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July 7, 2021

Kathy Weinel, Quality Assurance Manager
Energy Fuels Resources (USA) Inc.
225 Union Blvd., Suite 600
Lakewood, CO 80228

RE: Energy Fuels Resources (USA) Inc. April 29, 2021, Source Assessment Report for MW-31, White Mesa Uranium Mill
Utah Groundwater Discharge Permit No. UGW370004 (Permit)

Dear Ms. Weinel:

The Division of Waste Management and Radiation Control (DWMRC) has completed review of the Energy Fuels Resources (USA) Inc. (EFR), April 29, 2021, document titled "*White Mesa Uranium Mill State of Utah Groundwater Discharge Permit No. UGW370004 Source Assessment Report Under Part I.G.4 for Exceedances in MW-31 in the Third Quarter of 2020*" (SAR). The SAR includes an assessment of uranium in monitoring well MW-31.

Source Assessment

Per review it was noted that Energy Fuels provided a source assessment and proposed revised Ground Water Compliance Limit (GWCL) for uranium in monitoring well MW-31. Monitoring Well MW-31 is located hydraulically downgradient from the eastern portion of Cell 2 and from the Mill processing areas and is within the defined nitrate/chloride plume.

Monitoring well MW-31 has been subject to four previous SAR's (After submission of the EFR comprehensive sitewide 2012 SAR) for various constituents as summarized on the table below:

Monitoring Well	SAR Date	Monitoring Constituents
MW-31	8/30/2013	Se
MW-31	12/19/2015	Se, SO4, TDS, pH
MW-31	8/20/2017	Se, SO4, TDS, U
MW-31	6/24/2020	SO4, TDS

(Over)

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Therefore, per previous MW-31 SAR's, uranium was most recently reviewed per the 8/20/17 SAR which constituted a very rigorous review of a potential release of tailings wastewater from cell 2. Per that review DWMRC determined that tailings wastewater was not the source of the exceedances based on multiple lines of evidence. Specifically, it was stated that:

"*Uranium*

Uranium concentrations in monitoring well MW-31 are similar to sulfate concentrations in that site-wide they are low, as demonstrated by box plot evaluation comparing uranium concentration in MW-31 to all monitoring wells site wide. Box plot evaluation finds that the uranium concentrations in MW-31 are within background concentration range and are low for the mill site. The SAR discusses that rising uranium concentrations are likely associated with lower pH in the groundwater.

Indicator parameters, other than chloride, are seen to have low site wide concentrations regardless of trends. Per SAR evaluations of ratios of the mobile contaminants in groundwater with the tailings wastewater concentrations, it appears that the source of the mobile contaminants is due to causes other than tailings wastewater."

The basis of the DWMRC review of potential uranium due to a tailings solution release to the groundwater has not changed, although it is noted that the concentration trend is steepening per review of data scatter plots and trend lines. In comparison to the 8/20/17 SAR findings, the uranium concentrations are still within the range of background concentrations, as are other primary indicator parameters of tailings solution release, except for chloride which is subject to review per the nitrate/chloride plume corrective action plan (CAP).

Section 3.1 of the SAR includes a summary of site-wide decreasing pH and refers specifically to the discussion of "Site-Wide Decreasing pH," and, Section 3.4 and Appendix D of the previous 2020 SAR which included a comprehensive evaluation of pH in MW-31 and evaluation of the decreasing trend. Per the current SAR and statistical analysis (included in Appendix A of the SAR) more recent data show that pH is stable to increasing at near neutral values. Review of the recent pH data is not consistent with a tailings source and may support EFR studies regarding site-wide decreasing pH.

Per the previous SAR's, it was agreed that continuing review of MW-31 is necessary to ensure that the criteria has not changed, and that no additional information has been generated to potentially refute the original findings of SAR reviews. Review of the April 29, 2021, SAR is therefore a continuation of investigation of a previously identified increasing trend for uranium. Per DWMRC review findings, a GWCL adjustment and additional monitoring of uranium in MW-31 is warranted. Ongoing compliance requirements of the Permit will require a re-visiting of the adjusted uranium GWCL if trends continue, and MW-31 returns to out-of-compliance (OOC) status.

Based on DWMRC review of the SAR, it appears that Mill activities are not influencing uranium concentrations at monitoring well MW-31. This is based on the findings of several lines of evidence in the SAR including 1. Evaluation of tailings solution indicator parameters (chloride, sulfate, fluoride, and uranium), and pH; 2. Site-wide comparison of groundwater monitoring constituents, including indicator parameters in MW-31, upgradient monitoring wells, and downgradient monitoring wells; 3. Location of MW-31 within the nitrate/chloride plume, 4. Findings of the 2007/2008 University of Utah Groundwater Study; and 5. Previous Mass balance Analyses conducted by EFR and DWMRC, and

confirmation of no contradictory data in the current SAR. More detail regarding the DWMRC SAR review is discussed in a separate DWMRC review memorandum.

Statistical Analysis

Based on DWMRC review of the SAR statistical analysis it was noted that analysis was conducted for the complete historic data set for MW-31, for a post September 2012 data set, for a post May 2014 data set, and for a post July 2020 data set. The complete data set, the post September 2012 data set, and the post May 2014 data set did not show normal or log normal distribution for uranium. The post July 2020 data showed normality for uranium. Statistical methods used included 1. Descriptive statistics for the complete and modified data sets; 2. Mean and Standard Deviation Calculation; 3. Shapiro-Wilk Test for normality; and 4. Mann-Kendall Trend Analysis (non-normally distributed data sets). Proposed GWCL's were calculated based on Fraction of the GWQS, Mean + 2 Standard Deviation, Upper Tolerance Limit, Highest Historical Value and Background Mean Concentration times 1.5. The calculations and findings are summarized on a table in the SAR (Appendix B-1 of the SAR).

Per the DWMRC approved statistical flow chart for the White Mesa Mill groundwater monitoring wells, it was noted that if an upward trend is apparent for an analyte, then a modified approach should be considered. The modified approach should allow for a GWCL which considers the increasing concentrations. Based on this, EFR calculated GWCL's according to the Utah Groundwater Rules (Utah Administrative Code R317-6) which allow maximums to be set according to Mean + 2 Standard Deviations, 0.5 times the GWQS (Class III Water), or 1.5 times the background concentration. DWMRC findings note that setting the GWCL at a maximum value for these parameters is reasonable, given that the wells will likely exceed a more conservative GWCL in a short period of time when considering the increasing trends.

Therefore, when comparing the various calculated GWCL's it is found appropriate to set GWCL's for uranium according to 1.5 times background for post July 2020 data set since this method provides the highest concentrations approved by the statistical flow chart. The concentration is still relatively low since it does not exceed the uranium GWQS. This value is in conformance with the approved statistical flow chart, the Utah Groundwater Rules, EPA Statistical Guidance and considers the increasing data trend.

MW-31 Approved Modified GWCL

Per review of the SAR proposed modifications to the uranium GWCL, based on statistical analysis of the data, the uranium GWCL will be modified in Permit as summarized on the table below:

Well Number	Parameter	Current GWCL	Modified GWCL	Method of Analysis
MW-31	Uranium	15 µg/L	29.03 µg/L	Background X 1.5*

*Based on 1.5 times the background data mean of the post July 2020 data set for MW-31

Note that the modified GWCL will not be effective until future issuance of a Permit, and that the modification will be subject to formal public notice and public participation requirements.

If you have any questions, please call Tom Rushing at (801) 536-0080.

Sincerely,

Phil Goble, Uranium Mills and Radioactive Materials Manager
Division of Waste Management and Radiation Control

PG/TR/as

c: Mike Moulton, Interim Health Officer, San Juan County Public Health Department
Ronnie Nieves, Environmental Health Director, San Juan County Public Health Department
Russell Seeley, UDEQ District Engineer