

September 24, 2012

Mr. Thomas E. Gieck
UMETCO Minerals Corporation
P.O. Box 1029
Grand Junction CO 81502

SUBJECT: NRC STAFF REVIEW OF TECHNICAL MEMORANDUM ENTITLED "GAS HILLS GROUNDWATER MODEL AND DATA REVIEW" SUA-648

Dear Mr. Gieck:

On June 25, 2012, Umetco Minerals Corporation (UMETCO) submitted a technical memorandum entitled "Gas Hills Groundwater Model and Data Review" to the U.S. Nuclear Regulatory Commission (NRC) for review. The purpose of this technical memorandum was to evaluate the target levels used for groundwater model validation to ensure that the Alternate Concentration Limit (ACL) model predictions accurately represent current conditions at Umetco's Gas Hills, Wyoming, uranium mill tailings site.

The NRC staff has completed its review of the technical memorandum and has determined that Umetco's conclusions in the memorandum are consistent with those of the NRC staff. However, the NRC staff recommends that Umetco sample all constituents with approved ACLs, at the model validation wells, until the site is transferred to the Department of Energy (DOE). The results should be evaluated for trends in constituent concentrations and reported periodically to the NRC staff prior to license termination. The NRC staff believes that sampling for additional parameters is justified based on the exceedances of the indicator parameters observed at the model validation wells, which are used to ensure that contaminants of concern will remain below the ACL concentrations.

In addition, we have the following comments on the technical memorandum:

- There were some unsupported statements in the memorandum about the increasing concentrations (i.e., increased groundwater elevations leading to wetting of roll-front deposits, and consolidation of tailing during construction activities) that would need to be substantiated if future trends indicate that an exceedance of an ACL was probable.
- The report inappropriately compared ACL values to concentrations found at non Point-of-Compliance (POC) wells. It is important to recognize that an ACL is only valid at the POC, since the value assumes that attenuation will occur as the constituent travels downgradient.
- UMETCO does not discuss what they will do if future indicator parameter exceedances occur at MW-28 and MW-72, due to the uncertainty and conservatism of the model. Umetco should consider performing a trend analysis for the constituents with ACLs at these locations to ensure that the constituents of importance are not going to exceed protective values at the site boundary/point of exposure. An overall decreasing trend of the ACLs is more important than an indicator parameter fluctuating around the upper limit.

- The final paragraph of the cover letter states “Modification of the existing monitoring plan would move toward a less conservative approach, such as, evaluation of trends over longer period of time.” NRC staff are not aware of any trend analyses performed to date, and thus, do not agree that evaluating trends over longer periods of time would lead to a less conservative approach.
- It appears that there may be some confusion with regard to the purpose of re-sampling after an exceedance. The first paragraph on the second page of the letter states “However, this uncertainty is recognized in the monitoring plan and associated with subsequent actions to be taken following an exceedance of a target value, i.e., re-sampling at intervals to identify trends.” Re-sampling is done to avoid a situation where an exceedance is declared when one did not occur. Re-sampling cannot establish a trend. Rather, it is used to validate or invalidate the original sample value.

In accordance with 10 CFR 2.390 of the NRC’s “Rules of Practice” a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC’s document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams>.

If you have any questions concerning this letter or the staff’s evaluation, please contact Dominick Orlando at 301-415-6749 or by email at Dominick.Orlando@nrc.gov.

Sincerely,

/RA/

Dominick A. Orlando, Senior Project Manager
Special Projects Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-0299
License No.: SUA-648

cc: Debra Harris, WDEQ
Scott Surovchak, DOE

- The final paragraph of the cover letter states “Modification of the existing monitoring plan would move toward a less conservative approach, such as, evaluation of trends over longer period of time.” NRC staff are not aware of any trend analyses performed to date, and thus, do not agree that evaluating trends over longer periods of time would lead to a less conservative approach.
- It appears that there may be some confusion with regard to the purpose of re-sampling after an exceedance. The first paragraph on the second page of the letter states “However, this uncertainty is recognized in the monitoring plan and associated with subsequent actions to be taken following an exceedance of a target value, i.e., re-sampling at intervals to identify trends.” Re-sampling is done to avoid a situation where an exceedance is declared when one did not occur. Re-sampling cannot establish a trend. Rather, it is used to validate or invalidate the original sample value.

In accordance with 10 CFR 2.390 of the NRC’s “Rules of Practice” a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC’s document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams>.

If you have any questions concerning this letter or the staff’s evaluation, please contact Dominick Orlando at 301-415-6749 or by email at Dominick.Orlando@nrc.gov.

Sincerely,

/RA/
 Dominick A. Orlando, Senior Project Manager
 Special Projects Branch
 Decommissioning and Uranium Recovery
 Licensing Directorate
 Division of Waste Management
 and Environmental Protection
 Office of Federal and State Materials
 and Environmental Management Programs

Docket No.: 40-0299
 License No.: SUA-648

cc: Debra Harris, WDEQ
 Scott Surovchak, DOE

ML12250A629

OFC	DWMEP	DWMEP	DWMEP	DWMEP	DWMEP
NAME	NOrlando	TRowe	MMeyer	LChang	NOrlando
DATE	9/6/12	9/6/12	9/19/12	9/21 /12	9/24/12

OFFICIAL RECORD