

Rocky Flats Site, Colorado

CY 2024 Annual Report



U.S. DEPARTMENT *of* ENERGY

Office of Legacy Management

Meeting Results and Agenda

Agenda

- Overview
 - Office of Legacy Management
 - Rocky Flats Site, Colorado
- Surface Water Monitoring
- Groundwater Monitoring and Operations
- Site Operations
- Ecological Monitoring
- Q&A and Public Comment

Meeting Results

- To share insights from the 2024 Rocky Flats Annual Report



Engagement Norms

To foster a positive and respectful environment for all participants, we ask that you:

- **Listen to understand.** Please consider the information presented thoughtfully.
- **Assume positive intent.** Approach all comments and questions with an open mind and the assumption that everyone is acting in good faith.
- **Mute microphones and turn cameras off.** To maintain a clear and disruption-free meeting, all attendees will have their microphones muted and cameras turned off. Participants will be invited to turn on their camera and microphone when called upon for public comment.
- **Use the chat to engage.** Please submit your questions via the Q&A function in Zoom. All submissions will be reviewed by moderators and relevant questions will be addressed as time allows. Similar questions may be combined to allow for more topics to be discussed.
- **Stay on topic.** Please keep questions and comments related to the 2024 Rocky Flats Annual Report.
- **Be respectful.** Keep all chat messages, questions, and comments respectful, relevant, and constructive. Offensive language or personal attacks will not be addressed.

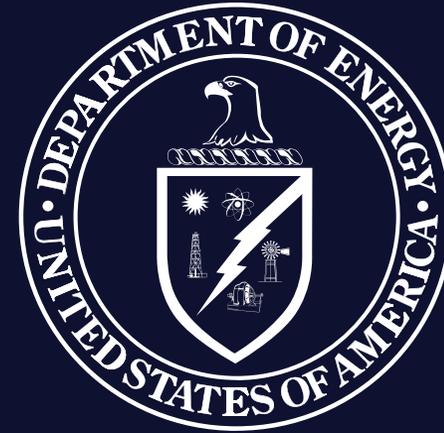
Recording Notice: This meeting will be recorded and will be publicly available.

Technical Issues: If you experience technical difficulties, communicate them to the moderator through the Q&A function.



Overview

Rocky Flats Site, Colorado



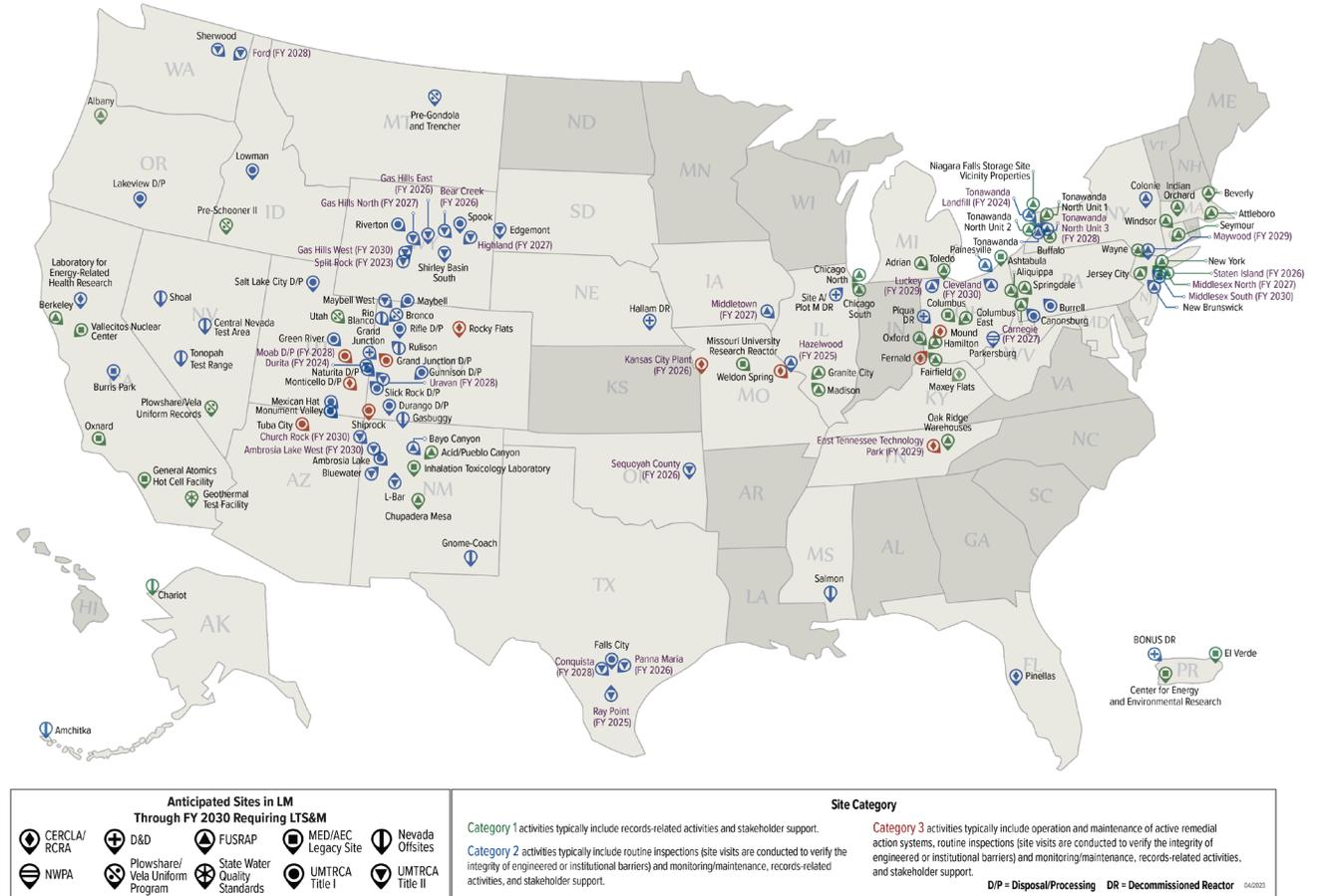
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Since 2003, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) has been managing responsibilities associated with the legacy of World War II and the Cold War and protecting human health and the environment within the communities that made sacrifices for the nation during one of the most critical periods in our country's history.

We continue to conduct long-term surveillance and maintenance at sites where nuclear waste has been disposed, where residual contamination remains, and where passive or active treatment of groundwater contaminated by radionuclides or other contaminants of concern is being conducted.



Rocky Flats Site Background

1951 — Construction of facility begins

1950s-1980s — Plant makes key component of U.S. nuclear weapons

Early 1990s — Production ends and the Rocky Flats Closure Project begins

2001 — Congress passes Refuge Act: the land will remain federal property and when it's closed, it will become a wildlife refuge



2003 — All weapons-grade plutonium is removed from Rocky Flats

2005 — Closure project is completed; site begins transition to a long-term surveillance and maintenance program

2007 — Peripheral Operable Unit is released for unlimited use and unrestricted exposure as the Rocky Flats National Wildlife Refuge, managed by U.S. Fish and Wildlife Service;

— Central Operable Unit remains with DOE

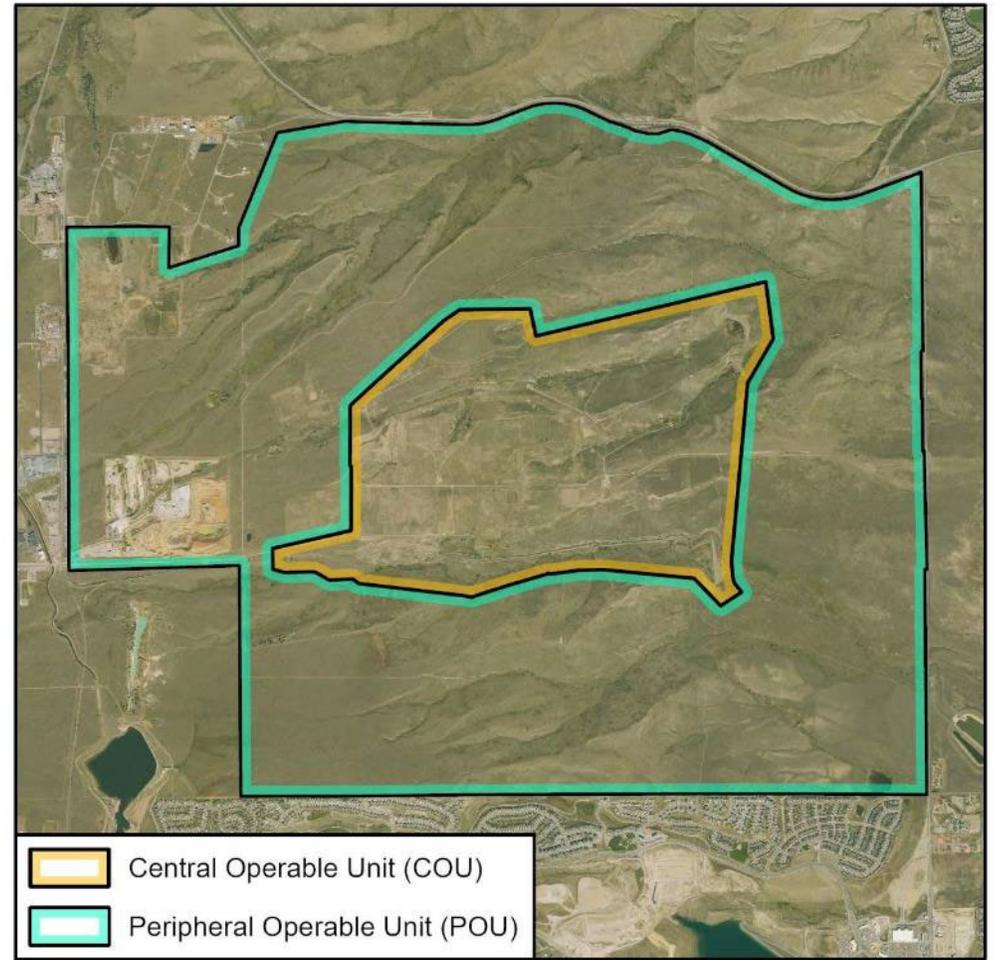


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Rocky Flats Site Background *(continued)*

- Central Operable Unit (COU) and Peripheral Operable Unit (POU)
 - U.S. Fish and Wildlife Service manages a large portion of the former POU as the Rocky Flats National Wildlife Refuge
 - U.S. Department of Energy Office of Legacy Management (LM) manages the COU, also known as the Rocky Flats Site
- Rocky Flats Legacy Management Agreement (RFLMA)
 - Implements the remedy
 - Defines routine monitoring
 - Requires quarterly and annual reports
- RFLMA parties
 - LM
 - Colorado Department of Public Health and Environment (CDPHE)
 - U.S. Environmental Protection Agency (EPA)



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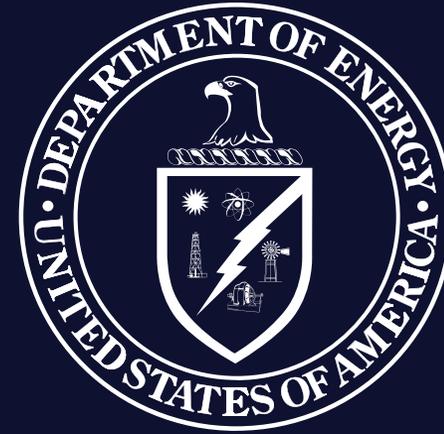
CY 2024 Annual Report Highlights

- Water quality at the Points of Compliance met all RFLMA requirements
- A total of 326 groundwater, surface water, and treatment system samples were collected in CY 2024
- Ecological monitoring shows that revegetation efforts have been and continue to be successful and that a wide variety of wildlife utilizes the site
- Design and on-site preparations for the full-scale uranium treatment component at the Solar Ponds Plume Treatment System began in CY 2024
- No violations of institutional or physical controls were observed
- No adverse biological conditions were found



Surface Water Monitoring

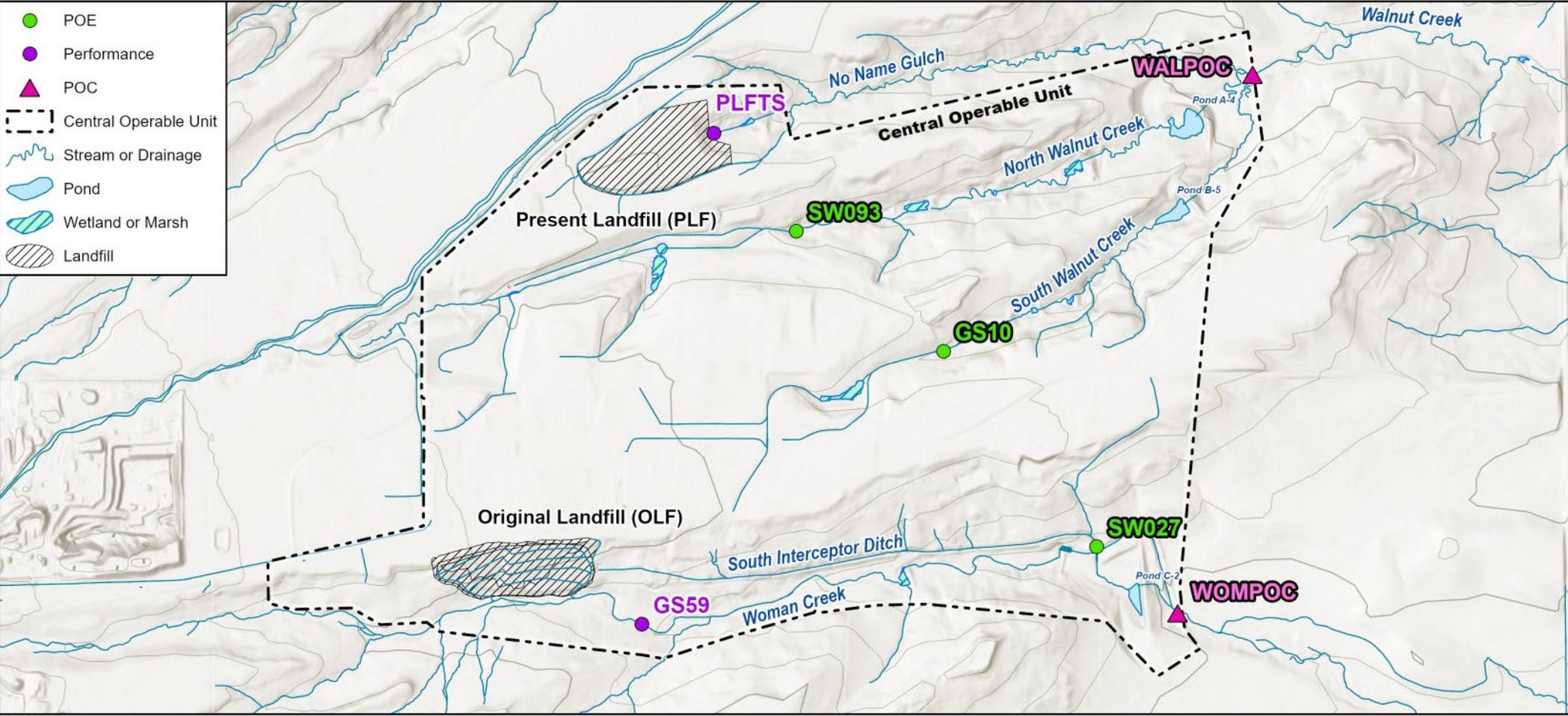
Rocky Flats Site, Colorado



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Select RFLMA Surface Water Monitoring Locations



051266-R03

Landfill Performance Monitoring

- Original Landfill
 - Original Landfill (OLF) Monitoring Location GS59 (Woman Creek downstream of OLF)
 - Quarterly concentrations for all analytes at GS59 were below applicable RFLMA standards during CY 2024
- Present Landfill
 - Present Landfill Treatment System (PLFTS)
 - Monitoring location PLFSYSEFF (treatment system effluent)
 - System is not intended to treat boron, and the concentration regularly exceeds the 750 µg/L RFLMA standard (agriculture-based, for fruit and nut trees)
 - Boron concentrations are below the RFLMA standard before reaching WALPOC
 - The RFLMA parties are in the process of determining a path forward; see Contact Record (CR) 2006-02 and CR 2022-02
 - Quarterly concentrations for all other analytes at the PLFTS effluent were below applicable RFLMA standards during CY 2024



Point of Evaluation (POE) Monitoring

No RFLMA POE analyte concentrations were reportable during CY 2024.



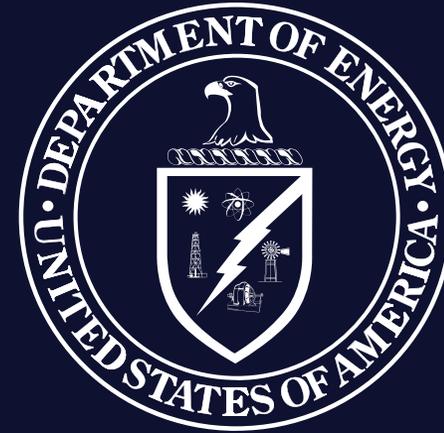
Point of Compliance (POC) Monitoring

No RFLMA POC analyte concentrations were reportable during CY 2024.



Groundwater Monitoring and Operations

Rocky Flats Site, Colorado



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RFLMA Groundwater Monitoring Network Overview

- There were no changes to the monitoring network in CY 2024
 - 10 Resource Conservation and Recovery Act (RCRA) wells (quarterly)
 - Evaluate potential impacts from Original Landfill and Present Landfill
 - Nine Area of Concern (AOC) wells and one Surface Water Support location (semiannually)
 - Located in drainages downstream of contaminant plumes
 - Evaluate for plumes discharging to surface water
 - 27 Sentinel wells (semiannually)
 - Downgradient of plumes, treatment systems, and in drainages
 - Look for evidence of plume migration and treatment system problems
 - 42 Evaluation wells (every two years — including in CY 2024)
 - Within plumes, near source areas, and interior of COU
 - Evaluate whether monitoring of an area or plume can cease
 - Nine treatment system locations (seven semiannually, two quarterly)

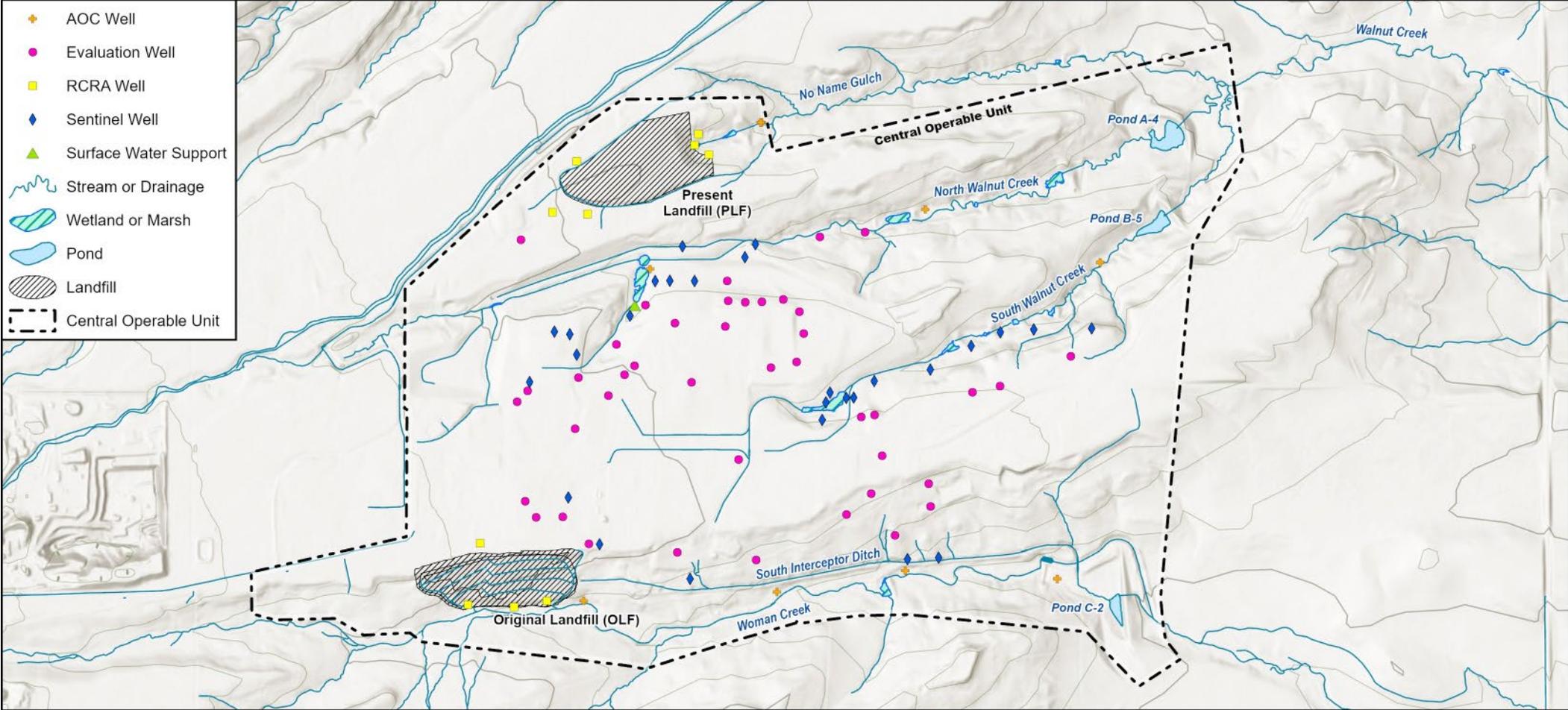


RFLMA Groundwater Monitoring Network Overview *(continued)*

- Many years of pre-closure sampling at approximately 1500 monitoring wells defined areas of groundwater that were impacted by historic operations
- These areas are within what is now the COU
- Impacted groundwater is monitored using 88 RFLMA monitoring wells
 - Divided into four well classifications
 - Each classification is assigned a monitoring frequency
 - Samples are analyzed for constituents that were selected in the early 2000s based on nearby facilities or features, contaminants, and monitoring objectives



RFLMA Groundwater Monitoring Network Overview, continued



051265-R04

Overview of Groundwater Quality in CY 2024

- All 88 wells, plus the surface water and treatment system locations, were scheduled for sampling in CY 2024
- Results were generally consistent with data from previous years
 - RCRA wells monitoring the two closed landfills
 - Statistical results were almost identical to those of previous years
 - Evaluation wells in source areas continued to produce samples with the highest concentrations of contaminants
 - AOC wells downstream of contaminant plumes continued to produce samples that meet applicable RFLMA standards

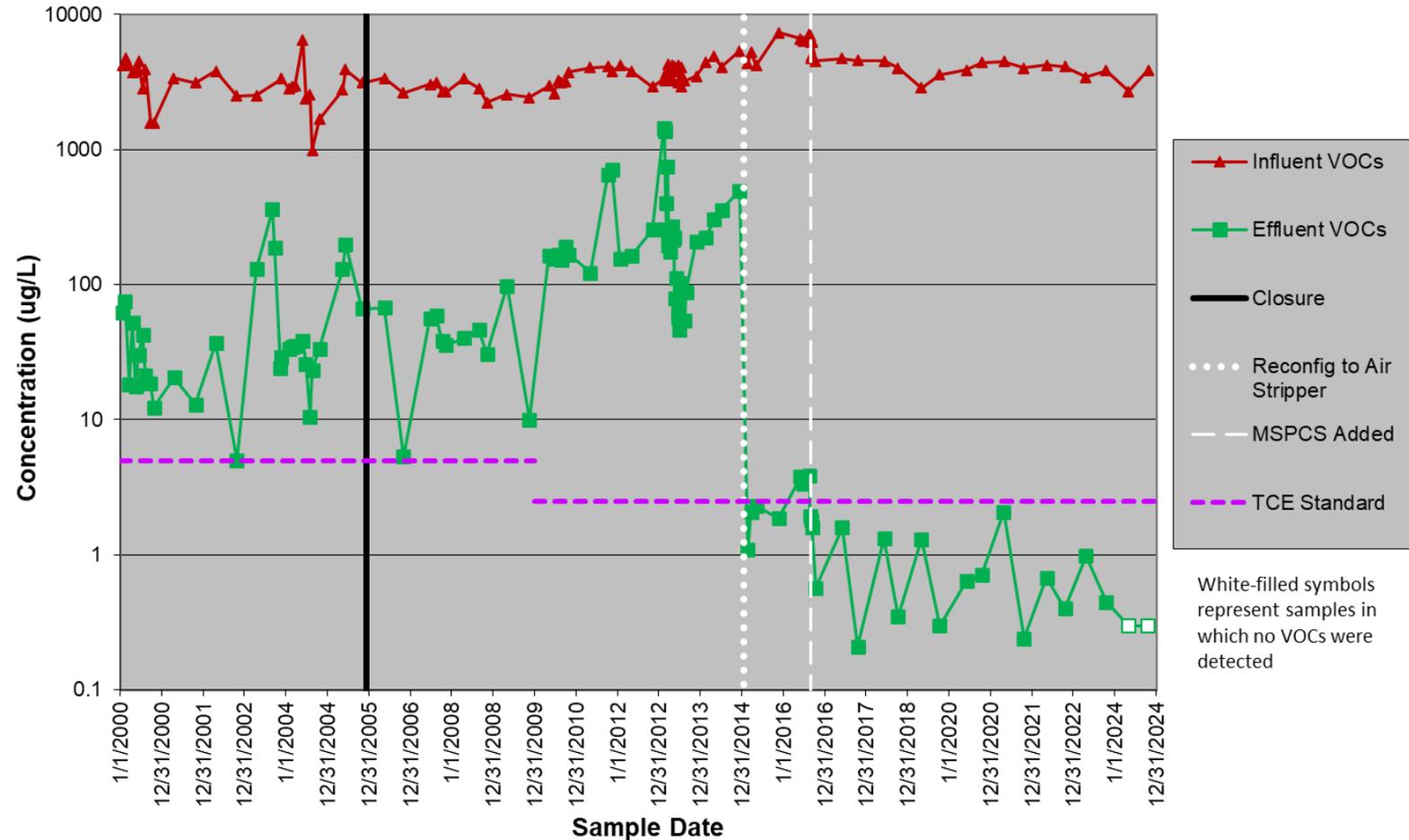
See the groundwater volume of the CY 2024 Annual Report for more information.



Groundwater Treatment Systems

- Groundwater treatment systems continued to collect and treat groundwater

- Effluent from the East Trenches Plume Treatment System (ETPTS) met all applicable RFLMA standards
- Treats groundwater from several contaminant source areas
- Contaminants are chlorinated solvents, especially trichloroethene (TCE)

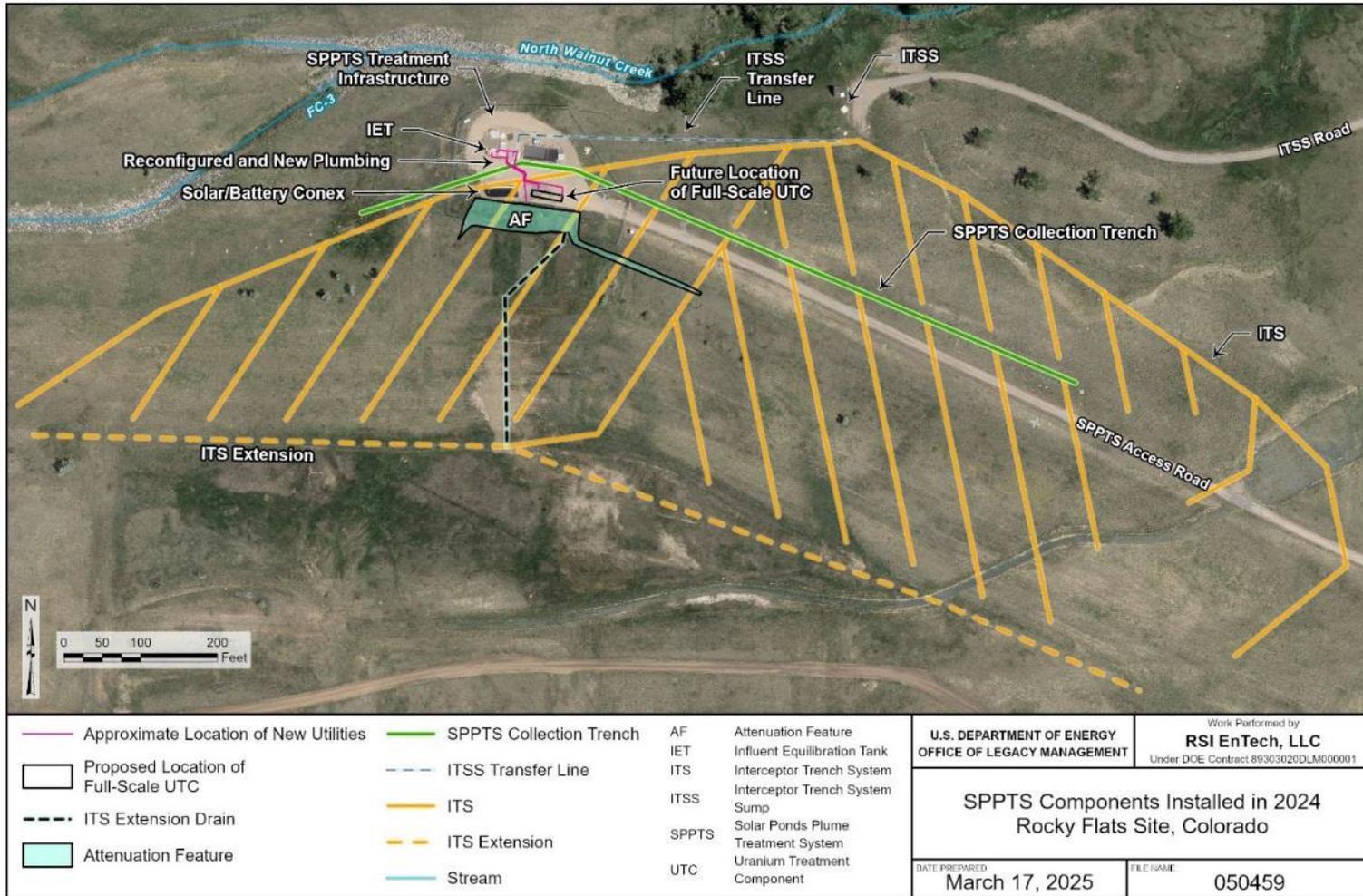


Groundwater Treatment Systems *(continued)*

- Effluent from the Solar Ponds Plume Treatment System (SPPTS) met RFLMA nitrate standard
 - The expanded groundwater collection infrastructure continues to collect groundwater with much higher concentrations of nitrate and uranium than the original collection infrastructure
- The SPPTS reduced uranium concentrations, but effluent did not meet the site-specific RFLMA standard
 - Uranium treatment component (UTC) will be installed in the summer of 2025
 - The UTC is designed to remove uranium so SPPTS will meet the RFLMA standard
 - Uranium at the downstream POC met the RFLMA standard



Groundwater Treatment Systems (continued)



- Worked throughout CY 2024 to prepare for installation of the UTC at the SPPTS
 - Plumbing, electrical, and equipment upgrades and enhancements
 - Solar/battery power facility refinements
 - Additional groundwater collection component constructed, called the “Attenuation Feature”

Plutonium and Americium in Groundwater

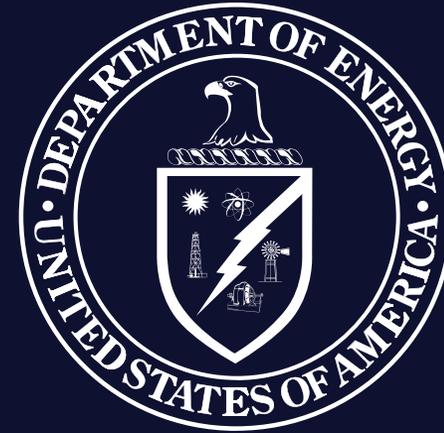
- Five Sentinel wells are sampled semiannually for plutonium (Pu) and americium (Am)
 - Performed downgradient of buildings that were focused on Pu/Am operations
 - Three wells downgradient of former Building 771 complex
 - Two wells downgradient of former Building 371 complex
- As in previous years, the laboratory marked all Pu and Am results as nondetects
 - Pu and Am did not exceed the RFLMA standards at downstream POC

Note: Research has shown groundwater at Rocky Flats is not an effective transport mechanism for Pu or Am; this is conducted for community assurance.



Site Operations

Rocky Flats Site, Colorado

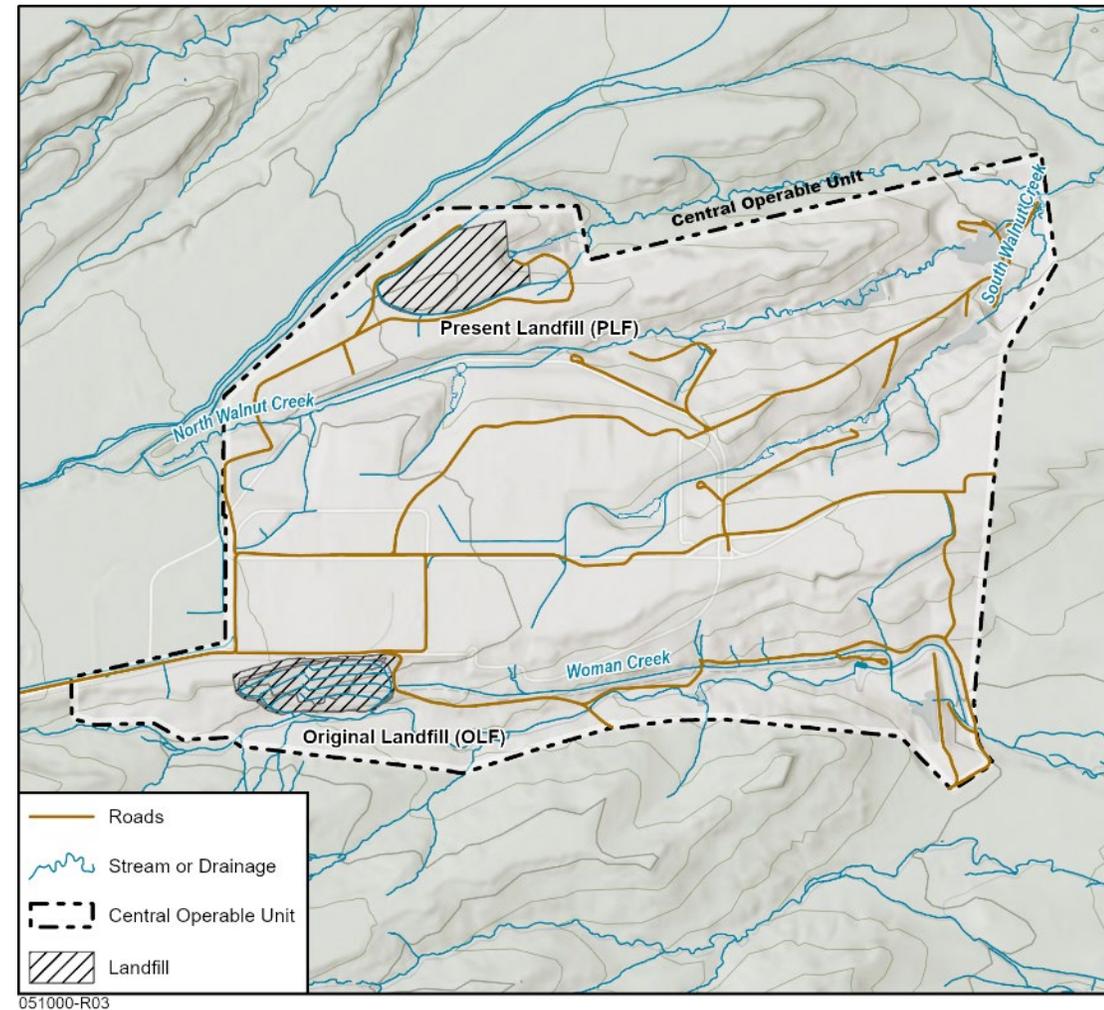


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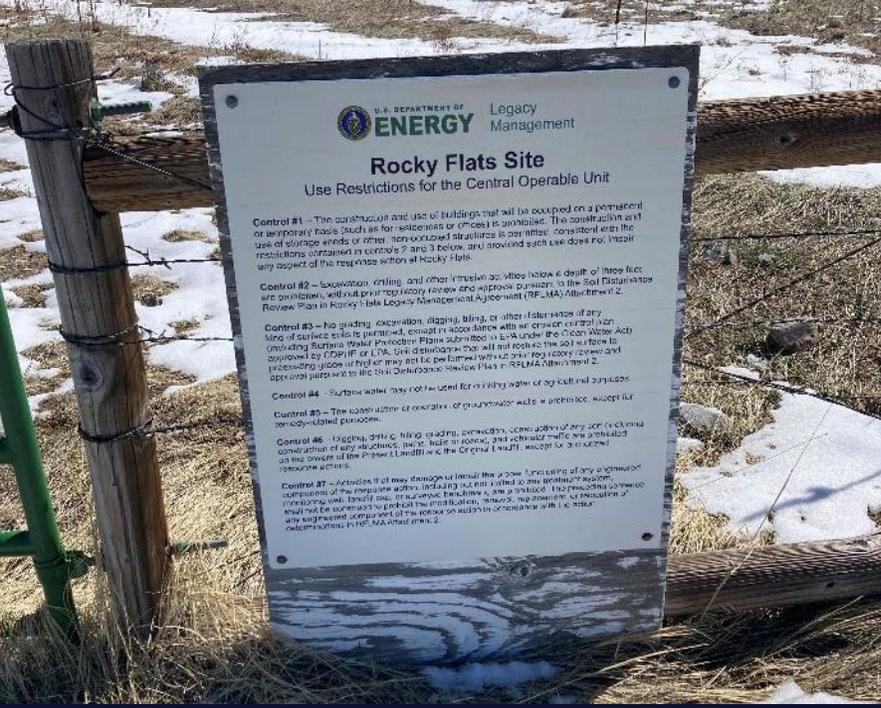
Site Operations

- All field activities were conducted safely and successfully
- Annual site inspection was conducted
 - No violations of institutional or physical controls
 - No significant subsidence or erosion
- Roads are evaluated year-round
 - In CY 2024, only localized, minor repairs were needed
- An empty 55-gallon black drum was found
 - Radiological and chemical screening did not identify contaminants above background levels
 - Drum was removed and will be disposed of in accordance with applicable regulations
 - CDPHE and EPA agreed no additional sampling of the drum was needed



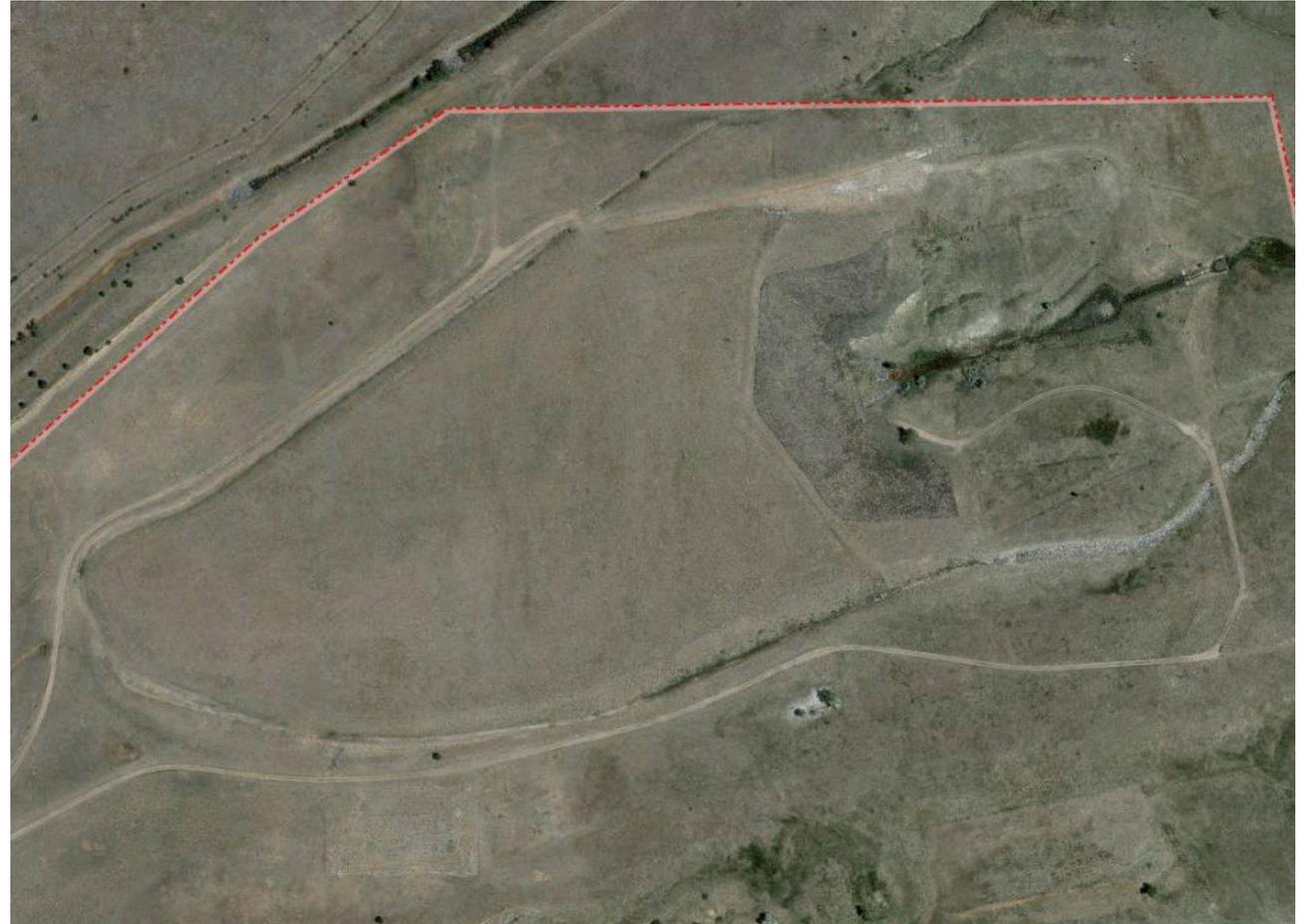
Sign and Fence Inspections

- Inspected quarterly
- Wildlife and wind were the most common cause of damage
- Signs and fences were repaired or replaced as needed



Present Landfill

- Quarterly and weather-related inspections were performed at the Present Landfill (PLF)
- No significant issues were identified



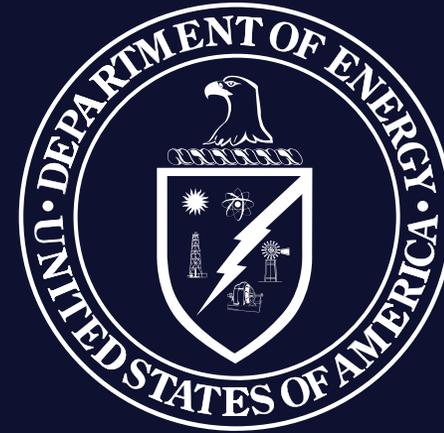
Original Landfill

- Subsidence and consolidation at the Original Landfill (OLF) were monitored during monthly inspections
- Eight landfill settlement monuments were surveyed quarterly, and conditions were within design criteria
- No slumping was observed at the OLF hillside during CY 2024



Ecological Monitoring

Rocky Flats Site, Colorado



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Vegetation Management and Monitoring



- Noxious weed control
 - Herbicide applied to 293 acres
- Revegetation and vegetation enhancement
 - Interceptor Trench System (ITS) extension tie-in project area
 - Willow stake planting, interseeding, mowing
 - Original Landfill (OLF) interseeding and woodstraw application
- Vegetation monitoring
 - Revegetation monitoring
 - Preble's meadow jumping mouse habitat monitoring
 - Wetland mitigation monitoring



Wildlife Monitoring

- Prairie dog
 - No active prairie dog towns within the COU
- Bird monitoring
 - Bird nest pre-construction surveys
 - Nest box surveys
 - Incidental bird and raptor observations
- Elk observations
- Wildlife game cameras
- No adverse biological conditions were found



CY 2024 Annual Report

LMS/RFS/49918

**Annual Report
of Site Surveillance and
Maintenance Activities at the
Rocky Flats Site, Colorado
Calendar Year 2024**

April 2025



For more information, visit:

<https://www.energy.gov/lm/rocky-flats-site-colorado>

For additional details on any items noted here, please view the Rocky Flats CY 2024 annual report at:

https://lmpublicsearch.lm.doe.gov/lmsites/49918_rfs_cy24_annual_final.pdf



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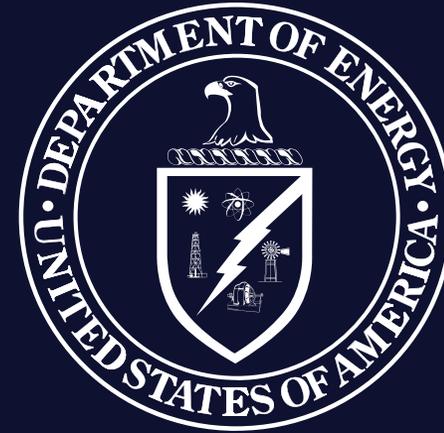


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Q&A

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Engagement Norms: Q&A

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Q&A: *Submit Your Questions*

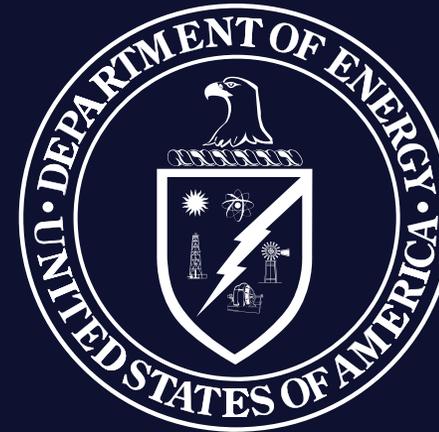
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Public Comment

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Guidelines: Public Comment

The public comment is a time when members of the community may publicly voice their thoughts or opinions on relevant topics. Comments will be heard on a first-come, first-served basis until the public comment period is over.

- **Process:** Raise your hand and wait to be called on.
- **Identification:** State your name, place of residence, and organizational affiliations, if applicable.
- **Focus:** Comments must be relevant to the 2024 Rocky Flats Site Annual Report.
- **Time limits:** Participants are permitted to speak once. Comments are limited to 2 minutes, but may be shortened to allow all to speak. Comments are nontransferable.
- **No debates:** Neither officials nor staff are expected to respond or engage in discussion.
- **No visual aids:** Participants will not be permitted to share their screen. Visual references or other supporting materials may be shared with the Rocky Flats team at rinfo@lm.doe.gov for review after the meeting.
- **Etiquette:** Speakers must maintain a civil and constructive demeanor. Abusive and inappropriate behavior will not be tolerated.
- **Disruptions:** Behavior that does not comply with these rules may result in the speaker ceding remaining comment time or being removed from the meeting.



Public Comment

Thank you for your comment.

- State your name, place of residence, and organizational affiliations, if applicable.
- Focus your comments on the 2024 Rocky Flats Annual Report.
- You have two minutes to share your thoughts. You may only speak once and cannot transfer your time to other participants.
- Please be respectful and constructive.

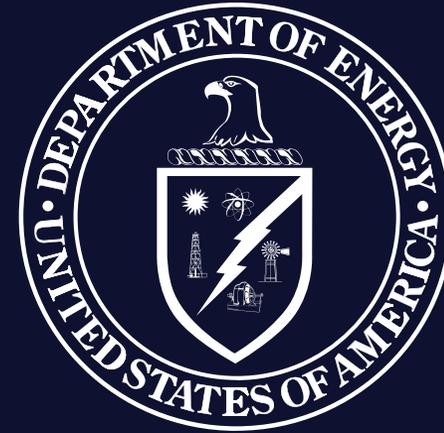
Reminder:

The opinions shared during the public comment period are those of the speaker. They do not necessarily reflect the views of the U.S. Department of Energy Office of Legacy Management, its affiliates, or its employees.



***Thank you
for attending
today's meeting.***

- For more information, visit:
<https://www.energy.gov/lm/rocky-flats-site-colorado>
- Send additional questions or comments to
rinfo@lm.doe.gov



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