

ROCKY FLATS SITE

REGULATORY CONTACT RECORD 2021-03

Purpose: Reportable condition for plutonium at Point of Evaluation (POE) SW027.

Contact Record Approval Date: January 12, 2022

Site Contacts and Affiliations: Andy Keim, U.S. Department of Energy (DOE); Dana Santi and Ryan Wisniewski, RSI EnTech, LLC (RSI)

Regulatory Contacts and Affiliations: Lindsay Murl, Colorado Department of Public Health and Environment (CDPHE); Jesse Aviles, U.S. Environmental Protection Agency (EPA)

Dates of Consultation Meeting: July 21, 2021; September 8, 2021

Consultation Meeting Participants: Lindsay Murl, CDPHE; Jesse Aviles, EPA; Andy Keim, DOE; Dana Santi, Ryan Wisniewski, Patty Gallo, John Boylan, George Squibb, Jody Nelson, April Tischer, Chris Oliver, RSI

Related Contact Records: CR 2015-05, CR 2019-01

Discussion: A reportable condition at Point of Evaluation (POE) SW027 was determined upon receipt of validated analytical results for plutonium (Pu) from the composite sample collected from 12:41 on January 6, 2021 to 14:45 on May 3, 2021. Validated results were received on June 11, 2021. DOE notified the *Rocky Flats Legacy Management Agreement* (RFLMA) parties on June 14 of the reportable condition and provided a proposed response plan on July 8 in accordance with reportable conditions for a POE as outlined in the RFLMA.

The evaluation was performed in accordance with RFLMA Attachment 2, Figure 6, Points of Evaluation; this resulted in a calculated 12-month rolling average concentration for plutonium of 0.9 picocuries per liter (pCi/L) on April 30, 2021. This concentration exceeds the applicable RFLMA Attachment 2, Table 1, standard of 0.15 pCi/L. This 12-month rolling average includes sample results for May 1, 2020, through April 30, 2021. During this period, there was no flow at surface water location SW027 from May 1, 2020, through April 27, 2021; the 12-month rolling average on April 30, 2021, represents only 3 days of flow (approximately 6000 gallons) and a single sample result.

The three subsequent composite samples collected at surface water location SW027 between May 3, 2021, and July 2, 2021 (approximately 1.2 million gallons of flow), are summarized in Table 1. The composite sample started on July 2, 2021, is ongoing. As of May 31, 2021, the 12-month rolling average for plutonium at SW027 is no longer reportable. The 12-month rolling average for plutonium is 0.061 pCi/L as of May 31, 2021. Table 1 below provides a summary of sample results collected for 2021.

Table 1. Composite Sample Summary for SW027 in 2021

Start Date	End Date	Number of Grabs Collected	Pu-239, Pu-240 (pCi/L)
1/6/2021 ^a	5/3/2021	54	0.895
5/3/2021	5/6/2021	67	0.059
5/6/2021	5/20/2021	58	0.023
5/20/2021	7/2/2021	110	0.177
7/2/2021	ongoing	(currently seven grabs)	NA

Note:

^a First water flow 4/28/2021.

Adjacent Conditions Relevant to POE SW027:

- The calculated 12-month rolling average at the Woman Creek POC (WOMPOC) for plutonium on April 30, 2021, is 0.006 pCi/L (RFLMA Table 1 standard is 0.15 pCi/L).
- Plutonium results from subsequent composite samples collected at WOMPOC into July 2021 are all below 0.15 pCi/L. As of June 30, 2021, the 12-month rolling average for plutonium at WOMPOC is 0.009 pCi/L.
- Existing erosion control measures remain in place and continue to function on the 903 Hillside with no observable degradation to the vegetation outside of normal environmental variation based on the amount and timing of precipitation in any given year. Erosion controls in use include matting, wattles, GeoRidge berms, seeding, and engineered wood-strand erosion-control mulch. The hillside is inspected annually.

Plan and Schedule to Address the Reportable Condition: The RFLMA Parties agreed that the following steps described in this contact record (CR) shall serve as the approved plan and schedule response for this reportable condition. These actions are consistent with the response to previous reportable conditions for plutonium at location SW027.

The following steps have been or are being taken:

- Sampling will continue in accordance with RFLMA Attachment 2 Table 2.
- DOE will continue to conduct source evaluation monitoring at surface water location GS51 (Figure 2).
- DOE will continue to monitor vegetation on the hillside as part of the normal revegetation monitoring that is conducted each July. Erosion controls will continue to be evaluated each spring and fall as a best management practice. DOE will repair or replace existing erosion control measures and revegetate the areas, as necessary, to maintain their function.
- DOE will make available upon CDPHE’s request a split sample from a recent composite sample collected at SW027. That composite sample was started on May 20, 2021, and retrieved from the field on July 2, 2021.
- The 903 Hillside will be evaluated for vegetation growth and treated to improve overall vegetation as described in the following section.

CDPHE also modifies this CR to include an expanded hillside evaluation area, inclusive of the orange and green zones depicted in Figure 2.

903 Hillside Vegetation Treatment

The 903 Hillside will be evaluated for treatment within the Revegetation Evaluation Area and other areas as depicted in Figure 2. Orange and green areas depicted in Figure 2 will be evaluated to identify smaller “focused” treatment areas that appear to have less vegetation density or a greater amount of exposed surface soil compared to the surrounding area. This evaluation will be conducted by qualified ecologists familiar with the Site and historical vegetation success in the area.

Treatment of these smaller areas will be applied in two steps. The first step will be to disperse a native seed mix commonly used for revegetation projects at the Site that has historically produced the best results. The seed mix will be dispersed using an all-terrain vehicle with a broadcast seeder to reduce damage to existing vegetation. The second step will be to apply engineered wood-strand erosion-control mulch using a straw blower. The objective is to produce a minimum of 70% cover with the woodstraw to best protect the dispersed seed and any exposed surface soil.

The vegetation treatment will be started by the end of February 2022. This schedule is based on seed germination requirements and optimal conditions for successful vegetation growth.

Conditions at the 903 Hillside and across the areas depicted in Figure 2 will continue to be monitored annually at a minimum, with results reported in the *Annual Report of Site Surveillance and Maintenance Activities at the Rocky Flats Site, Colorado*. A figure showing areas with observed less vegetation density and discussion of work performed per this Contact Record shall be included in the next Annual Report.

Resolution: CDPHE, after consultation with EPA, approves this CR with modifications.

Action Complete: The response approved with modifications in this CR will continue as part of the routine surface water monitoring and reporting that was identified in previous sections and documented in the RFLMA. Any future changes to these steps will be documented under separate cover.

Contact Record Prepared by: Ryan Wisniewski, RSI

Distribution:

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Rocky Flats Contact Record File

POE SW027: 12-Month Rolling Average for Plutonium (9/30/1997 - 6/30/2021)

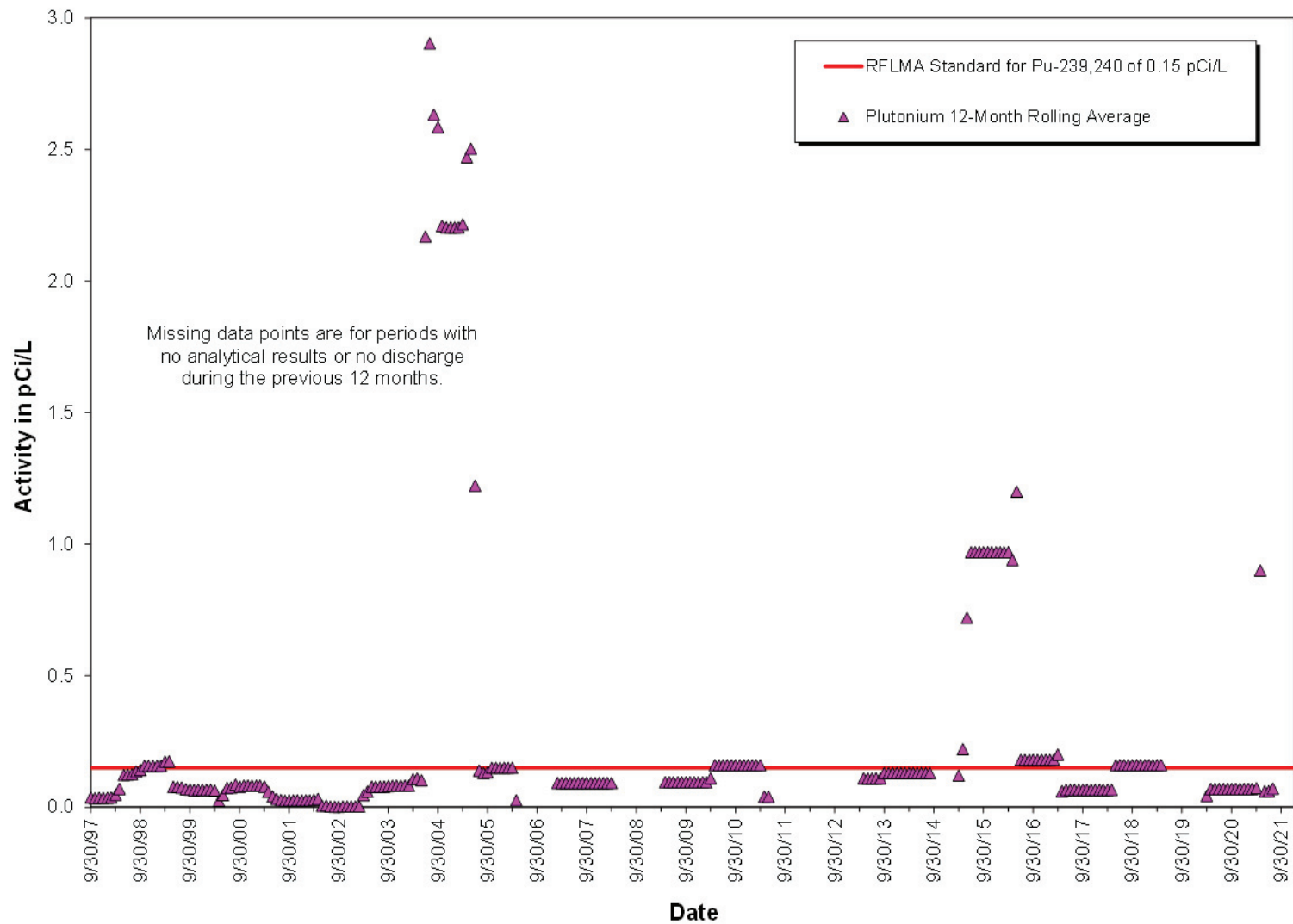


Figure 1. POE SW027: 12-Month Rolling Average for Plutonium (9/30/1997–6/30/2021)

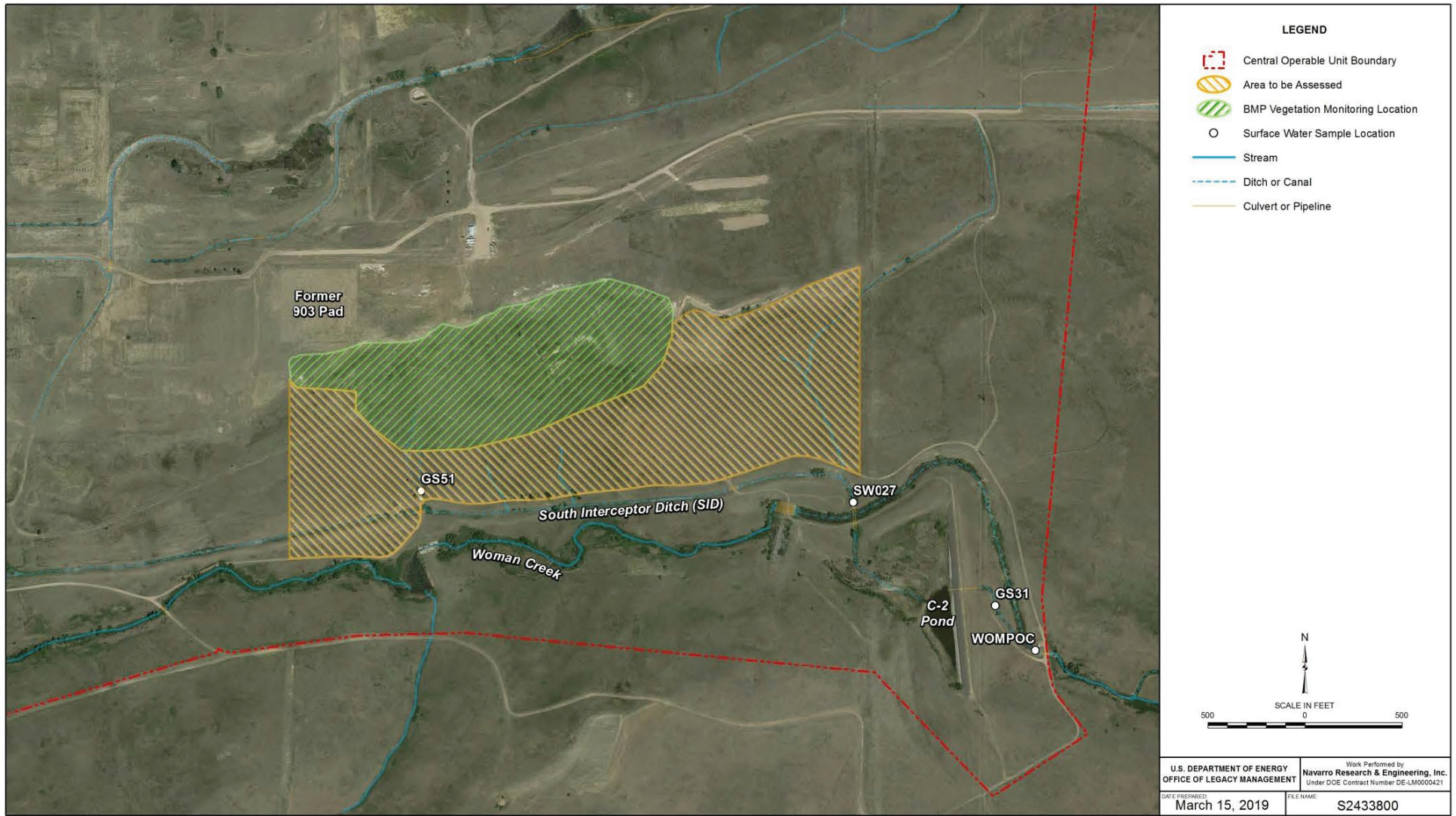


Figure 1. SW027 Location and Surrounding Features

Figure 2. 903 Hillside Revegetation Evaluation Area and expanded hillside areas

**Tri-Party Dispute Resolution on Contact Record 2021-03 for
Reportable Condition at POE SW027
Rocky Flats Site, Colorado**

Effective Date: June 10, 2022

Title: Tri-Party Dispute Resolution on Contact Record 2021-03 for Reportable Condition at Point of Evaluation SW027 at Rocky Flats Site, Colorado

Dispute Resolution Committee Members: Ms. Tracie White, Director, Hazardous Materials and Waste Management Division, with the Colorado Department of Public Health and Environment (CDPHE); Mr. Aaron Urdiales, Manager, Superfund Remedial Branch, with the U.S. Environmental Protection Agency (USEPA); and Mr. Jay Glascock, Director of Site Operations, with the U.S. Department of Energy (DOE).

Issue: DOE disputed the annual vegetation monitoring and treatment response action expanded geographic scope prescribed by CDPHE for the 903 hillside expanded area in Contact Record 2021-03.

Resolution: The Committee, by written unanimous consent, resolved DOE's dispute of Contact Record 2021-03 under RFLMA Part 7. Pursuant to RFLMA paragraph 37, within 21 days of resolution of a dispute, DOE shall incorporate the resolution and final determination into the appropriate plan, schedule or procedures and proceed to implementation.

This resolution describes the triparty response to the 2021 RFLMA plutonium reportable condition at surface water location SW027.

The Committee agreed that DOE will perform the requirements in Contact Record 2021-03 for the 903 Hillside expanded area, excluding the old borrow area (Figure 1) which is approximately 3 acres in size. This area includes steep slopes that are not favorable for vegetation growth, and surface drainage that results in water ponding behind a berm, instead of flowing immediately downslope.

Aerial imagery of the expanded hillside area from June 2021 will be reviewed initially to identify potential locations for examination followed by a visual assessment in the field. Areas with greater than 25% bare ground will be selected for treatment and monitoring.

The methodology for evaluation and treatment will be the same as currently used by DOE in the "Best Management Practice (BMP) Vegetation Monitoring Locations" (Figure 1).

Within each selected treatment area, a Rocky Flats hillside seed mix will be applied by hand or via an all-terrain vehicle (ATV)-mounted seeder. Wood straw (Figure 2) will then be applied to provide "artificial" litter to protect the ground surface and seed. Wood straw will be applied by

hand, using an ATV for transport, to provide 50-70% cover. Treatment would ideally occur in late winter to early spring because seeded species are expected to take several growing seasons to germinate and establish.

Baseline cover conditions will be recorded and photographed at monitoring location(s) within each treatment area following the application of seed and wood straw. These areas will be revisited annually to assess conditions. Seed and wood straw will be reapplied to areas not meeting the wood straw coverage goal.

An aerial orthophotography survey of the Rocky Flats site will be conducted each year to aid in evaluating vegetation density in the treatment areas.

Results of the monitoring will be summarized and reported in the Rocky Flats Surveillance and Maintenance Activities Annual Reports for Calendar Years 2022 through 2026.

The results will be evaluated and the need for further action will be discussed in consultation among the RFLMA parties at the end of the 5-year trial period. Any agreed upon action will not establish a precedent for further or future actions.

Signatures: We, the undersigned, being all the members of the Committee, hereby certify the resolution adopted at the meeting of the Dispute Resolution Committee (DRC) held on June 10, 2022, is final and the staff will report back to the DRC by June 10, 2027:

Jay D. Glascock Digitally signed by Jay D. Glascock
Date: 2022.06.24 14:44:30 -06'00'

Jay D. Glascock
Director, Office of Site Operations
Office of Legacy Management
U.S. Department of Energy

Tracie White Digitally signed by Tracie White
Date: 2022.06.27 07:42:12
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Tracie White
Director, Hazardous Materials and Waste Management Division
Colorado Department of Public Health and Environment

Urdiales, Aaron Digitally signed by Urdiales, Aaron
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Aaron Urdiales
Manager, Superfund Remedial Branch
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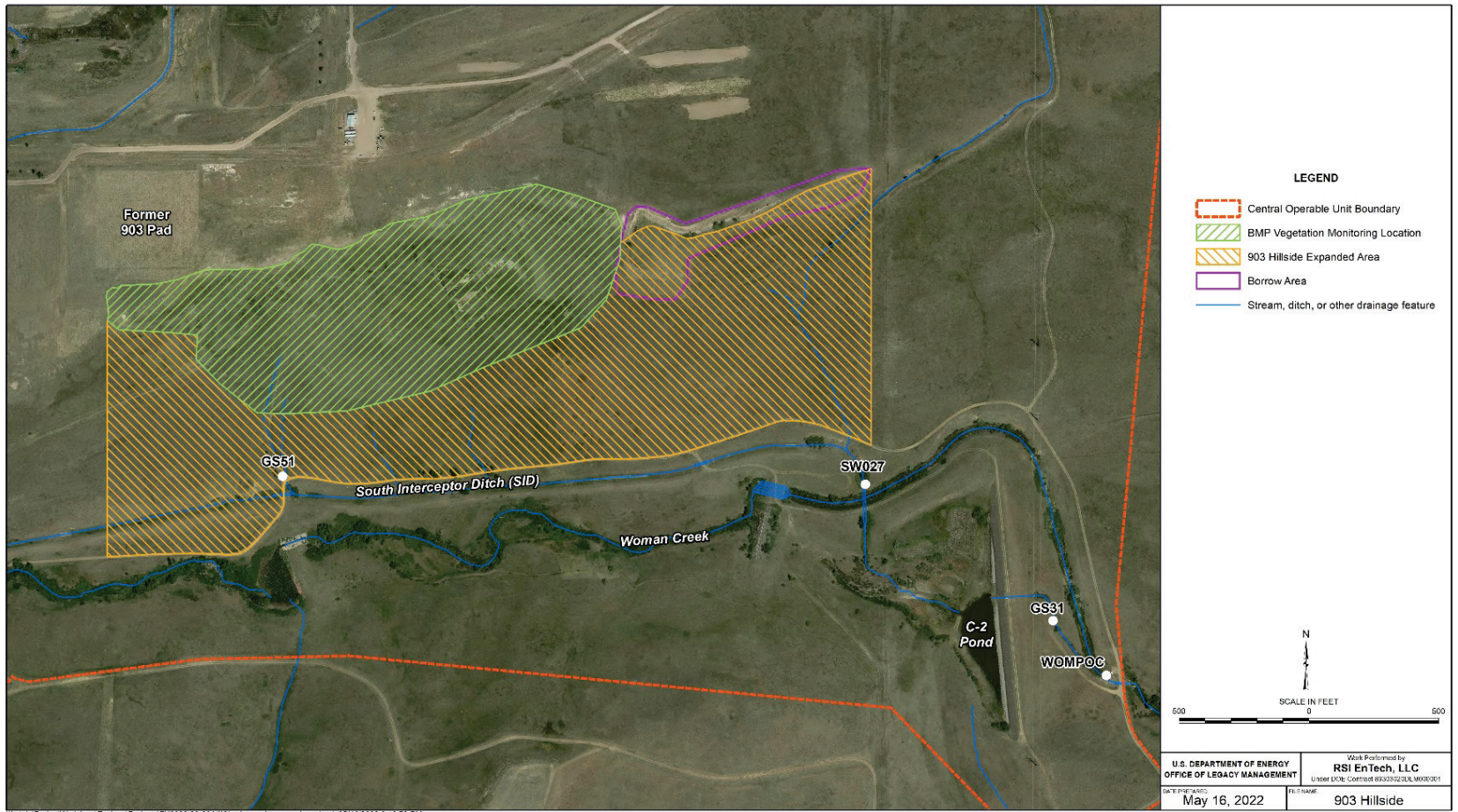


Figure 1. 903 Hillside Location and Surrounding Features



Figure 2. Example Wood Straw Application