

ROCKY FLATS SITE REGULATORY CONTACT RECORD

Purpose: Reportable Condition for Americium-241 (Am) at Rocky Flats Legacy Management Agreement (RFLMA) Point of Evaluation (POE) GS10

Contact Record Approval Date: December 23, 2011

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); Gwen Hooten, DOE; Rick DiSalvo, S.M. Stoller Corporation (Stoller); Linda Kaiser, Stoller

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

Date of Consultation Meeting: November 21, 2011

Consultation Meeting Participants: Carl Spreng, CDPHE; Vera Moritz, EPA; Scott Surovchak, DOE; Gwen Hooten, DOE; John Boylan, Stoller; Rick DiSalvo, Stoller; Linda Kaiser, Stoller; George Squibb, Stoller

Discussion: This Contact Record documents DOE's consultation with CDPHE and EPA regarding the evaluation of elevated concentrations of Am at POE GS10, which resulted in a reportable condition under RFLMA Attachment 2, "Legacy Management Requirements," Section 6.0, "Action Determinations."

A reportable condition was determined based on an evaluation of recently available validated analytical results for Am from the composite samples collected at GS10 during the period 7/21/11–10/25/11. Following is a synopsis of the data for plutonium-239/240 (Pu) and Am:

- Composite sample 7/21/11–8/24/11 (initial analysis; results validated 11/2/11): Pu = 0.938 pCi/L, Am = 2.97 pCi/L
- Composite sample 7/21/11–8/24/11 (laboratory reanalysis completed 11/15/11; results validated 11/22/11): Pu = 4.07 pCi/L, Am = 4.01 pCi/L
- Composite sample 8/24/11–9/29/11 (results validated 11/30/11): Pu = 0.020 pCi/L, Am = 0.044 pCi/L
- Composite sample 9/29/11–10/25/11 (results validated 11/22/11): Pu = 0.658 pCi/L, Am = 0.877 pCi/L

Under routine data validation protocols, the relative error ratio (RER) is used to evaluate data pairs (i.e., an initial analysis and a duplicate analysis). If the RER for a data pair is >3 and ≤ 5 , then the results are "J-qualified" (estimated). If the RER for a data pair is >5 , then the results are "R-qualified" (unusable result). During validation of the 7/21/11–8/24/11 analytical results, the Am results were determined to be J-qualified, while the Pu results were determined to be R-qualified. Therefore, the arithmetic average of the Am results is used in the calculation of the 12-month rolling average for Am; the Pu results were rejected and not included in the calculation of the 12-month rolling average for Pu.

The evaluation was performed in accordance with RFLMA Attachment 2, Figure 6, "Points of Evaluation," which resulted in 12-month rolling average values for Am of 0.21 pCi/L on 8/31/11 and 0.22 pCi/L on 9/30/11. The applicable RFLMA Table 1 standard for Am and Pu is 0.15 pCi/L.

Flow-through operations at Pond B-5 were initiated on 9/12/11 (the previous discharge was in March 2011). Pu and Am results from downstream locations GS08 (Pond B-5 outlet), WALPOC (Walnut Creek at the Central Operable Unit boundary), and GS03 (Walnut Creek at Indiana Street) have been received through 9/26/11; all results were below 0.01 pCi/L. The downstream monitoring results continue to indicate that the remedy remains protective, since Pu and Am results are below the RFLMA surface water standard, 0.15 pCi/L.

While the 12-month rolling average for Pu at GS10 is not reportable, the evaluation of the reportable Am values will also include consideration of the Pu results.

Pursuant to RFLMA Attachment 2, Section 6.0, for a reportable condition:

- DOE must inform the RFLMA regulators and stakeholders identified in RFLMA Attachment 2, Figure 6 within 15 days of receipt of validated data for the reportable condition.
- 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 consultation will be to determine a course of action (if determined necessary) to address the reportable condition and to ensure that the remedy remains protective.
- Results of consultation will be documented in Contact Records, written correspondence, or both.

The RFLMA regulators have been kept informed of the elevated levels since the initial results were received, and a public-information e-mail was sent to the stakeholders on 11/15/11 and 12/5/11. The RFLMA Parties agreed that the date of receipt of the validated results from the reanalysis of the composite sample 7/21/11–8/24/11 would be the trigger date for determination of a reportable condition.

This Contact Record describes the plan and schedule to address the reportable condition. Figure 1 shows the sampling locations related to the evaluation. The plan and schedule for evaluation and the status of actions related to the plan are described below:

- Rocky Flats staff walked down the GS10 drainage on 11/16/11 to see if there were any obvious conditions promoting potential soil erosion. Some thin vegetation spots were noted on the north side of the riprap upstream of GS10.
- On 11/22/11, Stoller staff and the RFLMA Project Coordinators for DOE and EPA examined the drainage more closely, focusing on seeps and former utility corridors, to identify possible seeps and observe areas for additional seeding or erosion controls. Based on the observations:

- Several seep sampling locations (SEEP995, SEEP995A, SEEP995B, and SEEP995C) were also grab sampled on 11/25/11. These samples are being analyzed for Pu and Am on a 2-week turnaround.
- Seeding was done along the north side of the riprap upstream of GS10, and a thinly vegetated area east of the confluence of Functional Channel (FC) 4 and FC 5 was identified for revegetation.
- Several of the sampling locations already designated for the evaluation of the reportable condition for uranium at GS10, as discussed in Contact Records 2011-04 and 2011-05 (FC4991, GS10, and B3OUTFLOW), were grab sampled on 11/25/11. These samples are being analyzed for Pu and Am on a 2-week turnaround.
- An aliquot from each flow-paced composite sample routinely being collected at B5INFLOW (also supporting the GS10 uranium evaluation) will also be obtained and held for Pu and Am analysis if upstream sample results suggest that analysis would inform the evaluation.
- Flow-paced composite samples routinely being collected at WALPOC will continue to be analyzed on a 2-week turnaround. Analyses for flow-paced composite samples routinely being collected at GS10 and GS08 will be accelerated to a 2-week turnaround.
- Historical Pu and Am well data from wells in the drainage have been reviewed. The review gave no indication that any additional well sampling would be informative at this stage.
- The previous GS10 evaluation reports for elevated levels of Pu or Am prior to closure were reviewed for information that may aid this current evaluation. Sampling from surface water locations upstream of GS10 and sediment in GS10 were performed as part of these evaluations. Elevated levels at GS10 were determined to most likely be the result of low-level diffuse soil contamination that intermittently impacted the water quality at GS10 due to erosion. The evaluation being done for this recent reportable condition includes sampling of surface water and seep locations upstream of GS10, but it also includes sampling at B3OUTFLOW and B5INFLOW for Pu and Am between GS10 and Point of Compliance WALPOC.

The RFLMA Parties will review the analytical results of the sampling described above and consult on whether any additional evaluation monitoring or any mitigating actions are needed. This evaluation plan and schedule to address the reportable condition 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.

Closeout of Contact Record: This Contact Record will be closed when the evaluation is completed.

Resolution: Carl Spreng, CDPHE, approved this Contact Record.

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Distribution:

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Rocky Flats Contact Record File

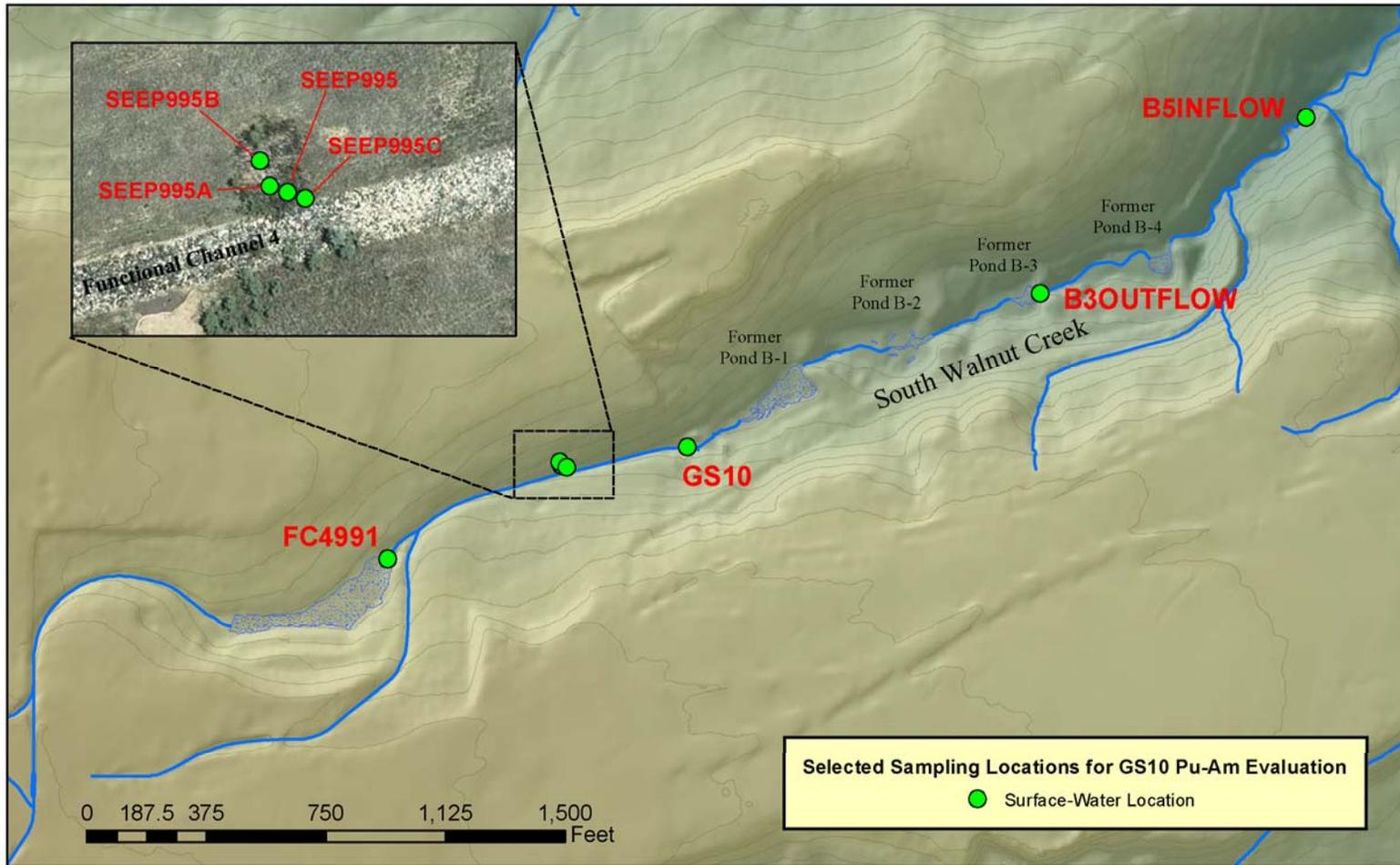


Figure 1. Sampling Location Map