

July 9, 2007

Mr. Tom Pauling
U.S. Department of Energy
Office of Legacy Management
2597 B 3/4 Road
Grand Junction, CO 81503

SUBJECT: CONCURRENCE TO TERMINATE GROUND WATER MONITORING AT THE
SALT LAKE CITY, UTAH, UMTRCA TITLE I PROCESSING SITE

Dear Mr. Pauling:

Nuclear Regulatory Commission (NRC) staff has reviewed the Department of Energy's (DOE's) transmittal of the May 2007 monitoring results for the Salt Lake City, Utah, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Processing Site. Based on its review and its independent analysis (see enclosed Technical Evaluation Report), the staff concludes that analytical results contained in DOE's submittal meet the ground water monitoring termination criteria proposed by the NRC on December 5, 2005. Consequently, the NRC concurs with DOE's findings that no further ground water monitoring is necessary at the site and that the site's four remaining monitoring wells may be decommissioned.

If you have any questions concerning this matter, please contact the NRC Project Manager, Mr. Paul Michalak at 301-415-7612, or by e-mail at pxm2@nrc.gov.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

/RA/

Paul Michalak, Hydrogeologist
Uranium Recovery Licensing Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Enclosure: Technical Evaluation Report

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**TECHNICAL EVALUATION REPORT
TERMINATION OF MONITORING AT THE SALT LAKE CITY
UMTRCA TITLE I PROCESSING SITE**

DATE: June 26, 2007

TECHNICAL REVIEWER: Paul Michalak

SUMMARY AND CONCLUSIONS:

The Nuclear Regulatory Commission (NRC) has evaluated additional ground water quality and elevation data collected at the Salt Lake City, Utah, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Processing Site (the site) by the Department of Energy's (DOE's) Office of Legacy Management (DOE 2007). The additional monitoring was performed in response to the NRC's comments (NRC 2005) on the DOE's original proposal (DOE 2005) to terminate ground water monitoring at the site. Combined with existing ground water monitoring data for the site, these new data support the following: the additional ground water samples from well 0144 contained molybdenum at levels below the 0.1 mg/L 40 CFR 192 UMTRCA Title I standard for molybdenum; for well 0144, the slope of the linear regression of molybdenum concentrations (nine samples collected between 1999 and 2007) was negative, indicating a decreasing concentration trend; and ground water elevation (shallow wells) and potentiometric (deep wells) measurements for well clusters 0134/0143 and 0144/0145 continued to indicate an upward vertical gradient, indicating that in the vicinity of the site, the shallow aquifer system is not recharging the deeper, confined system. Consequently, the NRC concurs with DOE's findings that no further ground water monitoring is necessary at the site and that the site's four remaining monitoring wells may be decommissioned.

BACKGROUND:

On March 24, 2005, the DOE's Office of Legacy Management proposed discontinuing ground water monitoring at the site based on the following criteria: 1) the vertical hydraulic gradient between the deep and shallow aquifers is upward (indicating that the shallow aquifer system is not recharging the deeper, confined system) and monitoring has not indicated a reversal in its direction; 2) ground water quality monitoring has indicated a decrease in the uranium and molybdenum concentrations (as anticipated), and 3) no unacceptable risks were identified related to pumping of ground water by the Central Valley Water Reclamation Facility (CVWRF), the current property owner, or the storm drain sump (DOE 2005). On December 15, 2005, NRC staff responded to DOE's request and concluded that DOE's second criteria had not been met at well 0144 (NRC 2005). As a result, ground water monitoring at the site was amended to the following:

- 1) Annual monitoring for molybdenum in well 0144 should continue for at least two years, with termination of monitoring contingent on the following:
 - a) Molybdenum data for monitor well 0144 exhibiting a decreasing trend (e.g., linear regression analysis resulting in a negative slope), or

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- b) Data remaining below the 0.1 mg/L 40 CFR 192 UMTRCA Title I standard for molybdenum.
- 2) While molybdenum sampling is ongoing, annual surficial and deep aquifers water level measurements (i.e., monitor wells 0134, 0143, 0144 and 0145) to assess vertical gradients should continue.

On May 23, 2007, DOE submitted updated molybdenum ground water results for well 0144 and additional water level measurements for monitor wells 0134, 0143, 0144 and 0145 (DOE 2007). This data included three additional post-December 2006 molybdenum results for well 0144 and three additional ground water level measurements for deep (confined aquifer) wells 0143 and 0145. Continuous ground water measurements were also collected from shallow unconfined wells 0134 and 0144. Based on these results, DOE asserted that the NRC's December 2006 criteria had been met and that no further environmental monitoring would be performed on the site. DOE also indicated that decommissioning of the four remaining monitor wells at the site would be initiated unless otherwise directed by the NRC.

TECHNICAL EVALUATION:

The results of additional ground water sampling at well 0144 have met the 1a and 1b termination criteria established in December 2005. All three samples were below the 0.1 mg/L 40 CFR 192 UMTRCA Title I standard for molybdenum and the slope of the linear regression (nine samples collected between 1999 and 2007) was negative, indicating a decreasing concentration trend (see attached figure). Ground water elevation (shallow wells) and potentiometric (deep wells) measurements for well clusters 0134/0143 and 0144/0145 continued to indicate an upward gradient (see attached figure). The upward vertical gradient indicates that, in the vicinity of the site, the deeper, confined aquifer, which is a source of potable water in the area, is not being recharged from the shallow unconfined aquifer. In addition, the DOE has verified, through information from the CVWRF, that no unauthorized excavations or ground water withdraws have occurred at the site; demonstrating that institutional controls related to these activities are in place and continue to be protective. As a result, the NRC concurs with DOE's findings that no further ground water monitoring is necessary and that the four remaining monitoring wells on the site may be decommissioned.

REFERENCES:

Department of Energy (2005) Correspondence from Michael Tucker to Gary Janosko (NRC) and Dean Henderson (Utah DEQ) containing transmittal of 2004 Annual Status Report for the Salt Lake City, Utah, UMTRCA Processing Site. March 24. [Adams Accession No. ML050940337]

Department of Energy (2007) Correspondence from Jagdish Malhotra to Gary Janosko (NRC) transmitting May 2007 Monitoring Results for the Salt Lake City, Utah, UMTRCA Title I Processing Site. May 23. [Adams Accession No. ML071510087]

Nuclear Regulatory Commission (2005) Correspondence from Paul Michalak to Thomas Pauling, DOE concerning Annual Status Report for the Salt Lake City, Utah, UMTRCA Processing Site. December 15. [Adams Accession No. ML053460332]