

ROCKY FLATS SITE

REGULATORY CONTACT RECORD 2018-04

Purpose: Reportable condition for evaluation purposes for uranium at Walnut Creek Point of Compliance (WALPOC).

Contact Record Approval Date: March 22, 2018

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Regulatory Contact(s)/Affiliation(s): Carl Spreng, Lindsay Masters, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Date of Consultation Meeting: March 20, 2018

Consultation Meeting Participants: Carl Spreng, Lindsay Masters, CDPHE; Vera Moritz, EPA; Scott Surovchak, Jeffrey Murl, DOE; Linda Kaiser, David Ward, George Squibb, Navarro.

Discussion: A reportable condition occurred at surface water Point of Compliance (POC) WALPOC at the Rocky Flats Site, based on the 30-day average for uranium. The validated analytical result received on March 3, 2018 for the sample retrieved on February 16, 2018, from the WALPOC composite sampler was 24 micrograms per liter ($\mu\text{g/L}$) total uranium. The validated analytical result for a duplicate sample was 21 $\mu\text{g/L}$ total uranium. These composite sample results are representative of water flowing during the time period February 9, 2018 (11:27 a.m.), to February 16, 2018 (12:19 p.m.). Evaluation of the surface water data was performed in accordance with *Rocky Flats Legacy Management Agreement* (RFLMA) Attachment 2, Figure 5, "Points of Compliance," The evaluation resulted in a calculated 30-day average concentration for uranium of 18.0 micrograms per liter ($\mu\text{g/L}$) on February 11, 2018. This concentration exceeds the RFLMA-applicable Table 1 standard of 16.8 $\mu\text{g/L}$ for uranium.

Pursuant to RFLMA Attachment 2, Section 6.0, "Action Determinations," a reportable condition necessitates the following actions:

- DOE must submit a plan and schedule for an evaluation to address the condition within 30 days of receiving the validated data for the reportable condition.
- DOE will consult with CDPHE and EPA to determine if mitigating actions are necessary.

- The objective of the consultation will be to determine a course of action (if necessary) to address the reportable condition and to ensure that the remedy remains protective.
- The results of the consultation will be documented in contact records, written correspondence, or both.

Representatives of CDPHE and DOE discussed these results on March 20, 2018, and developed a path forward. Formal notification to the regulatory agencies and the public—in accordance with RFLMA Attachment 2, Figure 5—was made by email on March 13, 2018.

The RFLMA Parties agreed that no mitigating actions are necessary at this time, for the following reasons:

- The remedy remains protective. The remedy performance standard for total uranium at the WALPOC sampling location is the calculated 12-month rolling average. Using the most recent validated data, the calculated 12-month rolling average at WALPOC for total uranium on January 31, 2018, is 10.4 µg/L, which is well below the RFLMA Table 1 standard of 16.8 µg/L.
- WALPOC has been a RFLMA surface water monitoring location for approximately 6.5 years (since September 2011). During that period, the Site experienced one of its driest years (2012), its wettest month (September 2013), and one of its wettest springs (2015). The 30-day average at WALPOC previously exceeded the RFLMA uranium standard in 2014 (CR 2014-05), 2016 (CR 2016-01), and 2017 (CR 2017-02). The 12-month rolling average for uranium at WALPOC was exceeded in 2015 (CR 2015-01). Because uranium concentrations are influenced by changing environmental conditions, varying uranium concentrations at WALPOC are expected. While measurable uranium concentration variability can be seen in both individual sample results and in the 30-day averages, the observed variability is not outside of expected ranges and remains well below 30 µg/L drinking water standard (i.e., the maximum contaminant level).
- The variability of the uranium concentration influenced by environmental conditions was detailed in a study conducted by a qualified geochemistry subcontractor, the results of which were published in the *Evaluation of Water Quality Variability for Uranium and Other Selected Parameters in Walnut Creek at the Rocky Flats Site* (September 2015). This report can be found at https://www.lm.doe.gov/Rocky_Flats/Documents.aspx and is scheduled to be updated in 2018 with recent monitoring data.
- CDPHE collected a split sample of the composite sample collected during the period of February 9, 2018, to February 16, 2018. The uranium result for the CDPHE split sample was 22 µg/L.
- Measured concentrations of total uranium at WALPOC include both naturally occurring and anthropogenic uranium. Previous high-resolution isotopic uranium analyses for WALPOC show signatures that are between 68–86% naturally occurring uranium.
- Although the recent result was above the 16.8 µg/L Site standard, it remains well below the 30 µg/L drinking water standard for uranium. The 16.8 µg/L standard is a level at which there are no known or anticipated adverse effects on the health of a person, and is based on an adult weighing 70 kilograms consuming 2 liters of water per day for a lifetime. Because WALPOC has an intermittent flow of water and Walnut Creek is not a source of drinking

water, there remains an adequate margin of safety. Therefore, the remedy remains protective of human health and the environment.

Plan and Schedule to Address the Reportable Condition: The RFLMA Parties agreed that the steps described in this Contact Record shall serve as the plan and schedule for the evaluation of this reportable condition. These steps include:

- Flow-paced composite samples routinely collected at WALPOC will continue to be analyzed on a 2-week turnaround.
- High-resolution isotopic uranium analysis will be conducted on the most recent WALPOC samples to determine the percentages of natural and anthropogenic uranium for comparison to the historical data.
- If the volume of the composite sample is sufficient, DOE will provide CDPHE with a split sample from the next composite sample collected at WALPOC. That composite sample was started on March 2, 2018. If the sample volume is insufficient, DOE will provide CDPHE with a split of the next WALPOC sample that has sufficient volume. The split sample will be analyzed for uranium by the State of Colorado.

DOE will report the results of continued monitoring, isotopic analysis, and of the subsequent evaluation in RFLMA quarterly and annual reports of surveillance and monitoring activities. This plan and schedule may be modified based on the outcome of RFLMA Party consultation related to the evaluation.

To keep the public informed, the outcome of continuing RFLMA Party consultation regarding the evaluation will be reported in RFLMA quarterly and annual reports of surveillance and monitoring activities or in subsequent contact records.

Resolution: CDPHE, after consultation with EPA, approves this contact record.

Evaluation Complete: The evaluation of the WALPOC uranium reportable condition will be considered complete when the results from the evaluation have been shared with the RFLMA Parties and the reportable condition at WALPOC no longer exists.

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Documentation Determination
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