



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

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NOV 08 2012

Ref: 8P-W-UIC

Mr. Kevin Frederick  
Wyoming Department of Environmental Quality  
Water Quality Division  
Herschler Building  
122 West 25th Street  
Cheyenne, Wyoming 82002

Re: Aquifer Exemption Approval:  
Uranerz Energy Corporation  
Nichols Ranch Unit, Wasatch "A Sand"  
Campbell and Johnson Counties, Wyoming

Dear Mr. Frederick:

The U.S. Environmental Protection Agency Region 8 Water Program office has reviewed your aquifer exemption request dated June 27, 2012, including the public notice and supporting information for the proposed Wyoming Department of Environmental Quality (WDEQ) designation of a limited portion of the Wasatch "A Sand" within the Nichols Ranch Unit, Campbell and Johnson Counties, Wyoming, as an exempted aquifer.

This request is connected with the Nichols Ranch Unit Class III In-Situ Recovery (ISR) Project proposed by Uranerz Energy Corporation for their ISR mining activities.

**APPROVAL OF PROPOSED AQUIFER EXEMPTION:** Based on review of the supporting information provided by the WDEQ, and pursuant to 40 CFR § 144.7(b)(3), the EPA hereby approves a non-substantial program revision to include exemption of a portion of the Wasatch "A Sand" aquifer. The depth and extent of the aquifer exemption is as follows:

Nichols Unit: Wasatch "A Sand" with an approximate thickness of 100 feet located below the A-B Shale and above the 1-A Shale confining layers, approximately 300 to 700 feet below ground surface. The horizontal extent is described as 209 feet beyond the monitoring well ring (as shown in Figure 2 accompanying WDEQ's aquifer exemption request) and is located within the following legal land descriptions:

Township 43 North, Range 76 West  
Section 7: SE  $\frac{1}{4}$  SE  $\frac{1}{4}$   
Section 8: SW  $\frac{1}{4}$  SW  $\frac{1}{4}$

Section 17: W  $\frac{1}{2}$ ; SW  $\frac{1}{4}$  NE  $\frac{1}{4}$ ; SE  $\frac{1}{4}$   
Section 18: E  $\frac{1}{2}$  NE  $\frac{1}{4}$ ; NE  $\frac{1}{4}$  SE  $\frac{1}{4}$   
Section 20: NE  $\frac{1}{4}$  NE  $\frac{1}{4}$ ; NW  $\frac{1}{4}$  NE  $\frac{1}{4}$

In a letter dated January 14, 2011, to WDEQ, the EPA approved the boundary of the aquifer exemption area of the Wasatch "A" Sand at the Nichols Ranch Unit to coincide with the monitoring well ring. With this letter, the aquifer exemption boundary is extended an additional 209 feet beyond the monitoring well ring.

Based on our review of the information provided, the EPA concurs with the WDEQ's conclusions concerning the aquifer exemption criteria listed below:

- it does not currently serve as a source of drinking water (40 CFR §146.4(a)), and
- it is mineral producing and can be demonstrated to contain minerals that, considering their quantity and location, are expected to be commercially producible (40 CFR §146.4(b)(2).)

This approval applies to the location and the injection activities described herein. Additional approvals may be required for additional injection activities.

**OVERVIEW:** The Wasatch "A Sand" aquifer contains uranium mineralization and is in the production zone in the Nichols Ranch Unit. The Wasatch "A Sand" aquifer produces sufficient quantity of ground water to supply a public water system and the total dissolved solids ranges from 289 to 370 mg/L. Currently, there are no known domestic drinking water wells completed into the Wasatch "A Sand" aquifer within a one-fourth ( $\frac{1}{4}$ ) mile of the proposed exemption area. The nearest domestic well is located approximately one (1) mile away from the proposed aquifer exemption area. Overlying and underlying confining aquitards have been identified to isolate the injection zone. The overlying A-B Shale at its thinnest location within the proposed exemption boundary is approximately 13 feet, with the majority of the aquitard thickness greater than 20 feet and up to 100 feet in some areas. The underlying 1-A shale is generally between 20 to 40 feet, with some small portions less than 20 feet. No public comments were received by the WDEQ during the public comment period.

In accordance with the UIC regulations, this approval constitutes a program revision to the State's program, 40 CFR § 144.7 & 145.32. Should you have questions or concerns, please contact Wendy Cheung of my staff at (303) 312-6242.

Sincerely,

*Colleen Rathbone*

For Howard M. Cantor, for  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

cc: Mark Rogaczewski, LQD  
Robert Smith, OGWDW