates until the work product requested herein has been accepted by NMED.

**Scope of work**

**Materials submitted for review:**

- HRI, undated. "DP558 background and restoration protocol analysis and report."
- Dr. Patrick Longmire (Environmental Geochemistry, LLC), January 17, 2013. "Geochemical-reactive transport modeling of the Mobil Section 9 pilot in-situ recovery uranium facility, Crownpoint, and proposed Section 8 in-situ recovery uranium facility, Churchrock, New Mexico" [included as Attachment 3 to HRI, undated].

**Problem overview:**

HRI has applied to NMED to renew its existing discharge permit DP-558 for proposed in-situ recovery ("ISR") uranium mining operations. These ISR operations are proposed for the southeast quarter of Section 8, Township 16 North, Range 16 West ("Section 8 ISR facility"), to extract uranium from stacked rollfronts that occur within the Westwater Canyon member of the Jurassic-age Morrison Formation. Under state regulation, at the conclusion of the uranium recovery phase of operations, HRI must restore ground water quality in accordance with 20.6.2.4000 NMAC in order to meet standards listed in 20.6.2.3103 NMAC. 20.6.2.3103 NMAC specifies the maximum contaminant concentration and pH standards that ground water quality restoration must achieve, unless the respective premining value (i.e.,

background) exceeds the specified numerical standard, in which case the background value shall become the restoration standard.

In a letter to HRI dated June 13, 2011, NMED requested HRI to "...submit additional analytical documentation to demonstrate that ground water restoration standards for the proposed Churchrock Section 8 ISR facility—in particular for uranium—can be achieved after the proposed ISR mining. The additional documentation may include data from HRI ISR sites or from other ISR facilities."

In response to this request, HRI submitted an analysis of background vs. restoration data for a pilot ISR operation that was conducted by Mobil Oil Company ("Mobil") in the late 1970s through early 1980s. This pilot ISR operation occurred within Westwater Canyon member rollfronts that are located in the northeast quarter of Section 9, Township 17 North, Range 13 West ("Section 9 pilot ISR"). In summary, the Section 9 pilot ISR mining phase recovered an estimated 15% of recoverable uranium, which reportedly occurred as coffinite and uraninite within arkosic sandstone. The uranium recovery phase lasted for about 10 months, and produced ground water concentrations in excess of 100 milligrams/liter ("mg/l"), as well as high concentrations of molybdenum. During the first 12 months of the ground water restoration phase, Mobil achieved state regulatory compliance for all contaminant concentrations except for molybdenum—which is not expected to be present in the Section 8 ISR orebody, and pH—which exceedance directly resulted from Mobil's ground water restoration process.

By July 1987, Mobil's restoration activities had achieved ground water uranium concentrations at the Section 9 pilot ISR facility of **0.102 mg/l**. The premining background uranium concentration previously had been determined to be **0.013 mg/l** and, at the time of the Section 9 pilot ISR operations, the state's ground water standard for uranium was **5 mg/l**. Therefore, Mobil's restoration for uranium complied with the then-current New Mexico ground water regulation for uranium.

In response to NMED concerns, HRI proposed a modeling approach for the Section 9 pilot ISR facility ground water data in order to demonstrate the technical capability to comply with the current state uranium ground water standard—i.e., to achieve further reduction of Section 9 pilot ISR post-mining uranium ground water concentrations from the average 0.102 mg/l that was achieved by Mobil by 1987 to be equal or less than the state's current ground water uranium standard of 0.03 mg/l (note that the state's current numerical uranium ground water standard of **0.03 mg/l** is higher than the Section 9 pilot ISR background uranium ground water concentration of 0.013 mg/l); this model is documented in Longmire, 01/17/2013.

As stated above, HRI's ground water uranium restoration standard for its Section 8 ISR facility will be the higher value between the current state uranium ground water numerical standard of **0.03 mg/l** as promulgated in 20.6.2.3103 NMAC, and the site-specific premining background uranium ground water concentration. While a ground water background hydrochemical profile has not been established formally for the Section 8 ISR facility, HRI has presented available ground water hydrochemical data, which include uranium, for both Section 8 (see Attachment 1 to HRI, undated) and adjacent Section 17 (see Attachment 2 to HRI, undated), to indicate a preliminary range of ground water concentration values.

Work requested:

1. Review the data inputs and resultant PHREEQC simulations for precipitation of the various uranium (IV) solids in Longmire, 01/17/2013 to determine if these support the conclusions stated therein relating to the observed reduction of uranium concentrations in ground water associated with the Section 9 pilot ISR. Discuss these model simulations to quantify the reduction U(VI) under equilibrium conditions in the presence of sodium sulfide (Na<sub>2</sub>S) at a dissolved concentration of 10 mg/l.
2. Discuss the applicability of this model as a predictive tool for HRI's ability to restore post-ISR ground water uranium concentrations at its proposed Section 8 ISR facility to the higher uranium concentration value between the current state ground water numerical uranium standard of 0.03 mg/l and the site-specific ground water uranium background concentration.

Mr. Neil Blandford, DBS&A  
RE: Hydro Resource Inc. DP-558—modeling review scope of work  
February 26, 2013

NMED requires you to submit your findings in a report that addresses this scope of work within two months of consummating a contract with HRI for this work. Please submit any questions on this work, as well as your report on the work requested herein, to me on behalf of NMED, both in hard copy and electronic formats. My telephone number is (505) 476-3777; my email address is david.mayerson@state.nm.us.

Sincerely,

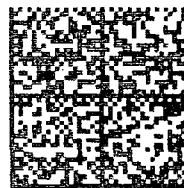


David L. Mayerson  
Mining Environmental Compliance Section  
Ground Water Quality Bureau  
New Mexico Environment Department

2 enclosures

Copies without enclosures:  
Ray Leissner, EPA  
Ron Linton, NRC  
Mark Pelizza, HRI

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