3.0 Canonsburg, Pennsylvania, Disposal Site

3.1 Compliance Summary

The Canonsburg, Pennsylvania, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Disposal Site was inspected on October 30, 2024. No changes were observed on the disposal cell or in the associated drainage features. No evidence of site trespassing was observed. A tree was down on the perimeter fence, the result of a recent windstorm. The integrity of the fence appears to be functional but will need to be assessed further once the tree is removed. A few minor maintenance items were identified. No cause for a follow-up inspection was identified.

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) conducts groundwater and surface water monitoring every 5 years to provide data to document that the site remains protective of human health, safety, and the environment. The most recent sampling event occurred in October 2023. In 2023, concentrations of uranium, the only constituent of concern at the site, were below the site-specific alternate concentration limit (ACL) of 1.0 milligram per liter (mg/L) in groundwater samples and, for the Chartiers Creek sample, below the point of exposure (POE) limit of 0.01 mg/L established for surface water.

In 2023, Lawrence Berkeley National Laboratory (LBNL) published the results of a study conducted on LM sites to evaluate climate change vulnerability. In its study of the Canonsburg site, LBNL found that increased flooding of Chartiers Creek, adjacent to the site, posed a potential risk to the long-term integrity of the disposal cell at the site. In response to LBNL recommendations, LM completed two projects in 2024 to help address the risk of increased flooding. In June 2024, water level transducers were installed in monitoring wells to measure changes in water table elevations beneath the disposal cell. The transducers will help to better monitor changes in groundwater elevation and understand the impact of extreme precipitation events. In September 2024, approximately 50 flowering trees and bushes were planted along Chartiers Creek to further stabilize a riparian forest buffer area that was planted in 2019.

3.2 Compliance Requirements

Requirements for the long-term surveillance and maintenance of the site are specified in the site-specific *Long-Term Surveillance Plan for the U.S. Department of Energy Canonsburg Uranium Mill Tailings Disposal Site, Canonsburg, Pennsylvania* (DOE 2013) (LTSP) in accordance with procedures established to comply with the requirements of the U.S. Nuclear Regulatory Commission (NRC) general license at Title 10 *Code of Federal Regulations* Section 40.27 (10 CFR 40.27). Table 3-1 lists these requirements.

Table 3-1. License Requirements for the Canonsburg, Pennsylvania, Disposal Site

Requirement	LTSP	This Report	10 CFR 40.27
Annual Inspection and Report	Section 3.3	Section 3.4	(b)(3)
Follow-Up Inspections	Section 3.4	Section 3.6	(b)(4)
Maintenance	Section 3.5	Section 3.7	(b)(5)
Environmental Monitoring	Section 3.7	Section 3.8	(b)(2)
Emergency Response	Section 3.6	Section 3.9	(b)(5)

3.3 Institutional Controls

The 34.2-acre site, identified by the property boundary shown in Figure 3-1, is owned by the United States and was accepted under the NRC general license in 1996. DOE is the licensee and, in accordance with the requirements for UMTRCA Title I sites, LM is responsible for the custody and long-term care of the site. Institutional controls (ICs) at the site include federal ownership of the property, administrative controls, and the following physical ICs that are inspected annually: the disposal cell and associated drainage features, entrance gates and sign, security fence, perimeter signs, site markers, survey and boundary monuments, erosion control markers, quality control monuments, and wellhead protectors.

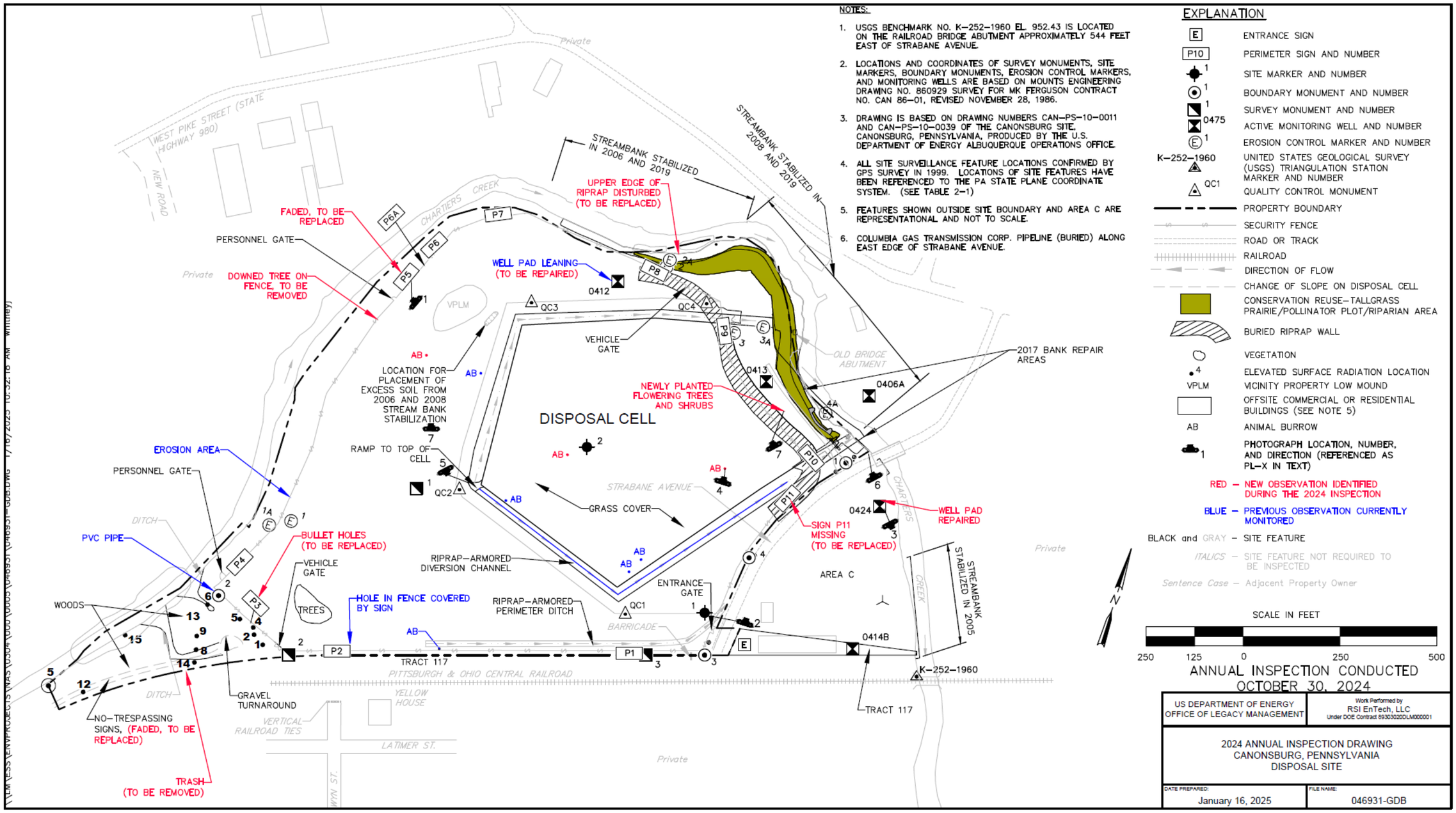
In addition to the area within the property boundary, separate ICs are applied to Area C and the east portion of Tract 117, both of which are southeast of Strabane Avenue. Area C (3.1 acres) was sold and transferred to a private owner in 2005, and the east portion of Tract 117 (0.431 acre) was sold and transferred in 2009 to the same buyer. DOE and the Commonwealth of Pennsylvania complied with restrictions on parcel transfers stipulated in UMTRCA and in the Cooperative Agreement between DOE and the commonwealth. The deeds for Area C and Tract 117 restrict excavation, prohibit disturbance of the streambank, ensure continued access for monitoring and streambank maintenance, and prevent the areas from being used for residential purposes. Use of groundwater is unrestricted. Adherence to these ICs is evaluated during the annual inspection. There was no evidence that any of the ICs were violated.

3.4 Inspection Results

The site, in Canonsburg, Pennsylvania, was inspected on October 30, 2024. The inspection was conducted by K. Broberg and L. McHenry of the Legacy Management Support (LMS) contractor. T. Drake and A. Farinacci (LM) and T. Biller (site herbicide contractor) attended the inspection. Canonsburg Mayor Rhome visited with the inspection team at the beginning of the inspection. The purposes of the inspection were to confirm the integrity of visible features at the site, identify changes in conditions that might affect conformance with the LTSP, and evaluate whether maintenance or follow-up inspection and monitoring are needed.

3.4.1 Site Surveillance Features

Figure 3-1 shows the locations of site features, including site surveillance features and inspection areas, in black and gray font. Some site features that are present but not required to be inspected are shown in italic font. Observations from previous inspections that are currently monitored are shown in blue, and new observations identified during the 2024 annual inspection are shown in red. Inspection results and recommended maintenance activities associated with site surveillance features are described in the following subsections. Photographs to support specific observations are noted in the text and in Figure 3-1 by photograph location (PL) numbers. The photographs and photograph log are presented in Section 3.11.



Abbreviations: PA = Pennsylvania, VPLM = Vicinity Property Low-Level Mound

Figure 3-1. 2024 Annual Inspection Drawing for the Canonsburg, Pennsylvania, Disposal Site

3.4.1.1 Site Access, Entrance Gates, and Entrance Sign

Main access to the site is from Strabane Avenue. There are three vehicle gates: the main entrance gate at the southeast corner of the site along Strabane Avenue, a vehicle access gate at the southwest corner of the site, and a vehicle access gate north of the disposal cell between perimeter signs P8 and P9. There are also two personnel access gates. All gates were locked and functional. The entrance sign is posted on the main entrance gate. Three additional information signs are also posted on the main entrance gate. All the signs contained current information.

3.4.1.2 Security Fence and Perimeter Signs

A chainlink security fence encloses most of the site. A vegetation-free buffer zone is maintained around the entire security fence. An eroded area remains under the west security fence. The area appears to be stable; the erosion area has not expanded in several years. For added security, slats were installed in 2016 in the area beneath the fence to help close the gap. Inspectors noted that the slats were undisturbed. Inspectors observed a downed tree on the perimeter fence from a recent windstorm. The fence remains serviceable. LMS personnel will remove the tree in 2025.

There are 11 perimeter signs attached to the security fence. Theft of perimeter signs from the southwest fence line that borders the railroad tracks is an ongoing challenge. Since the 2020 inspection, two signs have been cut out of the fence fabric on the southwest fence line and replaced. During this year's inspection, perimeter sign P11 on the southeast fence line that borders Strabane Avenue was missing. The fence fabric around the sign had been cut and the sign removed. During the 2023 inspection, a new perimeter sign (P6A) was installed between perimeter signs P5 and P6 to improve coverage. Perimeter sign P5 is weathered to a point where it needs to be replaced (PL-1). A few signs were observed to have outdated emergency contact numbers. These were corrected by placing a sticker with the current number over the outdated number. A few signs still have the wrong emergency contact number posted and will need to be corrected in 2025. Perimeter sign P3 has a few bullet holes in it but is still serviceable. No other maintenance needs were identified.

3.4.1.3 Site Markers

The site has two granite site markers. Site marker SMK-1 is just inside the main entrance gate (PL-2), and site marker SMK-2 is on the top slope of the disposal cell. No maintenance needs were identified.

3.4.1.4 Survey and Boundary Monuments

Before 2021, the site had three survey monuments and four boundary monuments. In 2021, a fifth boundary monument was installed at the southwest corner of the property. All five boundary monuments were located during the inspection. Boundary monuments BM-1, BM-2, and BM-3 have all sunk approximately 6 inches below the present grade of the ground surface. A surveying crew located them in summer 2021 using GPS coordinates on file. Rather than raise the boundary monuments, their locations are marked with a section of PVC pipe filled with pea gravel. No maintenance needs were identified.

3.4.1.5 Aerial Survey Quality Control Monuments

Four aerial survey quality control monuments used for ground control for aerial surveys were located during the 2024 annual inspection. No maintenance needs were identified.

3.4.1.6 Erosion Control Markers

The site has four pairs of erosion control markers along the bank of Chartiers Creek. All four pairs were located during the 2024 annual inspection. No maintenance needs were identified.

3.4.1.7 Monitoring Wells

The site has five groundwater monitoring wells that are sampled every 5 years (Figure 3-1); 2023 was the most recent sampling year. All wells were locked. Well locks were replaced in 2023 with new locks. In 2024, repairs were made to cracks at well pad 0424 (PL-3). The well pad of monitoring well 0412 is leaning. The interior of the protective casing is encroaching on the actual well casing. A field crew was sent in 2024 to straighten the protective casing but, upon further assessment, determined that additional equipment would be needed to perform the task safely and effectively. LM is planning to send a crew back out to straighten the casing in 2025. No other maintenance needs were identified.

3.4.2 Inspection Areas

In accordance with the LTSP, the site is divided into five inspection areas (referred to as "transects" in the LTSP) to ensure a thorough and efficient inspection. The inspection areas are (1) the disposal cell, (2) the area adjacent to the disposal cell, (3) the diversion channels and perimeter ditches, (4) the site perimeter and security fence, and (5) the outlying areas. Inspectors examined specific site surveillance features within each area and looked for evidence of erosion, settling, slumping, or other modifying processes that might affect the site's conformance with LTSP requirements.

3.4.2.1 Disposal Cell

The disposal cell, completed in 1985, occupies 6.8 acres and is covered in grass. There was no evidence of erosion, settling, slumping, or other modifying processes that might affect the integrity of the disposal cell. Animals burrow on the disposal cell cover, but the burrows should not pose a risk to disposal cell integrity or public health because the buried tailings are overlain by a 36-inch-thick clay layer (radon barrier), an 18-inch-thick biointrusion rock layer, and a 12-inch-thick topsoil layer. Biointrusion down to or through the radon barrier is unlikely. A couple of new burrows were observed on the disposal cell (PL-4) during the inspection. The locations were noted on the inspection map. They will be collapsed and filled in with clay-rich soil. Inspectors will continue to monitor the location and significance of burrows. No other maintenance needs were identified.

3.4.2.2 Area Adjacent to the Disposal Cell

The site consists primarily of mowed grasses within the security fence and on the disposal cell cover. Seeded fescues and crown vetch (*Securigera varia*) are the most prevalent species. The spray-and-mow approach to vegetation management at the site continues to be effective.

Noxious weeds within the security fence area are limited to resprouting seedlings that were observed in portions of mowed areas. A new animal burrow was identified west of the disposal cell. It was noted on the inspection map and will be monitored for changes. No maintenance needs were identified.

3.4.2.3 Diversion Channels and Perimeter Ditches

There was no evidence of rock deterioration or woody vegetation in the diversion channels and perimeter ditches (PL-5). Periodic physical removal and spot herbicide applications have been effective at reducing woody vegetation and will continue to be conducted as needed. No maintenance needs were identified.

3.4.2.4 Site Perimeter

In 2007, a radiological survey was conducted on a small parcel of land southwest of the security fence to evaluate its release for industrial reuse. The survey identified isolated radium-226 contamination in the soil in excess of the established average criterion for the site. As a result, the release criteria were not satisfied for the entire parcel, and the parcel was removed as a reuse candidate. Under current property usage, these radiological conditions do not pose a risk to personnel, and no corrective measures are required. LM controls land use through ownership. Inspectors will continue to check the area for evidence of trespassing.

During the 2017 annual inspection, an abandoned campsite was observed on the southwest corner of the site. The site and associated trash were removed in December 2017, and no-trespassing signs were posted. No evidence of recent trespassing was observed in this area during the 2024 annual inspection.

A local plastics company has cleared some of DOE's property north of the railroad tracks and spread gravel to create a turnaround for its trucks. No-trespassing signs are now posted around this area to prevent unauthorized expansion of the turnaround. A 5-year access agreement was established in 2017 with the plastics company for continued use of the turnaround. The agreement was renewed for another 5 years in 2022. No changes to the size of the turnaround were observed in 2022. The no-trespassing signs marking the edge of the turnaround are weathered and in need of replacement. LM plans to replace those signs in 2025.

A small, new pile of trash was west of the turnaround and north of the railroad tracks. The trash consisted of empty cans and some paper material. Arrangements will be made to remove this trash. No other maintenance needs were identified.

3.4.2.5 Outlying Area

Chartiers Creek Bank: Chartiers Creek is an active, meandering waterway west, north, and east of the disposal site. Bedrock outcrops and mature trees on the streambank west of the site indicate that the bank of that creek is stable.

Several riprap streambank stabilization projects have been conducted north and east of the site. From 2001 to 2008, riprap armoring was installed along the streambanks. Years of flow and heavy flow events in Chartiers Creek in late 2017 and early 2018 damaged those riprap installations. In late summer 2019, the entire length of the riprap embankment along

Chartiers Creek north of the disposal cell (approximately 1200 linear feet) was repaired during low streamflow conditions. The work consisted of minor grading, replacing geotextile filter fabric, and importing and placing 2-foot-thick riprap slopes. A minor concern was observed with the current riprap embankment during the inspection (PL-6). Flooding over the past year had moved some of the riprap from the top edge of the embankment. This riprap should be relocated back to the top of the embankment.

As part of the 2019 repair project, a riparian forest buffer was planted above and along the embankment. Disturbed areas were seeded with a pollinator-friendly native grass and wildflower mix. This riparian forest buffer corridor will work with the engineered riprap embankment to further stabilize the bank against future stream flooding events and reduce erosion along the top edge of the riprap embankment. Plantings in the riparian forest buffer have experienced a 4-year survival rate of over 90%. The main challenge for the young plants is being damaged by deer. In 2022, the plastic sleeves (originally installed when the trees were planted) protecting the trees from deer rub were removed and replaced with larger wire cages. The cages, made from welded wire fencing mounted on metal T-posts, are more durable and offer better protection than plastic deer tubes and wooden stakes.

The riparian forest buffer is also recognized to improve stream quality. This effort is part of the commonwealth's goal to establish 95,000 acres of riparian forest buffer by 2025. The Pennsylvania Department of Conservation and Natural Resources was notified of the project. The general long-term health prospect is good for the young plants in the riparian buffer given the installation of the protective wire cages. As discussed below in Section 3.5, the riparian forest buffer area was further enhanced in 2024 by the planting of additional flowering trees and shrubs. A chain limiting vehicle access to the site near the riparian forest buffer and reuse prairie was reinstalled in 2024. No signs of trespassing were noted during the 2024 inspection.

Area C and Tract 117: Area C and Tract 117 form a triangular parcel of property east of the site bounded by Strabane Avenue, Chartiers Creek, and the Pittsburgh and Ohio Central Railroad. Area C and Tract 117 are included in the annual inspection to ensure compliance with ICs that were put into place to address land-use and site access requirements. There was no evidence that any of the ICs in place for Area C and Tract 117 had been violated.

Additional control of invasive vegetation in Area C between Strabane Avenue and monitoring well 0424 began in 2021 to enhance the health of the riparian corridor being established along Chartiers Creek north of the disposal cell. Mowing and spraying in this area limits the spread of invasive vegetation from Area C to the recently planted riparian buffer area.

Strabane Avenue: The maintenance subcontractor, Lawn RX, periodically removes trash found on and adjacent to the site to maintain the site's appearance. Inspectors also pick up trash as necessary. Inspectors observed that Strabane Avenue, next to the site, was relatively clear of trash. No other maintenance needs were identified.

3.5 Climate Resiliency

In January 2023, LBNL published the results of a study conducted on LM sites to evaluate climate change vulnerability (LBNL 2023). The study was in response to a U.S. Government Accountability Office environmental liabilities audit of LM sites, which found that "LM has not

made plans to assess the effects of climate change on its sites or to mitigate those effects" (GAO 2020). As part of the study, one of LBNL's goals was to use one or more case studies with climate forecast data to serve as a template for LM and LMS staff to use to assess or reassess environmental liabilities for all the sites. The Canonsburg site was selected for one of the case studies.

In its study of the Canonsburg site, LBNL found that increased flooding of Chartiers Creek, adjacent to the site, posed a potential risk to the long-term integrity of the disposal cell at the site. In response to LBNL recommendations, two projects were completed at the Canonsburg site in 2024 to help address the risk of increased flooding. In June 2024, water level transducers were installed in monitoring wells 0412, 0413, 0424, and 0414B to measure changes in water table elevations beneath the disposal cell. The transducers will help to better monitor changes in groundwater elevation and understand the impact of extreme precipitation events. In September 2024, approximately 50 flowering trees and shrubs were planted along Chartiers Creek to further stabilize a riparian forest buffer area that was established in 2019 (PL-7).

The planting of 50 additional flowering trees and shrubs in the pollinator grass area will begin a transition of the prairie grass area into a pollinator-friendly, wooded edge habitat. The habitat will require less long-term maintenance than the pollinator prairie and will better compliment the natural progression of the area back to being wooded. The forested edge habitat will better protect the upper edge of the riparian corridor, provide a pollinator-friendly habitat, and lower long-term maintenance costs for the care and maintenance of the streambank against future flooding events predicted as a risk due to climate change.

3.6 Follow-Up Inspections

LM will conduct follow-up inspections if (1) a condition is identified during the annual inspection or other site visit that requires a return to the site to evaluate the condition or (2) LM is notified by a citizen or outside agency that conditions at the site have substantially changed. No need for a follow-up inspection was identified.

3.7 Maintenance

The following minor maintenance items were identified during the 2024 inspection and will be scheduled to be addressed:

- Repair of the protective casing and well pad at monitoring well 0412
- Removal of the small pile of trash west of the turnaround area
- Removal of the downed tree from the perimeter fence and assessment of the integrity of the damaged fence
- Complete replacement of emergency phone numbers on perimeter signs
- Replacement of missing perimeter sign P11
- Replacement of faded no-trespassing signs in the turnaround area
- Replacement of perimeter sign P3 due to bullet holes
- Replacement of perimeter sign P5 due to weathering
- Replacement of the disturbed riprap on the top edge of the embankment

3.8 Environmental Monitoring

In accordance with the LTSP, LM conducts groundwater and surface water monitoring every 5 years to provide data to document that the site remains protective of human health, safety, and the environment. The current environmental monitoring network consists of five monitoring wells and one surface water location in Chartiers Creek (Figure 3-2).

The most recent sampling event occurred in October 2023. Historical static water level and water quality data addressed in this section are available on the LM Geospatial Environmental Mapping System (GEMS) website (https://gems.lm.doe.gov).

As discussed in Section 3.5, in 2024, water level transducers were installed in monitoring wells 0412, 0413, 0424, and 0414B as part of a climate resiliency project. DOE plans to initially download data from the transducers on a quarterly basis and provide water level interpretations in the annual site inspection reports. The data downloading frequency will be further discussed in annual site inspection reports if the need arises.

3.8.1 Groundwater Monitoring

LM conducts routine monitoring to (1) evaluate downgradient contaminant trends in groundwater in the shallow, unconsolidated materials and in surface water; (2) demonstrate that concentrations of uranium at point of compliance (POC) wells are decreasing as predicted and that the system remains in compliance with the *Ground Water Compliance Action Plan for the Canonsburg, Pennsylvania*, *UMTRA Project Site* (DOE 2000) (GCAP); and (3) ensure that remedial actions at the disposal site and Area C continue to protect human health, safety, and the environment (DOE 2013).

The groundwater monitoring network consists of five monitoring wells: three POC wells and two best management practice wells (Figure 3-2 and Table 3-2). All monitoring wells are completed in the uppermost aquifer consisting of unconsolidated materials overlying the bedrock of the Casselman Formation.

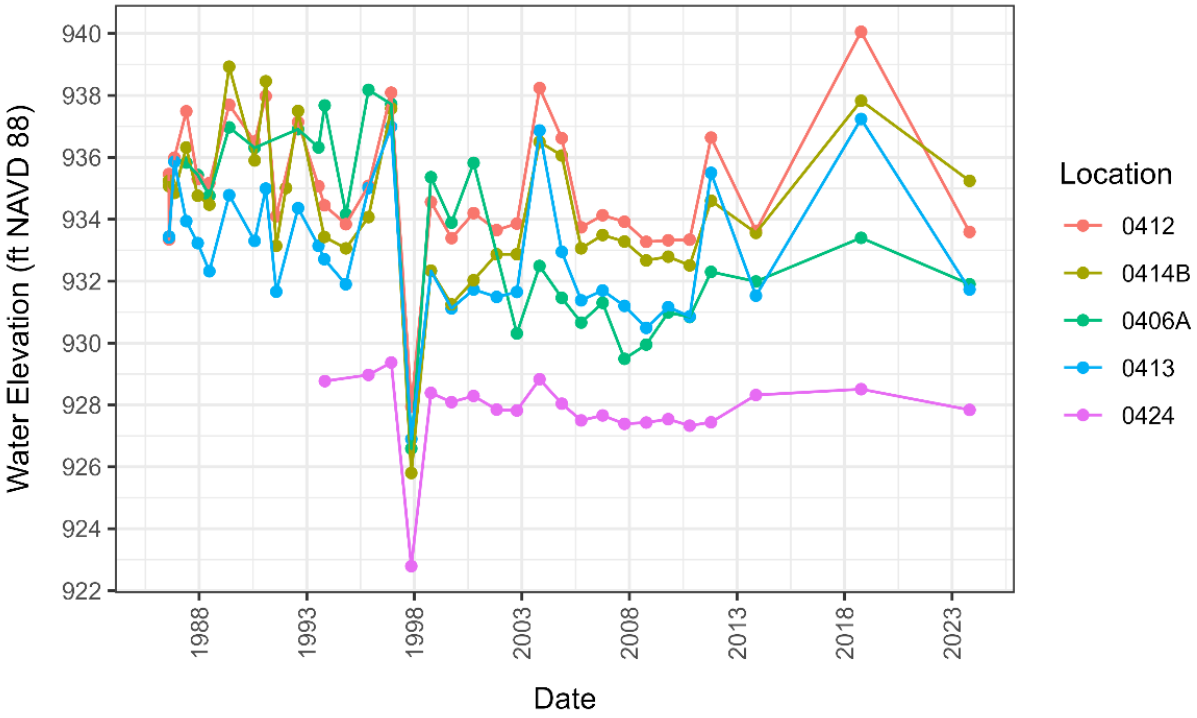
Table 3-2. Groundwater Monitoring Network for the Canonsburg, Pennsylvania, Disposal Site

Monitoring Well	Hydrologic Relationship	Groundwater Monitoring Purpose
0412	Downgradient	POC
0413	Downgradient	POC
0414B	Cross gradient	POC
0406A	Downgradient (north of creek)	Best management practice
0424	Downgradient	Best management practice

Note:
Two of the original POC wells—0406 and 0414—have since been replaced due to previous damage. Well 0414 has been replaced twice, in May 2001 (well 0414A) and again in October 2004 (well 0414B, the current POC). Well 0406 was replaced with monitoring well 0406A in January 2002. Subsequent figures combine the data for these colocated locations.

Figure 3-2. Groundwater and Surface Water Monitoring Network for the Canonsburg, Pennsylvania, Disposal Site

Manual water level measurements since 1986 (most taken in the fall) indicate that water elevations, though fluctuating, have usually been within the historical range of water elevations measured at the site (Figure 3-3). Exceptions have occurred in 1997, with the lowest recorded water elevations, and most recently in 2018, when maximum groundwater elevations were recorded for all wells except well 0424.



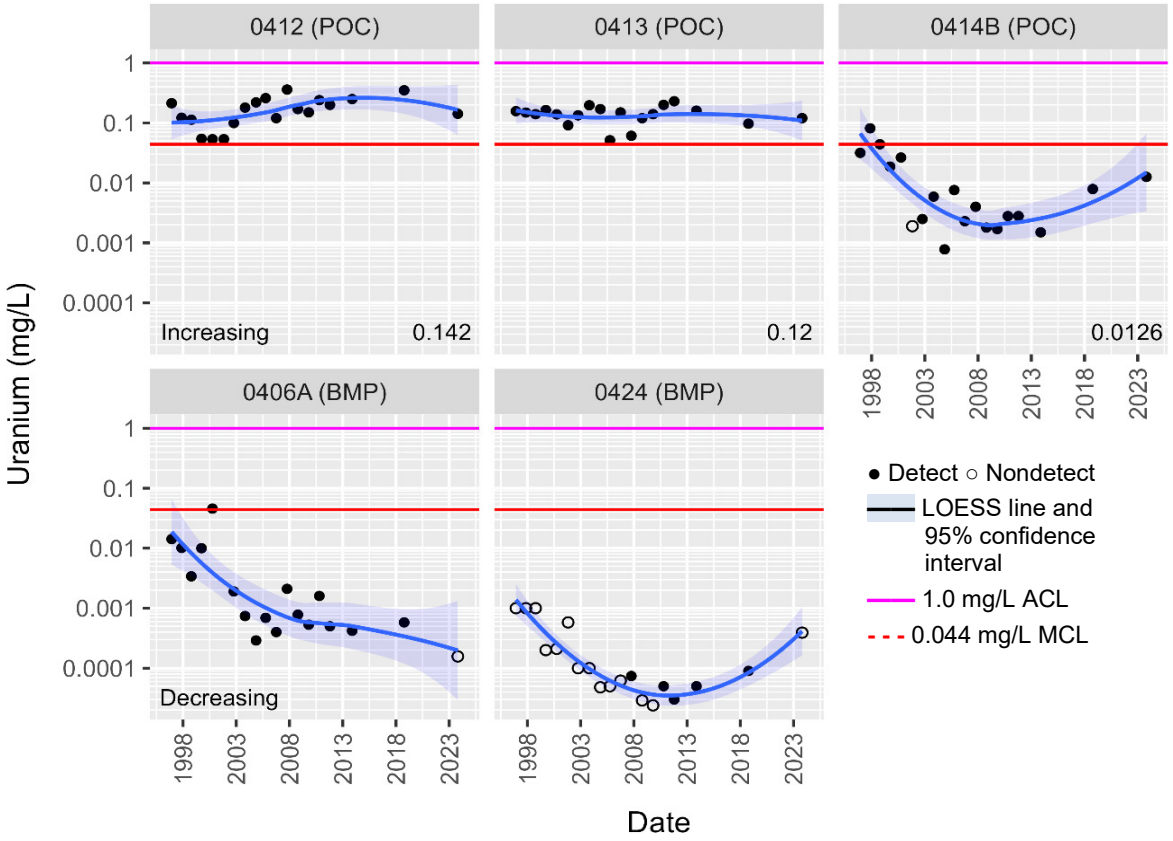
Note: In the legend, wells are listed in order of descending average groundwater elevation.
Abbreviations: ft = feet, NAVD 88 = North American Vertical Datum of 1988

Figure 3-3. Temporal Trends of Water Elevations in Canonsburg Disposal Site Monitoring Wells

Groundwater is sampled and analyzed for uranium, the only remaining constituent of concern since the GCAP was issued in 2000. The ACL established in the LTSP for uranium in groundwater (applied to POC wells) is 1.0 mg/L (DOE 2013). Figure 3-4 plots historical data for the POC and best management practice wells for 1996–2023. MCL concentrations are shown on each plot as a red line. ACL concentrations are shown on the plot as a magenta line. As shown in Figure 3-4, uranium concentrations in all wells have been consistently below the ACL.

The following figure was developed using a faceting approach, whereby each panel plots data for a single well. A nonparametric smoothing method—locally estimated scatterplot smoothing (LOESS)—is also applied. Using this approach, overall trends in the data are more apparent and not obscured by "noise" or random variation. Because of the wide range in uranium concentrations across the well network, a semilogarithmic scale is used.

A statistical trend analysis applied to the 1996–2023 dataset indicates a statistically significant increasing trend in uranium concentrations for well 0412.[1] Despite observed increases between 2000 and 2018 (accounting for the significant trend), uranium results for well 0412 have often fluctuated. Between 2018 and 2023, the result decreased from 0.35 to 0.14 mg/L.



Notes: Values shown in the lower right corner of individual graphs are the most recent (2023) results (applied to detections only). For the wells with a statistically significant trend, the direction of the trend is also noted. Data for well 0414B include data from former well 0414 (1996–2000) and 0414A (2001–2003). Data for well 0406A include data from former well 0406 (1996–2000) (see Table 3-2).
Abbreviations: BMP = best management practice, MCL = maximum concentration limit

Figure 3-4. Uranium Concentrations in Groundwater at the Canonsburg, Pennsylvania, Disposal Site

Although no significant trend was found for POC well 0414B, uranium concentrations in this well have increased since 2013 and are approaching levels measured from 1996–2000, as well as the maximum concentration limit (MCL) of 0.044 mg/L (Figure 3-4). Uranium concentrations in the two best management practice monitoring wells, 0406A and 0424, have historically been well below the MCL of 0.044 mg/L. A statistically significant decreasing trend was found for well 0406A. The most recent (2023) results in both wells were below detectable levels (≤0.0004 mg/L).

[1] Trend analysis was conducted using the NADA package (Lee 2022) for R version 4.3.3 (R Core Team 2024). The NADA trend test is similar to the traditional Mann-Kendall trend test except that it accounts for the presence of nondetects. Trend analyses were conducted at the 0.05 significance (or alpha) level using a two-sided test.

3.8.2 Surface Water Monitoring

Only one location, 0602 (Figure 3-2), is currently sampled in Chartiers Creek; the most recent sampling event occurred in October 2023. This location is considered a POE for the site and is sampled for uranium, to which an ACL of 0.01 mg/L is applied (DOE 2013).

Before the LTSP revision in 2008, two additional locations were sampled in Chartiers Creek: upstream location 0601 and downstream location 0603. As shown in previous reports (e.g., DOE 2019), uranium concentrations measured at these locations were historically aligned with those for POE location 0602 (all ≤0.001 mg/L). These locations are no longer required to be sampled.

In 2023, the uranium result for surface water location 0602 was below detectable levels (<0.00034 mg/L), well below the established ACL of 0.01 mg/L (Figure 3-5).

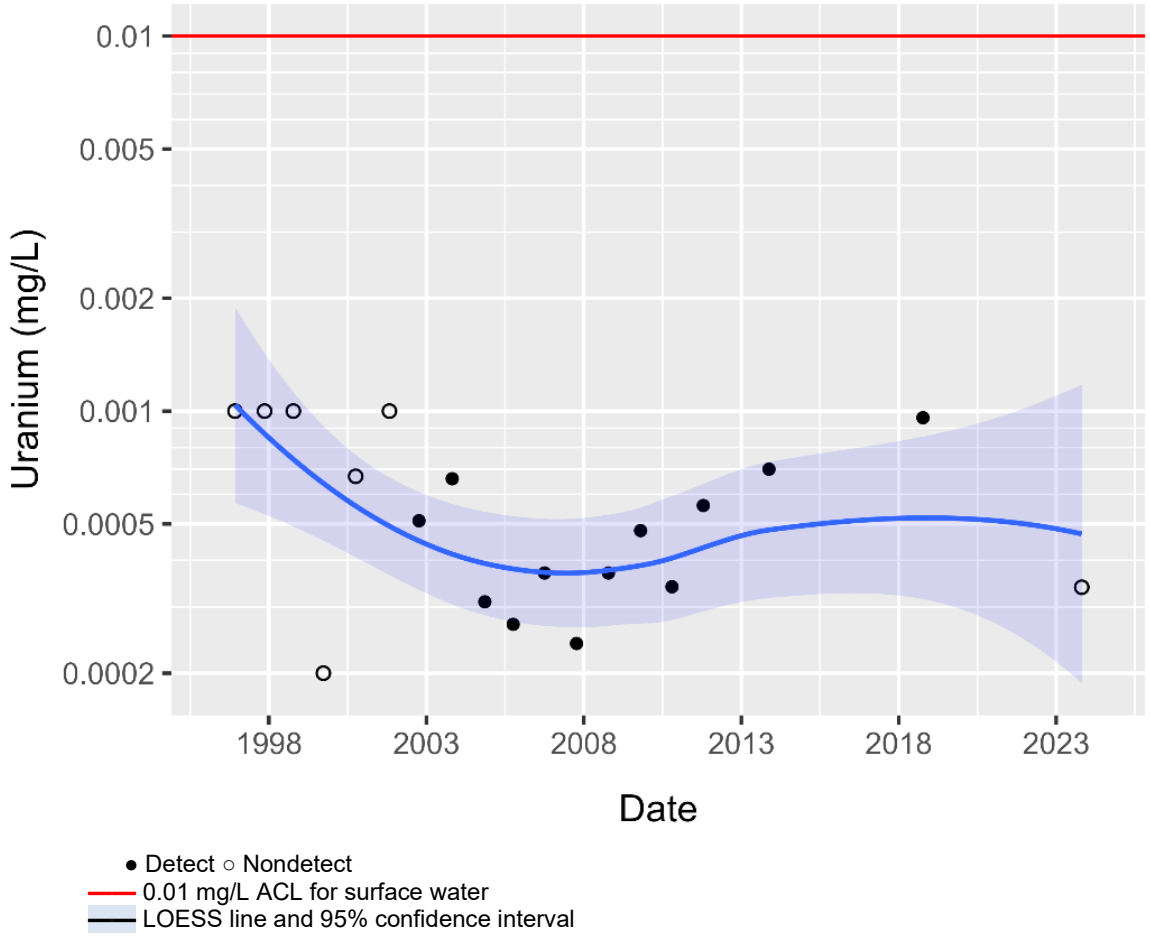


Figure 3-5. Uranium Concentrations at POE Location 0602 (Chartiers Creek) Canonsburg, Pennsylvania, Disposal Site

3.8.3 Vegetation Management

Vegetation management continues at the site in accordance with the LTSP. Activities include spot-treating invasive species, physically removing plants, using spot application of herbicides to target woody vegetation in diversion channels and perimeter ditches, and using the spray-and-mow approach. These activities remain successful. Noxious weeds observed within the fenced area during this year's inspection included crown vetch. These areas are limited to resprouting seedlings that were observed in portions of mowed areas. No changes to the current vegetation management approach are recommended.

3.9 Emergency Response

Emergency responses are the actions LM will take in response to unusual damage or disruption that threatens or compromises site safety, security, or integrity in compliance with 10 CFR 40 Appendix A Criterion 12. No need for emergency response was identified.

3.10 References

Note

Site-related documents are available on the LM public webpages at https://lmpublicsearch.lm.doe.gov/SitePages.

10 CFR 40 Appendix A. U.S. Nuclear Regulatory Commission, "Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material from Ores Processed Primarily for Their Source Material Content," *Code of Federal Regulations*.

10 CFR 40.27. U.S. Nuclear Regulatory Commission, "General License for Custody and Long-Term Care of Residual Radioactive Material Disposal Sites," *Code of Federal Regulations*.

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DOE (U.S. Department of Energy), 2019. *2018 Annual Site Inspection and Monitoring Report for Uranium Mill Tailings Radiation Control Act Title I Disposal Sites,* LMS/S22053, Office of Legacy Management, March.

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R Core Team, 2024. "R: A Language and Environment for Statistical Computing," The R Foundation for Statistical Computing, version 4.3.3, https://www.r-project.org, accessed November 22, 2024.

3.11 Photographs

Photograph Location Number	Azimuth	Photograph Description
PL-1	292.5	Perimeter Sign P5
PL-2	—	Site Marker SMK-1
PL-3	135	Repaired Well Pad at Monitoring Well 0424
PL-4	—	New Animal Burrow
PL-5	135	Riprap-Armored Diversion Channel
PL-6	315	Riprap-Armored Streambank
PL-7	315	Newly Planted Flowering Trees and Shrubs

Note:
— = Photograph taken vertically from above.

PL-1. Perimeter Sign P5

PL-2. Site Marker SMK-1

PL-3. Repaired Well Pad at Monitoring Well 0424

PL-4. New Animal Burrow

PL-5. Riprap-Armored Diversion Channel

PL-6. Riprap-Armored Streambank

PL-7. Newly Planted Flowering Trees and Shrubs